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| Burner. Gas. The Michigan Stove Company. | 101,263 | Canopy for vehicles. James R. Ryan. | 98,05 |
| Hurner. Gas. The National Gas Light Company.. | 102,354 | Canopy frame. The Portable Folding Mosquito-Bar- | 9, |
| Burner. Gas. Victor C. J. Nightingall. | 96,852 | Frame Company. | 97.698 |
| Burner. Hydro carbon. John A. | 100,323 | Can. Refrigerating milk. Joseph F. E. Ro | 99,598 |
| Burner. Hydro carbon. Robert Mathes | 102,618 99,122 | Can seaming machine. John A. Steward............ | 98,027 |
| Burner. Kerosene vapour. John Arthur Mathes.. | 100,765 | Caoutchouc manufacture. Bernhard Grätz........... Caoutchouc manufacture Sce India-rubber manufac - | 102,494 |
| Burner. Lamp. Ellsworth Ross, et al.............. | 98,065 | Caoutchouc manufacture. Ace India-rubber manulac- ture. |  |
| Burner. Lamp. Roy H. Maple | 101,529 |  |  |
| Burner. Oll. Milton A. Fesler | 101,892 |  |  |
| Burner. Oll. Thomas J. Lovett. | 97,324 | Cap. Bottle. Benjamin A Cap. Bottle. Frederick | 99,541 |
| Burner. Vapour and gas. John A. Math | 100,489 |  | 99,546 |
| Burnishing machine. Francis F. Hicks | 97,811 | C | 102,686 |
| Bushing. Ball bearing. Mahlon Shaaber | 100,555 | Cap. Golf. W. C. O | 101,850 |
| Bushing for belt pulleys. Daniel T. McN | 100,686 | Car. Alamganza | 100,418 |
| Bushing. Insulating. John H. Goehet.. | 101,593 | Car. Anton Becker | 99,925 |
| Butter into bricks. Machine for forming. William |  | Car. Harry M. Pflager, et al. | 99,576 |
| H. Noack .................... | 99,103 | Car. The Ingoldsby Automatic Car Com | 99.114 |
| Butter making machine. Adonis Dubulss | 97,674 | Car. The Pressed Steel Car Company | 96,957 |
| Butter manufacture. Michel B. L. Ehrmann | 97,561 | Car. The St. Louis Car Company | 99,575 |
| Butter patties. Machine for forming. Gustave |  | Car and bolster. Henry H. Vaughan..................... Car. Ballast. Harry S. Hart. | $98,425$ |
| Adolph Walstead.......... ................... | 98,679 | Carbld. Apparatus for producing calclum. The | $100,449$ |
| Butter production. Aktiebolaget Baltic-Separator.. Button. Dilman B. Shantz........................ | 100,396 99,516 | Carbld. Apparatus for producing calcium. The Union Carbide Company............................. |  |
| Button. Dilman B. Shant | $\mathbf{9 9 , 5 1 6}$ $\mathbf{9 7 , 8 8 2}$ |  | 100,185 |
| Button. Richard H. A. d'Allly | 101,904 | Carbld manufacture. Herman L. | 100,186 |
| Button. Zoel M. Leger. | 99,515 |  | 101.336 |
| Button. Collar. Charles S. Pede | 102.068 | Carbid production. Herman L. Hartenstein. | 100,172 |
| Button. Collar. John McElr | 99,554 | Carbides. Production of. The Union Carblde Com | 102,762 |
| Button. Cuff. Ezra E. Stanin | 97,618 |  | 102,763 |
| Buttonhole. Charles W. Bartrum | 102,332 |  | 102.764 |
| Button. Lapel. George S. Engle. | 96,880 | Carbonic bath. Paul G. Lebram | 96,999 |
| Button making machine. William H. Hargraves | 97,411 | Carbonizing apparatus. Rolof Jürgensen | 102,573 |
| Button manufacture. Eduard J. Conn | 101,162 | Carbureter. Carl A. Von Suden-Fraunhofe | 102,416 |
| Brush. Samuel H. Brist | 100,439 | Carbureter. Elder E. Shless. | 100,014 |
| Brush. William A. Weir | 100.540 | Carbureter. Emanuel J. Boyler, et | 102,402 |
| Brush. Electric. The Allis-Chalmers Company | 100,525 | Carbureter. George H. Holgate. | 99,903 |
| Brush. Folding. Melburn H. Tupper......... | 101,926 | Carbureter. Luther C. Snell, et | 96,893 |
| Brush. Fountain. George W. Whe | 100, 132 | Carbureter. Richard M. Mick | 102,303 |
| Brush. Fountain. William I. Fer | 100,574 | Carbureter. Robert M. Cra | 98,557 |
| Brush. Tooth. Eduard Fenkala. | 100,536 | Carbureter. Robert N. Gray | 102,565 |
| Brush. Tooth. Levitt Havelock Cowe | 101,919 | Carbureter. Stephen P. Sande | 100,173 |
| Cabinet. Astigmatic. George ©. Holme | 100,105 | Carbureter. Samuel S. Poole, et al. | 101,210 |
| Cabinet. Cash. Thomas A. Ferris. | 101.937 | Carbureter. The Intensified Light and Super-Soda |  |
| Cabinet. Coal. Hiram Franklin Bow | 98,665 | Company.. | 98,77 |
| Cabinet. Dispensing. Seth Wheeler | 99,419 | Carbureter. The Olds Motor Works | 98,93 5 |
| Cabinet. Display. George Fr. Conle | 97,152 | Carbureter. Ozro Haden Hinds |  |
| Cabinet. Display. Martin T. Benna | 102,169 | Carbureter. The People's Individual Gas Company. | 101.6 |
| Cabinet. Flling. John F. Huber. | 101,391 | Carbureter. William Brown.......... ... |  |



| Cement burning. Process of and apparatus for. The Combustion Utilities Company. $\qquad$ | 101,885 | Churn cover. Adah Delphene Matterson............. Churn dasher. James R. Merrill. | $\begin{aligned} & 101,642 \\ & 100,164 \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| Cement burning system. Thomas M. Morgan. | 102,752 | Chute. Coal. Frederic S. Conver | 97,293 |
| Cement from furnace slag. Manufacture of. Dr. |  | Chute. Coal. James M. Triggs | 100,242 |
| Heinrich Colloseus | 97.406 | Chute. Door. Theodore F. Clark | 100,891 |
| Centrifuge. F. S and A. C. Smith | 101,931 | Chute for dumping cars. John M. Goodw | 97.440 |
| Centrifugal machine. William L. D'Olier | 100,712 | Cigar bunching machine. Alexander Gordon | 99,961 |
| Cereals, etc. Method of grinding. Irénee A. Chavanne, et al | 97,817 | Cigarette and box. Thomas Tarn Hutchison Cigarette case. Durand and Company. | $98,473$ $99.885$ |
| Cereals for food. Method of preparing. John A. |  | Cigarette machine. Louis Bernhard | 102,267 |
| Caverhill. | 99,525 | Cigarette machine. Napoleon DuBrul | 100,955 |
| Cesspool. Edward L. Parsons. | 99,987 | Cigarette machine. The New York Cigarette Ma- |  |
| Chaff blower. The Neepawa Manufacturing Com- |  | chine Company........... .......... ......101,408, | 101,409 |
| pany | 102.365 | Cigarette making machinery. Bernhard | 100,927 |
| Chaffer for grain separators. Alvey D. Dusenbery. | 100,499 | Cigarette making machine. Canaan de Ca | 100,929 |
| Chain making machine. The Hercules Chain Company. | 102.556 | Cigarette making machine. Lazaridas Aptekman, et al. | 98,920 |
| Chain securing device. Frederick Peikard | 99,905 | Cigraette manufacturing machine. George Tickner. | 98,918 |
| Chains. Machine for making wire. Michael Bartho- |  | Cigar fller. Peter August Edward Sch | 102,254 |
| lomew Ryan. | 101,560 | Cinematographic process. Robert T. | 97,723 |
| Chair. Charles E. Whipp | 97.515 | Circuit breaker. George G. Stout | 100.664 |
| Chair. Christoph Helns and | 99.129 | Circuit breaker. Sears B. Con | 102.811 |
| Chair. Henry J. Lanagan. | 98,901 | Circult breaker and closer. Alexander Wint | 98,113 |
| Chair. Jacob S. Knech | 101.043 | Circulation of liquid containing copper. Frederic P. |  |
| Chair. John Flindall | 98,900 | Dewey | 102,627 |
| Chair. See Rall joint chair. |  | Clamp. Aee Trunk clamp. |  |
| Chair and cot. James Robertson, | 97.430 | Clamp. Adolph D. LeBlanc | 98,913 |
| Chair. Barber's. Robert Stitts | 98,527 | Clamp. Charles L. Chapma | 98,093 |
| Chair commode. Josephus Bur | 96,879 | Clamp. Charles Vallieres. | 98,806 |
| Chair. Disappearing. Leslie | 97,988 | Clamp. Gelasius M. Hen | 96,792 |
| Chair. Folding. Henry Fi Ryt | 97,989 | Clamp. James R. Kearne | 102,369 |
| Chair guard. Isaac Unger. | 97,990 | Clamp and support. Cable. Howard E. Sh | 101,588 |
| Chair. Head rest for barber's. Alf | 101,939 | Clamp. Cable. Henry B. Newhall. | 99,155 |
| Chair. Iron. Harry W. Bolens | 102,134 | Clamp for ish poles. Charles Henry | 98,730 |
| Chalr. Iron. John Gilson | 102,133 | Clamp for rail sections. Isaac $\mathbf{N}$. Spaid. | 100,142 |
| Chair. Rail joint. William Book | 101,977 | Clamp for ribbon collars, etc. Herbert L. Wagner. | 97.260 |
| Chair. Reclining. Anna L. Kipp | 97,998 | Clamp for wood, etc. William Jamleson. | 101,050 |
| Chair seat. Heary Harrison Sch | 102,255 | Clasp. Garment. William H. Williams | 99,154 |
| Chandelier. Gas. William E. Cotton, | 102,705 | Clamp. Hose. Joseph W. Adams. | 101,906 |
| Chandelier. Guard for. V. J. Janser, | 102,010 | Clamping elbow. Thomas Patterson | 97,160 |
| Change making machine. Marcus Auerb | 98,383 | Clamp. Insulator. Walter G. Clar | 97,611 |
| Channeller. The Ingersoll-Rand Compan | 97,271 | Clamp. Line. John E. Baechler. | 101,331 |
| Channeller. Electro-pneumatic. The Ingersoll-Rand |  | Clamp. Meter. Aron E. Johnso | 199,513 |
| Company | 99.081 | Clamp. Miter. Charles Vallet. | 101,684 |
| Channelling machine. The | 98,932 | Clamp or vise. John Black, et | 98,685 |
| Charging mechanism. Furnace. | 102,798 | Clamp. Rope. John McKenney. Clamp. Saw. Charles W. Cardw | 98,242 $\mathbf{9 8 , 3 4 8}$ |
| Chart for dress patterns. Theron McCam | 100,751 | Clamp. Trolley wire. Edward L. Ba | 98,466 |
| Check. Baggage. Frederick N. Southe | 100,352 | Clamp. Wire. John W. Hardesty. | 102,120 |
| Check. Baggage. George W. Conrad | 99,404 | Clasp. Sce Garment clasp. | 102,120 |
| Check book. Counter sale. Charles B. Smith, et al. | 98,813 | Clasp. The Hercules Safety Clasp Co | 101,947 |
| Check. Door. George W. Mallory..................... | 101,913 | Clasp. Garment. Otto Kemper, et al. | 97,868 |
| Check for time recorders. The Dey Time Register |  | Clasp. Hose supporting. The Spirella Company... | 102,061 |
| Company | 100.593 | Clasp. Placket. Samuel M. Fischer | 98,215 |
| Check rein. Edward Van Dy | 97,079 | Cleaner. See Plpe cleaner. Rail cleaner. Sewer |  |
| Check rein. James A. McC | 98,750 | cleaning device. |  |
| Checking and timing mechanis |  | Cleaner. Boiler. Samuel McA | 101,824 |
| Christopher Geddes.. | 97.789 | Cleaner. Boller tube. A. F. Krause, et al........... | 101,772 |
| Cheque book. J. O. Lalonde, et | 101,385 | Cleaner. Boller tube. The M. H. Thompson Manu- | , |
| Cheque form. Alfred Collie | 98,575 | facturing Company ............ | 98,774 |
| Cheese making machine. Cha | 100,757 | Cleaner. Boiler tube. Thomas | 101,594 |
| Chill. John R. Whitney. | 97,865 | Cleaner. Flue. Christ C. Schran | 102.144 |
| Chimney. George H. Thirsk | 98,111 | Cleaner. Grain. James M. Akers | 101.420 |
| Chimney. James M. Brag | 99,116 | Cleaner. Tobacco pipe stem. Benjamin F. Eshel- | 101.420 |
| Chimney cowl and ventilator. Daniel Whitehead, et al. | 100.722 |  | 101.049 101,961 |
| Chip breaker. Louls J. Nel | 101.289 | Cleaning apparatus. Carpet. Albert E. Moorhead. | 100,433 |
| Chip sorting machine. Howard Powers, et | 100,189 | Cleaning composition for steam bollers. Octave |  |
| Chlorine and phosphate. Manufacture of. Adolf | 100.189 | Aube, et al. ........................................ | 98,876 |
| Clemm............ ........ ...... | 99,763 | Cleaning process. Jules Doux, et al. | 102,629 |
| Chopper. Cotton. John B. | 99,218 | Cleansing and colouring process. George D. Bur- | 102,62 |
| Chord player for harmonium-like instruments. |  |  | 102,483 |
| Eugen Roggenbauc | 99,862 | Clevis. John A. Bar | 99,115 |
| Chuck. George Rothenbucher, et | 997,808 | Clevis. Nils M. Lien | 97,303 |
| Chuck. James Hodson......... | 98,239 | Clip for furring. George H. Pedlar | 101,975 |
| Chuck. The Wide Range Drill Chuck and Tool Company. | 99,791 | Clip for Ironing board covers. William L. Ely. et al. | 102,784 |
| Churn. Harland Garb | 102,596 | Clip for metal building construction. Sarah E. Pediar | 100.294 |
| Churn. See Butter making machine. |  | Clip. Paper. Joshua B. Hal | 97,238 |
| Churn. Alfred J. Anderson | 100,029 | Clipper. G. Bowler, et al. | 101.562 |
| Churn. Clyde W. Lowre | 97,305 | Clip. Spring. John Schade | 101,959 |
| Churn. Francis M. Mullig | 99,987 | Clip. Spring. Joshua B. Hale.....................97, ${ }^{\text {a }}$. ${ }^{\text {a }}$, | 100,932 |
| Churn. Frank D. Merr | 102,156 | Clock. Paul Wetzel....... | 97.991 |
| Churn. Frank L. Decker, et | 98,275 | Clock. Electric. Messrs. Keetnow Bro | 100.982 |
| Churn. Harland Garbu | 97,822 | Clock. Electric alarm. Augusta Y. Darche | 98.926 |
| Churn. John G. Smi | 99,228 | Clock mechanism. Solomon D. Warfeld. | 98,888 |
| Churn. John I. Shaw | 99.831 | Closet. Clothes. Maximilien L. Henrloud | 102,657 |
| Churn. Marcellus C. Wind | 97.201 | Closure. Ree Can closure. Stopper. |  |
| Churn. J. R. McConnell. | 101,864 | Closure. William B. Fenn.. | 96.81 E |
| Churn. Thomas J. Chen | 96,966 | Closure. Bottle. Henry A. Olsson. | 102.699 |
| Churn. William H. Hull | 97,679 | Closure. Bottle or Jar. Christopher D. Burton | 100.385 |

## VIII.

| Closure for elevator openings. Anthony Wind. | 07 | Compressing machine. Ham. Glovanni Mongardi, et |  |
| :---: | :---: | :---: | :---: |
| Closure. Hermetic. William A. Lore | 99,432 |  |  |
| Closure. Heremetic. William H. Ho | 100,381 | Ccmpressing mechanism for air, etc. Jo | 98,519 |
| Closure. Jar. Walter J. Hough | 100,059 | Compressor. Alr. Charles V. Ke | 99,430 |
| Clothes drainer. Franklin P. Sag | 100,328 | Compressor. Engine and air. Daniel Schiff | 102,701 |
| Clothes line and. case therefor. Ju | 101,640 | Compressor for elastic flulds, etc. John Gill | 99,427 |
| Clothes pin. Andrew C. Brown, et al........100,004, | 100,005 | Concentrator. Sce Ore concentrator. |  |
| Clothes pressing machine. James B. Replogle. | 99,597 | Concentrator. Eugene Peters. | 101,047 |
| Club or flat foot. Device for relief of. William M. |  | Concentrator. Ore. Emll | 100,687 |
| Scholl | 101,896 | Concrete reinforcement. Sec Reinf |  |
| Clutch. Clifford L. R | 99,648 | Concrete. Albert A. Pauly......... | 102,229 |
| Clutch. Friedrich Mul | 99,645 | Concrete constructing machine. Albert A. | 102,480 |
| Clutch. Harry A. Willian | 99,647 | Concrete mixer. William H. Larkin, jr | 97,413 |
| Clutch. John Riepp | 99.646 | Concrete mixing machine. George D. Sc | 97,091 |
| Clutch. John Bertram \& Sons Com | 99,644 | Concrete structure. Avila Thomas, et | 98,172 |
| Clutch, brake, etc. Henry S. Hel | 100.535 | Concrete structure. Charles E. Fowl | 101,816 |
| Clutch. Elevator. Andrew Wh | 97,081 | Concrete structure. Jean L. Gofl | 98,128 |
| Clutch. Friction. Jonathan D. Ma | 98,353 | Concrete works. Apparatus for building submerged. |  |
| Clutch. Hydraulic. The Sparks-Boothby Hydraulic |  | Frederick J. Gilman, et al. | 102,812 |
| Clutch, Limited........ | 98,846 | Condensation in optical tubes. Means of preventing. |  |
| Coaling device for moving trains. Charles M. Miller | 99,828 | The Electric Boat Company. | 97,950 |
| Coat hanger. Richard H. Knight, et | 99,272 | Condenser. The Bell Telephone Company of Canada | 101,239 |
| Coating machine. George P. Reuh | 97,257 | Condenser. The International Steam Pump Company | 100,910 |
| Coating metal. Electrolytic. Alexander Class | 102,216 | Condenser. Walter W. Massie | 98,221 |
| Coating. Wall. The Liquid Wall Paper Compan | 102,621 | Condenser. Rotary. Maurice | 97,043 |
| Cobalt. See Nickel and cobalt. |  | Conductor. Electric. The Parker-Clark E |  |
| Cock. Gauge. Frank W. Leide | 98,841 |  | 05 |
| Cock. Gas burner. Isaac E. York | 99,248 | Conduit. See Pipe or conduit. |  |
| Cock for steam engines. Swan Ander | 100,914 | Conduit. Philip Ayl | 99,854 |
| Cock for Westinghouse brake coupling. |  | Conduit. Alr. Charles H. | 97,920 |
| Anders | 99,878 | Conduit for electric wires. Clarence C. Sibley, et al. | 101,222 |
| Cock. Wash basin. David | 97,866 | Conduit for electric wires. The Conduits Company. | 101,269 |
| Cock. Water. Joseph Mouh | 102,140 | Conduit. Underground. B. R. Fales, et al | 102,023 |
| Coffee pot. John Armstro | 97,533 | Conning mechanism. The Electric Boat Company. 97,94 | 97.951 |
| Coffee roaster. Everett T. | 102,642 | Container. Jarvis R. Harbeck. | 99,428 |
| Coffin lowering mechanism. Ju | 97,709 | Control apparatus for electric motors. T |  |
| Coiler. Wire. Charles F. Le | 101,281 | dian Westinghouse Company. | 97,231 |
| Coil. Flexible conductor. S. Quincey. | 101,922 | Control system for electrical currents. The Ca |  |
| Coll. Induction. Stanislaus H. Sauve, et | 100,779 | dian Westinghouse Company. | ,229 |
| Colling apparatus. Iroquois Machine Com | 101,902 | Controller. See Governor. |  |
| Coil. Ruhmkorff. John McInty | 101,303 | Controller. The Electrical Devices Comp | 97,810 |
| Coin assorter and stacker. Bertram Forrest Brewster | 101,712 | Controller. Electric. Albert E. Dion, et al. | 99,426 |
| Coin collecting device. Harold D. Stroud | 97,624 | Controller. Electro-motor. The Canadian Westing- |  |
|  |  | house Company | 97,854 |
| Hess.................... | 97,898 | troller for electric circuit. |  |
| g hydrogen-bituminous | 97,240 |  | 7.993 |
| Coking peat. Oberbayerische Ko | 102,211 | Inghouse Company | 7,232 |
| Cold storage building. Bernt A. No | 100,657 | Controller for explosive engines. Walte |  |
| Collar. See Pyroxylin collar and cut |  |  | 99,173 |
| Collar. Anthony G. Gul | 98,866 | Controller for explosive engines for boats. Wlliam |  |
| Collar. Frank W. Mugford | 98,241 | E. Colller | 99,171 |
| Collar. Frederick Charles | 98,671 | Controller for vehicles. Alexander Wi | 100,885 |
| Collar. Frederick W. Par | 97,572 | Controller. Motor. G. A. E. and F. W. Kohle | 101,944 |
| Collar. Hydesaburo Chas | 102,728 | Controller operating means. The Canadian West- |  |
| Collar. Tooke Brother | 98,299 | inghouse Company | 98,597 |
| Collar. William D. Mitchell, et | 97,570 | Controlling Device. The Pike Adding Machine Com- |  |
| Collar. Horse. Alfred U. Field, e | 101,311 | pany ......... ...... ...... ............. 101,516, | 101,517 |
| Collar. Horse. James Samuel Hull, | 98,681 | Controlling mechanism. Power. William R. Mc- |  |
| Collar for overcoats. Isador M. | 97,571 | Keen | 99,672 |
| Collar. Shirt. Frederick W. Pa | 99,829 | Controlling system for electric motors. The Cana- |  |
| Collar Support. Agnes Haviland | 102,201 | dian Westinghouse Company. | 98,596 |
| Collison preventing apparatus. Railway. |  | Connection. Waste pipe. Charles N. Fi | 102,377 |
| Rottenbacher, et al......... | 97,748 | Converter. Rotary. John L. Murdoc | 102,697 |
| Colouring. See cleansing and colouring process. |  | Conveyer. See Carrier. Excavator and |  |
| Colour reproduction. Photo-mechanical. Charles G. |  | Conveyer. Adrian Hall, et | 96,867 |
| Zan | 98,077 | Conveyer. Alfred Tomkins | 98,448 |
| Colour spray. Hans Mikore | 98,182 | Conveyer. Charles H. Anderso | 98,156 |
| Cotter. Herbert W. Fleury | 100,753 | Conveyer. Isaac Peabody, et | 102.733 |
| Colter. Jesse Fielder Con | 101,631 | Conveyer. James A. Jamies | 99,098 |
| Colter. John Moeller | 101,501 | Conveyer. John A. Brow | 102,770 |
| Colter. Plough. John P. Abernathy, | 100,147 | Conveyer. John W. Cooper, | 97.588 |
| Column. The American Column Com | 99,916 | Conveyer. Pierre Lorlllard. | 97,451 |
| Comb. Charles Schmidt, et al. | 102,353 | Conveyer. Robert Allison Cha | 102,192 |
| Comb. George N. Steere. | 98,661 | Conveyer. Samuel M. Wi | 97,314 |
| Comb. Hair. Austin | 99,605 | Conveyer. The Robins Conveying Belt Company ..97.462, | 98.859 |
| Combination tool. Charles Hell | 98,351 | Conveyer. Bucket. William L. McCab | 99,825 |
| Combination tool. David M. Haney | 98,137 | Conveyer. Bucket. James J. Harold | 98,717 |
| Combustion apparatus. William H. Ricker | 101,881 | Conveyer for excavator. Thomas McMan | 101,709 |
| Combustion. Apparatus for promoting. George R. |  | Conveyer for peat. William Atkinson Mil | 101,500 |
| Barns .......... ............ ..................... | 98,833 | Conveyer. Grain. Edward J. Vraalstad. | 100,502 |
| Combustion device. Louis Van den Driessch | 99,633 | Conveyer. Graln. James B. Schuman, et al | 97,319 |
| Combustion engine. Internal. Francis M. Uh | 102,039 | Conveyer. Grain. The Kalispell Manufacturing and |  |
| Combustion engine. Internal. Harry Ball Stiltz. | 102,058 | Improvement Company ............................ | 99,391 |
| Combustion of fires. Method of promoting. Illius |  | Conveyer. Lumber. George F. Rowe, et al | 100.829 |
| A. Timmis | 99,702 | Cooker. John Baker | 97,936 |
| Commode. William H. Mackin | 102,467 | Cooker. Steam. Verena Ehrsam-Zet | 102,457 |
| Compass. Sce Bevel and compass. |  | Cooking apparatus. George Roger Prowse | 98,295 |
| Compensating device. Herman Meyer | 98,586 | Cooking apparatus for canned goods. Franklin F. |  |
| Composition. Paving. The International Pavement |  | Stetson | 97,823 |
| Company...... | 102,240 | Cooking stove and range. Robert N. Grundy | 100,405 |

Cooking utensil. Jacob J. Sophus, et al...............
Cooler. See Beer cooler. Cream pasturizer and cooler.
Cooler and aerator. Milk. Charles H. White, et al.
 Cooler for air or gas compressors. The IngersoliRand Company
Cooler for electric generators. Benson Bidwell.
Cooler for engines. Air. G. Wolke, et al Cooler for granular material. Charles A. Matcham Cooler. Liquid. The Canadian Dairy Supply Commany ..........................................
Cooler. Mike.
Cooler. Milk. Wareham T. Harris
Coop. George J. Cook.
Coop. Chicken. Cicero Hoskins..
Copier. Hand roller. Harry Shingler
Copy holder. George C. Beidler..
Copying apparatus. Harry Sandford Burton.
Copper from its ore. Method of extracting. Lucien
Jumau......................................................... que Francalse...................................................... 100,1 Copper preparation. The Renstrom Tempered Copper Company
Copper separation. Alexander Elliott..
Core for concrete structures. August P. Diescher.
Cork. Artificial. Harvey Cole..........
Cork extractor. Walter F. Goodnough
Cork extractor. William H. Smith.
Cork removing machine. Henry J. Alther......
Corking machine. Raymond B. Gilchrist...
Corkscrew. Marcus A. N. Ansley.
Corkscrew. Joseph Daniel Coughing, et al.
Cornice brake. George C. Keens.
Corset. Charles punter
corset. Abdominal. Charles Munter.
Cotton manufacture. George D. Burton.
Cotton preparing machinery. Robert Schaellibaum
Couch. John Flindall..
Couch. Virginia Whittington.
Couches. John Hoes
Coulter. Reginald V. Pocock.......................................
Counter balance. The John Bertram \& Sons Com-

Counter-skiving machine. The United Shoe Ma-
chinery Company of Canada......................... chinery Company of Ca
Coupler. See Car coupler.
$\begin{array}{ll}\text { Coupler. } & \text { See Car coupler. } \\ \text { Coupler. } & \text { Frederick W. Conley. }\end{array}$
Coupler. Frederick W. Volley........................................

Coupler. Brake. Frank H. Rutherford
Coupler for cylinders. The Ingersolli-Rand Company
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Coupling. George Lloyd..

Coupling. Air hose. Euclid B. Wilhoit, et al........
Coupling and bearing. The Canadian General Eiectrice Company
Coupling. Cable Desert \& Company.................. Coupling conveyer. Clemens Frhr. voa. Bechtolsheim
Coupling. Detachable. Walter Scrimgeour......... Coupling. Fifth wheel. Joseph C. Watson.
Coupling. Flexible. The Canadian General Electric Company

Coupling for drill tools. Frank Ede.....................
Coupling for electrical
conduits. Alexander Coupling for electrical conduits. Proudft..
Coupling for shafts, etc. Johann o. $\boldsymbol{a}$. Hansler
Coupling. Hose. Alexander W. Irvin, et al
Coupling. Hose. Earl J. W. De Forrest, et ai
Coupling. Hose. John Metzger........................
Coupling. Hose. The Nelson $\&$ Morrison Man-
Hose. The Nelson \& Morrison Man-
fracturing Company.. .. .. .. fracturing Company..." Jonas Pehrson..
Coupling. Knuckles for. Robert Abbott Hadaeld.
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| Register. Side wall. The McClary Mfg. | 39,222 | Saddle. Wilhelm Deditils. | 99,714 |
| Register. Time. The Dey Time Register |  | Saddle tree. Fraser G. Lockha | 100.131 |
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| Regulator. See Pressure regulator. Plough depth |  | Safe. J. and J. Taylor | 93.62 .4 |
| regulator. Steam boiler. |  | Safe for provisions. Elizabeth | 100, 373 |
| Regulator. Feed water. Charles H. Chan | 101.830 | Safe match. Clayton R. Lusk. | 97,591 |
| Regulator. Fluid pressure. The Canadian |  | Saline solutions. Electrolyti |  |
| house Company, Limited | 102.006 |  | 100.261 |
| Reinforced concrete forms. Homer Thom | 10.295 |  |  |
| Reinforcement for concrete. Arthur S. Ple | 97.148 | Sind and slime David J. Kelly. <br> Sand blast apparatus. The varine ionistruction | 102.672 |
| Reinforcement for concretc. William Ga | 97.149 | sand blast apparatus. The Marine construction |  |
| Relay. Jens Herman Christens | 102.171 | Company.. . . . . . . . . . .. .. .. .. 97.26f. | 67 |
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| Relay. The Western Union Telegraph | 98.486 | Sand cap for vehicle wheels. William E. Wright. | 99,270 |
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| Repairer. Axle. Lottie G. Fader | 101.831 | Sanding device. Augustus L. | 100,868 |
| Repeater. Telephone. George W | 101.831 | Sanding device for automobiles. Augustus L. Moss. | 100.869 |
| zinger ........... | 102.159 | Sap extracting apparatus. James W. Wade | 102.Ers5 |
| Replacer. Car. Edward | 102.084 | Sap spout. Joseph Clar | 101,827 |
| Resaw. John L. Graham | 101,742 | Sash. Christopher Columbus Clancey.. .. .. .. .. | 101,843 |
| Reservoir for collecting dew. Arthur J. Hubbard, et al. | 99.001 | Sash and shutter raising and lowrring machine. William F. Williams. | 5 |
| Resplrator. David Craig | 98,576 | Sash balance. Joseph Soss. | 837 |
| Respirator or inhaler. John | 101.261 | Sash balance. The St. Louis Car | 100.056 |
| Retort. Gas. Gottiried Theodor Alb | 101.717 | Sash bar. James P. Comstock. | 100.215 |
| Reversing mechanism. William E. R | 99.108 |  | 96,835 |
| Revolver. Daniel B. Martin. | 100,468 | Sash gulde and metal weather strip. William H . |  |
| Ribbon attachment for typewriters. The Under- | , 108 | Scholes. | $\begin{aligned} & 7 . .974 \\ & 68936 \end{aligned}$ |
| wood Typewriter Company | 100,942 | Sash lifter. Robert Washburn |  |
| Ribbon guide for typewriters. Connel H. Dowlen. | 100,448 | Sash support. John S. Gribbon et | 38898 |
| Ribbon weaving machine. The Dey Time Registe |  | Sash weight. James R. N. Curtin. | $98.689$ |
| Company | 102,242 | Sash window. Frederick Kling. |  |
| Rim. Vehicle wheel. Isaac Hodg | 99.970 | Sash window. William E. Dourh | 100,297 |
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| Ring expander. The Novelty Engin |  | Saw. Calwin Dilks.. . . . .. .. .. . | 101.0 |
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| Ring rolling machine. J. R. Woo | 101,43 | Saw. Evangelice Brisebois |  |
| Rivetting machine. Henry S. | 99,437 | Saw. Frank H. Lamb. | 101.247 |
| Road grader. Christian Mo | 100.507 |  | 100.782 |
| Road grader. Roscoe S. She | 100.519 | Saw. Joshua Aldham.. .. | 100.740 |
| Road grader. Thomas F. Bryen | 97.499 | Saw. Melber H. Cox. | 102.090 |
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| Rnad grading machine. Stephen Randall | 100.506 | Saw buck. Ashley D. Thomas | 101.014 |
| Road making machine. Charles D. Edwards | 98.097 | Saw buck. George R. Hicks. | 99.216 |
| Road making method. Leonard S. Van | 100.221 | Saw circular. James H. Martin. et al | 100.222 |
| Road scraper. Clif ${ }^{+\cdots}$ - S. H | 98.096 | Saw clamp, set and file. Camille Baillargeon | 99.878 |
| Road smoother. Jefferson | 98.308 | Saw cross-cut. Jerome C. Dietrich.. .. .. .. | 99,446 |
| Roadway. Marv A. Long | 37,033 | Saw for wood. Dionis von Zamborzky, et äl. | 99.600 |
| Roaster. John Emmerson | 98.676 | Saw gauge. The Button Marhinery Company | 97,342 |
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| Robe. Lap. Harry L. Hoenigsberg | 97.191 | Saw horse. Wilton S. Schuyler.. | 99.730 |
| Rod. Connecting. James F. Co | 99.659 | Saw meat. The Firm of Shurly and Dictrich | 99.509 |
| Rod. Railway safety. Benjamin | 99,729 | Saw mill. Robert H. Richards, et al.. .. | 100.414 |
| Rod. Wagon box. John G. | 98,030 | Saw mill. William H. Trout.. .. .. .. .. 100,051, | 100.fi18 |
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| Roll. Crushing. Walter G. Bryant | 101,629 | Saw mill mechanism. John C. Kistler.. .. .. .. .. | 97.569 |
| Roll for planing machines. Harper and Son | 102,366 | Saw set. Frederick A. W | 100 |

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caffold. Moulton and Evans..
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Scales from metal rods. Machine for removing.
ales from metal rods. Machine for removing
The Capewell Horse Nall Company.
Scales. Grain. Elling O. Berg.....
Scales. Pecording James J. Lannen.
Scales. Weighing. E. and T. Fairbanks and Cam
scales. Weighing. Peter Lewlitz
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craper :
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Scraper. John F. Coleman.
craper. The Kilbourne and Jacobs Manufacturing
Company.. .. $\ddot{\mathbf{j}}$. Waddeli
Scraper. Floor. Constantin Duda
Sraper Foot. Gcorge F Hibner
Scraper for drill disc. The Manitor Drili Compauy. Scraper for disc plows. Frank L. Armstrong..
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Screen. Coal. Jacob H. Gmelin
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Screen Teble Joseph C Pareen Company
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screen. Window. Homer E. Gllland, et al.
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Screening mechanism. John M. Callow
Screw dic mechanism. Harry C. Boham, et al..
Screw driver. John D. Campbell.
sew driver. Milo J. Cowgill.
cew mikia machine.
derew Com
making machine. The Universal Machin Screw Company
ew pointing machine. The St. Louls Screw Company
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scutcher. Edmund F. Horine, et al.
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Sea wall on pler. Henry Winter.
Seal. Bottle. Jose Munctet.
eal. Hermetic. Whiam A. Lorenz, et al.
Sealing machine. Envelope. Charles `J Fanche.
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Seat. Rallway vehicle. William S. Laycock. Seat. Spring. James H. Cook
Seat suspension for motor vehicles. $\ddot{\text { Oscar }} \ddot{\text { Werner }}$
scat. Vehicle. Telesphore Lymburner.
Scat. Wagon. Benjamin F. Hoyd.
Sced cleaner and grain separator. James $\ddot{E} . \ddot{B e n}$

Seed separator. James N. King.
erder Jecob H Ulirick S. Smith

100,906
$\begin{array}{r}101,601 \\ 100,212 \\ 96,798 \\ \hline\end{array}$ Seeder. The American Seeding Machine Company. Seeder and fertilizer. Frank K. Bell..
Seeder. Suger beet. Frederick Tis.
Seeding machine. Frank E. Davis.
Seltzogene. Robert H. Cam


ing and Milling Company....................
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Company Megnetic. The International Separator Separator: see Cream separator. Dust from air
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 eparator. Cream. The International Harvester
Company......

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Separator. Seed water heater. William Asa Gibson.
Separator for water and steam.
Separator for water and st eam. John Moreland..
Separator. Grain. Edward Horazdowsk
Separator. Grain. Edward Horazdovsky.
Separator. Grain. Gerhard Spenst.
Separator. Grain. Gerhard Spenst.
Separator. Graphite. John H. Davi


pany. . . . . .
Separator.
Magnetic. Company.. Magnetic. The internationai Siparator Company
Separator. Metal. George Moore..
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Separator. Sced. Frederick M. Dassor.. .. .. ..
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Sewing machine. Anton Hackenbroch
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Sharpener. Lawn mower. George H. Paulus. Sharpener. Razor. Hamiliton $P$. Fowler. Sharpener. Rotary cutter. Nells K. Skow Sheaf loader. Cephas E. Martin.
Shear. Harvey L. Hopkins..
Shear. Willam J. Hancock..
Shear. William J. Hancock.. .. .. ... ........ ... ...
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102,325 Signal for air brake systems. Richard P. Nolan.. 102,325
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Signal. Railway. Nicholas Erschens..
Signal. Railway. Petrus J Portman
Signal. Railway. Petrus J. Portman. .
Signal.
Railway.
Singer
$\begin{array}{lllllll}\text { Signal. } & \text { Railway. Prosper Cloutier. } & \ldots & \ldots & \ldots & 102.589 \\ \text { Signal. } & \text { Railway. } & \text { The Hall Signal Companv. } & 98 . \pi 04, & 98.705\end{array}$
$\begin{array}{llll}\text { Signal. Railway. The Hall Signal Companv. 98,704, } & \text { 98.785 } \\ \text { Signal. Railway. The Westorn Syndicate Limited. } & 102.557\end{array}$
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ing Company.. .. .. . . . .. .. .. .. .. 97,118 ,
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Single tree. John H. Roberts..
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rican Sintering Company..
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Skate. Lambert C. Lundy..
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Skirt fitting stand. Austin Rerry.
Skirt marker. Jackson Johnson.
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Skirt sunporter. Herbert C. Neane. . . . . . . . .
Skiving machine. The United Shoe Machinery Com-
Skiving machine. The United Shoe Machinery Com-
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Sled. Traction. James McGillis.. .. .. .. ..
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99.009

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Smoke consumer. James Patrick McMahon, et ai.
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Smoke consumer. Richard Wllde
Smoke consumer. Rock Brien. ${ }^{\text {Smoke }}$ consumer. Samuel M. Walker.
Smoke consumer. The Perfect Simplex Cumbusion
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Smoke preventing apparatus. Archibald Mcionald. Smoke protector. William E. Andrew.
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Smut from wheat. Process of removing. Wiliiam R. Reid.

Smut machine. Anthony H. Baenen.
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Sorting apparatus. William H. ${ }^{\text {R }}$. Herrmann.
Sorting machine. Bean. John J. Jungers..
Sound producing device. John $P$. Northey.
Sound producing mechanism. Laurent Gardy.
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Spade: Scc Shovel and spade.
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Spark arrester. Edmund Spencer Fiddeman, ei al Spark arrester. Herbert L. Lapham.. Spark arrester. Olaf G. Sunden.
Spark arrester. William C. J. Hall, et al... .. .. Spark. Gap and muffler for. Harrison, A. E., ot al. Spark preventer for locomotives. Dugald Drummond.

Sparker. Controller for. Danfel Brower Willix
Spavin mediclae. Edward K. Mahon.
Speculum. Crispees D. Tracey
Speculum. Veterinary mouth. Martin J. Quinn
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tlan $Z$. de Ferranti.. .. .. .. .. .. .. .. 98,455 ,

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100,706
$\begin{array}{r}100,273 \\ 97,50= \\ \hline\end{array}$ 98,922
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$\mathbf{9 7 , 0 7 2}$

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97,59C
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97,617
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101,604
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$\mathbf{9 8 , 7 7 2}$
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liam Jamteson et al. Stay. Wire fence. Theodore M. Conner Stays for garments, \&c. Machine for forming. The Steam. Blower. Clarkson M. Thompson
Steam boller. Fred. Behrens.
Steam generator. David Roberts.


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Steam generator. George Dorell Cooper
Steam generater. Whllis Mitchell.
Steam jet blower. Charles T. Coe.
Steam trap. Edward J. Ryan.
Steam trap. John H. Taylor..
Steam trap. John T. Lindstrom.
Steam trap. William Bletso.
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Stencil reproducing apparatus. William simith.
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Stone. Artificial. August Deiedesheimer, eital
Artificial. The Lithograpric Stone and Mar ble Company, Limited.
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Stopper for sinks. William I. Kaiser
Stopper for syphon bottle, \&c. John G. Hënrich.
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Stopper for vessels. Abbot A. Low
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Stopper. Poison bottle. Louis N. Ritten
oppers from flbre. Machine for forming. The
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Stove. Benjamin F. Voorhis.
Stove. Clinton Almeron Case.
Stove. Jean Baptiste Bernier
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Stove. Octave Belanger
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Thomas B. Lockley.
Stove. Wimlam A. Standing.
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Stove draft. Silas McClure.
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son Manufacturing Company.
Stove. Gas. Florent De Grauwe
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Strainer. Fried cake. John Ramsey
Strainer. Milk. Hormidas Leduc.
Strainer. Soup. Jacob Huonker.
Strainer. Ire. T. F. Locke, et al

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98,834
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97,331
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48,388
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101,615
101,612
99,69\%
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al..

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Switch. Henry O. Marquis.
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Synchronizing system. .̈ Paul Ribbe..
Syringe. Frank C. Barnes.
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Table and desk. Edmund Higgins
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100,136
101,750
9853
98,533
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98,816
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102,077 102,077
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101,810
H. Brownlow

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Tooth. The Dental Protective Supply Company of

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Type casting machine. Sylvester $\ddot{\mathrm{J}}$. Sennett.....
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Type writer. Shannon A. Hardman
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Unloading apparatus. Jesse Earnest Knight.
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Valve. Charles $P$. Ware
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Valve. Harry C. Root.. .
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Valve. The Magann Air Brake Company..
Valve. The Norwall Manufacturing Company
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Valve for flush tanks. William A. Xlexander.. ..
Valve for heating and ventilating. Fritz Kaeferle. Valve for heating systems. Albert P. Broomell.. Valve for sprinklers. Ernest S. Clayton.
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101,994
102,000

## 102,720 102,131

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$\left\{\begin{array}{l}97.165 \\ 97.166 \\ 97.36\end{array}\right.$
97.165
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### 100.963

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$102,+96$
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### 99.849

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99,080
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## 880

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| Hilgermann, O. A. F. W. Barrel tap | 97,357 |
| Hill, E. J. Double ended hook. | 102.056 |
| Hill, H., et al. Firearm.. | 102.805 |
| Hill. J. B. Ballast dressing apparatus | 100.409 |
| Hill, J. J. Stove pipe support. | 98,163 |
| Hill, J. R. Device for overcoming dead ce | 99,650 |
| Hill, S. M. Tool for slekle bar | 99,182 |
| Hill, W. A. \& J. Rail joint. | 100.397 |
| Hiller, H. L. Lacing. | 99,510 |
| Hiller, H. L. Lacing tip | 99,511 |
| Hillman, H. E. Fence pos | 101.397 |
| Hills, R. C. Briqueting m | 102,537 |
| Hills, R. C. Retort furna | 100.428 |
| Hillyard, R. W. Furnac | 100.565. |
| Hinde, J. J. Package | 99,120 |
| Hinds, O. H. Carbureter | 102.154 |
| Hineman, J. Drenching bl | 100.768 |
| Hines, E. G. Support for vehicle | 101,965 |
| Hinton, W. J. Trolley finder | 100,799 |
| Hinz, J. C. China kiln. | 102.751 |
| Hipp, F. J. Crate | 99,932 |
| Hipple, A. H. Asbestos man | 102,357 |
| Hirsh, M. A. Book fastener | 101,716 |
| Hist, J., et al. Potato digg | 98,736 |
| Hitch, A. J. Railway signal. | 102,571 |
| Hively, J. L. Respirator or in | 101.261 |
| Hixon, H. W. Blast furnace. | 102,779 |
| Hixon, H. W. Lining of converters and ginc retorts | 97,596 |
| Hoar, T. Truck flange.. | 100.315 |
| Hoare, T. W., et al. Repair band for pneumatic tires | 102.160 |
| Hobson, W. S. Tru | $101.5 \pm 6$ |
| Hodges, W., et al. Bevel and con | 101.702 |
| Hodson, E. Window frame and sash.........99.304. | 101.459 |
| Hodgson, I. Vehicle wheel rim. | 49, 917 |
| Hodson, J. Chuc | 98.239 |
| Hodgson, J. Level. | 917.894 |
| Hoekstra, W. Pump rod ejec | 98.638 |
| Hoenigsberger, H. L. Lap ro | 97.191 |
| Hoey, J. Extension couche. | 99.244 |
| Hofla, C. W. Medicine glass | 99.55 |
| Hoffman, A., et al. Can capping | 47.497 |
| Hoflmann, F. Medical device | 99.607 |
| Hoffmann, J. C., et al. Comb | 10:33.3 |
| Hoffmann, O. Power transmitting | 100.85 |
| Hoffmann, O. Railway construction | 99, $\because 2$ |
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| Hogan, P. W. Car coupler. | \%s.018 |
| Hoggard, W. Feeding mechanism for bottle cappIng machines | 94.96 |
| Hogue, L. E. Injector. | ¢10.034 |
| Holsington. D. J. Steam valve | 95.580 |
| Holborn, C. Pen holder, ete. | 97.744 |
| Holby. O. Hull for ships. | 90, ¢; \% |
| Holcomb, C. A. Steam engine | 100.838 |
| Holdeman, W. T., et al. Switch mechanisu | 94.087 |


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| Hokdsworth, J. Winding ma | 97,394 | Hubbard, F. J. Folding bed | 97.010 |
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| Holgate, G. H. Carbure | 99,903 | Hubbell, H. C. Cathode pla | 100.267 |
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| Hollander, F.. et al. Stove pipe | 99.305 | Huber, F. A., et al. Superheater for traction engine | 101,612 |
| Holman, J. W. Car bra | 97.461 | Huber, J. F. Filing | 101,391 |
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| Holmes, F. J., et al. El | 101.295 | Hudson. J. P., et al. Thawing device for water plpes | 98,487 |
| Holmes, G. B., et al. Trolley | 102.442 | Hueg. H. Dough shap | 102,629 |
| Holmes, G. E. Astigmatic | 100.105 | Huenergardt, G. H. Wash | 99,933 |
| Holmes, L. Apartme | 102.650 | Huey, J. E., et al. Door pi | 101,407 |
| Holmquist, A.. et al. Horse | 98.010 | Huey. J. E., et al. Rut | 100,721 |
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| Honiss, W. H. Hermetic clos | 100.381 | Hughes, E. G. Air brake | 101,638 |
| Honiss, W. H., et al. Hermetic | 100.100 | Hughes, F . Skid setting gauge | 100,039 |
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|  | Linscott, T. S. Scissors | 98.950 |
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| Martin, S. B. Ladder | 101.286 | Mccutcheon, J. S., et al. Plough | 100.02: |
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McMullen $\mathbf{C}$ P at Governor for pump
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McMunn, T. Conveyer for excavator.

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McNally, F. J. Gaiter and stocking
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National Electric Signalling Company. Wireless signalling
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nodulizing system .............................. Vational Metallurgic Company. Nodule of metalliferous material
Vaunton, W. E. Music printing method.
vaysmith, $R$ E. Music printing method................ 100.180. 1018
Naysmith, R. Bed rame and springs................. 98,034
Nad, S., et al. Window shade bracket........... 99,799
Neddo, P. Lifter for
Nedrow, H. F., et al. Wrench
Neel. W. B. Nut lock washe
Neelin, W. A. Vehicle bearing
Feely, E. Cooler for beer, etc
iecnan, N. E. Elevator.
Nerpawa Manufacturing Company. Chag blower.
Nees. A. A. Safety deposit receptacle..
Neikirk, J. O. Bolster for railway cars
Neil, N. G. Index.

Nelson, A. R., et al. Telephone system.
Nelson, A. W. Cutter head
N•Ison, F. E.. et al Gate.
Clison, L. J. Chip breaker
Noison, M. Paper cutter.....
Ne.son, M. Paper cutter......
Nelson, N. H. Power
Velson, P. W. Ganie
Nelson, S. M., et al. Shock loader
Neracher. W. A.. et al. Adjustable die stock.....
Neron, E. Envelope marker.
Nesbit, D. M. Heating system.
Nesbltt, J. S. Flash sign.
Nestor, O. K., et al. Fire alarm.
Nettle, G. Pulley..........
Nettleton, J. N. Nipper
Natural Food Company. Machine for preparing food stuft
Neu, E. W., et al. Water heater
Nevins, $\boldsymbol{T}$ Skirt hanger.
New Century Engine Company, Limited. Locomo-

Newcomb, E. C. Internal combustion motor........
Newhall Plano Company. Piano
Newhous H. B. Cable clamp...
New Jersey Wire Cloth Company. Fire proof struc.
$\qquad$
re Cloth Company. Fire proof struc-
New Jersey Wire Cloth Company. Wire loom.......................................................
Newman, C., rt al. Curcular saw.
Newman. F. W. Door............................
Newton, C. $\mathbb{\&}$ W. S. Stopper ior vessels
ewton, C. C. \& W. S. Stopper for vessels............
machine .................... ....................101.408
Nlagara Forged Steel Company. Rail brace.................................................

| R. Ja | 98.133 | Oldham, J. | 100,740 |
| :---: | :---: | :---: | :---: |
| Nicholas, M. Apparatus for preparing textile fabrics | 102.578 | Olds Motor Works. Carbu | 98,935 |
| Nicholls, A. E., et al. Golosh. | 100.904 | Olin, C. M. Light box | 97,490 |
| Nichols, A. E., et al. Bob sle | 99,394 | Olinger, J. G., et al. Ty | 100,452 |
| Nichols, E. I. Dust removing | 101.776 | Oliphant, W. Surface ca | $\begin{aligned} & 101,090 \\ & 109479 \end{aligned}$ |
| Nichols, L. A.. et al. Val | 99,626 | Oliver, C. Strect lamp | 102.479 |
| Nicholson, C. W., et al. | 101.598 | Ollver, W. H. Lifting | 22 |
| Nioholson, W. Tube expan | 98.355 | Olivier, E. L. A. Resillent | 100.202 |
| Nickerson. S. H. \& A. V. | 98,243 | Ollagnier, B., et al. Method of grinding cereals. | 97.817 |
| Nicolson. G. W. Excava | 99,810 | Ollagnier, B., et al. Mill. | 97.818 |
| Niehoff, E. Submarine | 97.717 | Olney, R. E., et al. Mir | 101.823 |
| Nielsen, R. Ice cream sp | 97.972 | Olsen, J., et al. Moulding | 97,711 |
| Nielsen, S. J. Lock | 101.059 | Olson, A. J. Bedstead | 10 |
| Nielson, A., et al. Sho | 101.790 | Olson, L. Wire frn | 92 |
| Niemann, J. P., et al. Sta | 98.849 | Olson, O. Post retainin | 101,263 |
| Nightingall, V. C. J. Gas | 96.85 | Olsson, H. A. Bottle | 102,699 |
| Nikolsky, M. Explosive manu | 99,456 | Oisson, P. Cultivator | 99,347 |
| Niles Bement Pond Company. | 96,993 | Omega Separator Company. Cr | 99,534 |
| Nilson and Morrison Manufacturing Company. Hose coupling | 101.900 | Ontario Fruit Package Company. Veneer bending machine | 99.568 |
| Nisket. J. E. Car coupling | 101.850 | O'Brien, C. H. Apparatus for produc |  |
| Nissein. L. Lamp for burning liqu | 97.594 | sound signals | 7.365 |
| Nissen, N. F., et al. Pasteurising ap | 100.093 | O'Brien. P. J. Sash | $02,651$ |
| Nix. J. B. Cotton chopp | 49.218 | O'Brien, T.. et al. Nut lo | 100.160 98.229 |
| Noack, W. H. \& A. Y. Machine for forming butter into bricks | 99.103 | O'Brien,-W. C. Starter for O'Connor. A. Stanchion.. | $\begin{aligned} & 98,222 \\ & 99,412 \end{aligned}$ |
| Noble, C. W., et al. Curtain holder | 101,967 | OConnor, I). L. Vapourizer for | 100.493 |
| Nodet. M. F. A., et al. Electric lamp for | 97.147 | OConnor. J. Exaavato | 97,007 |
| Noe, A. Gat | 99.372 | OConnor. J. Meat bas | 4 |
| Nolan, R. P. Signal for air brake | 102,325 | O'connor. M. J. Apron fast | 101.940 |
| Noldner. B. Machine for removing bolls from stalks of flax | 98.444 | O'connor. T. B.. et al. Bakers' <br> O'Dell, J. Hen nest............ | $\begin{array}{r} 97.054 \\ 100,795 \end{array}$ |
| Nöldner, B. Trace | 97.682 | O'mell, J. J. Street car fend | 98.423 |
| Nolf, A. M. Firearm | 102.316 | O'Dell. W. R. Non-rtfiliable | 100.393 |
| Noll, H., et al. Grain | 101.699 | OLonnell, F., et al. Loom | 99.307 |
| Nolte, A. Press for forcing axles | 48,802 | O'Donnell, F., et al. Shuthe merhani | 102.361 |
| Nolting, E. J. Hedge trimm | 98.524 | O'Donnell. F., et al. Stop motion for loo | 102.362 |
| Norcross, I. A., et al. Wall | 101.214 | O'Donnell. W. J. Curative apparatus. | 7 |
| Norden Stierna, G. Holder for | 101.836 | Ollowd. J. Roof | 99,620 |
| Norman. B. A. Cold storage bu | 100.657 | O'Leary, J. J. Map han | 101,110 |
| Norris, C. G., et al. Plan | 101,125 | O'Leary. W. J. and Company. Electric | 101.325 |
| Norris, F. B. Suspend | 99.619 | ONeal, C. H. Rack for displaying rugs |  |
| North \& Pfeiffer Manufacturing Company. Boot caulk | 98,390 | O'Neall, W. Q. \& E. H. Culvort........................ | 101.211 |
| North, C. H. Electric | 3.363 | horseshoe caulks | 99,240 |
| North, G. H., et al. Display | 100,56i7 | O'Neil. F. Glassware making | 277 |
| Northern Electric and Manufacturing |  | O'Neil. M. J. Folder | 98,870 |
| Limited. Winding machine | 101.668 | O'Shaughnesay. L. J. Life | 100,627 |
| Northey. J. P. Sound producing d | 97.617 | OSullivan, J. T., et al. Cream and mill | 97,556 |
| Nonthwestern Register Company. Reg | 99,075 | Oppenheim, S. Blouse | 100.484 |
| Norton, C. W., et al. Potato digg | 97.100 | Orling, A., et al. Telegraphic ap | 102,743 |
| Norton, M. H. Knife holder for v | 98.803 | Ormsby, H. J. Bridle bit. | 97911 |
| Norton. S. Fire brick. | 98.7 | Oronhyatekha. Q. Steam bol | 101,708 |
| Norton, W. B. Piston packi | 100,836 | Orosez, L. M. Car coupl | 97.683 |
| Norwall Manufacturing Company. | - | Orr, E. B. Curtain pole | 97,256 |
| Norwood. F. H.. et al. Car | 102.004 | Orr, F. L., et al. Engin | 102,675 |
| Notz, F. Mixing machine | 102,610 | Orr, J. F. Track brak | 97,309 |
| Novelty Engineering Association. Ring | 101.352 | Osborne. H. Shutter | 101.419 |
| Nowak, O. H., et al. Hide preparing compo | 99.002 | Osborne. H. Trans | 99.811 |
| Nowbray, J. W. Exhaust noz | 97.180 | Osborne, J. H. Cheese | 102,182 |
| Noy, H. G. W. L. Drier for | 100.827 | Osborne. V., et al. Measuring | 99.395 |
| Noyer, J. N. Fire escap | 100.351 | Oscanyan, P. C. Elastic fluid tur | 99,696 |
| Noyer J. N. Ratchet | 101,549 | Ostrander, A. I. Hotary engine. | 99,556 |
| Nugent. G. Track sander | 7.073 | Ostwald, W. Process of rendering |  |
| Nute, J. H. Machine for making wooden tooth pick; | 102.753 | stable in light | 100,107 |
| Nutz, S. N. Me | $98,722$ | Ostwald, W. Process of rendering lithophone against light | 102,358 |
|  | 97,032 | Oswald, J. E., et al. Locomotive engin | 100,981 |
|  | $\begin{aligned} & 101,943 \\ & 100.945 \end{aligned}$ | Otis Elevator Company. Elevator mechanism..... | 97.583 |
| Nystrom, C. A. M., et al. Fill | 101.129 | Otis Fenson Elevator Company. Alternating cu rent motor control | 101,354 |
| Nyswonger, W. A. Hoe. | 100.238 | Otis, S. Dumping ca | 100,245 |
| kes, F. J. Process for treating hides and | 97.254 97.255 | Oulmet, R. Boiler............... | 100.615 |
| Oakman, R. N. Gas val | 97,123 99.123 | Ovenshire, C. E. Shirt for Infants | 99,124 |
| Obee, R. R. Trawl net | 100,584 | Ovenshire, H. R. Infants band Owen, J., et al. Toy............ | 101.148 |
| Oberbayerische Kokswerke and Fabrik Chemischer |  | Owen, R. H. Range fin | $\mathbf{9 8 . 4 3 8}$ $\mathbf{9 7 , 5 1 0}$ |
| Produkte Akt Gesellschaft. Peat kil | 99,076 | Owens, C., et al. Feed controlling |  |
| Oberg. A. H. Holder for nursing bottles | $100.16 \cdot 5$ | magazines, etc | 101,326 |
| Oberbayerische Hokswerke. Coking pe | 102.211 | Owens, C., et al. Feed mechanism for magazine, et | 100.947 |
| Odegard, B. Tobacco plp | 100.966 | Owens, H. E. Saw handle. | 101.054 |
| Odell, M. H. Keyboard. | 98.881 | Oxley, W. T. Tie for grain sack | 97.485 |
| Oehrle, E., et al. Square and prot | 98.605 | Pace. T. H. Match box | 100,922 |
| Offterdinger, H. T. Hot water radia | 100.044 | Packer, J. S. Sash faste | 102,636 |
| Offterdinger, H. T., et al. Hot water heating system | 97.829 | Padmore, A. M. Davenport | 102,510 |
| Ogilvie, W. C., et al. Golf cap. | 101.855 | Page, H. J., et al. Hose coupling | 97.136 |
| Ohio Fiber Machinery Company. Wood flbre cutter | 102.378 | Paget, A., et al. Electric furnace | 102,647 |
| Ohihaver, H. P. D. Milking machine | 99,941 | Pagnuelo, C.. et al. Head rest for bed | 102,403 |
| Ohnemus, M. C. Fabric roll protector guar | 99,185; | Paige. A. B. Mine hoist | 102,097 |
| Old Colony Light Company. Acetylene gas generator | 100.115 | Pallweber, J. Adding mach | 97,725 |
| Oldfield, T., et al. Vehicle wheel | 99.416 | Palmer, H. S. W., et al. Tt | $\mathbf{9 7 , 6 9 9}$ |


| Palmer, I. E. Creel <br> Palmer, I. E. Hull. | 101,200 |  | 99,141 |
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|  | 97,044 | Pearson Fire Alarm, L | 101,932 |
|  | 97,045 | Pease, C. F., et al. Photographic finishing | 102,485 |
|  | 97,535 | Pease, F. B. Ladder | 98,723 |
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| Palmer, R. M. Electrical distribution.. | 97,987 | Peck, J. A. Lock nut | 102.236 |
| Palmer, S. A. Lubricator.. | 97,767 | Peck, J. E. Heat | 99,457 <br> 97,013 |
| Palmer, W., et al. Hay |  |  |  |
| Palmers Shipbuilding and Iron Company. Die for flanging | 97,869 | Peck, W. H. | 97,016 97.017 |
| Paperhangers' Machine Company. Wall paper trimmer and pasting machine. | 100,355 | Pedlar, G. H. Clip for fu | 101,375 |
|  | -97,888 | Pedlar, G. H. Lathing me | 101,376 |
| rham, W. H., et al. Vehicle | 101,805 | Pedlar, S. E. Clip for | 100,294 |
| Paris, J. T. Gas making machi | 101,605 |  | 98,752 |
| Park, J. W. Pump | 101,570 98,244 |  | 100 |
| Parker Bureau Manufacturing Company. Fire escape. | 98,244 96,811 | Pehrson, J. Hose and pecting P. Chain securing de | 109,905 |
|  | 96,811 100,605 | Pelouze Scale and Manufacturing |  |
| Parker Clark Electric Company. Electric lamp..... Parker Clark Electric Company. Metallic iridium <br>  | 100,605 98,208 | scales ..... | 97,265 |
|  | 98,606 | Pemberton, S., et al. Boat................................ Pendleton, D. R., et al. Embroidering attachment | 99,50 |
| Parket, F. D., et al. Briquetting press.............. | 101,651 | for sewing machi | 101,058 |
| Parker Russell Mining and Manufacturing Company. Gas retort bench. |  | Pendrith, G. T. Doug |  |
|  |  | Penkala, E. Lead p | 101,791 |
| Parker, W. H. Cattle | 99,749 97.573 | Penman. R. W. Sawing ap |  |
| Parkes, F. Spade | 97,573 | Penn, Mary J. Garment sup |  |
| Parkinson, W. A., et al. Fender....................... Parks, D., et al. Machine for subjecting air to elec- | 100,047 98,464 | Pennell, L. B. Game apparatu | 100,411 |
|  | 98,464 | Pennington. W.., et al. Ploughs | 101,625 |
|  | 100,372 | Pennsylvania Peoples Individual Gas Company. Ca | 101,621 |
| Parkyn, H. A. Waterpr | 97,981 | Peppard, A. V. Car journal bo | 98.35 |
| Parmelee, H. S., et al. Envelope sealing | 97,747 | Peralta, P. |  |
| Parmelee, M. E. Hinge | 96,831 | Percival, H. E., et al. R |  |
| Parnell. C. B. Bevel square <br> Parrish, J. E., et al. Speed indicator and alarm for automobile | 96,933 | Perez, M. Pr |  |
|  | 98,270 | Perfect Simplex Co |  |
|  | 101,223 | Perkins, E. | 100,675 98.010 |
|  | 101,538 | Perkins, E., et al. Hor |  |
| Parry, W. Burial vau | 102,802 | Perkins, E. E., et al. St | 99.877 |
| Parsons, C. A. Steam | 101,378 | Perkins, W. G. Smeltin |  |
| Parsons, C. A. (The Hon.). Packing for shafts of steam turbines | 101,384 | Perks, T. Warp stop | 97,903 |
|  | 101,074 | Perrin, J. Drawing apparatus for textile fibres.... Perron, E., et al. Brake for rubber tired vehicles.. | 97,396 |
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| Parsons, C. A. (The Hon.). Turbine compressor pumps. etc | 99,501 | Perrot, E. G. Building Perry, C. H., et al. Joi | 7,126 |
| Parsons, C. A. (The Hon.). Vacuum producing apparatus |  | Perry, C. H., et al. P |  |
|  | 100,349 98,646 | Perry, D. W. Badge | 98.107 |
| Parsons, C. A. The Hon. . . | 98,646 97.366 | Perry, E. J. Snow | 97.754 |
|  | 97,366 99,987 | Perry, H. B. Photographic | 96,878 |
| (e) | 97,454 | Perry, J.. et al. Harness Perry, W. S. Apparatus for ma | 1 |
|  | 97,572 | Perry, W. S. Apparatus for | 9,780 |
|  | 99,829 | Perry, W. S. Electric weldaging interposed fabrics |  |
| Parsons, R. B. Car coupler................................................. | 99,727 <br> 9,727 | Perry; W. S. Machine for making inine........99,782, | 99.783 |
|  | 101,587 | Perry, W. S. Wire working machine............... | 101.377 |
| Patee, T. H. Static electric machine. <br> Patoine, J. Gas generator.. | 100,561 | Persoons, A. \& J. Separator Perugini, I. Air ship....... | 98,826 |
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| Paton, H. Cover and shaker for vessels Paton, W. J. Metallic tire. | 100,096 |  | 101,644 |
|  | 98,614 | Peterman, A. E., et al. Teleg |  |
| Patrick, J. H., et al. Deraile | 100,312 | Petermann, J., Jr. Potato D |  |
| Pattee, H. H. Merry-go-round. . . . . . . . . . . . . . . . . . . . . . | 100,667 99 | Peters, E., et al. Co | 101,047 102,620 |
|  | 99,733 99,254 | Peters, F. M. Sugar waf |  |
| Patterson, J. C. Table screen....................................... | 99,254 102031 | Peters, H. A. Berry | 102,113 |
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| Pauling, H. Voltaic arc. Pauls, $F$, Composition for grinding tools. |  | Petmecky, F. Needle for gra | -99,435 |
|  |  | Petrie, C. Cable | 97,906 |
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| Paulus, G. H. Lawn mower sharpener...............Pauly, A. A. Block making machine........... |  | Petter, A. J. Ore crush | 100,828 |
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| Pauly, A. A. Concrete..... | 0 | Pettit, G. F. Gate..... | 100,532 |
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|  | ,14 | Phelps, W. S. Hydr | 99,219 |
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|  | / 989,011 | Phillippart, Phillips, C. | 102,659 |Palmer, R. M. Electrical distribution

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Petersen, J. N. Ball bearing
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Petersson, A. J. Electric furnace........................ Petmecky, F. Needle for graphophone.
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| Phillips, G. W. Coffee hopper | 99.414 |  | 97,728 |
| Phillips, H., et al. Vacuum appa | 101.925 | Potts, G. H., et al. Composition for preventing set | 97,729 |
| Phillips, J. H., Jr. Stock car | 102.631 | og in printing | 97,730 |
| Phillips, T. E. R. Rallway sign | 99.413 |  | 97,731 |
| Phillips, W. C. Varnishing mac | 101.426 | Pounis. J. E. Shock absorbing apparatus. | 100.750 |
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| Phillips. W. W. Boot and sho | 99,220 | Powell, E. F., et al. Grain crib | 97.009 |
| Photo Card Machine Company. Ca | 97,121 | Power. A. H. Furnace pipe | 97,574 |
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| Pickard, C. Match safe | 98,527 | Power, H. J. Pick. | 98,604 |
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| Pifer, G. N. Photography.... | 97,332 | Pritorius, H. E. Lock. | 97.517 |
| Pigeon, J. E. Wire fence mac | 96.996 | Pratt, E. Umbrella sta | 96,883 |
| Pigford, C. I., et al. Crayon holde | 99.031 | Pratt, J. Metal tube | 100,097 |
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| Pike, R. Elevator for cloths line. | 102,209 | Pray, P. Truck | 101,957 |
| Pillsbury, J. C. Device for preventing train robberies | 100,899 | Prend rgast, F. P. Wh | 99.972 |
| Pinch, W. H., et al. Curtain pleating and hang- |  | Prescott. De W. C. Eugine valve | 97.047 |
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| Plank, J. E. Nail holder | 99,966 | Price. L. C. Gate | 99,373 |
| Plank, J. W., et al. Rail tie and | 98,062 | Price, N. S. Device for drenching | 102,231 |
| Plant, W. P. Leach emptier. | 100,663 | Price, O. Building construction...................... | 99,125 |
| Platt Baker Company. Hinge for windows. | 98,702 | Price, O. Stone shingle. | 99,186 |
| Platt Baker Company. Window fastener and bur- |  | Price, T. Trolley hanger | 102,371 |
| glar alarm. | 98,703 | Price. W., et al. Cattle gua | 97,978 |
| Pleukharp, I. H. Speed changing and transmission |  | Priest, S. Wall tie | 98,568 |
| gearing ................. | 97,664 | Prince, S. W., et al. Dish washing machine....... | 100.133 |
| Ploof, J. S., et al. Shade roller | 98,903 | Prince Telephone Company. Telephone transmitter | 97,995 |
| Plummer, A. T., et al. Vehicle | 100.862 | Prinz, F. Silver cleaner for grain separators..... | 99,064 |
| Plym, F. J. Store front con | 99,415 | Proffen, C. H., et al. Garbarge bag.... | 97,328 |
| Pocock, R. V. Coulter.. | 96,973 | Propper, E. J., et al. Tablet for covering floors, |  |
| Poe, D. A. Linotype mach | 99,621 | walls and ceilings | 97,471 |
| Pofahl, H. H. Hay or pitch fork | 101,502 | Proudft, A., et al.. Coupling for electrical conduits | 98,108 |
| Pohle, E. C. Process of recovering values from sul- |  | Provan, J. W. Range................................... | $100,049$ |
| phide ores | 97,947 | Provost. P. Grain heater an | $97,074$ |
| Polaski, F. P. Power hamm | 100,995 | Prowse. G. R. Cooking apparatus | 98,295 |
| Pollak, Eugenie, et al. Manufacture of half stuff |  | Pryce, E. H., et al. Massage vibra | 102,704 |
| from peat ......... | 98,436 | Pugsley, W. S. Axle nut | 99,988 |
| Pollard, E. C. Smelting and refining process and |  | Purchas, F. A. Egg case. | 97,486 |
| apparatus | 98,086 98,673 | Purdy, T. C. Burner feed | 97,794 102,732 |
| Pond, E. M. Medicated tampon or | 97,161 | Purtle. A. D., et al. Gas valv | 99,704 |
| Poole, F. H. Railway switch signal | 101,980 | Pyette, L., et al. Hoist. | 99,610 |
| Poole, S. S., et al. Carbureting machine. | 101,210 | Quade, A., et al. Lock | 100,850 |
|  |  | Quarterman, J. C. Rescue buoy. | $101,849$ |
|  | 97,194 97,568 | Quertier, H. Earth excavato | $99,921$ |
| Poor, G. H. Railway | 97,567 | Quertier, H. Rail cleaner..................... 17,188, | 98,283 |
| Poor, G. H. Railway car trap door faste | 97,195 | Quertier, H. Trolley pol | 102,303 |
| Poor, G. H. Trap door hinge. | 98.357 | Quick, H. S. Cement po | 101.059 |
| Porritt, E. Boiler and furnac | 98,260 | Quin, W. H. Sander | 99,944 |
| Pontable Folding Mosquito Bar Frame Company. |  | Quincey, S., et al. Coiling flexible | 101,922 |
| Canopy frame ...................................... | 97,698 | Quinn, J. E. Cord knotter and cutter. | 101,850 |
| Porter, A. Car. | 100,418 | Quinn, M. J., et al. Veterinary mouth speculum. | 99,111 |
| Porter, D. R. Bridle | 99,221 | Rackle. H. E. Wall. | 98,245 |
| Porter, D. R. Concrete sleep | 99,222 | Raders, J. F. Photographing machin | 101,314 |
| Porter, D. R. Fence post. | 101,782 | Rahiser, R., et al. Switching device | 101,750 |
| Porter, F. R., et al. Flue exp | 98,344 | Ramage, A. S. Milk nowder | 98,198 |
| Porter, J. A., et al. Nut lock. | 97,592 | Rambaldini. G. Electrolysi | 102,652 |
| Porter, J. H. and H. S. Merry-go-ro | 98,525 | Rams, T. Egg preserving compound | 98,075 |
| Porter, J. M. Muftler for exhaust | 100,585 | Ramsay, D. M., et al. Locomotive. | 100.586 |
| Portman. P. J. Rallway signal. | 97,145 | Ramsburgh, J. H., et al. Fire alarm box | 99,504 |
| Posch, J. Trap, filter and air distributer | 98,589 | Ramsdell, A. K. Sleigh. | 97,768 |
| Post, C. B. Machine for making bale ties. | 102,141 | Ramsey, J. Fried cake strainer | 102,413 |
| Post, E. Boat propelling and steering appar | 101,213 | Randall, E. S., et al. Hose couplin | 97.136 |
| Post, J. Brake | 102.080 | Randall, J. F. Soap holder. | 99,518 |
| Post, J. Car fender. | 98,674 | Randall, S. Road grading machin | 100.506 |
| Postans, A. J., et al. Calculating | 99,282 | Randall, W. F., et al. Step ladde | 102,648 |
| Potter, H. S. Rivetting machine. | 99,437 | Randel, I. A. Car gear. | 98,550 |


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| Rancourt. I. Draft apparatus | 100,278 |
| Raney, F. Hot water heater........................ | 98,675 |
| Ranhoff, J. M. Water proofing method for concrete, etc $\qquad$ | 101.721 |
| Ransom, H. R. Securing devices to plate glass.... | 102,278 |
| Ransome, A. W. Cart | 98,029 |
| Rapp, M. Heating appar | 100,239 |
| Rappold, J. Continuous kiln | 101.757 |
| Rappold, J. Dry press. | 101,758 |
| Rarey, A. K. Mowing mac | 97,284 |
| Rarig, W. C. Cutter bar for mow | 101,029 |
| Raschick, R. P. Device for stretching spr | 97,520 |
| Rathbone, A. Wire drawling mechanism. | 97,795 |
| Rathbone, J. J., et al. Electric arc lamp | 102,015 |
| Rathbun, C. E., et al. Rallway tle | 101,007 |
| Ratz, J. W. Hot air register. | 97,575 |
| Raymond Manufacturing Company of Guelph. Cream separator | 97,120 |
| Raynard, W. C. Wrench | 102,660 |
| Raynor, A. J. Water tube | 101,596 |
| Read, H. C., et al. Wire fence | 99,035 |
| Ready, C. A.- Horseshoe. | 101,358 |
| Reagan, D. A., et al. Fire door for | 98,401 |
| Realing, J. M. Square | 98,025 |
| Reardon, D. W. Lifting j | 99,104 |
| Reaume, A. Grain divide | 98,828 |
| Recht, F. Bottle cap | 99,546 |
| Reck, A. B. Movable | 101,997 |
| Record, E. A. Lubricator | 102.515 |
| Reddick, J. C. Pedestal for typewriting | 100.429 |
| Redmond, Y. E., et al. Reversing valve | 98,042 |
| Reed, A. and H. H., et al. Harness saddlo | 102,099 |
| Reed, A. T. Land grader and ditch | 97,511 |
| Reed, C. L. Clutch. | 99,648 |
| Reed, E. H. Mould | 100.188 |
| Reed, E. S. Safe for provisions. | 100.373 |
| Reed, G. Shingle gauge and clamp | 99,649 |
| Reed, G. J., et al Veterinary dental | 101,763 |
| Reese, E. M. Excavator and convey | 100,517 |
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| Rehfeld, F. W.. et al. Hose coup | 97,223 |
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| Reld, W. R. Grain cleaner.. | 97.455 |
| Reid, W. R. Process of removing smut from wheat. | 97,026 |
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| Remick, A. D., et al. Spinning spindle | 98,463 |
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| Renaud, E. Station order | 98,915 |
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| Renaud, E. Train stopping m | 97.142 |
| Rendle, T. Shoe repairing stand. | 98,054 |
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| Renner, J. Device for transferring ice cream cans. | 101,801 |
| Renstrom Tempered Copper Company. Copper preparation | 102,678 |
| Renwlek, A. L. Nut lock for veh | 96,806 |
| Replogle J. B. Clothes pressing machine............. | $99.597$ |
| Reschke, G. Explosive ............................... $98,087$. | $99,341$ |
| Reschke, B. G. Explosive . . . . . . . . . . . . . . . . . . . 100.996, | $102,790$ |
| Reliable Self Playing Piano Company. | $101,554$ |
| Reuhl, G. P. Coating machine | $97,257$ |
| Reynolds, G. H. Fluid purifier | $102,774$ |
| Reynolds, G. H. Pipe bending machine............... | 100,358 |
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| Rhoads, J. R. Knive | 97,341 |
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Reeves, W. ot al Llauld fllto
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99.496
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102.685

99,923


| Robins Conveying Belt Company. Conveyer.97,462, | 98,859 | Rowan. H. Harrow. | 100,327 |
| :---: | :---: | :---: | :---: |
| Robins Conveying Belt Company. Furnace charg- |  | Rowe. G. F., et al. Lu | 100,829 |
| ing apparatus | 102.760 | Rowell, O. A.. et al. Wall | 101.214 |
| Robinson, A. J. Grinding | 98,753 | Rowland. I. E., et al. Gas | 99.704 |
| Roblnson, C. E. Fence post. | 99.786 | Rowlee. C. M., et al. Nut lo | 96,960 |
| Robinson Company. Exhaust for locomotives | 100.855 | Rowley, C. W. Stove suppo | 101,982 |
| Robinson, E. E., et al. Receiver for wireless te |  | Rowley, F. Vehicle for crip | 99.813 |
| graphy | 7. | Rowley, J., et al. Excav | 100.503 |
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| Robson, G. Gas lighter and extingul | 102.712 | manufacture | O2 |
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| Roe, C. F., et al. Ca | 100311 | Rumply W. N. Boil | 98.616 |
| Roe, D. A. Damper. | 98.872 | Rund F. Starage water hea | 101.372 |
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| Roemer Pipe Tong Company. Wrench. | 98.249 | Runn. L. Fleshing ann | 9.893 |
| Roenitz Exploiting Company. Machine for making cellulose vessels | 102.768 | Rush. D. D. Banana cas <br> Rush. D. D. Pencil shar | $\begin{aligned} & 97.162 \\ & 99.054 \end{aligned}$ |
| Roessler and Hasslacher Chemical Company. Air purlfying process | 101.035 | Russ. J. D.. et al. Firearm. Russe. C. Weight indicating | $\begin{array}{r} 100.972 \\ 99.297 \end{array}$ |
| Roessler and Hasslacher Chemical Company. Oxygen generating composition | 101.033 | Russell, J. W.. et al. Smoke ro Russell Flue stopner | $\begin{aligned} & \mathbf{9 8 . 7 3 5} \\ & \mathbf{9 7 . 1 8 1} \end{aligned}$ |
| Roessler and Hasslacher Chemical Company. Oxygen |  | Russeli, R. A. C. Saddle | $9 \times .545$ |
| generator | 101.034 | Russell. W. H. Roller bearing | 98.725 |
| Rogers, B. F. Furnace for hot w | 101.400 | Rustad, H. Stumb extractor................... 98056. | $93.83 n$ |
| Rogers. C. R. Flax retting. | 101.941 | Rustad, H. Valv | 100.364 |
| Rogers, F. B., et al. Hair fastener | 100,921 | Rusznvak. L. Lighting means for automatic vend- |  |
| Rogers. F. N.. et al. Means of projecting and an- |  | ing machines | 18.088 100.316 |
| choring life lines ................................. | 39.345 109.183 | Rutherford. F. H. Air | 100.316 |
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| Rogers, J. J. Belt punch and lace cutter.......... | 39.563 | Rutherford. F. H. Rrakn | 09.224 |
| Rogers, J. R. Linotype. | 99,890 | Rutherford, F. H. Metallic pip | 100.480 |
| Rogers, L. V... et al. Time tabl | 99.547 | Rutherford. F. H. Train pipe | 100.744 |
| Rogers. S. W. Rallway gate. | 97,346 | Rutledge. V. A Stram tur | 101.205 |
| Roggenbauch, E. Chord player for harmonium like |  | Rvan. E. I. Steam trap. | 100.587 98.983 |
|  | $1(\cdot) 130$ | Ryan. E. J. Trap. |  |
| Roland, L. Manufacture of elas Roll, E. B., et al. Thill and to | 10.130 99.386 | Ryan, J. G. Automatic | 02.077 |
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| lomünder, H. Passenger | $97,684$ | Ryder, H . Yarn | 107.124 |
| Komünder, H. Trunk. | 101.342 | Ryther. H. F. Folding rhair | 97,98: |
| Romünder, H. Tube making | 98.339 | Sabroe, A. Means of separating stones from clay | 100.240 |
| Rontliffe, C. H., et al. Blind. | 99.639 | Sabroe. A. Milking machine........................ | 98754 |
| Root, A. A., et al. Knitting mach | 98.931 | Sacchi. F. Pump for raising liguids | 97.521 |
| Root. H. C. Valve. | 102.008 | Safety Car Heating and Lighsing Company. Bיacon, |  |
| Roote, W. R. Top rest for carriages. | 99,983 | Satmy Car hearing and light buoys, etc............ .......................... | 99.792 |
| Rose, J. F. E. Apparatus for removing snow and ice from railways | 98.54, |  | $98.784$ |
| Rose, J. F. E. Refrigerating milk can | 99,598 | Safety | 98.786 |
| Rose, R. J. Preserving Jar | 99.439 |  |  |
| Rosenberg, E. W. Car replacer | 98.424 | Safety Car Heating and Lighting Co |  |
| Rosenbluth, E. M. Acetylene lamp | 99.609 | manufacture | 8.898 |
| Rosenhelmer, J. T. Pocket tool. | 97.665 |  | $\begin{aligned} & \mathbf{9 8 . 8 9 2} \\ & \mathbf{9 8 . 8 9 3} \end{aligned}$ |
| Rosenstein, J. B. Umbrella handle................. | 90,812 1014 | suspension | $\begin{aligned} & \mathbf{9 8 . 8 9 3} \\ & \mathbf{9 8 . 8 9 4} \end{aligned}$ |
| Rosentreter, A. J., et al. Door checks and closers. | 101,406 |  | $100.737$ |
| Rosing, W. H. V., et al. Brake shoo | 102.081 | Safford. O. D. Printing device......... | $\begin{array}{r} 100.737 \\ 97.424 \end{array}$ |
| Ross, E., et al. Lamp bur | 38,065 99,787 | Sager Drill Socket Company. Drill sack Sager. F. P. Clothes drainer.......... | $100,328$ |
| Ross, H. E. Hull................. Ross, J. M. Mower knife and grin | 99,787 97.908 | Sager. F. P. Clothes drainer...... Sager, J. H. Springs for vehicles. | $\begin{aligned} & 101,483 \end{aligned}$ |
| Ross, J. M. Mower knife and grin Ross, J. N., et al. Disc grinder.. | 97.908 102,579 | Sager, J. H. Springs for vehicles....... | $99.356$ |
| Ross, J. N., et al. Disc grinder | 102,579 99,697 | Salberg. S. Apparasus for making lamp | $\begin{array}{r} 99.356 \\ \mathbf{1 0 0 . 1 9 2} \end{array}$ |
| Rosser, F. Injector................................ | 99,697 | Salisbury Tire Company. Tire............ Salmen, C. R., et al. Fire lighting appa | $\begin{array}{r} 100.192 \\ \mathbf{9 7 . 9 7 9} \end{array}$ |
| Rossler and Hasslacher Chemical Company. Fusing process | 100.393 | Salmen, C. R., et al. Fire lighting apparatus...... <br> Salmon, M. A. Nail receptacle.......................... | $100,359$ |
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| Roth, B. Tool Company. Mechanical movement | 97,639 | of nitric acid from air | 101,775 |
| Rothe. W. F. Carbureter | 101,028 | Salpetersaure Industrie Gesellschaft. Voltaic arc.. | 102,534 |
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| Rothenbacher, R., et al. Railway collision prevent- |  | Samuelson, C. J. Rail joint. | 96,975 |
| ing apparatus | 97,748 | Sanborn. E. C., et al. Pulp screen | 97,322 |
| Rouech. E. E. Doll | 100,013 | Sauborn, H. E. Bag handler. | 100,166 |
| Rouleau. J. A. A., et al. Merchandise ho | 97,583 | Sanhorn. W. H., et al. Plate lifte | 101,057 |
| Rouse, M. M. Ladder | 99,242 | Sandefur. J. P. Trap. | 100,971 |
| Rousseau, E. Fender | 99,728 | Sanders, S. P. Carbureter | 100,173 |
| Rousseau, O., et al. Wheel. | 98.737 | Sanders, W. M. Wire streteher | 97.011 |
| Rousselle, A. C., et al. Snow melting apparatus | 100,154 | Sandford, E. \& L. Turbine engine...........97.541, | 97.542 |
| Rouy, G. Truck and brake. | 99,579 | Sandusky Foundry and Machine Company. Pump | 98,787 |


| Sandy Hill Iron and Brass Works. Paper making machine | 98,740 | Schroeter, J. A., et al. Superheater for traction engine | 101,612 |
| :---: | :---: | :---: | :---: |
| Sanford-Burton, H. Copying apparatus | 98,066 | Schrum, W. L. Rail | 97.934 |
| Sargeant, G. A., et al. Cattle guard | 101.418 | Schuh, F. Water closet | 99.143 |
| Sargent, B. Rallway safety rod | 99,729 | Schuler, F. 'rypewriting mechanism...........99,187, | 99.188 |
| Sarley, F., et al. Fire lighting ap | 97.979 | Schultes, M. Metallic curtain. | 100,445 |
| Sarnia Match Company. Mateh m | 101,669 | Schultz, C. I. Automatic car brake. | 102,082 |
| Sass, P. Floor polishing machi | 100.272 | Schultz, F. W. Machine for applying solder to metal |  |
| Sasse, W. Air feeding de | 98,726 | caps | 99,267 |
| Satterlee, L. G. Roofing | 98,780 | Schultz, R. H., et al. | 98.846 |
| Saucier, J. E. Trolle | 98.502 | Schuman, J. B., et al. Grain co | 97,319 |
| Sauer, A. Rotary m | 100.841 | Schureman, D. S. Water closet | 101,177 |
| Sauer, R. Botlle | 100,249 | Schutte, J. Steam boiler | 100,634 |
| Saugsted, O. Cut-off mech | 97,196 | Schuyler, W. S. Saw ho | 99,730 |
| Saunders, Lorie and Company. | 97.422 | Schwab, M. C. Letter chute and convey | 101,003 |
| Saunders, S. Wind motor | 97.770 | Schwamberger, E., et al. Hose coupling | 97,169 |
| Sausser, J. M. Plough depth | 101,747 | Schwartz, A. Gas making apparatus. | 101,532 |
| Sauve, S. H. Induction coil | 100.779 | Schwartz, M., et al. Electrical genera | 98,120 |
| Savage, J. Wire stret | 101,540 | Schwarzenbach, R. Bottle soaking tank | 101,645 |
| Savage, M. W. Broode | 101,066 | Schwarzschild, S. Overshoe. | 101,748 |
| Savage, M. W. Incubato | 98,603 | Schwedtman, F. C. Sas | 100,069 |
| Savignac, A. Whlpping appa | 96,840 | Sclater, W. Gaskets. | 101,722 |
| Savitt, I. M. Collar for over | 97,571 | Scott, F. D. Trousers | 98,873 |
| Sawbridge, J., et al. Pump | 101,564 | Scott, J. C. Muffler | 97,921 |
| Sawyer Crystal Blue Company. Bluing | 101,976 | Scott, J. E. Roaster | 98.676 |
| Sawyer, F. McM. Building block | 101.889 | Scott, J. F., et al. Typesetting and distributing ma- |  |
| Sawyer, F. McM. Moulds for bullding bloc | 101,541 |  | 101,163 |
| Sawyer, W. A., et al. Brake for rubber tired vehicles | 97,396 | Scott, J. L., et al. Cattle | 100.778 |
| Sawyer, W. P. Harness saddle | 98,167 | Scott, M. Gas mixer. | 100,125 |
| Sayer, R. C. Electric railway | 101,958 | Scott, R. J. Animal trap | 101,611 |
| Sayer, R. C. Subaqueous tu | 98,882 | Scott, S., et al. Gate for | 98,688 |
| Sayward, J. A. Lumber | 97,576 | Scott, Z. Auger brace. | 102.372 |
| Scanlan, P. M. Butter cut | 101,103 | Scroggie, J., et al. Bed | 98,232 |
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| Schaellibaum, R. Cotton prepa | 101,201 | Seagrave, F. S. Cut-off | 97,165 |
| Schakl, C. Fruit piek | 98,526 |  | 97,166 |
| Schall, J. Bullding bl | 99,142 | Scarer, C. Vehicle ge | 99,382 |
| Schaus, C. W. Pump | 101,561 | Searle. E. H.. et al. Firearm..................96.889, | 98,437 |
| Scharf, W. H. Linotype | 100,126 | Seaton, B. C. Wheel tire............................ | 100,203 |
| Schermerhorn, H. A. Fastener | 101,968 | Sechiari, P. Driving belt and covering for friction |  |
| Scheer, P. A. E. Clgar filler | 102,254 |  | 101,091 |
| Schelbal, F., et al. Non-refilla | 100,288 | Seck, K. J. Boat | 102,580 |
| Schelbal, F., et al. Nut lock | 100,129 | Sectional Weight Company. Sectional weight.101.415, | 101,416 |
| Schelbal, F.. et al. Switch closing and opening device | 100,130 | Segrell, E. J. Petticoat or | 102,606 |
| Scheiffler, G. D. Machine for mixing concrete | 97.091 | Seiber, H. W. Horsesho | 102,470 |
| Schelt, L. C., et al. Ventllator | 100,441 | Seibert, O. M. Bevel squa | 100.793 |
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| Schenk, H., et al. Bow facing | 101,854 | Stipp. H. C. Tie for buildi | 101,683 |
| Scherer, W. .P. Tender for loc | 98,428 | Selas Gesellschaft mit beschrankter Haftung. Appa- |  |
| Scherff, Anna M. Wardrobe | 102,662 | ratus for mixing air and gas | 98,274 |
| Schlerberg, F. A. Car registe | 98.842 | Selkirk Fence Company. Wire fence lock.......... | 98,488 |
| Schiffbauer, D. Engine and air | 102.701 | Sellers, I. Harness buckle............................ | $\begin{array}{r} 501.960 \\ 101.960 \end{array}$ |
| Schild, H. E. Gas reversing val | 98.446 | Semple, R. W., et al. Stean | $102,290$ |
| Schilling, C. E. Holders for n | 101,484 | Sendelbach, J. Hold | 98,224 |
| Schirmer, M. H., et al. Pr | 101,153 | Sennett, S. J. Type casting machine.................... | 101,530 |
| Schlelcher, E. J., et al. Tramw | $\mathbf{9 8 , 1 7 4}$ | Separator, A. Cream separator....................... | 99,535 |
| Schleicher, J. C. Vehicle whe | 101,808 | Serio, F. Truss............................................... | 99,631 |
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| Schloss, J. W. Garment supp | $101,974$ | Serpollet, L. Steam engine | 101,092 |
| Schlosser, J. S. Sliding doo | $101,207$ | Severance. W. B. Railway sig | 102.550 |
| Schlotterer, G. H., et al. Dr | $97.496$ | Seward, G. O., et al. Process of | 99,767 |
| Schmidt, A. Fuel.. | $100.280$ | Sexmith, E. V., et al. Air coup | 98,171 |
| Schmidt, C. C. Frame for affixing heels to | 101.265 | Seyhers, F. Rail joint supp | 97,310 |
| Schmidt, C., et al. Comb | 102,353 | Seyhers, F. Rallway the | 97.311 |
| Schmidt, E. E., et al. Gas engine r | 100.861 | Seymour, B. F., Jr. Cash slip and refunding vouchers | 98,225 |
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| Schock, C. Measuring ves | '102,069 | Shannon, R. Sewer cleaning de | 101,045 |
| Schoen, H. J. Printling press | 97.909 | Shannon, Y. Photographic appa | 101.401 |
| Schoenberg. R. A. Motion converting | 100.597 | Shantz, D. B. Button. | 99,516 |
| Schofield, J. A., et al. Vehicle wheel. | 99,416 | Sharp, T. O., et al. Le | 101.212 |
| Scholes, W. H. Sash gulde and metal weather atrip | 97,974 | Sharpe and Dohme. In | 100.703 |
| Schall, W. M. | 101,896 | Sharpe, J. Knife | 96,920 |
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| Schoptlocher, S. Can or jar. | 99,557 | Shaver, T. A. Harness | 97.076 |
| Schrader, J. R. Car jotirnai box | 100,684 | Shaw. C. H. Drill feed | 96,984 |
| Schrap. H. H. Chair seat | 102,255 | Shaw, F. B., et al. Apparatus for aligning railwas |  |
| Schrank, C. C. Flue cleane | 102.144 | tracks | 99,323 |
| Schrelber, G. M. Railway sigual | 98.727 | Shaw, F. G. Means of keeping switches and signals |  |
| Scrimgeour, W. Detachable cou | 97,163 | free from snow | 99,322 |
|  | (100.830 | Shaw. H. R. Propellor | 101.723 |
| Schroeder, F. W. Lock | \{ 100,831 | Shaw, J. I. Churn. | 99,831 |
|  | (100,832 | Shaw, M. D.. et al. Apparatus for gencrating gas |  |
| Schroeder, F. W. Nut lock | 99.225 | from crude oll | 98.916 |
| Schroeder, F. W. Ratch | 98.728 | Shaw, M. D., et al. Gas gen | 100.271 |


98.916
100.271

| Sheasley, A. E. Husker | 97,771 |
| :---: | :---: |
| Sheble, H., et al. Box for talking machine needles | 102,781 |
| Sheble, H., et al. Gramaphone | 100,07S |
| Sheckler, W. R. Union jo | 99,047 |
| Sheddan, L. L. Vehicle spr | 98,315 |
| Sheeley, H. E. Clamp and suppo | 101,588 |
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| Sheimo, A. M., et al. Tire ar | 98,607 |
| Sheldon, E. P., et al. Addressin | 102,471 |
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| Shemwell, B. Bed | 102,514 |
| Shepard, J. M. Pump | 99,024 |
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| Shive, C. C. \& R. D. Latch | 97,700 |
| Shive, C. C. \& A. Rein hold | 96,800 |
| Shoemaker, H. Wireless telegraphy | 102,125 |
| Short, E. C. Support for crossarm | 100,833 |
| Shortt, E. G. Explosive gas engi | 102,286 |
| Shortt, E. T. Coffee roaster | 102,642 |
| Shull, J. W. Burial appliance | 102,801 |
| Shultz, L. G. Hay rake and loa | 101,852 |
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| Limited. Reversible fulcum | 101,865 |
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Smith, H. C. Electric lamp..........................................
Smith, H. E. Mailing sheets and envelopes.. $88.8 .$.
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Smith, M. Lithographic printing manhine........
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Smith, S. W., et al. Elevator control system
Smith. T C.
Smith, T. D. Wood turning machine..............................

97,647
98,316
98,316
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$\begin{array}{r}100,195 \\ 97 \\ \hline\end{array}$
97,862
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97,259
99,253
97,667
96,877
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99,030
98,122
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100,923
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102,799
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101,150
102,287
98,813
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$\begin{array}{r}97,399 \\ \\ \hline 99,343\end{array}$
99,440
102.210
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102.304
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100.842
102.070
98.852
98.076
101.223
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Snowden, A. G. Can opener.
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Snyder, F. T. Electric furnace. $\qquad$
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turpentine et al Power transmitting mechanism
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Société Electro Métallurgique Française. Copper manufacture
Société Eleotro Métallurgique Française. Electric furnace
Soctété Electro Métallurgique Française. Electric
 for
ciété
Electro Metallurgique Française. Steel mixing process
Ḉté Francalse de la Viscose. Process of manu facturing cellulose rroducts.
ciete Générale de la Sole Artificielle Linkmeyer Silk Imitation
Soci?te "Le Lait". Malto diastased milk
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Somers, R. A. Furnace casing
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| :---: | :---: | :---: |
| 102,004 |  | 100,00\% |
| 99.441 | Spicer, C. R. | 100,360 |
| 98. | Sples, A. Rallway | 98,479 |
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| 88.755 | Spittall, J., et al. Welding | 97.465 |
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|  | St. Clair, M. Electrical brush | 100.560 |
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|  | St. Louls Car Company. Guard for street | 99.611 |
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| Utterbach, J. Fruit picking bag | 101,858 | Wagenhals, W. G. Steam motor car | 100,7:2 |
| Vacuum Dyeing Machine Compan |  | Wagenhorst, J. H. Blue printing ap | 97.84 |
| chinery.......... .......... ............. 98.1 | 98,188 | Wagner and Brand. Distributing ma | 102.352 |
| Vacuum Dyeing Machine Company. Dyeing |  | Wagner, B. Briquet manufac | 99.175 |
| bleaching vats | 98,186 | Wagner, C. De W. Sheet metal | 199.691 |
| Vacuum Dyeing Machine Company. |  | Wagner, C. F. Metallic ceiling | 102.073 |
| ratus | 97,463 | Wagner, H. L. Clamp for ribbon collars, | 97.260 |
| Vacuum Process Company. | 102,719 | Wagner, H. L. Fastener for ribbons, | 97,244 |
| Vall, R. W. Envelope | 102,765 | Wagner, J. W., et al. Bow facing oa | 101.854 |
| Valiant, G. Ventilated | 97,579 | Wagner, P. A. Ore furnace. | 100.25. |
| Valleau, J. H., et al. Cat | 98,118 | Wagy, W. P., et al. Briquette making machi | 98,433 |
| Vallet, C. Miter clam | 101,684 | Waist, A. L. Picture slide controller for ste |  |
| Vallières, C. Clamp | 98,806 | ticons | 102.715 |
| Van Auken, B. E. Val | 98,648 | Waite, F. B. Ticket form | 97.049 |
| Van de Waker, C. W., et al. | 98,185 | Waite, J. Rallway switch | 96.976 |
| Van den Driessche, L. Combus | 99,633 | Walbran, G. F., et al. Tire | 99,000 |
| Van Dervort, A. O. Packing | 100,661 | Waldron Drouin Company. Hat | 99.946 |
| Van Duyer, Sarak. Napkin | 101,055 | Walgamot, F. H., et al. Music leaf | 102,765 |
| Van Dyck, E. Check | 97,079 | Walkaw, W. Plaiting mac | 99.835 |
| Van Eaton, R. M. Ma | 99,051 | Walker, A., et al. Pick. | 97,340 |
| Van Horn, C. B. Wheel. | 97,388 | Walker, A. H. Photog | 101.411 |
| Van Horn, C. B., et al. Fellies | 99,005 |  | 99,466 |
| Van Horn, C. B., et al. Wheel | 99,004 | Walker, A. H. Photo- | 99,502 |
| Van Lennep, C. C. O., et al. Cigarette making machine | 98,920 | Walker, A. H. Photo-mechanical printing pro- | 101,380 |
| Van Natta, E. H. Moul | 100,176 | Ss. ............... ............ ......... 99.948 , | 99.949 |
| Van Nouhuys, E. C. Gearing for plpe | 99,676 | Walker, D. G. Roaster for meat, et | 98,430 |
| Van Tuyl, J. F. Furnace for steam bol | 101,440 | Walker, E. Gramaphone reproducer | 100.07 |
| Van Volkenburgh, P., et al. Internal combustion |  | Walker, E. Phonograph. | 100,076 |
| motor | 99,163 | Walker, H. Destruction of fumes or gases in |  |
| Van Vriesland, A. I. Incandescent man | 99,529 | blasting | 100.068 6 |
| Van Westrum, L. S. Method of making roads and |  | Walker, H. D. Stove lld | 97,928 |
| like surfaces | 100,221 | Walker, H. H., et al. Pasting | 97.741 |
| Vendenburgh, W. Lubricator for axle | 100,685 | Walker, J. Display stand for dr | 98.731 |
| Vanderlip, L. C. Envelope | 98,991 | Walker, J. Temporary blnder | 99,497 |
| Vanderslice, G. W., et al. Lubr | 96,794 | Walker, J. A., et al. Clipper | 101,652 |
| Vaughan, B. G., et al. Match makl | 99,565 | Walker, J. A., et al. Rein hol | 99,874 |
| Vaughan, H. H. Car and bolste | 98,425 | Walker, J. E. House | 100,621 |
| Vaughen, S. W., et al. Blast temperature regulat- |  | Walker, J., et al. Car | 99,577 |
| Ing apparatus | 97,891 | Walker, J. H. Trolley. | 102,7 ${ }^{(2)}$ |
| Veon, A. E., et al. Folding axle | 101,410 | Walker, J. H. Trolley pole | 100,559 |


| ker J J. | 9,907 |
| :---: | :---: |
| Walker, J. J. Musical appara | 100,784 |
| Walker. S. M. Smoke consum | 101,438 |
| Walker, T. Elevator hatch cov | 99,599 |
| Wall, J. B. School desk | 99,917 |
| Wall, J. H. Shoe dipping | 99,845 |
| Wallace, A. B. Plano. | 99,463 |
| Wallen, C. J. Window | 99,815 |
| Waller. H. Wire str | 101,792 |
| Waller, W. Manufacture of | 99,298 |
| Wallick, J. Photograph hold | 102,543 |
| Walling, J. E., et al. Rallway | 101,007 |
| Wallington, G. P., et al. Frost eliminating device for windows |  |
| Waper, A. L. Shock loader.......... . ............... | 102,348 |
| Walsh, J. R., et al. Signal sy | 97,736 |
| Walsh, W. E. Window tent | 102,279 |
| Walsh, W. H. Car fe | 100,419 |
| Walshaw. E. A. Horse bl | 97,080 |
| Walstead, G. A. Machine for forming butter patties. | 98,679 |
| Walston, T. B. Swinging gate...................... | 97,003 |
| Walter, H. A. Mould..... | 97,117 |
| Walter, W. L. Hydraulle | 101,566 |
| Walters, Nels P. Ballast moving | 98,431 |
| Walters, J. A. Show case.. | 102,221 |
| Walther, C. F., et al. Cutter for linot | 100,353 |
| Walton, F. J., et al. Time table, etc. | 99,547 |
| Wank, A. C. Table for dough brak | 97,849 |
| Ward, E. B. Brazing compound | 101,030 |
| Ward, F. G. Gear wheel. | 99,677 |
| Ward, F. G., et al. Bear | 100,544 |
| Ward, F. S. Eyeglass | 96,796 |
| Ward, J. O. Ironing boa | 102,344 |
| Ward, J. W., et al. Cutter h | 98,112 |
| Ward, W. B. Hose coupling. | 99,800 |
| Ware, A. J. Check printer and | 101,542 |
| Ware, C. P. Valve | 97,028 |
| Ware, J. L., et al. Box | 99,919 |
| Warfleld, A. Truck and brak | 99,580 |
| Warfield, H. Cultivator and planter | 101,504 |
| Warfield, S. D. Striking mechanism for | 96,888 |
| Warner, C. F. P. Holder for planers ch | 100,731 |
| Warnock, R. Paint.................. | 96,987 |
| Warren Featherbone Company. Felted Peather Pabric. | 102,017 |
| Warren, G. D. Rock dr | 102,186 |
| Warwick Brothers and Rutter. Loose leaf binder. $\left\{\begin{array}{l}98,002 \\ 99,601\end{array}\right.$ |  |
|  |  |
| Washburn, R. Sash lifter. |  |
| Waterproof Welt and Filler Company. Sho | 97.710 |
| Watier, C. E., et al. Third rall protector | 101,294 |
| Watkins, F. Sharpener for edged tools. | 97,864 |
| Watkinson, F. J. Blind.. | 99,639 |
| Watson, E., et al. Roller | 101.774 |
| Watson. F. B. Match box............ . . . . . . . . . . . . | 101,767 |
| Watson, H. W. and W. W. Metal screen.... 102,263 | 102,264 |
| Watson, J. B. Apparatus for manufacturing fibrous fireproof sheet............. ........... ........... 98,377 |  |
| Watson, J. C. Fifth wheel coupling................. | 96,809 |
| Watson, S. D. Heater. | 98,432 |
| Watson, T., et al. Spinning spindle | 98,462 |
| Watson. T. H., et al. Gold and silver extraction.. | 97,135 |
| Watson, W. J. Smelting furnace..................... | 102,778 |
| Watson, W. M. Gate. | 100,783 |
| Watson, W. T. Amusement devic | 99,443 |
| Watt, T. B. Range boller heater | 102,349 |
| Wattles, C. B. Floor dressing machine............ | 99,299 |
|  | 99,300 |
|  | 99,301 |
|  | 100,630 |
| Wattles, C. B. Floor dressing mach | 100,652 |
|  | 100,653 |
| Watts, A. E. Fire alarm | 99,559 |
| Watts, H. R. Photographic printing apparatus | 98,202 |
| Waugh, J. M. Car draft gear | 101,731 |
| Way, W. R. Dlaper. | 99,731 |
| Way, W. R. Log loader and turn | 100,486 |
| Weaver, A. S. Trolley pole | 100,558 |
| Weaver, C. Marking device for umbrellas, | -99,520 |
| Weaver, C. R. Concrete mixer.................... | 102.482 |
| Weaver, I. D. Manufacture of hellce for chaln links. 98,642 Weaver, J. L. Method of and apparatus for placer |  |
|  |  |
| Weaver, J. L Mining apparatus..................... | 97,732 |
| Weaver, S. A., et al. Piston valv | 97,547 |
| Weaver, W. H. Eyeglass | 101,897 |
| Webb, A. Manufacture of thread from ha | 98,114 |
| Webb, E. C. Liquid receptacle. | 101,152 |
| Webb, I. H. Curtain pole brack | 102,257 |
| Webb, J. A. Bevel and compass | 101,702 |




| 96,946 | W | 99,154 |
| :---: | :---: | :---: |
| 101.126 | Willis, R. M. Dispensing bottle | 99,421 |
| 98.877 | Willix, D. B. Controller for sparking | 102,038 |
| 99.166 | Willock, F. J. Stove, range, et | 101.531 |
| 102.386 | Willson, T. L. Bell buoy | 98,708 |
| 98,831 | Wllmoth, H. E., et al. Roller | 101.774 |
| 100.722 | Wilson, F. N. Wrench | 98,247 |
| 98.643 | Wilson, H. Wardrobe slid | 99,776 |
| 100,681 | Wilson, H. L., et al. Music | 102.766 |
| 102.288 | Wilson, H. P. Machine for forming wire loo | 98.919 |
| 97.952 | Wilson, J. Flle for newspapers, etc | 102.350 |
| 98,529 | Wilson, J. T. Balanced slide | 101.916 |
| 100,317 | Wilson, J. M. Food compositio | 101.172 |
| 100,542 | Wilson, J. T. Packing for valv | 100.656 |
| 100.903 | Wilson, J. S. Metal tube | 100,472 |
| 109,174 | Wilson, L. Method of applying turbines to locomo- |  |
| 102.731 | tives | 100,664 |
| 100.590 | Wilson. L. F. Car | 98,164 |
| 100.431 | Wilson. R. J., et al. Seal lock | 98.846 |
| :77,538 | Wifson, T. Roof | $102,75!$ |
| 87,865 | Wilson, T. A., et al. Egg | $100.734$ |
| 100,378 | Winans, L. Rail joint suppor | 100.053 |
| $98,680$ | Wind, A. Closure for elevaior ope | 99.107 |
| 102,511 | Winders, C. C. Churn............. | 97.201 |
| 101,237 | Winegarden, M. L. Washing machine | 100.330 |
| $96.878$ | Winflela and Barker. Hinged paper lear | 101,351 |
| $99.791$ | Wingard, G. M. Boller............. | 97,336 |
| 99,366 | Wingardh. A. E. Art of preserving egg | 96,797 |
| 101.642 | Wingate, E. R. Trunk clamp. | 97.75:4 |
| $98.848$ | Wingate, O. R. Cane knif. | 100.541 |
| $102.776$ | Wingender, A. W., et al. Water | 98,367 |
| 97,402 | Winger, R. E., et al. Valve. | 100.594 |
| 101.291 | Winks, C. E. Throat prote | $97.6 \times 5$ |
| 101.706 | Winslow, S. W. Bufing mach | 102,351 |
| 100,079 | Winter, H. Sea wall or pier | $101.105$ |
| 101.235 | Wintherlich, H. J., et al. Switeh and signal throw. | 98.816 |
| 97,727 | Winton. A. Circuit breaker and closer.............. | 98.113 |
| 97.370 | Winton, A. Controller for vehicles | 100.885 |
| 38.732 | Wimon, A. Driving shaft. | $100.5 \times 6$ |
| $98.553$ | Winton, A. Gasoline carbure | 976.94; |
| 98.378 | Winton, A. Governor for explosive eagi | 110.2.054 |
| $315,194$ | Winton, A. Igniter .............. | 94,066 |
| $94,244$ | Winton, A. Internal cxplosive engine........ 99, 67, | 9:1,06, |
| $100.175$ | Winton, A. Transmission mechanism.............. | 101.4× |
| $101,394$ | Winton, A. Vertical explosive engine................ | 9x,:55: |
| $98.75 \%$ | Winton, A., et al. Igniter for explosive | 99.1711 |
| $106: 05 \%$ | Winton, A., ct al. Gilir.................. | $: 88.347$ |
| 102.397 | Winton, A., et al. Sllding gear | 94.65: |
| $102.373$ | Winton Motor Carriage Company. Air brake....... | 100.867 |
| $101,097$ | Winton Motor Carriage Company. Axle ariving mechanism | 100.86i: |
| 96.430 | Winton Motor Carriage Company. Fan............. | 100.5- |
| 98,175 | Winton Motor Carriage Company. Valve actuating |  |
| 97.467 | mechanism .............. .......... ............ | 102.2:4 |
| 102,474 | Wire, F. E., et al. Hail joint. | 94.4.47 |
| 99,374 | Wise. H. A. Hose connection for car | 94.46: |
| 98.681 | Wiseman, D. E.. et al. Tornedo toy | 94.132 |
| 98,284 | Withveomb, R. W., et al. Explosive | 102.554 |
| 97,835 | Witmer, A. G. Hammer | 9A.136 |
|  | Wittokind, H. Metal sheet piling | 94.4.4 |
| 98,860 | Wixcel, S. M. Conveyor. | 97,314 |
| 98,112 | Wlodarczyk, W. Boring apparatus | 98.xn:: |
| 100,072 | Woelffle, F. M. Curling iron | 93. 5 4t; |
|  | Wohle. S. Detergents for scouring wool | 100.66; |
| 102,485 | Wolf, J. Pneumatie starker | 101.64: |
| 97,35: | Wolf, R. B., et al. Paper making marhin | 102.3tir. |
| 101.5! 1 | Wolf, Sayer and Heller. Slicing machin | : 4.14 , |
| 10.071 | Wolford, W. C. Plier............ | 94,1:2 |
| 101,048 | Wolke, G., et al. Air cooler for en. | 101.842 |
| 96.843 | Wolski, W. Hydraulic drill | 100.5:12 |
| 99,306 | Wood. A. C. Book case or display | $100.3811$ |
| 102,730 | Wood, B. B., et al. Wire fenc | 37.4.4.46 |
| 100,210 | Wood, G. W., et al. Wire looping mach | 38.341 |
| 98,150 | Wood, H. G., et al. Elastic fluid turb | $94.545$ |
| 101,724 | Wood, H. R. Calendar | $97.3 \div$ |
| 94,647 | Wood, H. R. Hat faste | $9 \times .5$ |
| 98,033 | Wood, J. D. Learh tank | 101.28: |
| 100,211 | Wood, John D. Dress suit case, etc................ | $35.4 \times 1$ |
| 102,585 | Wood, J. P. N. Non-refillable bottle..................... | $100.3: 1$ |
|  | Wood, J. R. and Sons. Ring rolling machine....... | 101.4:0 |
| $98.561$ | Wood, J. W. Method of producing nitrogen compounds |  |
| 97,401 162,387 | pounds. <br> Wood, T. A. S. Machine for preparing flbrous or | 101.32: |
| 162,387 | Wood, T. A. S. Machine for preparing fibrous or textile material | 112.75 |
| 97,245 | Wood, W. C. Soda water bottling machine | 98.782 |
| 101.606 | Wood, W. H. Railway brake. | $97.9+6$ |
| 102,000 | Woodard. J. W., et al. Noa-refillable bot | 1'P. 714 |
| 99,461 | Woodburn, R. F. Bill fild | $98.40 \%$ |
| 100,647 | Woodbury, E. Pencil sharpentr | 99.055 |
| 102.417 | Woodcock, J. S. Carpet stretcher | 97.883 |
| 96,886 | Wood Distillates and Fibre Company. Fiberizer. | 102,149 |


| Woodman. J. A., \& H. W. Internal combustion engine | 97,172 | Yanacopoula, G. Measuring pump Yarnell, J. L. Car door fastener. | $\begin{array}{r} 101,725 \\ 98,261 \end{array}$ |
| :---: | :---: | :---: | :---: |
| Woodruff, A. H., et al. Gravity bolt.......... 98,342, | 98,343 | Yawman and Erbe Manufacturing Company. Drawer |  |
| Woods, S., et al. Elevator control system | 97,419 | for piling cases | 100,709 |
| Woodward, T. B. Bed warmer and cover support. | 97,691 | Yawman and Erbe Manufacturing Company. Paper |  |
| Woodward, T. B. Vehicle heater | 97,690 | holder | 100,710 |
| Woodworth. Windlass | 100,331 | Yeates. G. Low water ala | 101,726 |
| Woolf, S. P. Stair routing machi | 101,292 | Yentzer, F. M. Hay car | 99,333 |
| Woolley Smokeless Furnace Company. S :am boller |  | Yeoman, F., et al. Dredge | 101,701 |
| furnace ........... ............ ........ 98,398, | 98.734 | Cark, D. W. Wash basin | 97,866 |
| Woolrich, E., et al. Lurr | 99,911 | Yark, D. W. Wash bowl | 99,866 |
| Woolverton, T. N. Fruit packag | 96,972 | Yark, I. E., et al. Gas burner cock | 99,248 |
| Wormald, J. A. Machine for making paper board |  | Yost, J. Draft equalizer | 98,227 |
| boxes | 97.549 | Young, C. B. Journal bearing | 97,669 |
| Wormald, R., et al. Machine for rolling screw nut |  | Young, E. A. Paddle whee | 99,678 |
| blan | 97,873 | Young, G. C. G., et al. Spinning | 98,201 |
| Worthington, E. A. Brake | 98,733 | Young. H. N., et al. Extension ladde | 99,131 |
| Worthington, H. R. Centrifugal turbine pum | 98,190 | Young, J. S. Stone cutting saw............... 96,798, | 98,663 |
| Worthington, H. R. Engine | 101,065 | Young. O. G., et al. Water condenser and purifie | 100,975 |
| Worthington, H. R. Val | 99,074 | Young, T. K. Gat | 97,353 |
| Wren, C. J., et al. Holder for broo | 100.006 | Young, W. B. Printing tram | 99,950 |
| Wright, J. E., et al. Metal hoop | 99,920 | Young, W. T. Splice bar and guard | 98.548 |
| Wright, J. S. Camera | 97,478 | Young, H. C. Fence post | 101,783 |
| Wright, J. S. Photographic shutter | 97,477 | Zabriskie, F. L. Mould for plano hammer... 97,021. | 97,022 |
| Wright, J. W. Tank | 97,692 | Zander, C. G. Photo-mechanical colour reproduction | 98,077 |
| Wright, R. S. Cross tle | 100,230 | Zander, H. L. Wooden sheet piling | 39,992 |
| Wright, S., et al. Hoist. | 99,610 | Zange, J. H. Means of securing handles to brooms. | 97.173 |
| Wright, W. E. Sand cap for vehicle | 99.270 | Zehnder Valve and Brake Manufacturing Company. |  |
|  | 99,969 | Cylinder relief device | 96,935 |
| Wuest, F. | 100.781 | Zeigler, A. W. Show case | 99,19 |
|  | 100,782 | Zeiller, R. Smoke consuming furnace | 97,371 |
| Wuest, F. A. Saw fling machi | 100,015 | Zimmer, A. D. Gauge or marker and rule | 101,236 |
| Wuest, F. A. Saw set | 100,016 | Zimmer, L. H., et al. Painting machine | 99,498 |
| Wulle, E. C. Method of teaching embroider | 97.580 | Zimmerman, C. E. Base for pillars, etc | 96,898 |
| Wuner, A. H. E. Hook and eye. | 102,188 | Zimmerman, M. Fishing tackle | 1-1,607 |
| Wurl, E. Manufacture of briquettes from plants. | 98,200 | Zindorf, M. P. Cuff holder | 101,490 |
| Wurster, C. Kneading machine for the materials |  | Zindorf, M. P. Garment supp | 96,887 |
| of paper manufactur | 96,817 | Zink. C. H., et al. Water mo | 101,68i |
| Wyatt, E. Stock and freight car | 101,543 | Zorge Safety Railway Equipment Company. Alarm |  |
| Wylle, M. J. B. Chothes boller | 97,581 | and signal ........... | 102,530 |
| Wykoff, W. B. Lock. | 97.516 | Zucker and Lovett and Loeb Company. Electroplat- |  |
| Wynkoop, J. F. Dust pan | 101,544 | ing tank .............. .......... ... | 100,263 |
| Wynkoop, J. F., et al. Spectacle | 98,302 | Zwicker, J. G. Floor and roof constructio | 98.773 |
| Wyse. J. F. H., et al. Holder for | 100.006 | Zwicker, T. B. G., et al. Counter sale check book | 98,813 |
| Wysong. O. C. Abrasive appar | 99,193 | Zwicker, I. B. G., et al. Printing machinery | 97,097 |
| Wysong. O. C. Wood working | 100,430 |  |  |

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## INVENTIONS PATENTED.

 which the fee has been pald, is firen aftor the date of the patent.

No. 99,816. Soeder for Root Crops.
Semoir pour légumes.


Frank Kitchen Bell, St. George, Ontario, Canada, 3rd July, 1906; 6 years. Filed 4th June, 1906. Recelpt No. 136,533. Claim.-1. In a seeder and fertilizer, the combination of a rame, a preparing roller journalled at its forward end, and fertilizlng apparatus intermediate of the rollers provided with discharge spouts, and driving means for the seeding and fertilizing apparatus geared to one of the rollers, substantially as described.

7-1
2. In a seeder and fertilizer, the combination of a substan 2. In H -shaped frame, adapted at each end for the journalling of rollers, and brackets secured to the cross bar and extending forwardly and rearwardly respectively for the at tachment of seeding and fertilizing apparatus, substantially as described.

No. 99,817. Door for Car Floorg. Porte de chars.


Argyle Campbell, Chicago, Illinois, U.S.A., 3rd July, 1906; 6 years. Filed 9th June, 1906. Recelpt No. 136,733.
claim.-1. In a car in comblnation with a frame and load retaining car body a load carrying fioor door normally closIng a load discharging opening in said body, a crank shaft mechanism adjacent to two opposite sides of the door each taving a pin and slot connection with a side of the door so that by operating one of said crank shaft mechanisms the door may be tllted about the pin of the opposite mechanism as a hinge.
2. In a car in combination with a frame and load retainlcad discharging opening in the body, a crank shaft mechaniبm adjacent to two opposite sides of the door each having anm adjacent to two opposite sides of the door each having
a pin and slot connection with the side of the door to which it is adjacent, the whole so arranged that by operating elther of said crank shaft mechanisms the ioor may be tilted about the pin of the opposite mechanisms as a hinge.
3. In a car in combination with a frame and load retaining car body, a load carrying floor door normally closing a lcad discharging opening in the body, a crank shaft mechanism adjacent to each of two opposite sides of the door, each crank shaft mechanism carrying a pin adapted to slide backward and forward in a slot in the underside of the door, the whole so arranged that by operating either crank shaft mecharism the door is tilted about the pin of the opposite crank In a ar a hinge to discharge in
g in body, a load carrying floor drame and load retainload discharging opening in said body, a crank shaft mechcoad discharging opening in said body, a crank shaft mecheach crank shaft mechanism carrying a pin adapted to slide backward and forward in a slot on the under slde of the
door, adjacent to its operating mechanism, the whole so arianged that oporating either crank shaft mechanism tilts the door about the pin of the opposite crank mechanlsm as a linge to discharge load.
5. In a car in :ombination with a frame and load retaining car body, a load carrying floor door normally closing a load discharging opening in said body, a crank shaft mechanism adjacent to each of two opposite sides of the door having a pin anil slot connection with the side of the door to which it is a ljacent so that operating one of said crank shaft mechanisnis tilts the door on the pin of the opposite mechanism as a hinge and a locking mechanism normally holding each crank shaft mechanism in load carrying position while the opposite mechanism is being operated.
6. In a car in combination with a frame and load retaining car body, a load carrying floor door normally closing a loail discharging opening in the body, a crank shaft mechanism mounted on each of two opposite edges of the door, each crank shaft merhanism carrying a pin adapted to slide backward and forward in a slot on the underside of the door, the whol.s so arranged that by operating one crank shaft mechanisnt the door is tilted about the pin of the opposite crank neechanlsm as a hinge to discharge load, and a locking mechanism normally holding each crank shaft mechanism in load carrying position while the opposite mechanism is being operaled.
7. In a car in combination with an under frame consisting of a central glider and cross members, a load carrying floor door between a pair of cross members at one side of the central girder nccupying less space than the distance between the central ginler and the side of the car, a longitudinal shaft munnted upon the under frame at each side of the door, one shaft near the central girder and one shaft near the side of the car, a crank mechanism upon each of said shafts having a pin aud slot connection with each of two opposite edges of the dour, means for normally locking each shaft in normal pusition and means for rotating each shaft, the whole so arranged that operating either mechanism tilts the door about the opposite pin as a hinge.
8. In a car in combination with an under frame consisting of a central girder and cross members, a load carrying floor door betreen a pair of cross members at one side of the central girder oicupying less space than the distance between the central girder and the side of the car, a longitudinal shaft mounted upon the under frame at each side of the door, une shaft near the central girder and one shaft near the side of the car, a crank mechanism upon each of said shafts having a pin and slot connection with the edge of the door to which it is adjacent, means for normally locking each shaft in normal position and means for rotating each sh.fft, the whole so arranged that operating either mechanism tilts the door about the opposite pin as a hinge to dischargu load at the side of the door adjacent to the operating shaft which is being manipulated.

## No. 99,818. Garment Band. Bande de vêtement.

John Hamilton Cowan, Ottawa, Ontario, Canada, 3rd July, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,636.
Claim.-1. The combination with a band of an extension strip adjustably secured to the end of the same, as and for the purpose specified.
2. The colubination with a band of double thickness of a connecting strip extending between the folds at the end thereof, and means for adjustably securing the same in position, as and for the purpose specified.
3. The conibination with a band of double thickness of a connecting strlp extending between the folds of the end thereof having a plurality of holes therein, a two part fastener having one part secured to each fold of the band and adapted to be locked with the central portion thereof extending through oae of the holes in the band, as and for the purpose specifled.
4. The combination with a two-part band of a connecting strip extending between the folds of each part and means for securing the same adjustably in position, as and for the purpose specifled.
5. The comtination with a two-part band of a connecting strip extending between the folds of each part and having a plurality of holes therein, two-part fasteners secured to each part of the band and having the separate parts thereof connected respertively to the two folds of each band and adapted to lock with the central portion thereof extending through the holes in the connecting strip, as and for the purpose specified.
6. The coubination with a tro-part band of a connecting strip extending between the folds of each part and means for separately ind adjustably securing the strip to each part of the band, as and for the purpose specified.
7. The combination with a band of a connecting strip adjustably secured to the end of the same having a buttonhole
in the part thereof external to the band, as and for the purpose specified.

8. The combination with a band divided into two parts of connecting means extending into each part and means for securing the connecting means adjustably in position, as and for the purpose specified.
9. The combination with the band divided into two parts of pockets in the end of each part and connecting means extending into each pocket and means for adjustably securing the connecting means in each pocket, as and for the purpose specified.
10. The combination with a band divided into two parts of pockets formed in the end of each part having one of the sides of each in the form of flaps, a connecting strip extending in each of the pockets and means controlled by the raising and lowering of the flap for locking the connecting strip in position, as and for the purpose specifled.
11. The combination with a band of a pocket formed in the end thereof, a connecting strip extending into the pocket, and means for locking the strip in any adjustable position in the pocket, as and for the purpose specified.
12. The combination with a band of a pocket in the end of the same, a connecting strip extending into the pocket, and a fastener secured to the sides of the pocket adapted to lock the strip in position therein, as and for the purpose specified.
13. The combination with a band divided into t.wo parts of pockets in the end of each part having one side of each in the form of a flap, a connecting strip extending into each pocket and having a plurality of holes therein, two-part dome fasteners in each pocket having one of the parts of each secured to the band and one to the flaps central portions of each being adapted to extend when locked through the holes in the connecting band, as and for the purpose specifled.
14. The combination with a band divided into two parts of connecting means extending between the two parts and adjustably secured to each, as and for the purpose specified.
15. The combination with a band of an extension means located at one end of the same, as and for the purpose specified.
16. The combination with a band of adjustable extension means located at one end of the same, as and for the purpose specifled.
17. The combination with a shirt of an extensible annular neck band therefor, as and for the purpose specified.

No. 99,819. Egg Beater. Vergette.


John S. Dunlap, Chicago, Illinois, U.S.A., 3rd July, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,624.
Claim.-1. An egg beater comprising a shaft having a perforated dasher secured thereto and normally disposed at right angles to the shaft, said dasher being relatively thin and flexible to permit the opposite ands thereof to be deflected upwardly in contact with the interior walls of a contalning vessel when placed within the latter, and means for rotating the shaft.
2. An egg beater comprising a bar laving a handle at one end and with the opposite end bent to form a U-shaped bracket, a dasher shait journalled in the opposite arms of the bracket, a pinion mounted upon the shaft within the bracket, a resilient blale mounted upnn the shaft and adapted to conform substantially to the interior of a containing vessel, a disc mounted upon the bar and provided with an annular ball race, a gear wheel provided with an opposing ball race and mounted to rotate adjacent the disc and in engagement with the pinion and means for rotating the gear.
3. An egg beater comprising a shaft, a dasher secured to the shaft and normally disiosed at substantially right angles thereto, said dasher belng relatively thin and flexible to permit the arms of the dasher to conform to the interior walls of a containing vessel, ari means for rotating the shaft.
4. An egg beater comprising a shifft, a dasher secured to the shaft and normally disposed at substantially right angles thereto, said dasher being relatively thin to permit the arms of the dasher to conform to the interior walls of a containing vessel, and means for rotating the shaft.
5. An egg beater comprising a shaft, a dasher secured to the shaft and consisting of a flat relatively thin cutting blade the front and rear edges of which are disposed in the same horizontal plane, said dasher baving its major axis disposed substantlally parallel with th: plane of its movement, and means for rotating the shaft.

No. 99,820. Rotary Harrow. Hersc rotatoire.
Frceman Hanson, Hollis Center, Maine, U.S.A., 3rd July 1906; 6 years. Filed 5th June, 1906. Receipt No. 136,576.
Claim.-A rotary harrow comprising a frame with a shaft connected thereto, an axle journalled in suitable bearings in said frame, a countershaft also journalled in said frame, swinging beams $E$ mounted upun said countershaft, a harrow shaft journalled in the ends of said beams, a sprocket wheel fixed to the harrow shaft, sprocket wheels upon the countershaft, a sprocket chain passing wver the sprocket wheel upon the harrow shaft and one of said sprocket wheels upon the countershaft, and integral clutch collar and sprocket wheel loosely mounted upon the axle, a sprocket chain passing about the sprocket wheel upon the axle and one of sald sprocket wheels of the countershaft, a clutch collar splined to the axle, lever mechanism for throwing the same into engagement with the clutch collar which is in-
tegral with said sprocket wheel, a drum carrying shaft journalled in bearings in the frame, chain connections between

said drum carrying shaft and said beams, and lever mechanism for rotating the drum carrying shaft, as set forth.

## No. 99,821. Stump Burner.

Appareil d lmaler des souches.


Charles Nicholas Itubbard, Bee, Washington, U.S.A., 3r1 July,
1906; 6 years. Filed 10th May, 1906. Receipt No. 135,786.
Claim.-1. In a stump burner the combination of a re*eptacle for inclosing a stump composed of detachable panels, a cover on said recrptacle and means for supplying a draft of air to said receptacle, substantially as described.
2. In a stump hurner the combination of a receptacle for inclosing a stumy composed of detachable panels lined with asbestos or like material, a cover on said receptacle, and means for supplying a draft of air to said receptacle, substantially as described.
3. In a stump burner the combination of a receptacle for inclosing a stump composed of detachable panels, a cover. also formed of detachable panels, on said recnptacle and means for supplying a draft of air to said receptacle, substantially as discribed.
4. In a stump burner the combination of a receptacle for inclosing a stump composed of detachable panels, a cover, also formed of detachable panels, on said receptacle, said cover having an opening in its center, a pipe communicating with sad opening, and means for supplying a draft of air to said receptacle, substantially as described.
5. In a stump burner the combination of a receptacle for inclosing a stump composed of detachable panels, a cover also formed of detachable panels, on said receptacle, said cover having an opening in its center, a pipe communicating with said opening, and means for supplying a draft of air to said receptacle near its bottom, substantially as described.
6. A stump burner constructed of circularly disposed vertically divided panels, and a cover therefor, constructed of corresponding radially divided panels, the panels of each set beIng detachably secured together, whereby the number thereof receptacle near its bottom, substantially as described.
7. A stump burner comprising means for Incosing a stump, a cover therefor constructed of radially divided panels having flanges at their edges. and means for detachably securing together the flanges of adjoining panels, whereby the number of panels may be increased or diminshed.
7. A stump burner comprising means for inclosing a stump, constructed of vertically divided panels having flanges at their edges, means for detachably securing together the flanges of adjolning panels, whereby the number of panels may be increased or diminished, and a cover for said means.
9 A stump burner comprising means for inclosing a stump constructed of vertically divided panels having flanges at their edges, a U-shaped device detachably embracing each pair of flanges and detachable fastening means extending through said device and sald flanges, whereby the number of panels may be increased or diminished.
10. In a stump burner the combination of a receptacle for enclosing a stump, said receptacle comprising a number of detachable panels, a cover for said receptacle, and a plurality of stralght tubes for supplying air to said receptacle.

No. 99,822. Draft Gear for Cars. Appareil de tirage pour chars.


John Lange, Jr., Moberly, Missouri, U.S.A., 3rd July, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,627.
Claim.-1. In a draft gear the frame members having spring receiving pockets and interchangeable devices adapted to be removably mounted within said pockets and comprising means for varying the space occupled by the spring according to the size of the latter.
2. In a draft gear a frame having spring recelving pockets and means for varyng the width of the pockets.
3. In a draft gear the frame members baving spring receiving pockets, and interchangeable devices adapted to be removably arranged within said pockets for varying the length of the space therein according to the length of the spring to be employed.
4. In a draft gear a frame having a spring recelving pocket and means for varying both the length and width of the pocket.
5. In a draft gear, a frame having a spring receiving pocket and detachable blocks for varying the width of the pocket.
6. In draft gearing, a frame having a spring receiving pocket, there being an opening formed in the wall of the pocket, and a detachable block adjustable to a position within the pocket and having a lug extending through said opening.
7. In a draft gear the combination with the draw bar, of a carry iron supporting the draw bar and having a vertical adjustment, and a draw spring connecting with the inner end of the draw bar, said draw spring connection having a corresponding vertical adjustment to that of the carry iron.
8. In draft gear, a frame, a reverslble carry Iron for supporting the draw bar at different heights, and means for rigidly locking said carry iron in either of its positions.
9. In draft gear, a frame having spring recelving pocket, and a reversible plate forming the bottom of said pocket.
10. In draft gear, a frame having a spring receiving pocket and reversible lug strap forming the bottom of the pocket and adjustable to alter the effective height of said pocket.
11. In draft gear, a frame having lugs for embracing the transom, and interchangeable and adjustable filling blocks disposed between the sides of the transom and the lugs.
12. In draft gear, a frame having spaced lugs for embracing the transom and interchangeable blocks adjustable to varying positions with respect to the transom and the lugs.
13. In a draft gear the combination with the vertically disposed web platés arranged between the longitudinal sills ans provided with edge flanges, of a transversely disposed brac-in- plate extending between the web plates and resting on said flanges in a position to the rear of the end sill of the frame, and securing bolts extending through said bracing plate and end sill and serving to prevent rearward movement of all of the plates.
14. In a draft rigging, convertible side castings having upper integral guides and lower removable guides and front and rear stops for the followers, and provided with removable insert or conversion pleces and abutting against said rear stops, substantially as specifled.
15. In a draft rigging the combination with convertible side castings having integral front and rear stops and integral upper guides for the followers, of removable insert or conversion pleces, substantially as specified.
16. In a draft rigging the comblnation with side castings having each front and rear stops and integral upper guides for the followers of insert or conversion pleces abutting against said front and rear stops and furnished each with a stop, substantially as specified.

No. 99,823. Plough Share. Soc de charrue.


Jacob Lledle, Irvine, Alberta, Canada, 3rd July, 1906; 6 years. Filed 7th June, 1906. Recelpt No. 136,647.
Claim.-1. In a device of the class described, the combination with a shank, mould board and share, of means for interlocking the share to the shank and the mould board, as and for the purpose specifled.
2. In a device of the class described, the combination with the shank, mould board and share of a slidably interlocking joint between the share, and the mould board and shank, and adjustable means for securing the parts in said interlocked position, as and for the purpose specified.
3. In a device of the class described, the comblnation with the shank, share and mould board, the said shank having a slotted lower end, of a lip extending inwardly from the share and designed to slide and be constrained within the slot and adjustable means for securing the share to the mould board when the lip is at its inner position in the slot, as and for the purpose specified.
4. In a device of the class described, the combination with the shank share and the mould board, the said shank having a slotted end portion, of a lip extending inwardly from the upright face of the share and designed to slide and be constrained within the slot, a strip secured to the inner face of the mould board and extending transversely there beyond, a clip secured on the inner face of the share having an over-
hanging portion designed to receive between its inner face and the share, the strip aforesaid, a pln extending downwardly from the strip, at or near its outstanding end, the zaid pin being designed to rest flush against the overhanging face of the clip, when the lip is in Its inner position in the slot and adjustable means for securing the mould board when the lip is in its inner position, as and for the purpose specified.
5. In a device of the class described, the combination with the shank, share and the mould board, the said shank having a slotted end portion, of a lip extending inwardly from the upright face of the share and designed to slide and be constrained within the slot, a strip secured to the inner face of the mould board and extending transversely therebeyond, a clip secured on the inner face of the share having an overhanging portion designed to receive between its inner face and the share, a strip aforesaid, a pin extending downwardly from the strip, at or near its outstanding end, the sald pin being designed to rest flush against the overhanging face ef the cllp when the lip is in its inner position in the slot. and a pin secured within a bearing on the lower face of the mould board, the extending end being designed to be adjustably retained by a similar bearing on the inner face of the share when the lip is at its inner position in the slot, as and for the purpose specified.

## No. 99,824. 8hirt. Chemise.



Milton Paul Magly, Cincinnati, Ohio, U.S.A., 3rd July, 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,230.
Olaim.-As a new article of manufacture, a shirt having a soft, thin and pliable body portion and provided with a closed front and open back, and having a miniature inverted triangle shape reinforce forming a bosom that extends downward from the neckband with the apex at a point just below that of the converging diagonal sides of a high cut vest opening, and with its dlagonal sides terminating at said neckband adjacent to the collar bone of the wearer.

No. 99,825. Convejer. Transport.


Wiliam L. McCabe, Seattle, Washington, U.S.A., 3rd July, 1906; 6 years. Filed 6th June, 1906. Receipt No. 136.594.
Claim.-1. In a conveyer, the combination with a framework and conveying mechanism carried thereby, of a platform plvotally supporting said framework, a telescoping section of platform telescopically engaging said first-mentioned
platform, a standard plvoted to said telescoping section of platform and adapted to support said framework, and means ioi bracing said standard against pivotal movement.
2. In a conveyer, the combination with a conveyer framework and conveylng mechanism carried thereby, of a pivot ally mounted standard disposed beneath said framework, and n:eans for temporarily bracing said standards against plvotal movement.
3. In a conveyer, the combination with a framework, and conveying mechanism carried thereby, of means for raising and lowering sald framework, pivotally mounted standards carrying said ralsing and lowering means, and means for preventing pivotal movement of said standards.
4. In a conveyer, the combination with a framework and cunveying mechanism carried thereby, of a pair of standards arranged beneath said framework, a shaft supporting said framework, and differential pulleys and chains supporting said shaft
5. In a conveyer, the combination with a framework and a conveying mechanism arranged therein, of plvotally mount ed standards arranged to support said framework, and removably mounted brace rods supporting said standards in position against pivotal movement.
6. In a conveyer, the combination with a conveyer framework and a conveying mechanism arranged therein, of pivot ally mounted standards arranged at the sides of said conveyer, a shaft extending across said standards, means for adjustably supporting said shaft on said standards, and removable means for normally retaining said standaris against pivotal movement.
7. In a conveyer, the combination with a conveyer pramework and a conveying mechanism carried thereby, of standards pivotally mounted and adapted to support said framework in an inclined position and pivoted to swing toward the lower end of the framework.
8. In a conveyer, the combination with a framework and a conveying mechanism carried thereby, of a platform plvotally supporting said framework, and means pivoted to sald platform for supporting said framework in an inclined position, the said supporting means being adapted to sving toward the plvot of the said framework.
9. In a conveyer, the comblation with a platiorm and carrying wheels supporting the same, of a conveyer framework pivotally connected therewith, means carried by said platform for supporting the free end of said framework, an auxillary framework spaced from sald main framework, carrying means for supporting sald auxiliary framework, a conveying mechanism carried by sald main iramework, and a conveying mechanism carried by said auxiliary framework.
10. In a conveyer the comblation of a main conveyer framework. a conveyer belt arranged therein. end drums carrying sald belt, means for driving one of gaid drums, an auxiliary conveyer framework spaced from the main framework, a conveyer belt arranged in said auxiliary framework. drums arranged in sald auxiliary framework supporting the belt thereof. sliding journal boxes for the shaft of one of the drums of the auxiliary framework, and sliding journal boxes for the shaft of one of the drums of the main framework, spacing bars connecting said journal boxes, and driving gears connecting said shafts for transmitting power from the maln conveyer belt to the auxiliary conveyer belt.
11. In a conveyer the combination of a main conveyer framework, an auxiliary convever framework spaced therefrom, sliding journal boxes arranged at one end of one of sald conveyer framework, and simllar journal boxes arranged at the contlguous end of the other framework, longitudinally extensible shafts connecting said journal boxes, shafts journalled in said journal boxes. drums carried by sald shafts. conveyor belting supported by said drums. means for conveying power from one of said shafts to the other, and means for driving the belting of one of said drums.
12. In a conveyer the combination with a framework and a conveyer belt arranged therein, of a driving shaft journalled in said framework, a plurallty of gears splined on said shaft. a second shaft journalled in said framework. a plurality of gears fixed to sald second shaft, means for communicating power from one of the gears of the Arst shaft to one of the gears of the second shaft, sald power communicating means being adapted to be adjusted for transmitting power from any one of the gears of the first shaft to any one of the gears of the second shaft, and means driven by the second shaft for actuating said conveyer belt.
13. In a conveyer mechanism the combination with a framework, of a drum journalled thereln, conveying means actuated by said drum, a belt for driving said drum, and means for limiting sald belt against vertical and edgewise movement.
14. In a conveyer mechanism the combination with a framework and a drum journalled therein, of conveying means actuated by sald drum, a belt for driving sald drum, an Ider limiting said belt against vertical movement, and grooved
pulleys engaging the edges of said belt for limiting the same against edgewise movement.
15. In a conveyer the combination with a framework, a drum journalled therein and formed with an annular groove, and a conveyer belt passed about sald drum and designed to be driven thereby, of a driving belt passed about the drum within the groove thereof, and means for preventing edgewise movement of said driving belt.
16. In a conveyer the combination with a conveyer iramework, a drum journalled therein and formed with an annular groove, and a conveger belt passed about said drum and designed to be driven thereby, of a driving belt passed about the groove in said drum and pulleys rotatably mounted in position for sliding transversely of the path of movement of said driving belt and engaging the edge thereof for preventing edgewise play of said driving belt.
17. In a conveyer the combination with a framework a drum journalled in the same and formed with an annular groove, and a conveyer belt surrounding said drum and designed to be driven thereby. of a driving belt passed about the groove of sald drum, shafts fixed in sald framework transversely of the path of movement of sald drum and grooved pulleys rotatably and slidingly carried by said shafts and positioned with the edges of said driving belt within their grooves.
18. In a conveyer the combination with a framework, and a conveyer belt arranged therein, of a driving drum for said belt comprising a plurality of poly-sided plates, and segments of cushioning material fixed to sald plates.
19. In a conveyer the combination with a framework, and a conveyer belt arranged therein, of a driving drum for sald belt comprising poly-sided end plates and segments removably connected to said plates.
20. In a conveyer the comblnation with a framework and a conveyer belt arranged therein, of rollers for supporting said belt, a shaft supporting each of said rollers, and a journal casing for each of said shafts comprising a base formed with a substantially semi-circular aperture and a lug projecting into the same, a substantially semi-circular plate disposed above said base and formed with a lug depending therefrom, and a thimble arranged between said base and plate and apertured for recelving sald lugs.
21. In a conveyer the combination with a framework, a drum journalled therein, and a conveyer belt passed about said drum, of a driving belt arranged beneath said conveyer belt and passed about said drum, and means for guiding said driving belt for preventing edgewise play thereof on said drum.
22. In a conveyer the combination with a framework, a grooved drum journalled therein, and a conveyer belt passed about said drum, of a driving belt passed about the drum and arranged within the groove beneath the conveyer belt, and means for preventing said driving belt from leaving said groove.
23. In a conveyer the combination with a pivotally mounted framework and a platform slidingly mounted with respect thereto, of a motor carried by said slidingly mounted platform, conveyer mechanism arranged within said framework, means for driving said conveyer mechanism, means for transmitting power from said motor to said driving means, and a spacing bar interposed between the motor and driving means for maintaining said power transmitting means in operative condition.
24. In a conveyer the combination with a framework and a platform pivotaliy engaging the same, of a conveyer mechanism carried by said framework, a shaft for driving said mechanism, a motor slidingly carried by said platform, spacing bars connecting the shaft of said motor with said driving shaft, and means for transmitting power from the motor to the driving shaft.
25. In a conveyer the combination with a framework and conveyer mechanism arranged therein, of a driving shaft for actuating sald mechanism, a sprocket carried by said shaft, a motor spaced from said framework and movably mounted with respect thereto, a spacing bar arranged on each side of said motor and engaging the motor shaft, and extending to and engaging said driving shaft for spacing the shaft of the motor from the driving shaft, a spocket on the shaft of the motor, and a sprocket chain connecting the sprocket of the driving shaft with the sprocket of the motor shaft.
26. In a mechanism of the class described, the combination with a conveyer of a platform supporting the same and comprising telescoping sections, a pulley carried dy one of said bections, a cable fixed to the other said sections and passed about said pulley, a block carried by the stetion carrying the said pulley, the said cable being passed beyond the pulley and through said block and being extended beyond the block to and connected with the free end of that section to which the opposite end of said cable is connected, and means for rotating said cable for paying out one side of said cable and for taking in the other side.
27. In a mechanism of the class described, the combination with a conveyer, of a platform frame sustaining the same, a second frame telescopically engaging the first-mentioned frame, a pulley rotatably carried by said second-mentionau frame, a cable fixed to the first-mentioned frame and extencing to said pulley and wrapped about the same, a block co.1nected with the second-mentioned frame at a point in frnnt of said pulley, the cable being passed beyond the pulley 114 about sald block and extending to and connected with th first-mentioned frame at a point in the rear of the blo:k and means for rotating said pulley for taking in one side of the cable and paying out the other, whereby said frames may be caused to telescopically approach each other, the said pulley being adapted to be rotated in an opposit direction for taking in the other side of said cable and paying out the side formerly taken in for causing said frames to telescopically separate.
28. In a conveyer the combination with a carrying belt and means for supporting the same, of a cleat therefor comprising a flexible member, means connecting the same to the carrying belt, and means lim ting the amount of lateral movement of said flexible member.
29. In a conveyer the combination with a carrying belt and means for supnorting the same, of a cleat for said belt com prising a flexible member laced at one edge onto the belt, a transverse limiting bar extending across said thexible member at a point between the point of said lacing and the free end of the flexible member, and means for connecting said limiting bar to the belt.
30. In a conveyer the combination with a conveying belt and means for supporting the same, of a cleat for sald belt comprising a flexible strip, means securing the same to the belt, a second flexible strip, means connecting the second strip to the first strip, and means for limiting the lateral play of the free ends of said strips.
31. In a conveyer the combination with a conveying belt and means for supporting the same, of a cleat for sald belt comprising a plurality of flexible members connected with the belt at one edge and free at the opposite edge to move laterally, and means arranged transversely of said flexible members and connected to the belt for limiting the lateral play of the free ends of the said members.
32. In a conveyer the combination with a conveyer belt and means for supporting the same, of a cleat therefor compris ing a flexible member connected at one edge to the belt and free at its oppos te edge to move laterally, a transverse limiting bar arranged above said flexible member and having its end extended beyond the same, and means connecting the ends of the limiting strip to the belt.
33. In a conveyer the combination with a conveyer belt and means for supporting the same, of a cleat for said belt comprising a flexible strip connected with the belt at one edge and free for the remainder of its length to swing laterally, and a second flexible strip connected to the first flexible strip and otherwse frec to move laterally.
34. In a conveyer the combination with a conveying belt and a support therefor, of a cleat for said belt comprising a plurality of superposed flexible strips, means connecting the lowermost strip to the belt, and means connecting each successive strip to the preceding strip only.

No. 99,826. Railway THo.
Dormant de chemin de for.


Archibald J. McCallum, Eagle Harbour, Michigan, U.S.A., 3ri July. 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,650.
Claim.-1. The combination with a hollow railway tie having boxes formed therein, of rail chairs fitting in said boxes and having lateral extensions engaging under the top of the? tie.
2. The combination with a hollow rallway tie having boxe;s formed therein, of rall chairs fitting in said boxes and having hook-shaped extensions engaging under the top of the tie.
3. The combination with a hollow railway tie having bosses formed on the inside thereof, of rail chairs having hook shaped extensions engaging said bosses.

No. 89,827. Grain Tank. Coffre d̀ grain.


Hector Colin McMartin, Winnipeg, Manitoba, Canada, 3ri July, 1906; 6 years. Filed 5th June, 1906. Receipt No. 136,570.
Claim.-1. A grain tank comprising a bottom and a sectlonal corrugated cylindrical body, said body sections respectively overlapping and bolted and means for securing the body to the base, as and for the purpose specifled.
2. A grain tank comprising a bottom, a cylindrical sectional corrugated body, the sections being composed of arcuate segteents overlapping at their ends and bolted forming vertical joints and the individual sections overlapping and bolted joining horizontal points and means for securing the body portion to the base, as and for the purpose specified.
3. A cylindrical grain tank comprising a bottom corrugated arcuate segment overlapping and bolted vertically and horizontally and means for securing the body to the base, as and for the purpose specified.
4. In a device of the class described the combination with the circular base, of a cylindrical body, said body being composed of corrugated arcuate sections overlapping and secured the one to the other and segmental portions of an angle bar cross section having the vertical portion secured to the lowest section and the horizontal portion bolted to the base, as spectfled.
5. In a device of the class described the combination with a circular base, of a cylindrical body, sald body being composed of corrugated arcuate sections overlapping and secured the one to the other, a flange extending outwardly from the bottom of the lowest section and continuous therewith, angle bars encircling the body and having their vertical portion bolted to the lowest section of the body portion and their horizontal portion resting on the flange and bolted therethrough to the base, upright reinforcing strips secured to the inner face of the body portion, an outlet from the body portion, a removable flexible top and means for lacing the top to the tank, as speciffed.
6. In a device of the class described the combination with the base and the cylindrical corrugated body portion secured thereto of a removable flexible covering, eyelets extendin; circumferentially from the top of the body portion, supplescentary eyelets within the cover and a lacing means for connecting the cover to the tank as specified.
7. In a device of the class described the combination with a circular base and a cylindrical corrugated body section secured thereto, of an adjustable outlet from the body portion, a chute extending outwardly from the tank and continuous with the outlet and a hopper in juxtaposition to the outlet and extending inwardly from the inger face of the body portion, as specified.

No. 99,828. Coaling Device for Moving Traing. Appareil à charger de charbon les trains en mouvement.


Charles M. Miller, Tyrone, Pennsylvania, U.S.A., 3rd July 1906; 6 years. Filed 7th June, 1906. Recerpt No. 136,640.
Claim.-1. In apparatus for supplying coal to the tenders of moving rallway trains, an elevated support arranged above the rallway track, and provided with inclined rails, a dumping car mounted on the rails, means for locking the dumping car from movement, and a train carried member for releasinf the car in advance of the arrival of the tender thereunder, permitting the car to descend the inclined rails by gravity, said member serving subsequently to engage and move the car, and serving further to trip the dumping mechanism and permit the dumping of the load carried by the car.
2. In apparatus of the class described an elevated structure having an inclined track, a dumping car arranged on said inclined track, a check for holding the same from movement, a lever connected to said check and a train carried member adapted to engage said lever in advance of the arrival of the tender under the car, permitting the car to descend the inclined track and acquire momentum in advance of the dumping operation.
3. In apparatus of the class described, an elevated support, a dumping car arranged to travel thereon, a sectional bucket having locking fingers arranged in close relation, a release bar having lugs engaging said fingers, and an arm carried by the train and arranged to move said bar to release position.
4. In apparatus of the class described, the combination with an elevated support, of a car arranged to travel on the support, a sectional dumping bucket carried by the car, locking fingers carried by the bucket members, a release bar having lugs for engaging said fingers, and a train carried arm for moving the bar to release position and for moving the car at a speed equal to that of the train.
5. In apparatus of the class described, the combination with an elevated support, of a car arranged to travel on the support, a sectional dumping bucket on the car, a trip mecharism for releasing the bucket, a slidable frame for operating said trip mechanism, a pair of fingers carried by the frame and having cam-shaped inner ends, and a train carried arm arranged to engage and be guided by said fingers.
i. In apparatus of the class described, the combination with an elevated support, of a car arranged to travel thercon, a sectlonal bucket on the car, locking fingers carried by the bucket members, a release bar engaging sald fingers, a slldable frame connected to the relcase bar, a traln-carried arm for engaging such irame and forcing the release bar to disengaged position, and a pair of gulding fingers plvoted to the frame and having cam-shaped free ends for guiding said arm to proper position.
7. In apparatus of the class described, the combination with an elevated frame, of a car arranged to travel on the frame, a sectional dumping bucket on the car, a plvotally mounted counterweighted chute on the car at a point below the bucket, and movable to open position under the weight of the contents of such bucket, and a train-carried means for releasing the bucket.
8. In apparatus of the class described, the combination with an elevated support, of a car, a sectional bucket carried by the car, a chute pivoted to the lower portion of the ca; at a point under the bucket, a counterweight for holding the chute in elevated position when empty, and a train-carried means for releasing the bucket and insuring movement of the car at a speed equal to that of the train.
9. In apparatus of the class described, the combination with an elevated support, of a dumping car arranged to travel thereon, a plvotally mounted arm carried by the train, a locking pin for holding the arm in elevated position, and an operating lever for releasing said pin and allowing the arm to drop to inoperative position.
10. In apparatus of the class described, the combination with an elevated structure, of a dumping car mounted thereon, means for locking said car from movement, and a signal connected to said locking means.
11. In apparatus of the class described, the combination with an elevated support, of a dumping car mounted thereon, a signal, and means for automatically moving said signal in accordance with the position of the car.

No. 99,829. Shirt Collar. Collet de chemise.


Frederick William Parsons, Cleveland, Ohio, U.S.A., 3rd July, 1906; 6 years. Filed 4th June, 1906. Recerpt No. 136,532.
Claim.-A lay-down collar having a neck band provided with two cut out portions at its rear forming open recesses extending from the lower edge thereof upward and having their greatest width at the bottom and converging upward, and a tongue integral with the band between said recesses and provided with a button hole.

No. 99,830. Stump Extractor. Arrache-80uches.


Henry Rustad, Lindsay, Ontario, Canada, 3rd Juy, 1906; 6 years. Filed 5th June, 1906. Receipt No. 136,575.
Claim.-1. In a stump extractor, the combination with the bed beams, and the base of the device secured thereto having an upwardly and rearwardly projecting frame therefrom, a frame secured to the aforesaid frame and superposed above the base. standards supporting said frame, a rotatable frame supported on said frame, means for rotating said frame, a drum turning in suitable bearings in said base and said superposed frame, means for holding said drum, means supported from sald rotatable frame for engaging said drum, means for releasing from engagement the aforesaid means, a rotatable vertical shaft journalled in said base and extending upwardly through said rotatable frame, means from said
shaft for engaging said drum, means for rotating said shaft, a cable winding on said drum, and means for anchoring said frame, as and for the purpose specified.
2. In a stump extractor, the combination with the bel beams, and the base of the device secured thereto having a central depression therein forming a bearing and an upwardly and rearwardly projecting frame therefrom, a cylindrical frame secured to the aforesaid frame superposed centrally above said base, standards supporting said frame, a rotatable frame supported on said frame, means for rotating said frame, a drum having a trunnion projecting from the bottom thereof and journalled in the bearing in sald base and turning in said superposed frame, means supported from said rotatable frame for engaging sald drum, means for releasing from engagement the aforesaid means, a rotatable vertical shaft journalled in said base and extending upwardly through said rotatable frame, means from said shaft for engaging said drum, means for rotating said shaft, a cable winding on said drum, and means for anchoring said frame, as and for the purpose specifled.
3. In a stump extractor the combination with the bed beams, and the base of the device secured thereto having a central depression therein forming a bearing and an upwardly and rearwardly projecting frame therefrom, a cylindrical frame secured to the aforesaid frame superposed centrally above said base, standards supporting sald frame, a rotatable frame supported on said frame, means for rotating said frame, a drum having a hollow trunnion projecting from the bottom thereof and journalled in the bearing in said base and turning in said superposed frame and a ring of ratchet teeth around the bottom of said drum, a spring held ratchet dog engaging said ratchet teeth, means for holding sald ratchet out of engagement with said drum, means supported from said rotatable frame for engaging said drum, means for releasing from engagement the aforesaid means, a rotatable vertical shaft journalled in said base and extending upwardly through said rotatable frame, means from said shaft for engaging said drum, means for rotating said shaft, a cable winding on said drum, and means for anchoring said frame, us and for the purpose specified.
4. In a stump extractor the combination with the bed beams and the base of the device secured thereto having a central depression therein forming a bearing and an upwardly and rearwardly projecting frame therefrom, a cylindrical frame secured to the aforesaid frame superposed centrally above said base, standards supporting said frame, a rotatable frame supported on said frame, means for rotating said frame, a drum journalled in the bearing in said base and turning in said superposed frame having a ring of ratchet teeth on the upper end thereof, means for holding said arum, a clutch block having ratchet teeth on the underside thereof engaging the ratchet teeth of said drum and supported from said rotatable frame and spring held therefrom, means from said rotatable frame for engaging said clutch block, means for releasing said clutch block from engagement with said drum, a rotatable vertical shaft journalled in said base and extending upwardly through said drum and rotatable frame, means from said shaft for engaging said drum, means for rotating said shaft, a cable winding on said drum, means for preserving the even winding of said cable on said drum, and means for anchoring said frame, as and for the purpose specified.
5. In a stump extractor the combination with the bed beams and the base of the device secured thereto having a central depression therein forming a bearing and an upwardly and rearwardly projecting frame therefrom, a cylindrical frame secured to the aforesaid frame superposed centrally above said base, standards supporting said frame, a rotatable frame supported on said frame, means for rotating said frame, a drum journalled in the bearing in said base and turning in said superposed frame having a ring of ratchet teeth on the upper end thereof, means for holding said drum, a clutch block having ratchet teeth on the underside thereof engaging the ratchet teeth of said drum and supported irom sald rotatable frame and spring held therefrom, means from said rotatable frame for engaging said clutch block, means for releas-in- said clutch block from engagement with said drum, a rotatable vertical shaft journalled in said base and extending upwardly through said drum and rotatable frawe, means from said shaft for engaging said drum, means for rotating said shaft, a cable winding on said drum, rods vertically disposed and spring held to said drum from said standards, rollers on said rods, means for adjusting said rods to und from said drum, and means for anchoring said frame, as and for the purpose specifled.
6. In a stump extractor the combination with the bed beams and the base of the device secured thereto having a contral depression therein forming a bearing and an upwardly and rearwardly projecting frame therefrom, a cylndrical frame secured to the aforesaid frame superposed centrally above said base and having an annular flange projecting therefrom, a standard arranged preferably diametrically opposite the upright portion of said frame secured to the flange of said cylindrical frame and to the base of the machine and having
a recess formed in the base thereof, a pair of standards supported from said bed beams and secured to the flange of said cylindrical frame, a rotatable frame supported on said cylindrical frame having a central angularly shaped orifice therethrough and sockets in the upper side thereor, an angularly shaped block fitting the orifice in said frame and projecting downwardly therefrom having a central oriflce therethrough, sweeps secured in said sockets, braces from said frame sup porting said sweeps, a drum having a projecting trunnion from the bottom thereof turning in the bearing in said base and turning in said cylindrical frame, a ring of ratchet teeth around the base of said drum, a ratchet dog pivoted in the recess in the base of one of the said standards and bearing against said standard, a ring of ratchet teeth around the upper edge of said drum, a clutch block supported from said rotatable frame having a central angular orifice therethrough corresponding to the central orifice in the rotatable frame and surrounding said downwardly projecting block and sliding free thereon and a ring of ratchet teeth on the underside engaging the teeth on said drum, means for holding said clutch block in engagement with said drum, means for disengaging said clutch block from said drum, a rotatable vertical shaft jour nalled in the base of said machine and held therein and projecting upwardly through said angularly shaped block, means for holding said rotating frame to lts seat, means for rotating sald drum from said shaft, means for rotating said shaft, a cable winding on said drum, and means for anchoring said machine, as and for the purpose specified
7. In a stump extractor the combination with the bed beams and the base of the device secured thereto having a central depression therein forming a bearing and an upwardly and rearwardiy projecting irame therefrom, a cylindrical iramt secured to the aforesaid frame superposed centrally above said base and having an annular flange projecting therefrom, standards supported from the base and bed beams flxedly se cured to said flange and supporting said frame, a drum journalled in the depression in said base and in said cylindrical irame having a ring of ratchet teeth around the outer peri phery of the bottom thereof and a ring of ratchet teeth arogind the upper edge thereof, a ratchet dog pivoted in the base of one of said standards and spring held in engagement with the lower ring of ratchet teeth on said drum, a cam lever pivoted on the base of the machine and engaging sair ratchet dog, a rotatable frame supported on said cylindrical frame having a flange embracing the edge of said frame and a central squared oriflce therethrough and a pair of circular oriflces through said frame diametrically opposite and equi distant from the center thereof, a squared block havin fanges at the top thereof and a central circular orifice ther through secured to said frame and projecting downwardly through said squared orifice, a clutch block having a ring of teeth corresponding to the teeth on said drum and a central squared orifice loosely surrounding said squared block and a pair of orifices diametrically opposite registering with th pair of orifices in said rotatable frame having the top portion thereof formed cylindrical and the lower portion reduced and squared, a pair of $T$-headed bolts projecting downwaldy from said rotatable frame through said orlfices and passin: through the orifices in said clutch block, and having squar portions at the lower ends and nuts on the ends thereof, coil springs surrounding said bolts resting in said orifices and abutting the underside of said rotatable frame, a pair of can blocks surrounding said bolts and resting on the upperside of said rotatable frame and engaging the heads of said bolts means for rotating said cam blocks, means for rotating, said rotatable frame, a vertical shaft journalled in the base of sald machine and held securely therein and projecting upwardly through and beyond the aforesaid square block and threaded at the upper end, a washer surrounding said shaft and resting on said square block, an adjusting nut on said shaft above said washer, a hand wheel threaded on sald shaft, a lock nut on said shaft above said hand wheel, means from sald shaft for engaging said drum, a cable winding on said drum, and means for anchoring said machine, as and for the purpose specified.
8. In a stump extractor the combination with the bed beams and the base of the device secured thereto having a central depression thereln forming a bearing and a central orifice therethrough and a triangular frame extending rearwardly from sald base, a cylindrical frame superposed centrally above said base having a projection therefrom secured to said triangular frame, standards supporting said cylindrical irame a rotatable frame supported on said cylindrical irame, mean for rotating said frame, a drum having a trunnion from the bottom thereof and a central squared orifice in the end of said trunnion, a shaft journalled in said base and securely held thereto projecting upwardly through said squared orifice and said rotatable frame having a squared shoulder fitting within the said squared orifice, means for rotating said shaft a cable winding on sald drum, and means for anchoring said frame, as and for the purpose specifled.
9. In a stump extractor, the combination with the bed leams, and the base of the device secured thereto having a

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journal bearing therein and a triangular frame extending rearwardly therefrom, an anchor block having a plurality of grooves therein secured in said frame, a cylindrical frame secured to said triangular frame and superposed above said base, standards supporting said frame, a rotatable frame supported on said base, means for rotating said frame, a drum turning in the journal in said base and said cylindrical frame, means for holding said drum, means supported from said rotatable frame for engaging said drum, means for releasing from engagement the aforesaid means, a rotatable vertical shaft journalled in said base and extending upwardly through said rotatable frame, means from said shaft for engaging said drum. means for rotating said shaft, a cable winding on said drum. and means for preserving the even winding of said cable on said drum, as and for the purpose specified.
10. In a stump extractor, the combination with the bed reams, and the base of the device secured thereto having a journal bearing therein and a triangular frame extendinc rearwardly therefrom, said triangular frame having a thattened end portion, an anchor block preferably semi-cylincrical in shape and titting against sad fattened portion of said frame and having a plurality of horizontal grooves in the face thereof, means for holding said block securely in said frame, a spring held bar secured to said frame in prox imity to the face of said block, an athehor catble embracing satid block and fitting in said grooves, a cylindrical frame stcured to said triangular frame and superposed above said base, standards supporting said frame, a rotatable frame supported on said base, means for rotating satd frame, a arum turning in the journal in said base and said cylindrical trame, means for holding said drum, means supported from said rotatable frame for engaging said drum, means for relasing from engagement the aforesaid means, a rotatale vertical shaft journalled in said base and extending upwardly through said rotatable frame, means from sad shaft for engaging said drum, meaus for rotatius satd shat, a cable winding on said drum, and means for preserving the even winding of said cable on said drum, as and for the purpose speciffed.
11. In a stump extractor, the combination with the bed beams, and the base of the device secured thereto haviner an upwardly and rearwardly projecting frame theretrom. a frame secured to the aforesaid frame and superposed abow the base, standards supporting said frame, a rotatable frami supported on said frame, sweeps fixedly secured to sadd frame, braces from said frame to the outer ends of said. sweeps, a bar secured to one of said sweeps intrrmediate of its length and embracing the said brace having a hole the rothrough, a tongue pivotally secured to the end of said sweeps, a bracket on said tongue having lugs diagonally aranged and a hole through the top of said lugs, a drum turning in suitable bearings in said base and said superposid frame, means for holding said drum, means supported from said rotatable frame tor engaging said drum, moans for re lasing from engagement the aforesaid means, a rotatable vertical shaft journalled in said base and extending upwardly through said rotatable frame, means from said shaft for engaging said drum, means for rotating said shaft. a cable winding on said drum, and means for anchoring said frame, as and for the purpose specitied.
12. In a stump extractor, the combination with the ber beams, and the base of the deviee secured thereto having a central depression therein forming a bearing and a profect ing flange on the bottom of said depression and an upwardly and rearwardly projecting frame theretrom, a guard plat. bearing against said flange and bent upwardly at the ends and forming a shoe or skid, a cylindrical frame sccured to the aforesaid frame superposed centrally above said base standards supporting said frame, a rotatable frame supportind or. said frame, means for rotating said frame, a drum having a trunnion projecting from the bottom theroof and journalled In the bearing in said base and turning in said sulurpos. frame, means supported from said rotatable irame for 1 n gaging said drum, means for relcasing from cheagement th, aforesaid means, a rotatable vertical shaft fournalled in said tase and extending upwardly through said rotatable fram. reans from said shaft for engaging said drum, means for rotating said shaft, a cable winding on said drum, and mans for anchoring said frame, as and for the purpose speciticid.

## No. 99,831. Chnri. Baratte.

John I. Shaw. Movinger, Missouri, U.S.A., 3rd July, 1906; 6 years. Filed ith June, $1: 06$. Receipt No. $136,6: 8$
Claim.-1. In a churn. a base frame. a milk receptacle disposed upon said bise framer, a dasher operating in said re ceptacle, spaced standards rising from sad base frame, a bar hinged to one of sitid stambards and extonding beyond the same at on, end and with the othor a mof the bar bear ing upon the other stamdard, a supporimg frame rising from
said bar, a twlsted rod journalled in said bar and its supporting frame and detachably coupled to said dasher, and an

operating lever pivoted at one end to the extended end of said bar and provided with transverse apertures bearing over said twisted rod and operatively engaging the same.
2. In a churn, a base frame, a milk receptacle disposed upon said base frame, a dasher operating in said receptacle, spaced standards rising from said base frame and supporting said receptacle, a guard rod extending between said standards and bearing against said receptacle, a twisted rod supported for rotation above said receptacle and detachably coupled to said dasher, and an operating lever movably disposed above said receptacle and provided with transverse apertures bearing over said twisted rod.
3. In a churn, a base irame, a milk receptacle disposed upon sald base frame, a dasher operating in said receptacle, spaced standards rising from said base frame, a bar hinged to one of said standards and extending beyond the same at one end and with the other end of the bar bearing upon the other standard, said bearing standard having a pin projecting into a socket in said bar, spaced stops depending from sad bar and bearing against the inner and outer faces of said bearing standard, a resilient catch member carried by said bearing standard and detachably engaging one of said stops, a iwisted rod supported for rotation through said bar and detachably coupled to said dasher, and an operating lever movably disposed above said bar and provided with transverse apertures bearing over said twisted rod.

No. 99,832. Wooden Box or Crate.
Boîte ou manne en bois.


John Shellenberger, Rome, Georgia, U.S.A., 3rd July, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,643.
Claim.-1. A fruit shipping crate comprising end heads, longitudinal spaced bottom and side slats secured to said end heads, opposite end and intermediate parallel battens fitting the outer faces of and crossing and secured to said side and bottom slats and bent transversely to extend from the bottom slats upwardly across the side slats, and wires arranged longitudinally along the outer faces of said battens and secured thereto approximately throughout the length thereof, substantially as described.
2. In combination in a ventilated fruit shipping crate, end heads, a bottom and sides composed of spaced longitudinal slats secured to said end heads, battens secured to and extending across the slats and arranged at the outer faces thereof, each batten formed with transverse cuts across its inner side and extending the greateportion of the distance through the batten, each batten bent at said cuts to extend from the crate bottom upwardly along the sides of the crate,
the walls of each cut abutting against each other to form a miter joint, and wires secured to the battens and extending longitudinally thereof and bridging said joints, substantially as described.
3. A shipping crate comprising end heads, and a bottom and sides lapping and secured to the edges of said end heads, said bottom and sides consisting of longitudinal slats and several battens secured to the slats and arranged at the outer faces thereof, each batten extending transversely across the bottom and upwardly across the sldes and having tapered cuts extending across the same forming miter joints at the junctions between the sides and bottom and a wire secured longitudinally to the batten and bridging said joints, substantially as described.
4. As an article of manufacture, a flat sheet or series of slats adapted to be bent and secured to crate ends to form the bottom and sides thereof and consisting of a series of separated or spaced longitudinal slats, and several battens extending across and secured to the outer faces of said slats, each batten at its inner face between certain slats having transverse flaring cuts extending the greater portion of the distance through the batten, and longitudinal wires secured along the outer faces of the battens approximately throughout the length thereof, substantially as described.
5. A crate comprising end heads, bottom and side slats secured to said heads and forming the bottom and sides of the crate, battens transversely fitting and secured to the outer faces of said slats of the bottom and sides, and wires extending transversely across said bottom and sides and secured thereto, each wire extending longitudinally of at least two battens.

No. 99,833. Nut Lock Arrête-écrou.


Charles H. Smith, Rockford, Illinois, U.S.A., 3rd July, 1906; 6 years. Filed 6th June, 1906. Receipt No. 136,598.
Claim.-A lock nut formed from a series of connected coils, each of the coils having its contacting faces in parallel relation to the outer end faces of the nut and having the connecting portions between adjacent coils bent or formed in oblique relation to the contact faces of the coils, the body of the nut being provided with a hole of uniform diameter having an uninterrupted, continuous and uniform screwthread terminating in an enlarged bore having smooth walls, the outer coll of the nut at one end being formed of spring material and normally outwardly projected from the screwthreaded body of the nut and adapted to be forced back against said body, in combination with a screw-threaded bolt having a uniform diameter and of a size to allow the nut to be easily screw-threaded thereonto and to have its expanded end coil compressed by continued revolution of the nut to be forced back onto and abut against the body portion thereof and exert a spring tension to lock the nut onto the bolt, substantially as described.

## No. 99,834. Lifting Jack. Cric.

Willard Austin Story and William Andrew Hall, co-inventors, both of Chillicothe, Ohio, U.S.A., 3rd July, 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,231.
Claim.-1. A lifting jack comprising a body portion provided with a bore having screw-threads and adapted to turn, means, at one end of the body portion to engage a support and a lifting screw engaged in the threaded bore of the body portion and provided with a head to engage a load to be shifted.
2. A lifting jack comprising a body portion of polygonal cross section and adapted to turn and provided with a screwthreaded bore, means at one end of the body portion to engage a support and a lifting screw engaged in the threaded bore of the body portion and provided with a head to engage a load to be shifted.
3. A lifting jack comprising a body portion provided with a bore the end portion of which has screw-threads and the

adjacent part of which is counterbored to an increased diameter, said body portion being adapted to turn and having at one end means for engagement with a support and a lifting screw having a threaded part engaged in the screw-threaded part of the bore of the body portion and adapted to penetrate the enlarged part of said bore and provided with a head for engagement with a load to be shifted.
4. A lifting jack comprising a rotary body portion provided with an axial bore, the latter being open at its upper end only and provided with screw-threads part way down the body portion and closed at the lower opposite end of said body portion, said lower closed end of the body portion being tapered to a central bearing tip or solid conlcal point aligned with the axis of the body portion and a non-rotary lifting screw threaded for engagement with the threaded portion of the bore of the body portion and having a head to engage a load to be shifted.
5. A lifting jack comprising a body portion adapted to turn and provided with an axial bore open at its upper end only and provided with screw-threads part way down the body portion from said open upper end and closed at the lower opposite end of said body portion, said lower closed end of the body portion being tapered to a solid central tip or conical point aligned with the axis of the body portion, a base plate engageable with a support and having a central recess or niche to receive the closed tapered tip or conical point of the body portion and a non-rotary lifting screw threaded for engagement with the threaded bore of the body portion and provided with a head to engage a load to be shifted.

## No. 99,835. Platting Machine. Machine d plaquer.

William Wolkaw, Portland, Oregon, U.S.A., 3rd July, 1906; 6 years. Filed 23rd April, 1906. Receipt No. 135,163.
Claim.-1. In a plating machine the combination of a base, a series of plaiting blades mounted thereon, and means for simultaneously changing the direction of the plaiting blades across the base.
2. In a plaiting machine the combination of a base, a series of plaiting blades mounted thereon, and a longitudinally movable plate for simultaneousy changing the direction of the plaiting blades across the base.
3. In a plaiting machine the combination of a base, a plate fixed to one side thereof, a longitudinally movable plate mounted on the opposite side of said base, means for locking sald movable plate in its several adjustments, and a series of plaiting blades loosely mounted in said plates.
4. In a plaiting machine the combination of a base, a series of parallel plaiting blades carried edgewise by said base, and means for slmultaneously tilting the blades.

5. In a plaiting machine the combination of a base, a series of plaiting blades mounted thereon, and means for simultaneously tilting the blades.
6. In a plaiting machine the combination of a base, a series of plaiting blades pivotally mounted thereon, and a longitudinally movable bar engaging the several blades for simultaneously tilting them.
7. In a plaiting machine the combination of a base, a series of plaiting blades pivotally mounted at their opposite ends on the base, a longitudinally movable bar engaging the several blades for simultaneously tilting them, and means for locking the bar against movement.
8. In a plaiting machine the combination of a base, plates secured to said base, a series of plaiting blades having pintles at opposite ends thereof journalled in said plates, and a longitudinally movable bar mounted on the base and connected with the blades for simultaneously rocking them upon their pivots.
9. In a plaiting machine the combination of a base, a series of plaiting blades pivotally mounted thereon. a bar engaging the several plaiting blades for simultaneously tilting them, a fixed support within which one end of the bar is loosely mounted, a lever carrying the opposite end of said bar, and means for locking the lever against movement.
10 In a plaiting machine the combination of a base, a serles of parallel plaiting blades mounted thercon, a longitudinally movable bar connected to each of the blades, and a lever pivotally connected to the movable bar, whereby the position of the plaiting blades may be simultaneously changed without altering their parallelism.
11. In a plaiting machine the combination of a base, plates secured to the sides thereof, a series of plaiting blades plvotally mounted in said plates. and a longitudinally movable bar for simutaneously tilting the blades.
12. In a paiting machine the combination of a base, plates secured to the sides thereof, one of said plates being movable longitudinally, and a longitudinally movable bar connected to the several plaiting blades for tilting them.
13. In a plaiting machine the combination of a base, plates on opposite sides thereof, one of said plates being movable longitudinally. means for locking sald movable plates, plafting blades pivotally mounted on said plates, and a longitudinally movable bar connected to the several plaiting blades.

## No. 99,836. Cultivator. Cultivateur.

The Anchor Implement Company, assignce of Amos C. Wickham, all of Carthage, Missourl, U.S.A., 3rd July, 1906 ; years. Filed 4th June, 1906. Receipt No. 136,515.
Claim.-1. In a cultivator the combination with the frames and drag bars thereof, of loops passing around the cultivator frames, clamping members engaging upon the drag bars at the points where they engage against the cultivator frames. a bolt passing through each corresponding pair of loops and clamping members, and nut located upon the screw-threaded end of the bolt. substantially as specified.
2. In a cultivator, a clamp comprising a loop encircling the frame of the cultivator, a clamping member engaging one of the drag bars of the cultivator, and means whereby the clamping member is detachably connected to the loop, substantially as specifled.
3. In a cultivator, a clamp comprising a loop encircling a part of the cultivator frame in one portion of which loop is formed an aperture, a clamping member engaging upon one
of the dray bars, a perforated car intryral with said clamping member, and a draw bolt passing through the aperture in

the loop and through the perforated ear, substantially as speciffed.

No. 99,837. Rubber Boot.
Challssure de caoutchouc.


The Rubber Hide Company, Boston, Massachusetts, assignee of Frederick Ferdinand Schaffer, Naugatuck. Connecticut, U.S.A., 3rd July, 1906; 6 years. Filed 6th June, 1906. Receipt No. 136,591.
claim.-A rubber boot comprising a welt sole, an upper -unred theroto, and a rubber reinforce strip located in the
angle formed on the exterior of the boot by the adjacent surfaces of the welt and upper beyond thelr point of juncture and secured to said faces, and extending around the sole.

No. 99,838. Water Feater. Chauffeur d'eau.


Brooks Hynie. Nelson O. Brenizer and Harry E. Baxter, each an assignee of a one-third interest, all of Austin, Texas, U.S.A., 3rd July, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,623.
Claim.-In an apparatus of the class described, a body including a base having upstanding walls provided with outwardly extending flanges at their upper ends and with webs connecting said flanges, wall and base at the ends and at intermediate points of the walls, header plates secured to form closures for the chambers thus formed, a plurality of sets of pipes connecting the several chambers in series, a valve inlet pipe connected with one chamber, an exit pipe connected with another chamber, burners supported beneath the water heating pipes, and a cover supported upon the inner walls of the chambers.

No. 99,839. Shoe. Chanssure.


Arthur Bellamy and Peter F. Bellamy, assignee of a onehalf interest, both of Fort William, Ontario, Canada, 3rd July, 1906; 6 years. Filed 9th Juve, 1906. Receipt No. 136,729.
Claim.-1. In a shoe the combination comprising an upper having spaced tongues integral therewith, stitching adapted to maintain the tongues in loops, and a lace having one of its ends secured to the shoe and its body passed through the loops.
2. In a shoe the combination comprising an upper having spaced tongues integral therewith maintained in looped form, a lace disposed through the loops, a tab secured to the lace and secured to the shoc, and an eyelet in the upper.
3. In a shoe the combination comprising an upper provided with integral loops, a lace disposed through the loops, a tab secured to the lace and disposed partly under the upper and partly on the vamp of the shoe.
4. In a shoe the combination comprising an upper provided with integral loops, a lace disposed through the loops, a diamond shaped tab secured to the lace and to the shoe and means for retaining the free end of the lace.

No. 99,840. Linotype Machine. Machine linotype.


The Mergenthaler Linotype Company, New York City, assignee of Philip Tell Dodge, Brooklyn, New York, U.S.A. 3rd July, 1906; 6 years. Filed 30th April, 1906. Receipt No. 135,388 .
Claim.-1. In a linotype machine, the combination of a main frame, an inclined magazine removable endwise at the front of the machine, and means for mechanically lifting the forward end of the magazine and sustaining it during its removal and replacement clear of the adjacent parts at the front of the machine.
2. In a linotype machine, the combination of a main frame, an escapement mechanism fixed thereon, a magazine sustained on the frame in operative relation to the escapement machanism and removable endwise at the front of the machine, and mechanism for raising the magazine and sustaining the same clear of the escapement mechanism during its removal.
3. In a linotype machine, the combination of a main frame, un inclined magazine mounted thereon and removable endwise at the front of the machine, and a support movable forward beyond the magazine and adapted to raise the same and sustain it during its removal.
4. In a linotype machine, a main frame, an inclined magazine removably mounted thereon. magazine supports adapted to be advanced to the front of the machine, and means for suspending the magazine thereon.
5. The combination of the main frame and the base frame $a$ thereon, the removable magazine, and a sliding frame $H$.
6. The combination of the main frame and secondary frame $a$ thereon, the forwardly sliding frame H , and the removable magazine provided with suspending means to engage the frame $H$.
7. In a linotype machine, the main frame, the Inclined frame a thereon, the magazine removable in a forward direction, the movable support for the forward end of the magazine, and means, such as projections $b$, to prevent accidental movement of the magazine endwise.
8. In a linotype machine and in combination with a supporting frame $a$, a magazine $B$ seated thereon and removable endwise therefrom at the front, and longitudinally guiding means substantially as described, to prevent lateral movement of the magazine during its removal and replacement.

## No. 99,841. Procens of Purifying Rubber.

## Procédé pour purifier le caoutchouc.

Frederlc Clarke Hood, Brookline, Massachusetts, U.S.A., 3rd July, 1906; 6 years. Filed 26th March, 1906. Receipt No. 134,262.
Claim.-1. The herein described process of purifying rubler and the like which consists in compressing or shredding it between co-acting rolls and passing it through a body of purifying liquid whereby the liquid has access to all sides of the material permitting the heavier impurities to fall through the liquid and the lighter impurities to rise, substantially as described.
2. The herein described process of purifying rubber and the like which consists in compressing or shredding it while suspended in a body of purifying liquid whereby the liquid has access to all sides of the material permitting the heavier impurities to fall through the llquid and the lighter impurities to rise, substantially as described.
3. The herein described process of purifying rubber and the like, which consists in passing it between co-acting rolls while submerged in the purifying liquid, and automatically
returning the sheet issuing from between the rolls to the vip of the rolls for a fresh pass, substantially as described.

4. The herein described process of purifying rubber and the like which consists in passing it between co-acting rolls while submerged in a current of purifying liquid, and utilizing said current to return the rubber issuing trom the rolls to the nip of the rolls for a fresh pass, substantially as described.
5. In a device for washing rubber, a tank, a pair of coacting rolls therein at a fixed elevation and means for maintaining the washing liquid therein at a height above the nip of the rolls, substantlally as described.
6. In a device for washing rubber, a tank, a pair of coacting rolls journalled therein with means for operating them, means for supplying washing liquid thereto to maintain a level above the nip of the rolls, and a liquid outlet al the surface for removing floating impurities, substantially 3: described
7. In a device for washing rubber, a tank, a pair of coacting rolls journalled therein, an outlet at the bottom of the tank, a second outlet from the surface, and means whereby liquid may be supplied to the tank in excess of that passing out by the bottom outlet, substantially as described.
8. In a device for washing rubber, a tank, a pair of coacting rolls journalled therein, means for maintaining liquid in sald tank at a level above the nip of the rolls, and means for automatically returning the rubber to the nip of the rolls as it rises to the surface, substantially as described.
9. In a device for washing rubber, a tank, a pair of coacting rolls journalled therein, means for supplying liquid to the tank, a liquid outlet near the upper part of the tank, und a device located between the rolls and said outlet and operated so as to automatically return the rubber to the upper side of the rolls, substantially as described.
10. In a device for washing rubber, a tank, a pair of rolls journalled therein in the same horizontal plane, means located above the nip of the rolls for supplying hot and cold iiquid thereto, upper and lower liquid outlets from said tank with means for regulating the flow of liquid therethrough, substantially as described.
11. In a device for washing rubber, a tank, a pair of rolls journalled side by side therein, a liquid supply, a surface outlet at the front of the machine where the washed rubber is removed, a tilting hopper at the back of the machine for kolding a charge of unwashed rubber, and means extending to the front of the machine for tilting said hopper to deliver its contents upon the rolls, substantially as described.
12. In a device for washing rubber, a tank, a liquid supply thereto, washing rolls journalled therein in the same horizontal plane, a liquid outlet from the tank above the level of the nip of the rolls, and means located in the tank for for varying the temperature of the liquid therein, substantially as described.

## No. 99,842. Match Box. Boite d allumettes.

Walter Tracey Ives, Montreal, Quebec, Canada, 3rd July, 1906; 6 years. Filed 21st March, 1906. Receipt No. 134,099. Claim.-1. In a match box the combination with the base and a standard rising therefrom and rigid therewith, of a casing forming a receptacle supported on said standard and having inclined ways therein converging to an elongated egress opening, a movable member supported by said standard immediately beneath said receptacle and slotted to receive the match therefrom, and striking means interposed in the way of the match head in proximity to said movable member, as and for the purpose specifled.
2. In a match box the combination with the base and a standard rising therefrom and rigid therewith, of a casing

forming a receptacle supported on said standard and having inclined ways therein converging to an elongated egress opening, a rotary member journalled in said standard immediately beneath such receptacle and slotted to recelve a match therefrom, and means interposed in the way of the match head in proximity to said movable member for igniting said match, as and for the purpose specified.
3. In a match box the combination with the base and a standard rising therefrom and rigid therewith, of a casing forming a receptacle supported on said standard and having inclined ways therein converging to an elongated egress opening, a rotary member journalled in said standard beneath said receptacle and extending thereinto through said egress opening, agitating means within said receptacle, and means interposed in the way of the match head in proximity to said rotating member, for igniting said match, as and for the purpose specifled.
4. In a match box the combination with the base and a standard rising therefrom and rigid therewith, of a casing forming a receptacle supported on said standard and having inclined ways therein converging to an elongated egress opening, a rotary member journalled in said standard beneath said receptacle and extending thereinto through said egress opening, a roller loosely anchored within said receptacle and normally resting on said rotating member, and means interposed in the way of the match head in proximity to said rotating member for igniting said match, as and for the purpose specifled.
6. In a match box the combination with the base and a standard rising therefrom and rigid therewith, of a casing forming a match box supported on said standard having an egress opening a the bottom thereof, means for engaging a match from said egress opening and carrying it therefrom, and friction means interposed in the way of the match head on its travel from said receptacle, as and for the purpose specified.
6. In a match box the combination with the base and a standard rising therefrom, and rigid therewith, of a casing forming a receptacle for the matches supported on said standard and converging towards its lower end to an egress opening, a rotating member journalled in said standard beneath said receptacle and extending thereinto through said opening, a hollow roller forming an a.gitator resting on said rotating member and anchored within said receptacle by a pin extending therethrough and fixedly secured to the casing. and friction means interposed in the way of the match head in its travels with said rotating member from said receptacle, as and for the purpose specifled.
7. In a match box the combination with the base and a standard rising therefrom, and rigld therewith, of a casing forming a receptacle converging towards its lower end to an egress opening, a rotating member journalled in the sides of said standard and having discs extending from the hubs therearound towards each end thereof. said discs having slots in alignment, agitating means within said casing, and friction means interposed in the way of the match head from said receptacle, as and for the purpose specified.
8. In a match box the combination with the base and a standard rising therefrom, and rigid therewith, of a casing forming a receptacle converging in the interior to a suitable egress opening, agitating means within said receptacle, a rotating member having a plurality of discs extending from its hub therearound and slots in alignment in said discs, springs secured to said hub and extending across said slots and forming a spring cushion above the bed of said slots,
and friction means interposed in the way of the head of the match transported by said rotating member, as and for the purpose specified.
9. In a device of the class described in combination, a base, a standard rising therefrom and rigid therewith having a cutaway front portion, a runway having upturned fianges at its lower end thereof secured to the top of said front portion and upwardly extending guiding rods, a casing forming a receptacle having interior walls converging to an egress opening, a spring-held rotating member journalled in the sides of the standards beneath said receptacle and having slotted discs extending from the hub thereof through said opening into said receptacle, an agitator within said receptacle supported on said discs, a curved face plate closing in said standard beneath said casing and extending downwardly over the top portion of said runway and having friction means for striking said match head in its travel with said rotating member from said receptacle, and a suitable handle for turning said rotating member, as and for the purpose specified.
10. In a device of the class described in combination, a base having an up-turned flange at the edge thereof and forming a tray, a standard rising therefrom and rigid therewith and having cut-away front and rear portions, a casing forming a match receptacle supported on said standards and having in the interior thereof converging walls to an egress opening, a rotating member journalled in the sides of said standard beneath said receptacle and having slotted discs extending from the hub thereof into said receptacle through said opening and springs secured to the hub thereof and extending alongside the discs past the slots therein forming a spring cushion above the beds of said slots, a spring encircling the hub of said rotating member and caught thereto and having its other end secured to the standard and normally holding said rotating member with its slot immediately beneath the aforesaid egress opening, an agitator resting on the discs of said rotating member within said receptacle, a runaway from the front portion of said standard having upturned fingers at its lower end and suitable guides extendingo upwardly, a face plate extending downwardly on the front of said standard over said rotating member to the top of sald runway and having a plurality of longitudinal ribs on its inner surface, two of said ribs at the edges thereof having roughened surfaces engaging the match heads on their travel from said receptacle in said rotating member, a removable back plate secured to said standard, and a handle abutting a suitable stop from said standard and secured to the axle of said rotating member, as and for the purpose specified.

No. 99,843. Finger Exercising Device.
Appareil à exercer les doigts.


Edmund Barrow Kursheedt, East Orange, New Jersey, U.S.A., 3rd July, 1906; 6 years. Filed 19th March, 1906. Receipt No. 134, 052.
Claim.-1. A finger exercising device or hand expander comprising a base plate, a large number of openings therein arranged in a plurality of segmental and parallel series, and a number of independent finger plates or keys each adapted to be set in one of the openings in the base plate.
2. A finger exercising device or hand expander comprising a base plate, supports secured thereto having rubber buttons at the bottom, a large number of openings in the front portion of said base plate arranged in a plurality of segmental and parallel series, and a number of independent finger plates or keys each adapted to be set in one of the openings in the base plate.
3. A finger exercising device or hand expander comprising a base plate, a large number of openings in its front portion arranged in a plurality of segmental and parallel series, a plurality of threaded openings in the rear center portion of the base plate, an adjustable hand support or knob with central screw adapted to be applied in each of the threaded openings, and a number of finger plates each adapted to be set in one of the openings in the front portion of the base plate.
4. A finger exercising device comprising a base plate, supports secured thereto having each a rubber button at the bottom, a large number of openings in the front portion of said base plate arranged in a plurality of segmental and parallel series, and a number of threaded openings in the rear center portion of the base plate, an adjustable hand support or knob with central screw adapted to be secured in each of the threaded openings, and a number of finger plates each adapted to be set in one of the openings in the front portion of the base plate.
5. A finger exercising device comprising a base plate having supports below, a large number of openings in the front portion, and a plurality of threaded openings in ther rear center portion, an adjustable hand support or knob with central screw adapted to be applied in each of the threaded openings, and a plurality of finger plates each adapted to be set in one of the openings in the front portion of the base plate.
6. A finger exercising device comprising a base plate with openings in the front portion, threaded openings in its rear center portion, an adjustable hand support adapted to be applied in the threaded openings, and a number of finger plates consisting each of the finger plate proper haring a slightly curved front portion, an integral piece on its lower rear surface in the center, and a pin in said piece extending downwardly and adapted to be inserted in the front openings of the base plate
7. A finger exercising device comprising a base plate with supports below, openings in the front portion, threaded openings in its rear center portion, an adjustable hand support adapted to be applied in the threaded openings and a number of finger plates consisting earh of the finger plate proper having a slightly curved front surface, an integial piece on its lower rear surface in the center, and a pin in said piece extending downwardly and adapted to be inserted in the front openings of the base plate.

## No. 99,844. Baking Powder. Poudre a pate.

Richard Paul, Berlin, Germany, 3rd July, 1906; 6 years. Filed 19th March, 1906. Receipt No. 134,051.
Claim.-1. The process of manufacturing baking powder which consists in mixing tartaric acid with froth forming substances, beating the mixture to froth, drying the mixture and mixing it with bicarbonate of sodium.
2. The process of manufacturing baking powder which conslsts in mixing tartaric acid with froth forming substances, beating the mixture to froth, drying the mixture and mixing it with bicarbonate of sodium and components of cakes.
3. The process of manufacturing baking powder which con-* sists in mixing tartaric acid with white of egg, beating the mixture to froth, drying the mixture at temperatures below the coagulation temperature of white of egg and mixing it with bicarbonate of sodium.
4. The process of manufacturing baking powder which consists in mixing tartaric acid with white of egg, beating the mixture at temperature below the coagulation temperature of white of egg and mixing it with bicarbonate of sodium and components of cakes.

## No. 99,845. Shoe Dipping Machine.

## Machine d tremper les chaussures.

John Henry Wall, Bristol, Rhode Island, U.S.A., 3rd July, 1906; 6 years. Filed 26th March, 1906. Receipt No. 134,302.
Claim.-1. In a shoe dipping machine means for supporting a plurality of shoes, means for automatically securing the shoes to the support, mechanism for rotatably holding the support of the shoes, and a tank adapted to hold varnish or similar liquid.
2. In a shoe dipping machine, a slide, a peg bar supporting a plurality of shoes, means for automaticaily locking the shoes to the peg bar, means carried by the sltde for rotating the peg bar, and a tank adapted to hold varnish or similar liquid.
3. In a shoe dipping machine, a frame, a tank adapted to hold varnish or similar liquid in the frame. a slide supported in vertical ways in the frame, means for counterbalancing the slide, means for lowering and elevating the slide, a rotating mechanism on the slide, means in the rotating mechanism for holding a plurallty of shoes, and means for purtly revolving the rotating mechanism, whereby a plurality of shoes are coated with varnish or similar liquid in one operation of the machine.
4. In a shoe dipping machine, a frame, a tank adapted to hold varnish or a simllar liquid supported in the frame, a

slide supported in vertical ways in the frame, means for counterbalancing the slide, means for lowering and elevating the slide, a rotating mechanism on the slide, a bar, a plurality of shoe lasts, a plurality of shoes on the lasts, means for holding the shoe lasts on the bar, means in the rotating mechanism for holding the bar, and means for partly revolving the rotating mechanism, whereby a plurality of shoes are coated with varnish or similar liquid in one operation of the machine.
5. In a shoe dipping machine, a frame having a base and vertical end supports, a tank supported on the base and adapted to hold varnish or a similar liquid, a slide supported in vertical ways in the end supports, means for counterbalancing the slide, means for lowering ond elevating the slide, a rotating meohanism on the slide, a bar, a plurality of shoe lasts holding a plirality of rubber shoes, means for holding the shoe lasts on the bar, means in the rotating mechanism for holding the har and for locking the bar in the reverse position, means for automatically locking the lasts and shoes to the bar in the reverse position, and means for partly revolving the rotating mechanism, whereby a plurality of rubber shoes are coated with varnish or a similar material in one operation of the machine.
6. In a shoe dipping machine a frame $a$ having the base $a^{1}$, the vertical end supports $a^{2} a^{2}$ and the top bar $a^{0}$, a tank $b$ adapted to hold varnish or similar liquid on the base $a^{2}$, a slide $c$ supported in vertical ways in the ena supports $a^{2} a^{2}$. pulleys $c^{s} c^{b}$ on the top bar $a^{5}$, a cord $c^{\prime \prime}$ secured to the slide $c$ and running over the pulleys, a weight $c^{7}$ secured to the end of the cord $c^{d}$, a lever $d$ pivotally secured to the slide $c$ and to the cord $c^{6}$, a rotating mechanism $e$ on the sllde $c$, a crank $f$ operatively connected with the rotating mechanism $e$, a bar $y$ having the pegs $y^{1} y^{1}$, a plurality of lasts having coinciding holes for the legs $g^{1} \ell^{1}$, a plurality of rubber shoes on the lasts, means in the rotating mechanism $c$ for holding the bar 9 , and means for automatically locking the lasts and shoes to the bar in the reverse position, whereby on lowering the slide $c$ by the lever $d$ and partly revolving the rotating mechanism $e$ by the crank $f$. a plurality of rubber shoes are coated with varnish or a similar material in one operation.
7. In a shoe dipping machine, the combination of a frame $a$, a tank $b$ adapted to hold varnish or a simllar liquid, a silide $c$ supported in vertical ways in the frame a, means for lowering or elevating the slide $c$, a rotating mechanism e. consisting of the bearings $c^{1} e^{1}$ each formed on a plate $e^{*}$ secured to the slide $c$ and having a member $c^{4}$ shaped to have the semi-circular concave portion $e^{s}$, the outwardly extending $\operatorname{lip} e^{6}$, the stop $e^{7}$, and the rearwardly extending arm $e^{A}$, the rock shaft $e^{2} \boldsymbol{f}^{2}$ supported in the bearings $e^{1} e^{1}$ and each having the enlarged end $e^{0}$ in which is the elongated recess $e^{10}$ having the closed end $e^{11}$ and the open end $e^{13}$, and an arm $i^{13}$ adapted to engage with the stop $e^{\top}$. a locking bar $e^{14}$ bent at each end to form the arms $e^{15} e^{i b}$ which are pivotally
secured at their ends to the ends of the arms $e^{13} e^{13}$ in a position to engage with the ends of the arms $e^{s} e^{3}$. pulleys $e^{18} e^{16}$ pivotally secured to the top of the slide $c$, cords $p^{17} e^{17}$ secured to the bar $e^{14}$ and extending upwards over the pulleys, weights $e^{18} e^{18}$ secured to the ends of the cords, a crank $f$ secured to a rock shaft $e^{2}$, a bar $g$, a plurality of shoe lasts holding a plurality of rubber shoes, and means for holding the shoe lasts on the bar, whereby on placing the ends of the bar $g$ in the recesses $\boldsymbol{c}^{10} e^{10}$ in the rotating mechanism $e$ and operating the slide $c$ and the crank $f$ a plurality of rubber shoes are coated with varnish or similar liquid in one operation of the machine.
8. In a shoe dipping machine the combination of a frame $a$ a tank $b$ adapted to hold varnish or a similar liquid. a slide $c$, a lever $d$ on the slide, a rotating mechanism $e$, a crank $f$ operatively connected with the rotating mechanism $e$ a bar $g$, a plurality of shoe lasts $h h$ on which are a plurality of rubber shoes, means for holding the lasts $h \boldsymbol{h}$ on the bar $g$, and means in the rotating mechanism $e$ for holding the bar $g$, whereby a plurality of rubber shoes are coated with varnish or a similar liquid in one operation of the machine.

No. 99,846. Curling Iron. Fer à friscr.


François Marcel Wooelffle, New York City, New York, U.S.A., 3rd July, 1906; 6 years. Filed 23rd March, 1906. Receipt No. 134,204.
Claim.-1. A curling iron comprising a heating member which is circular in cross section, and a second heating member which is concavo-convex in cross section, to receive the first member, the said members co-operating to from a clamp for the hair. operating handles fur the said members. and a third heating member operated by one of the said handles and being parallel with the other heating members when the iron is closed, the edge of said concavo-convex nember being adapted to enter between the other two heating members, when the iron is closed, whereby the hair is curved between the concavo-convex member and one of the round members, and is then reversely curved on the edge of the concavo-convex member.
2. A curling iron comprising an annularly curved heating member provided with a handle, and having an aperture therein, a blfurcated second heating member provided with a handle, one of said bifurcated ends passing through the opening in the first heating member and pivoted therein.

## No. 99,847. Railway Shipment Tracer.

Traceur de chargement de mise à bord.
The Registered Tracer Company, assignee of John Thomas Todd, both of Springfleld, Illinois, U.S.A., 3rd July, 1906; 6 years. Filed 1st May, 1906. Receipt No. 135,416.
Claim.-1. A shipment tracer comprising a cover, a plurality of record sheets, each of said record sheets being permanently secured at one of its ends to said cover and having spaces appropriately designated for the designation of the agent to which the tracer is to be forwarded. for the billing reference and for information as to transfer of the shipment or any exceptions respecting the shipment, a plurality of mailing cards interposed between and covered by said record sheets. said mailing cards having spaces simitar to those of the record sheets, a final report sheet permanently secured aone of its ends to said cover and having spaces appropriately designated for the registration number of the tracer, for the entrance of the destination to which shipment is made, for the date of arrival and delivery to the consignee, for a memorandum of undelivery and the reason therefor, for the
designation of the agent, the rallroad by which he is employed and the date on which the report sheet is written, and 3

final report mailing card located beneath the report sheet substantially as set forth.
2. A shipment tracer comprising a cover, a plurality of record sheets, each of said record sheets being permanently gecured at one of its ends to said cover and having spaces appropriately designated for the registered number of the tracer for the designation of the agent to which the tracer is to be forwarded, for the billing reference and for information as to transfer of the shipment or any exceptions respecting the shipment, a plurality of mailing cards interposed between and covered by said record sheets, said mailing cards having spaces similar to those of the record sheets, a final report sheet permanently secured at one of its ends to said cover and having spaces appropriately designated for the registration number of the tracer, for the entrance of the destination station to which shipment is made, for the pro. no. reference of the delivery station, for the date or arrival, notification and delivery to the consignee, for a nemorandum of undelivery and the reasons therefor, for notations of exception to the articles in the shipment or condition thereof, for the designation of the agent, the railroad by which he employed and the the date on which the report sheet is written and a final report mailing card located beneath the report sheet, substantially as set forth.

## No. 99,848. Antiseptic Compound.

## Composć antiseptique.

Frederick Stearns and Company, Detroit, Michigan, assignee of Alphonso M. Clover, Manilla, Philipine Islands, both in the U.S.A., 3rd July, 1906; 6 years. Filed 19th March, 1906. Receipt No. 134,036.
Chim.-An antiseptic compound derived from succinic peroxid acid and a basic substance and which is characterized in aqueous solution by being colourless, substantially odorless, and having a powerful germicidal accion, when acidifled with a mineral acid it yields suceinic peroxid acid, upon standing, it hydrolizes with the formation of the salts of succinic acid and succinic mono-peracid and upon long standing yields the salt of succinic acid and hydrogen poroxid.

No. 99,849. Float Valve. Soupape.
The International Harvester Company, Chicago, assignee of Severn C. Anker-Holth, Riverside, Illinois, U.S.A., 3rd July. 1906; 6 years. Filed 12th April, 1906. Receipt No. 134.881.

Whim.-1. In a float valve in combination. a supply inlet having formed integral therewith a valve casing. a hollow plug fitting into said casing, the sail plug being provided with an opening which communicates with the sald supply inlet, a
float chamber formed upon the upper end of said hollow plug, a valve fitted loosely within said hollow pug and arranged to

rcgister to a variable extent with the said opening therein, and by the longitudinal adjustment of said valve, to regulate the amount of liquid admitted therethrough, and a float actuated by the overflow into sald float chamber for effecting the longitudinal adjustment of said valve, substantially as set forth.
2. In a float valve in combination a supply inlet having formed integral therewith a valve casing and an upwardly projecting stop forming lug, a rotatable hollow plug fitting into said casing, said pug being provided with an opening which communicates with the said supply iniet, stops movable with the sald plug arranged to contact the said lug on the valve casing, a sleeve valve fitted loosely within said hollow plug and arranged to register to a variable extent with the said opening therein and, by the longitudinal adjustment of said sleeve, to regulate the amount of liquid admitted therethrough, and a float actuated by the overflow into the said float chamber for affecting the longitudinal adjustment of said sleeve valve, substantially as set forth.

## No. 99,850. Music Leat Turner.

## Tourne-feuille de musique.

Frederick Barfett, assignee of Franklin P. Parker, both of Chicago, Illinois, U.S.A., 3rd July, 1906; 6 years. Filed 11th April, 1906. Receipt No. 134,856.
Claim.-1. A music leaf turner having a revolving shaft provided with a screw, in combination with a traveller on said screw, and means to operate said traveller.
2. A music leaf turner having a revolving shaft provided with a screw, a traveller on said screw, means to operate sald traveller to rotate said screw and shaft, a tubular shaft on the first-mentloned shaft and provided with a gear, a screw mounted for rotation and having a gear engaging the gear of the tubular shaft, a traveller on the last-mentioned screw, and means to operate said traveller, substantially as described.
3. A music leaf turner having a shaft mounted for rotation and provided with a screw to rotate therewith, a tubular shaft on said first-mentioned shaft and provided with a gear wheel, revolving screws on opposite sides of the first-menthoned screw and having gears engaging opposite sides of that on the tubular shaft, and independent devices to turn each of sald screws.

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4. A music leaf turner having a standard rod, and a longitudinally extensible arm attached to said standard rod and

provided with means to engage a musical instrument, substantially as described.

## No. 99,851. Locking Mechanism for Loose Leaf Binders.

Mécanisme de fermeture pour reliure de feutlles volantes.
"sig.s.


The J. S. McDonald Company, assignee of John Fleberg, all of Chicago, Illinois, U.S.A., 3rd July, 1906; 6 years. Filed 19th April, 1906. Recelpt No. 135,056.
Claim.-1. A loose leaf binder comprising two clamping plates, a lock consisting of two longitudinal co-acting members, one of which is adjustable longitudinally, a screw adjustably securing said member to one of said plates, and a built-up portion on the head of said screw consisting of a circular disc of greater diameter than sald head and fitted into a countersunk portion of the clamping plate engaged thereby.
2. A loose leaf binder comprising two clamping plates, a lock consisting of two longitudinally co-acting members, one of which is adjustable longitudinally, a screw adjustably securing said member to one of said plates, and a built-up portion on the head of said screw consisting of a circular disc of greater diameter than said head, said disc having recesses in its outer surface, and fitted into a countersunk recesses in its outer ourface, and fitted into a
3. A loose leaf binder comprising two clamping plates, a lock consisting of two longitudinally co-acting members one of which is adjustable longitudinally, a screw adjustably securing said member to one of said plates, a bullt-up portion on the head of said screw consisting of a circular disc of greater diameter than said head and fitted into a countersunk portion of the clamping plate engaged thereby, and a centering pin projecting upwardly from the center of said screw and passing through said disc.
4. A loose leaf binder comprising two clamping plates, a lock consisting of two longitudinally co-acting members, one of which is adjustable longitudinally, a screw adjustably securing said member to one of said plates, a built-up portion on the head of sald screw consisting of a circular disc of greater diameter than said head and fitted into a countersunk portion of the clamping plate engaegd thereby, a centering pin projecting upwardly from the center of said screw and passing through said disc, and a loose sleeve on sald pin.
5. A loose leaf binder comprising two clamping plates, a lock consisting of two longitudinally co-acting members, one of which is adjustable longitudinally, a screw adjustably securing said member to one of said plates, a built-up portion on the head of said screw consisting of a circular disc of greater diameter than said head and fitted into a countersunk portion of the clamping plate engaged thereby, a centering pin projecting upwardly from the center of said screw and passing through said disc, a loose sleeve on said pin, and an escutcheon covering said disc and provided with a suitable key hole in its upper face.
6. A loose leaf binder comprising two clamping plates, a lock consisting of two longitudinally co-acting members, one of which is adjustable longitudinally, a screw adjustably securing said member to one of said plates, a built-up portion on the head of said screw consisting of a circular disc of greater diameter than said head and fitted into a countersunk portion of the clamping plate engaged thereby, and an escutcheon covering said disc and provided with a suitable key hole in its upper face.
7. A loose leaf binder comprising two clamping plates, a lock consisting of two longitudinally co-acting members, one of which is adjustable longitudinally, a screw adjustably securing said member to one of said plates, a built-up portion on the head of said screw consisting of a circular disc of greater diameter than said head and fitted into a countersunk portion of the clamping plate engaged thereby, a centering pin projecting upwardly from the center of said screw and passing through said disc, and an escutcheon covering said disc and provided with a suitable key hole in its upper face.

No. 89,852. Locking Mechanism for Loose Leaf Binders.
Mécanisme de fermeture pour reliure de feuilles volantes.


James Stuart McDonald, Chicago, Illinois, U.S.A., 3rd July, 1906; 6 years. Filed 19th April, 1906. Receipt No. 135,058. Claim.-1. A baffle for the locks of loose leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw changed to prevent the engagement of a screw driver therewith, and an escutcheon comprising a mutilated disc provided with an overhanging
tongue and having a central dome guarding the face of said screw and a key hole in its outer surface, said dome passing through the covering of said binder.
2. A baffle for the locks of loose leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw recessed to receive the end of a special key, and an escutcheon comprising a mutilated disc provided with an overhanging tongue and having a dome guarding the face of said screw and a key hole in its outer surface, said dome passing through the covering of said binder.
3. A baffle for the locks of loose leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw having a transverse slit which is provided with a circular enlargement mediate its ends, and has a central pin for a key projecting concentric therewith, and an escutcheon comprising a mutilated disc provided with an overhanging tongue, said disc having a central dome guarding the head of said screw, which dome projects through an opening in the covering of said binder and has a key hole in its outer surface.
4. A baffle for the locks of loose leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw changed to prevent the engagement of a screw driver therewith, and an escutcheon comprising a disc having a portion of its circumference cut away to provide a straight edge, having a tongue projecting laterally therefrom and bent downward at right angles to itself, and a central dume guarding the head of said screw provided with a key hole in its outer surface.
5. A baffle for the locks of loose leaf binders conslsting of a screw engaging one of the locking members thereof, the head of said screw recessed to receive the end of a special key, and an escutcheon comprising a disc having a portion ot its circumference cut away to provide a straight edge having a tongue projecting laterally therefrom and bent downwards at right angles to itself, and a dome guarding the head of said screw provided with a key hole in its outer surface.
6. A baffle for the locks of loose leaf binders consisting of a screw engaging one of the locking members thereof, the face of said screw having a transverse slit which is provided with a circular enlargement mediate its ends and has a centering pin for a key projecting concentric therewith, and an escutcheon comprising a disc having a portion of its circumference cut away to provide a straight edge having a tongue projecting laterally therefrom, and a dome guarding the head of said screw and having a key hole in its outer surface.
7. A baffie for the locks of loose leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw changed to prevent the engagement of a screw driver therewith, an escutcheon comprising a disc having a portion of its circumference cut away to provide a straight edge having a tongue projecting laterally therefrom and bent downwards at right angles to itself, and a central dome guarding the head of said screw provided with a key hole in its outer surface, and a concentric eye surrounding said dome that binds the contiguous edge of the covering.
8. A baffle for the locks of loose leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw recessed to receive the end of a special key, and an escutcheon comprising a disc having a portion of its circumference cut away to provide a straight edge having a tongue projecting laterally therefrom and bent downwards at right angles to itself, a dome guarding the head of said screw provided with a keyhole in its outer surface, and a concentric eye surrounding said dome that binds the contiguous edge of the covering.
9. A baffle for the locks of loose leaf binders consisting of a screw engaging one of the locking members of said binder, the head of said screw changed to prevent the engagement of a screw driver therewith, and an escutcheon guarding the face of said screw comprising a circular disc provided with a central dome covering said screw and having an opening in its upper surface corresponding in outline to the shape of the screw engaging device passed through the same.

No. 99,853. Pipe or Conduit. Tuyau ou conduit.
Philip Aylett, Portsmouth, Virginia, U.S.A., 3rd July, 1906; 6 years. Filed 19th March, 1906. Receipt No. 134,013.
Claim.-1. A pipe or conduit composed of laterally and longitudinally separable sectional units, with ends and edges adapted to form scarf joints and provided with grooves along the contiguous faces of said joints to form keyways when the units are assembled, and keys in the transverse and longitudinal keyways composed of a set or hardened material adapted to be introduced into said keyways in a semi-fluid or plastic state, as set forth.
2. A pipe or conduit composed of laterally and longitudinally separable sectional units with edges rorming scarf joints and provided with grooves along the contiguous faces
of said joints to form keyways when the units are assembled. and keys in the same composed of a set or hardened material

adapted to be run into the keyways in a semi-fuid or plastic atate, as described.
3. A plpe or conduit composed of laterally and longitudlnally separable sectional units with ends adapted to interlock and edges forming scarf joints and provided with grooves along the contiguous faces of said joints to form keyways when the units are assembled, and keys in the same composed of a set or hardened material adapted to be run into the keyways in a seml-fluid or plastic state, as described
4. A pipe or conduit composed of laterally and longitudinally separable sectional units provided at the ends and edges with scarf joints containing communicating keyways adapted to recelve a semi-fluid or plastic material which on setting or hardening forms a key, as set forth.
5. A pipe or conduit composed of laterally and longitudinally separable sectional units, assembled so as to break joint transversely, the said units having ends and edges adapted to form scarf joints and containing continuous grooves therein which form communicating keyways when the units are assembled, adapted to recelve a material in a semi-fluid or plastic state which after setting or hardening forms a key for locking the units together, as set forth.
6. The unit for pipe construction herein described consisting of a longitudinal half, more or less, of a pipe section having its ends and edges bevelled to form scarf joints with adjacent sections and provided with a continuous groove extending along its ends and edges in the bevelled faces of the same to form a keyway in said joints, as set forth.
7. A plpe or conduit composed of laterally and longitudinally separable sectional units with ends and edges adapted to form scarf joints and containing grooves along the contiguous faces of said joints which form keyways when the units are assembled, and provided with ducts oommunicating with such keyways to permit a key to be introduced therein in a semi-fluid condition.
8. A plpe or conduit composed of laterally and longitudinally separable sectional units with ends ana edges adapted to form scarf joints and provided with grooves along the contiguous faces of said joints which form keyways when the units are assembled, a set or solidified material which is adapted to be introduced in a seml-fluld or plastic state filling said keyways, and rigid rods or bars embedded in the said material in the longitudinal keyways, as set forth
9. A pipe or conduit composed of laterally and longitudinally separable sectional units with ends and edges adapted to form scarf joints and provided with grooves along the contiguous laces of said joints which form keyways when the units are assembled, a plastic material contained in said keyways and forming a key, rigid bars or rods embedded in the material in the longitudinal keyways and having overlapped ends for tying the sectional units together, as set forth.
10. A pipe or conduit composed of laterally and longitudinally separable sectional units, having ends and ediges
adapted to form scarf joints when assembled, and locked by a continuous key of solldified or set plastlc material reinlorced by metal rods or bars embedded in sald material and extending across the joints, as set forth.
i1. A pipe or conduit composed of laterally and longitudinally separable sectional unlts having ends and edges adapted to form scarf joints when assembled, and locked by a continuous key of solidified or set plastic material, and transverse tie bands surrounding the pipe for reinforcing it against lateral pressure, as set forth.
12. A pipe or conduit composed of laterally and longitudinally separable sectional units having scari joints locked by a key of solidified or set plastlc material extending aleing the said joints, metal rods or bars embedded in the longitudnal keys and extending across the joints between adjacent units and transverse tie bands surrounding the pipe and reinforcing it against lateral pressure, as set forth.

No. 99,854. Conduit Construction.
Construction de conduit.


Philip Aylett, Portsmouth, Virginla, U.S.A., 3rd July, 1906 ; 6 years. Flled 19th March, 1906. Receipt No. 134,014.
Claim.-1. The method of constructing conduits herein described, which consists in forming pipe sections in longitudinally separable units with ends and edges adapted to form scarf joints and provided with grooves in the contiguous faces thereof to form keyways when the units are assembled. laying a series of sald units to form the lower portion of the condult, placing thereon, but so as to break joint with the sections of the same, the units to form the upper portion of the conduit, and inserting keys in the transverse and longitudinal keyways to lock together the abutting ends and edges of said units.
2. The method of constructing conduits herein described, which consists in forming pipe sections in longitudinally separable units with ends and edges adapted to form scarf joints and provided with grooves in the contiguous faces of the joint to form keyways when the units are assembled. laying a series of sald units to form the lower portion of a conduit, placing thereon but so as to break joint with the sections of the same, the units to form the upper portlon of the conduit, and introducing in a semi-fluid or plastle state into the transverse and longitudinal keyways a material capable of hardening to form a key for locking together the abutting ends and edges of the sald units.
3. The method of constructing conduits herein described which consists in forming pipe sections in longitudinally separable units with ends and edges adapted to form scarf joints and provided with continuous grooves in the contiguous faces of the joints to form communicating keyways when the units are assembled, laying a series of said units to form the lower portion of the condult, placing thereon, but so as to break joint with the sections of the same, the ualts to form the upper portion of the conduit, and forcing fato the keyways a material in a semi-fluld or plastic state. which is capable of hardening to form a key and locking together the abutting ends and edges of the said units.
4. The method of constructing conduits herein described, which consists in forming pipe sections in longitudinally separable units, with ends and edges adapted to form scarf joints and provided with continuous grooves in the contiguous faces of the joints to form communicating keyways when the units are assembled laying a series of said units to form the lower portion of the conduit, placing thereon, but so as to break joint with the sections of the same, the units to form the upper portion of the condult, and caulking and locking the joints between the assembled units by introducing into the keyways cement in a semi-liquid or plastic state, as set forth.
5. The method of constructing conduits herein described, which consists in forming pipe sections in longitudinally separable units, with ends and edges adapted to form scarf joints, and provided with continuous grooves in the contiguous faces of the joints, to form keyways when the units are assembled, laying a series of said units to form the lower portion of the condult, placing thereon, but so as to break joint with the sections of the same, the units to form the upper portion of the conduit, inserting in the longitudinal keyways bars or rods of rigid material and fllling the transverse keyways in the ends of the units and the remaining space in the longitudinal keyways with cement in a semifluid or plastic state.
6. The method of constructing conduits herein described, which consists in forming pipe sections in longitudinally separable units with ends and edges adapted to form scarf joints and provided with grooves in the contiguous faces of said joints to form keyways when the units are assembled, laying a series of said units to form the lower portion of said condult, placing thereon, but so as to break joint with the sections of the game, the units to form the upper portion of the conduit, inserting in the longitudinal keyways bars or rods of rigid material, extending across the transverse joints between the units, and filling the transverse keyways and the remaining space in the longitudinal keyways with a plastic material, such as cement.

No. 99,855. Pillow-Sham Holder.
Porte-couvercle de taie d'oreiller.


Robert Mills Balentine, Greenville, South Carolina, U.S.A., 3rd July, 1906; 6 years. Filed 3rd April, 1906. Receipt No. 134,547.
Olaim.-1. In combination with a bedstead, a pair of vertical ways attached to the rear side of the headboard thereof. a vertically movable bar arranged to slide in each of these ways, means for raising and lowering sald bars, bracket arms carried by said bars and extending around to a point in front of the headboard, and a sham carrying bar supported on these bracket arms, substantially as set forth.
2. In combination with a bedstead, of a sham-holding bar extending across in front of the headboard thereof, a bracket arm engaging each end of said bar and extending around behind the headboard, and means for supporting and raising and lowering said bracket arms, said means being supported on the rear face of the headboard.
3. In combination with a bedstead, of a sham-holding bar extending across the front of the headboard thereof, bracket arms attached to this bar and extending around behind the headboard, a vertically slidable bar attached to the rear end of each bracket arm, and means supported on the rear face of the headboard for simultaneously raising and lowering sald bars, substantially as set forth.

No. 99,856. Hammock, Hamac.


Charles Murdock Berrio, Brockton, Massachusetts, U.S.A. 3rd, July, 1906; 6 years. Filed 24th April, 1906. Recelpt No. 135,248.
Claim.-1. A combined hammock and canopy formed from a continuous plece of fabric whereby the strain on the hammock proper is transmitted to the canopy, and means for supporting the hammock, substantially as and for the purpose set forth.
2. A combined hammock and canopy formed from a continuous fabric, whereby the strain on the hammock proper is transmitted to the canopy, rotating braces constructed to receive the supporting ropes through gromet holes located at the top when not under strain and to turn with the fabric when the hammock is in use, and means for supoprting the same, substantialiy as and for the purpose set forth.

## No. 99,857. Bedstead. Bois de lit.

Johannah V. Dougherty, Detroit, Michigan, U.S.A., 3rd July, 1906; 6 years. Filed 3rd May, 1906. Recelpt No. 135,496.
Claim.-1. A bedstead comprising a main frame including rails and connected end pieces and supporting legs, one of the rails having depending portions at its ends, and a supplemental frame comprising a rail, end pieces and supporting legs, the end pleces of the supplemental frame comprising vertically spaced rods, the uppermost rod of each end piece being slidably engaged in a depending portion of the main frame and returned therebelow beneath the lower rod.
2. A bedstead comprising a frame including rails and connected end pleces and supporting legs, a supplemental frame comprising a rail, end pieces and supporting legs, the ends pleces of the supplemental frame comprising spaced rods, the uppermost rod of each end piece being slidably engaged with a portion of the main frame and turned therebelow beneath the lower rod, the said lower rod being movably engaged with the said upper rod to permit of detachment of one frame with respect to the other.
3. A bedstead comprising a main irame including rails and connected end pieces and supporting legs, one of the rails

having depending portions at its ends, and a supplemental frame comprising a rail, end pieces and supporting legs, the end pieces of the supplemental frame comprising vertically spaced rods, the uppermost rod of each end piece being slidably engaged in the depending portion of the main frame and returned therebelow beneath the lower rod, and lazy tongs connecting those portions of the legs above the ralls at earch end, the said tongs including members slidably connected with said legs.
4. A bedstead comprising a frame including ralls and connected end pieces and supporting legs, a supplemental frame comprising a rail, end pleces and supporting legs, end pleces of the supplemental frame comprising spaced rods, the uppermost rod of each end piece being slidably engaged with a portion of the main irame and turned therebelow beneath the lower rod, the said lower rod being movably engaged with the upper rod to permit of detachment of one frame with respect to the other, and lazy tongs connecting those portions of the rails above the ralls at each end, said tongs including members slidably connected with said legs.

No. 99,858. Furniture Joint. Joint de meuble.


Anton F. Gloger, Houston, Texas, U.S.A., 3ra July. 1906; 6 years. Filed 24th April, 1906. Keceipt No. 135,225.
Claim.-The combination of a leg standard having its upper end forced to produce a corner member which is provided in its opposite ends with upright substantially rectangular notches, headed dowel pins carried by the leg standard and also by the notched portions of the corner member, a shelf
recessed to fit the leg member and provided with a keyhole socket in the recessed portion for reception of the dowel pin of the leg, and side rails having their ends fitted in the respective notches of the corner member and provided with keyhole sockets receiving the dowel pins of the corner member, the rails locking the leg against rotation, and said leg capable of rotation when disengaged from the rails to permit disengagement of the leg from the shelf.

No. 99,859. Invalid's Support. Support d'invalides.


Emma Hughes, Washington, District of Columbia, U.S.A., 3rd July, 1906; 6 years. Flled 5th April, 1906. Receipt No. 134,634.
Claim.-1. An invalid sunnort comprising a clamping member, a lower tubular member adjustably connected to the clamping member, a rod having sliding connection with the lower tubular member, an upper tubular member supported on sald rod, a bracket member, a double hinge member adjustably joining the bracket member and the upper tubular member, and a rod slidably mounted in the bracket member.
2. An invalid support comprising a bracket slidably supporting rod, an upper tubular member, a double hinge member adjustably connecting the bracket and upper cubular member, a second rod connected with the upper tubular member to permit relative movement of the latter but not independent vertical movement, and means for adjustably supporting the lower end of the second rod.
3. An invalid support comprising a clamping member formed with a disc, a lower tubular member formed with a disc arranged to co-operate with the disc on the clamping member, a rod having a sliding connection with the lower tubular member, an upper tubular member supported on the rod and formed with a disc, a bracket member including a supporting rod and formed with a disc, and a double hinge member comprising two discs arranged at an angle to each other and cooperating respectively with the disc on the bracket and with the disc on the upper tubular member.
4. An invalid support comprising a clamping member formed with a serrated disc, a lower tubular member formed with a serrated disc co-operating with the disc on the clamping member, a set screw operatively joining the discs, a rod having a sliding connection with the lower tubular member, : set screw operative to said member to lock the rod therein, an upper tubular member formed with a serrated disc, said rod entering said member, means for securing said rod in the upper tubular member to prevent independent vertical movement of sald member without interference with its location, a set screw in said upper tubular member to lock the rod against movement. a bracket member including an adjustable rod and having a depending serrated disc, and a double hlage member comprising two serrated discs arranged at a right angle to each other and co-operating with the disc on the bracket and upper tubular member.
5. An invalid support comprising a clamping member formed with a serrated disc, a lower tubular member formed with a serrated disc co-operating with the disc on the clamping member, a set screw operatively joining the discs, a rod having a sliding connection with the lower tubular member. a set screw operative to ald member to lock the rod therein,
an upper tubular member formed with a serrated disc, said rod entering said member and being formed near its upper end with a circumferential groove, a pin fixed in the upper tubular member and loosely entering said groove, a set screw in said upper tubular member to locate the rod against move ment, a bracket member including a supporting rod and having a depending serrated disc and a double hinge member comprising two serrated discs arranged at a right angle to each other and co-operating with the discs on the bracket and upper tubular member.
6. An invalid support comprising a clamping member, a supporting rod, a connection between the clamping member and supporting rod to permit independent angular and rotary adjustment of said rod, sleeves slidably mounted on the rod, and hangers depending from the sleeves.
7. An invalid support comprising a clamping member, a supporting rod, a connection between the clamping member and supporting rod to permit independent angular and rotary adjustment of said rod, sleeves slidably mounted on the rod, means for securing the sleeves in adjusted positions on the rod and hangers depending from the sleeves.

No. 99,860. Filter. Filtre.


Llewellyn West Jones, Seweckley, Pennsylvania, U.S.A., 3rd July, 1906; 6 years. Filed 21st February, 1906. Receipt No. $133,154$.
Claim.-1. The combination of a fllter bed, a stirrer therein, comprising a net formed of links, and means for withdrawing said net.
2. The combination of a fllter bed, a net extending down irto sald filter bed, and means for moving said net through said filter bed.
3. The combination of a filter bed, a net extending down irto the filter bed, and means for moving said net around a center.
4. The combination of a filter bed, a net composed of links extending down into said bed, and means for moving said net around a center.
$\overline{5}$. The combination of a filter bed, a rotary beam, and a i.ct depending from said beam.
6. The combination of a filter bed, a rotary beam, and a net composed of links depending therefrom.
7. The combination of a fllter bed having a trough extending around same, a rotary net extending down into said bed and projecting under said trough.
8. The combination of a filter bed, a vertical rotary shaft, a beam carried by said shaft, and a net carried by said beam
9. The combination of a fliter bed, a vertical rotary shaft, a beam carried by sald shaft, a net secured to said beam or ol:posite sides of said shaft.
10. The combination of a fllter bed, nets comprising link; extending down therein, means for moving.said nets around a center, one of said nets being closer to said center than the other.
11. The combination of a filter bed, a stirrer comprising a net extending down into said bed, and means for moving said ret through sald bed.
12. The combination of a filter bed, a rotary frame, and a r.et carried by said frame.

No. 99,861. File. Filc.
Fdward B. MoClintock, El Paso. Texas, U.S.A., 3rd July, 1906; 6 years. Filed 8th May, 1906. Receipt No. 135.689.
Claim.-1. In a flle, the combination with a body having cyelets, of flaps carried by the body and foldable upon the stime, and a flexible loop member arranged to surround and sccure the flaps when in folded relation, said loop member baving one terminal secured to the body and the other terminal portion adjustably threaded through the eyelets and being frictionally held in its passage therethrough.
2. In a file, the combination with a body having eyelets, of flaps connected to the body and foldable upon the same, and

fexible loop member formed of a continuous tape, said tape being free from and arranged to surround and secure the fieps when in folded relation, having one terminal secured to the body and the other terminal portion adjustably threaded through the eyelets and frictionally held in its passage therethrough.
3. In a flle, the combination with a body having foldable side and end flaps, said body being provided with a transverse series of eyelets, and a loop member having one end pasing through one of the eyelets and knotted, said loop member being also threaded through the other eyelets and frictionally held against movement thereby.
4. In a file, the combination with a body comprising superposed layers, one of said layers having eyelets therein, of a loop member having a portion threaded through the eyelets and frictionally held thereby.
5. In a file, the combination with a body comprising superposed layers having flaps, one of said layers having eyelets therein, the other layer extending over the eyelets, of a loop member having a portion threaded through the eyelets and frictionally held thereby.
6. In a file, the combination with a body comprising crossed iayers provided with flaps that are located respectively at the side and end edges, the inner of said layers having tiansversely disposed series of eyelets, the other layer having eyelets contiguous to the inner edges of the flaps, and a fiexible tape having one end passing through one of the latter eyelets and secured therein, said tape also passing through the other of said latter eyelet and being threaded through the transverse series of eyelets, forming a loop member.

## No. 99,862. Cord Player for Harmonium-like Inatruments. <br> Joueur de cordes d'instrument de musique.

Fugen Roggenbauch, Stuttgart, Germany, 3rd July, 1906; 6 years. Filed 14th April, 1906. Receipt No. 134,934.
Chim.-1. A chord player for harmonium-like instruments comprising the combination of a frame provided with outstanding flat arms and a series of keys consisting each of a flat longitudinal body provided with a key head on top and with four downward projecting flat faced teeth on the bottom and with longitudinal vertical slots in the flat body by which it hangs and is vertically movable on transverse bars ir the said frame, the said keys beng mounted in parallel range and the said downward projecting teeth being corresponding in size with the width of the keys of the har-monium-like instrument and apart from each other at a distance which corresponds with a chord of the keys of the said instrument.
2. A chord player for harmonium-like instruments comprising the combination of a frame provided with outstand-

ing fiat arms and a series of keys consisting each of a flat lcngitudinal body provided with a key head on top and with four downward projecting flat faced teeth on the bottom and with vertical slots in the said flat body by which it hangs and is vertically movable on transverse bars in the said frame, the said keys being mounted parallel to each other in such way that the right ends form a diagonal line and the said downward projecting teeth being corresponding in size with the width of the keys of the harmonium-like instrument and apart from each other at distances which correspond with the distances at which the several keys of an itstrument constituting a chord are apart from each other.
3. A cord player for harmonium-like instruments comprising the combination of a frame provided with outstanding that arms, a cover and a series of keys consisting each of a flat longitudinal body provided with a key head on top and with four downward projecting flat faced teeth on the bottom and with vertical slots in the said flat body by which it hangs and is vertically movable on transverse bars in the said frame, the said keys being mounted parallel to each other, the said downward projecting teeth being correspondingly in size with the width of the keys of an harmonium-like instrument and apart from each other at distances which correspond with the distances at which the several keys of the instrument constituting a chord are apart from each other, and the said cover being provided with perforations in diagonal range through which the stems of the said keyheads are passed, a symbol representing the chord with which the respective key of the chord player corresponds being marked near each of the eald perforations.
4. A chord player for harmonlum-like instruments comprising the combination of a Prame provided with outstanding flat arms and covered, with a series of keys consisting each of a flat longitudinal body provided with a key head on top and with lour downward profecting flat faced teeth on thte bottom and with vertical slots in the said flat body by which it hangs and is vertically movable on transverse bars in the said frame, the said keys being mounted parallel to each other, the said downward projecting teeth being corresponding in size with the width of the keys of an harmoniumlike instrument and apart from each other in correspondence with the distances at which the keys of an instrument constituting a cord are apart from each other and the cover of the frame being provided with perforations in diagonal range through which the stems of the said key heads are passed, a symbol representing the chord with which the respective key of the chord player corresponds being marked on each key head.

## No. 99,863. Bath. Bain.

Eugen H. Sloman, Detroit, Michigan, U.S.A., 3rd July, 1906; 6 years. Filed 20th April, 1906. Receipt No. 135,103.
Claim.-1. A bath tub made from a single sheet of metal in which the metal is in such a state of rest that it can be reheated without distortion when cooled.
2. A porcelain coated bath tub in which the metal body is formed from a sheet of metal in such a state of rest that on

reheating it to apply the porcelain it was not distorted when cooled.

No. 99,864. Temporary Binder. Reliure temporaire.


Edward C. Suckert, Detrolt, Michigan, U.S.A., 8rd July, 1906; 6 years. Filed 7th May, 1906. Receipt No. 135,618.
Claim.-1. In a temporary binder the combination with a back having side flanges, of a series of blading ingers each having an opening at one end and attached at the opposite end to the flange at one side of the back, a slide provided with longitudinal slots, an edge on the flange at the opposite side of the back which is turned over the slide to form a guide therefor and provided with lugs extending inward through the sald slots to secure the slide to the flange, and longitudinally extending fingers formed integral with the slide to engage the openings in the ends of the binding ingers. 2. In a temporary binder the combination of a sheet metal back formed with an integral flange at one side and eyes at opposite side, a member to form a similar flange for the back provided with eyes at one edge, a pintle to extend through the eyes on the back and flange to unite the same, a series of binding fingers rigidly secured at one end to the rigid flange and provided with openings at their opposite ends, a slide having longitudinal slots and longitudinal extending fingers to engage the openings in the ends of the binding fingers, an overturned edge on the free edge of the pivoted flange to form a guide for the sllde, and integral lugs on said flange to engage the slots in the slide.

No. 99,865. Flush Tank. Réservoir à latrines.


Bert Olin Tilden, New York City, New York, U.S.A., 3rd July 1906; 6 years. Filed 3rd May, 1906. Receipt No. 135,503. Claim.-1. In combination with a closet low down flush tank, of a flush valve within sald tank, a rocking lever pivoted within the tank and connected at one side of its fulcrum with the valve and having at the other side of its fulcrum a pair of bearing faces spaced apart, a spindle projecting through the wall of the tank and provided on its outer end with a fixed operating handle located within reach of the user seated on said closet, and having fixed on its inner end a rocking lever, likewise having a pair of bearing faces spaced apart and co-operating with the bearing faces of the valve lever, so that on the swinging of sald operating handle in either direction from its normal straight position the free end of the valve lever will be depressed and the valve operated.
2. In combination with a closet low down flush tank, of a flush valve within said tank, a rocking lever pivoted within the tank and connected at one side of its fulcrum with the valve and having at the other side of its fulcrum a bearing face, a spindle projecting through the wall of the tank and provided on its outer end with a fixed operating handle located within reach of the user seated on said closet, and having fixed on its inner end a rocking lever having a bearing face co-operating with the bearing face of a valve lever, so that on the swinging of said operating handle from its normal position the free end of the valve lever will be depressed and the valve operated.

No. 99,866. Wash Bowl Valve.
Soupape de bol à laver.


David William York, Bridgewater, Massachusetts, U.S.A., 3rd July, 1906; 6 years. Filed 12th April, 1906. Receipt No. 134,866.
Claim.-1. In a valve outlet for wash basins the combination of a basin having discharge and overflow outlets, a valve casing communicating at its upper end with said outlets, and provided at its upper and lower end with outlets, a waste pipe communicating with said outlets, un outlet valve having a stem vertically adjustable in the casing and controlling the main outlet of the basin, said stem being provided at its lower end with a rack, a gear meshing with said rack, a sliding operating rod for actuating the gear, and means for locking said rod in one of its positions.
2 In a valved outlet and overfiow connection for wash basins the combination of a basin having main and overflow outlets, a valve casing communicating with said outlets and having upper and lower exhaust passages, a valve stem ver-
tically adjustable in the casing and having a valve governing the main outlet, means for operating sald stem to open and close the valve, and an auxiliary drain valve fixed to the stem below the outlet valve and having passages for the flow of water to the lower exhaust of the valve casing.
3. In an outlet connection for wash basins the combination of a basin having main and overflow outlets, a valve chamber communicating at its upper end with said outlets and provided with upper and lower exhaust passages, a plug closing the lower end of the valve chamber, and having a bearing extension projecting above the lower exhaust passage, a stem sliding in said plug and bearing extension and carrying at its upper end a valve controlling the main outlet, means for operating said stem and an auxiliary valve or closure carried by the stem and arranged to telescope over the bearing extension to prevent leakage of water between the same and stem.
4. In a valved outlet connection for wash basins the combination of a basin having main and overflow outlets, a valve chamber communicating at its upper end with said outlets and provided with upper and lower exhaust passages, a plug closing the lower end of the valve chamber and having a bearing extension projecting above the lower exhaust passage, a stem slidable in the plug and bearing extension and carrying at its upper end a valve controlling the main outlet, an auxillary valve or closure fixed to the stem delow the main valve and having a perforated body and a tubular portion telescoping over the upper end of the bearing, a spring arranged to exert pressure on said auxiliary valve, and means for sliding said stem to adjust the main valve to open or closed position.
5. In a valved outlet connection for wash basins the combination of a basin having an outlet, a valve casing communicating with said outlet and having an exhaust, a valve in said casing for controlling the outlet, gearing for actuating said valve, a sliding rod for communicating motion to sald gearing, said rod having a limited rotary movement, and locking means connected or disconnected by such rotary movement.

No. 89,867. Method of Maling Metal Wheels.
Methode de faire des roues de métal.
Fig. 1.


Fig. 3.


Fig. 4.


The Bettendorf Metal Wheel Company, assignee of Emil Emfeidt, all of Davenport. Iowa, U.S.A., 3rd July, 1906; 6 years. Filed 28th May, 1906. Receipt No. 136,309.
claim.-1. The method of making metal wheels in which the spokes are secured to the hub in two ranks, which method consists in fastening all the spokes of one rank to the members of the wheel and then fastening the spokes of the other rank while hot, the rim being closed at any time prior to the fastening of the second rank.
2. The method of making metal wheels in which the spokes are secured to the hub in two ranks, which method consists

In fastening together the hub, rim and spokes of one rank in such relations that the hub will occupy a position in a longitudinal direction beyond that it will occupy in the completed wheel, then fastening all the spokes of the other rank to the hub and closed rim while said spokes are hot, whereby the contraction of the spokes from cooling will draw the hub to the proder position and will place all the spokes under tension.
3. The method of making metal wheels in which the spokes are fastened to the hub in two rows or ranks, which consists in providing a hub with two rows of holes therearound, and a rim with holes spaced therearound at intervals, fastening all the spokes of one rank in place with their inner euds in the holes of one rank in the hub and their outer ends in every alternate hole in the rim, then fastening all the spokes of the other rank in place while hot with their inner ends in the holes of the second rank in the hub and their outer ends in the holes in the rim, the rim being closed at any timo prior to th: fastening of the second rank.
4. The method of making staggered wheels which consists in fastening one rank of spokes to the hub and rim while the spokes are hot, allowing the secured spokes to contract, and then fastening the spokes of the other rank while hot, to the members of the wheel, the rim being closed at any time prior to the fastening of the second rank.
5. The method of making staggered wheels which consists in providing a hub with two series of holes therearound, a closed rim, and spokes fastening all the spokes of one rank to the hub and rim respectively, and then securing the spokes of the other rank while hot to the hub and rim.

No. 99,868. Machine For Making Metal Wheels. Machine pour faire des roues de métal.


The Bettendorf Metal Wheel Company, assignce of Emil Emfeldt, all of Davenport, Iowa, U.S.A.. 3ra July, 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,232.
Claim.-1. In a machine for making metal wheels the comblnation with the spoke fastening means, of a hub support adapted to sustain the hub on end, and cranked arms project ing laterally from said hub support and adjustable around their longitudinal axes and adapted to sustain the rim, whereby the rim support is adjustable vertically with reference to the hub support.
2. In a machine for making metal wheels and in combination with spoke fastening means, a flat frame, means for moving sald prame bodily relatively to the spoke fastening means and in the direction of the axis of the hub, an extension on the end of said frame adjustable in tue direction of the axis of the spoke and adapted to give support to the hub and arms extending laterally from said extension and adapteil to support the rim.
3. In a machine for making metal wheels the combinatior of a support for the hub and rim, movable bodily in the direction of the longitudinal axis of the spoke, mechanism for fastening the inner end of the spoke to the hub, mechanisms for fastening the outer end of the spoke to the rim, said lat-
ter mechanism comprising a spoke clamp and a header movable relatively to the clamp toward the hub, and operative connections between said header and the hub and rim support, whereby when the header advances to perform its functions it will move the hub and rim support in the direction of the longitudinal axis of the spoke.
4. In a machine for making metal wheels the combination of a support for the rim adapted to allow the rim to move in the direction of the axis of the spoke, means for sustaining the spoke in operative relation to the rim, mechanism for fastening the spoke to the rim, a rest adapted to bear against the outer face of the rim and movable in the direction of the longitudinal axis of the spoke, and connections between the rest and spoke fastening means constructed to advance the rest and rim, and maintain the rest in contact with the advancing rim while the spoke is being fastened to the rim.
5. In a machine for making metal wheels, the combination with a support for the rim adapted to allow the rim to move in the direction of the longitudinal axis of the spoke, of means for fixedly sustaining the spoke in relation to the rim to be fastened thereto. a heading device for the outer end of the spoke adapted when advanced to form a head thereon, a rest in position to bear against the outer face of the rim while the head is being formed and movable in the direction of the axis of the spoke, and means controlled by the advance of the heading device for moving said rest relatively to the header and in the direction of the axis of the spoke.
6. In a machine for making metal wheels, the combination with means for sustaining the rim in such manner that it may move bodily in the direction of the axis of the spoke, of neans for sustaining the spoke in operative relation thereto, is heading device adapted when advanced to form a head on the outer end of the spoke, means for advancing said heading device, a rest in position to bear on the outer side of the rim adjacent the heading device, and means for moving said rest simultaneously with the heading device, in the direction of the same, but at less speed.
7. In a machine for making metal wheels, the combination of a support for the rim and hub adapted to allow the rim in move in the direction of the axis of the spoke, means for fixedly sustaining the spoke in operative relation to the hub and rim, means for fastening the spoke to the hub, a header adapted when advanced to form a head on the outer end of the spoke, a rest in position to bear against the outer face of the rim while the head is beling formed, and means controlled by the movement of the header for moving the rest in the direction of the spoke axis and relatively to the header iL the direction of its heading movement.
8. In a machine for making metal wheels, the combination of a support for the rim and hub movable in the direction of the axis of the spoke, means for sustaining the spoke in operative relation to the hub and rim, means for fastening the spoke to the hub, a header adapted when advanced to form a head on the outer end of the spoke, a rest in position to bear against the outer face of the rim, means controlled by the movement of the header for moving the rest in the d!rection of the spoke axis, and operative connections between said rest and the supporting device, adapted to move the support in the same direction as that imparted to the rest.
9. In a machine for making metal wheels, the combination of a hub support adapted to sustain the hub on end and movable transversely of its longitudinal axis, means for supporting the rim in operative relation thereto, means for sustaining the spoke in operative relation to said hub and rim, means for lastening the inner end of the spoke to the hub, a header adapted by its advance to head the outer end of the spoke, a rest in position to bear against the outer face of the rim, and movable in the direction of the axis of the spoke, means for moving said rest, and operative connections between the rest and the hub support, adapted to move the support in the same direction as that imparted to the rest.
10. In a machine for making metal wheels, the combination with a spoke clamp adapted to grasp the spoke adjacent the inner face of the rim and formed to permit the spoke to be moved endwise relatively, a supporting device for the hub and rim adapted to hold said parts in operative relation to the spoke and movable in the direction of the axis of the scoke, means for fastening the inner end of the spoke to the hub, a heading device adapted when advanced to upset the outer end of the spoke, a rest in position to bear against the outer face of the rim, means for moving said rest simultaneously with, in the same drection of, but at less speed than the heading device, and means for moving the supporting device simultaneously with and at the same speed of the rest.
11. In a machine for making metal wheels, the combination of a support for the rim, means for sustaining the spoke, a clamp adapted to grasp the spoke near the inner face of the r.m. means for moving the spoke and rim relatively to said clamp in the dircction of the axis of the spoke, and an abutment independent of the clamp and adapted to bear firmly
against the inner face of the rim as the latter approaches the clamp.
12. In a machine for making metal wheels, the combination ot means for supporting the rim so that it may be moved in the direction of the axis of the spoke, means for sustaining the spoke in operative relation to the same, a heading device adapted by its advance to upset the outer end of the spoke, a rest in position to bear against the outer face of the rim and movable in the direction of the axis of the spoke, and an abutment in position to bear against the inner face of the rim and movable with the rest.
13. In a machine for making metal whecls, the combination with a support for the hub adapted to sustain the same on end, a relatively flxed arm above the support, hub clamping mechanism sustained by the arm, means for supporting the rim on edge around the hub, an arm mounted on the firstnamed arm and formed with an abutment to bear against the inner face of the rim, means for sustaining the spoke in operative relation to the rim and hub, and means for fastening the spoke to the rim and hub.
14. In a machine for making metal wheels, the combination of means for supporting the rim and spoke in operative relations to be fastened together, mechanism for fastening the spoke to the rim, a sustaining device on which the lower fdge of the rim is adapted to rest, and a finger adapted to bear on the upper edge of the rim.
15. In a machine for making metal wheels, the combinat:on with a support for the rim, of means for sustaining the spoke in operative relation to the same, a rest in position to bear against the outer face of the rim, an abutment adapted to bear against the inner face of the rim, a sustaining device on which the lower edge of the rim is adapted to rest, and a finger adapted to bear on the upper edge of the r'm.
16. In a machine for making metal wheels, the çombination of a rim support, means for sustaining the spoke in operative relation to the rim, a rest adapted to bear against the outer face of the rim, and a sustaining device on which the lower edge of the rim is adapted to rest, said sustaining device being carried by the rest.
17. In a machine for making metal wheels, the combina$t$ : on of a hub support movable in the direction of the axis of the spoke, means for sustaining the rim around the hub. means for holding the spoke in operative relation to said parts, a movable header for the outer end of the spoke, a sliding cap plate operatively connected with the header, a rim rest on the cap plate, and links connecting sad cap plate cperatively with the hub support.
18. In a machine for making metal wheels, the combination with a horizontal vertically movable hub holding frame, of a rim support carried by said frame, an actuating device for moving the frame vertically, vertical bars connected to the frame at one end of the same, vertical links connected with the frame at its other end, and operative connections between the bars and links and the actuating device.
19. In a machine for making metal wheels, the combination with the frame having a vertical standard formed with a vertical open guideway, of a hub holding frame adapted to be moved in a direction longitudinally of the spoke, and formed with a guide lug sliding in the guideway, means for moving said frame vertically, means for sustaining the hub and rim in operative relations to the spoke and means for fastening the spoke to the hub and rim.
20. In a machine for making metal wheels, the combination with a horizontal vertically movable hub holding frame, of a rim support carried thereby, an actuating device for moving the frame vertically, and means for adjusting the ends of said frame independently and with relation to the actuating mechanism.
21. In a machine for making metal wheels, the combination of two spoke clamps adapted to act respectively at oprosite ends of the spoke, and each comprising opposing jaws pivoted between their ends on parallel axes and provided on one side of said axis with spoke grasping surfaces, a longitudinally extending rocking member formed on opposite s!des with cam surfaces adapted to engage the inner sides of the jaws of both clamps, and adapted to close the jaws on the spoke, an actuating cylinder and piston, and operative connections between the piston and said rocking memker, whereby the rocking member serves to operate both clamps in unison.
22. In a machine for making metal wheels, the combination with means for supporting the hub and rim in operative relations, said supporting means being movable in the direction of the axis of the spoke to be secured, of a spoke clamp adapted to grasp the spoke adjacent the hub and acting to permit a movement of the spoke endwise toward the hub only, a second spoke clamp adapted to grasp the spoke adjacent the rim and acting to permit the spoke to be moved endwise, a heading device for the hub end of the spoke sdapted to upset the spoke within the hub and against the bolding action of the first-named clamp, a heading device for
the opposite end of the spoke adapted when advanced toward the hub to upset the end of the spoke outside the rim, means controlled by the advance of this header for moving the rim and connected spoke and hub in the direction of the axis of the spoke and with relation to the clamp, and means for forming a shoulder on the spoke at the inner face of the rim when the spoke is moved endwise.
23. In a machine for making metal wheels the combination of a support for the hub and rim movable vertically and horizontally, a cylinder 13, a piston therein operatively connected with said support, spoke clamps, a cylinder 79, a piston thereln operatively connected with said clamps, a hub headed, a cylinder 41, a piston therein operatively connected with the hub header, a rim headed, a cylinder 58, a piston therein operatively connected with the rim headed, valves for the respective cylinders controlling the admission to and exit of fluid under pressure from the same, a common operating means for said controlling valves, and connections between said operating means and the respective valves, said valves and connections being so formed and related that when the common operative means is actuated, cylinder 13 will be first opened to the exhaust, then pressure admitted to cylinder 79, then this cylinder opened to the exhaust, then pressure admitted to cylinder 58 and this cylinder opened to the exhaust, then cylinder 79 opened to the exhaust, and finally pressure admitted to cylinder 13.

No. 99,869. Scraper. Girattoir.


The Kilbourne and Jacobs Manufacturing Company, assignee of Thomas H. Stagg, all of Columbus, Ohio, U.S.A., 3rd July, 1906; 6 years. Filed 2nd May, 1906. Receipt No. 135,465.
Claim.-1. The herein described improvement in the art of producing bowls or the like which consists in shaping a sheet of metal between dies constructed to form two bowls connected end to end, and during the shaping operation, stretching the metal of each bowl from the line of prospective seperation of the bowls, whereby the quality of the metal at the edges produced by the separation, is improved.
2. The herein described art of producing scraper bowls or the like, which consists in shaping a sheet of metal between dies constructed to produce two bowls connected at their front or cutting ends, and during such shaping operation, stretching the metal of each bowl from the line of prospective separation of the bowls to improve the metal at the ultimate cutting edges and dividing the blank thus produced.
3. The process of producing scraper bowls which consists in stamping a sheet of metal between dies constructed to form two bowls connected at their open front or cutting ends, and during such stamping operation, stretching the metal of each bowl toward its rear end from the line of connection between the bowls, and thereafter dividing the blank thus produced along such line of connection.
4. The art of producing scraper bowls or the like which consists in stamping a sheet of metal between dies constructed to form two such articles connected at their front or cutting ends, supporting the metal at such line of connection or line of prospective separation, before completion of the stamping operation whereby the metal is stretched from said line toward the opposite ends of the bowls and thereafter dividing the blank thus formed to produce two bowl blanks.
5. The herein described art of producing scraper bowls or the like which consists in stamping a sheet of suitable metal between dies constructed to produce two such articles, connected at their cutting ends, whereby the metal of each prospective bowl sustains the metal of the other bowl at said cutting edge and prospective line of separation, supporting the metal at said line of connection or prospective separa-
tion and with the middle raised portion corresponding in position to such line, and stretching the metal over said raised portion during the stamping operation.
6. The herein described improvement in the art of producing earth scraper bowls or the like which consists in stamping a sheet of metal between dies constructed to form two bowls connected at their front or cutting ends along the line of prospective separation and with the middle raised portion corresponding in position to such line, and stretching the metal over said raised portion during the stamping operation
7. The herein described improvement in the art of producing earth scraper bowls or the like, which consists in stampIng a sheet of metal between dies constructed to produce two bowls connected at their open front or cutting ends, sustaining the edges of the sheet at its ends and sides during the stamping operation, with a pressure that permits the metal to draw inward but which resists such drawing sufficiently to cause stretching of the metal in the ultimate bowls to be produced, and causing such stretching to take place from the line of connection or prospective separation and thereafter separating the blank thus produced along sald line.

No. 99,870. Manniacture of Fish Plates.
Fabrication de plaque pour éclisses.


ITVEs. 8
The Continuous Rail Joint Company of Canada, assignee of Philip J. Dalton, Joliet, Illinois, U.S.A., 3rd July, 1906; 6 years. Filed 12th April, 1906. Receipt No. 134,884.
Claim.-1. In a machine for forming fish plates the combination with dies adapted to engage opposite sides of the vertical portion of a fish plate in vertical position, one of said dies being movable with respect to the other and one of them having a tongue adapted to enter the double portion of the fish plate, of a roll adapted to travel across the upper surfaces of said dies and tongue, a driving shaft, and arms eccentrically connected at one end to said shaft and pivotally connected at the other end to sald roll.
2. In a machine for forming fish plates the combination with die members adapted to grasp the upright portion of a fish plate and hold the same in inverted position with its base member exposed, of a gravity roller arranged parallel to sald die members and adapted to travel across said base member, a shaft carrying eccentrics at opposite ends, and eccentric straps with arms extending to the opposite ends of said roller to reciprocate said roller.
8. In a machine for forming fish plates the combination with means for clamping a fish plate in inverted position with its base member exposed, of a roller adapted to travel across sald base member, of a shaft 14 having eccentrics at opposite ends, eccentric straps extending to the opposite ends of the roller to operate the same and pulleys for rotating said shaft 14 , substantially as set forth.
4. In a machine for forming fish plates, a bed or face providing a horizontal slideway at one end and raised journal bearings at the other, opposite die members, one adjustable in said slideway, adapted to clamp a fish plate in inverted position with its base member exposed, a rotary shaft in said raised bearings, eccentrics on said shaft, arms extending from said eccentrics, and a roller mounted between said arms in position to travel upon said die member in the slideway.

No. 99,871. Dumping Vehicle. Vihicule d bascule.
The F. H. Hieber Wagon Manufacuring Company, McKies Rocks, assignee of August Mertes. Emsworth, both in Pennsylvanla, U.S.A., 3rd July, 1906; 6 years. Filed 25 th April, 1906. Receipt No. 135,251 .
Clain.-1. A locking device for the purpose set forth comprising a rotatable member, means for rotating said member
in one direction, and an element to prevent back rotation of said member, said means when moved to inoperative position adapted to lock said element in operative position.

2. A locking device for the purpose set forth comprising a rotatable member, means for rotating sald member in one direction, an element to prevent back rotation of said member, sald means when moved to inoperative position adapted to lock said element in operative position, and means for shifing said element to permit of the back rotation of said member.
3. A locking device for the purpose set forth comprising a rotatable member, a dog adapled to engage therewith for intermittently rotating the same, means for preventing back rotation of said member, an operating lever carrying sald dog, said lever when moved to inoperative position adapted to move said dog into engagement with sald means, thereby locking the same in operative position, and a lug carried by the lever and adapted to engage and shift sald means from operative position to permit of the back rotation of said member.
4. A locking device for the purpose set forth, comprising a rotatable ratchet whecl, a shiftable dog adapted to engage in the teeth of sald wheel for intermittently rotating it, an operating lev $r$ carrying said dog, means engaging with sald wheel to revent back rotation thereof, and sald lever when moved to inoperative position adapted to move the sald dog in engagement with said means, thereby locking the same in operatlve position.
5. A locking device for the purpose set forth comprising a rotatable ratchet wheel, a shiftable dog adapted to engage in the teeth of said wheel for intermittently rotating it, an operating lever carrying said dog, means engaging with said wheel to prevent back rotation thereof, said lever when moved to inoperative position adapted to move said dog in engagement with said means, thereby locking the same in operative position, and a lug carried by said lever and adapt od to engage the said means for shifting the same out of engagement with the ratchet wheel to permit of the back rotation of the latter.
6. A locking device for the purpose set forth comprising a rotatable ratchet wheel, a shiftable dog adapted to engage in the teeth of sald wheel for intermittently rutating it, an operating lever carrying said dog. means engaging with said wheel to prevent back rotation thereof, sald lever when moved to inoperative position adapted to move said dog in engagement with said means, thereby locking the same in onerative position, a lug carried by said lever and adapted to engage in said means for shifting the same out of engagement with the ratchet wheel to permit of the back rotation of the latter, and means for llmiting the movement of said lever in one direction and for retaining said dog out of engagement with said wheel when the said means is shifted out of engagement with the wheel.
7. A locking device for the purpose set forth comprising a rotatable ratchet wheel, a shiftable dog adapted to engage the teeth of said wheel for intermittently rotating it, a support, means pivoted upon said support and adapted to engago said wheel to prevent back rotation thereof, and an operating lever carrying the said dog and adapted when moved to operative position to move said dog into engagenent with said means, thereby locking it in oeprative position.
8. A locking device for the purpose set forth comprising a rotatable ratchet wherl, a shiftable dog adapted to engage the teeth of said wheel for intermittently rotating it, a support, means pivoted upon said support and adapted to engage sald wheel to prevent back rotation thereor, an operating lever carrying the said dog and adapted when moved to operative position to move sald dog into engagement with said means, thereby locking it in operative position, and a lug
carried by said lever and adapted when the lever is moved in one direction to engage sald means, thereby shifting it out of engagement with the ratchet wheel to permit of back rotation thereof
9. A locking device for the purpose set forth comprising a rotatable ratchet wheel. a shiftable dog adapted to engage the teeth of said wheel for intermittently rotating it, a support, means pivoted upon sald support and adapted to engage said wheel to prevent back rotation thercof, an operating lever carrying the said dog and adapted when moved to operative position to move sald dog into engagement with said means, thereby locking it in operative position, a lug carried by said lever and adapted when the lever is moved in one direction to engage said means, thereby shifting it out of engagement with the ratchet wheel to permit of back rotation thereof, and a lug carried by said support and adapted to limit the movement of the lever in one direction and to retain said dog out of engagement with said ratchet wheel when the said means to prevent back rotation is shifted out of engagement with the said ratchet wheel.

No. 99,87\%. Pump. Pompe.


Thomas H. C. Homersham and the Thwaites Brothers, assignee of a half interest, all of The Vulcan Iron Works, Bradford, England, 3rd July, 1906; 6 years. Filed 29th January, 1906. Receipt No. 132,353.
Claim.-1. In connection with multiple cylinder pumps means for regulating the quantity of fluid pumped by rendering any required part of the stroke of all plungers simultaneously and similarly ineffective for delivery, whilst the length of the stroke remains constant, substantially as hereinbefore described.
2. In a connection with multiple cylinder pumps means for causing valves of the cylinders or in connection therewith, to be simultaneously held open whilst the plungers are making any required part of their stroke, so as to make the required part of the stroke, of all the plungers similarly and simultaneously ineffective for dellvery, substantially as hereinbefore described.
3. In a mutiple cylinder pump, a cam shaft and means for actuating it from the crank shaft, and cams on the said cam shaft, one for each cylinder, and stems from valves in connection with the several cylinders and bearing on such cams respectively, and means for simultaneously and similarly altering the positions of the cams relatively to the angular positions of the cranks, substantially as and for the purpose hereinbefore described.
4. In a multiple cylinder pump, a series of sliding blocks, one for each cylinder, with elevations thereon and means for actuating them from the crank shaft, and stems from valves in connection with the several cyllinders and bearing on such blocks respectively and means for simultaneously and similarly altering the positions of the said blocks relatively to the angular positions of the cranks, substantially as and for the purpose hereinbefore decribed.

No. 89,873. Cement Block. Bloc de ciment.


Corey O. White and Wllliam E. Brewer, both of Jackson, assignees of Ray Wilcox, Detrolt, Michigan, U.S.A., 3rd July, 1906; 6 years. Filed 12th May, 1906. Receipt No. 135,829.
Claim.-1. In a device of the kind described the combination with the ends and sides of a flask, of castings connected to the said ends and sides and a lever pivotally connected to the sald castings.
2. In a device of the kind described the combination with the end castings, said castings being adapted to extend beyond each other, of a lever pivotally connected to the extending portion of one of the castings and also pivotally connected to the other casting.
3. In a device of the kind described the combination with a casting adapted to be secured to the side of a flask and provided with a projection extending beyond the end of said side. of a casting adapted to be attached to the end of the flask and having a bifurcated end portion, a lever pivotally connected to the extended portion of the first-named casting and also pivotally connected to the blfurcated end of the second casting.
4. In a device of the kind described the combination with the side casting having a projecting arm, of the end casting bifurcated and provided with lugs, a bifurcated lever pivotally connected to the arm, and also pivotally connected to the lugs, and a spring latch for holding the lever in a locked position.

No. 99,874. Rein Folder. Porte-rines.


Giles Bowler, John Bigley and Joseph A. Walker, all of Peck, Idaho, each an assignee of a one-third interest, 3rd July, 1906; 6 years. Filed 27th April, 1906. Receipt No. 135,319. Claim.-1. A rein holder consisting of a stem, a base part fixed thereon, and an eccentric pivoted to said stem above the base part for clamping a rein thereon.
2. A rein holder consisting of a stem, a base part fixed theron and having a free end portion provided with an upwardly projecting lip, and an ececntric pivoted to sald stem above the base part for clamping a rein thereon.
3. A rein holder consisting of a stem, a base part fixed thereon, a pin secured to said stem and projecting over the base part, and an eccentric for clamping the reins on said base part, said eccentric at its inner portion being provided with a tubular portion in which sald pin is received and having its outer portion curved upwardly to form a handle.

No. 99,875. Tire Tightener. T'endeur de bandages.


George P. Alten and Arnold Gersbach, Jr., assignee of a onethird interest, both of Bartlett, Texas, U.S.A., 3rd July, 1906; 6 jears. Filed 1st May, 1906. Receipt No. 135,417.
Claim.-In a tire tightener the combination with a sleeve having a tubular socket for engaging with a spoke, a tubular end portion for engaging with a spoke, a tubular end portion for engaging with a felly, a tubular screw-threaded portion at its middle part, a partition between the said tubular portions arranged at the junction of the said socket with the said screw-threaded portion, and an externally projecting shoulder arranged in line with the said partition, of a tightening nut engaging with the said screw-threaded portion of the sleeve and normally bearing agafnst its caid shoulder.

No. 99,876. Go-Cart. Voiturc.


John G. Lohrmann, Elkhart, Indiana, U.S.A., 3rd July, 1906; 6 years. Filed 19th May, 1906. Receipt No. 136,073.
Claim.-1. In a go-cart or like contrivance the combination of a frame, folding handle bars, uprights and side pleces plvotally connected to each other and to said frame and tandle bars, cross pleces connecting corresponding side bars and uprights, and a collapsible body supported between sald uprights and side bars by means of their connecting cross pieces.
2. In a go-cart or like contrivance the combination of a frame, folding handle bars, uprights and side bars pivotally connected to each other and to sald frame and handle bars, cross pleces connecting corresponding uprights and side bars, a collapsible body supported by means of said cross pieces.
and a connection between the front portion of the frame and the front portion of the body, substantially as set forth.
3. In a go-cart or like contrivance the combination of a rigid frame comprising longttudinal and end bars, longitudinal shafts journalled in the end bars, supporting wheels carried by and movable with said longitudinal shafts, handle bars pivoted to the said frame and co-operating trips between the handle bars and said shafts for turning the latter to posltively fold or unfold the supporting wheels and to hold the latter in either extreme position.
4. In a go-cart or like contrivance the combination of a rigid frame comprising longitudinal and end bars, longitudinal shafts journalled in the end bars of the frame and provided with trips, wheels carried by and movable with said shafts, handle bars pivoted to said frame, and trips projected from the handle bars and co-operating with the trips of the longitudinal shafts for positively turning the latter in each direction and holding them in either extreme position.
5. In combination, a frame, companion shafts having lateral extensions and provided with supporting wheels, folding handle bars, tappets projected from the handle bars and adapted to co-operate with said lateral extensions to effect folding of the wheels, and co-operating trips fitted to said shafts and handle bars to effect simultaneous unfolding of the wheels and handle bars, substantially as set forth.
6. In combination, a frame, companion shafts journalled to the frame and provided with supporting wheels, a trip fast to each of said shafts. folding handle bars, and complemental trips applled to the handle bars and adapted to co-operate with the trips fitted to sald shafts to effect upfolding of the wheels and to interlock with the trip of the shafts and hold the latter against casual movement when the wheels are in serviceable position.
7. In combination, a frame, companion shafts provided with supporting wheels, trips applied to said shafts, folding handle bars, and trips of approximately $\square$ form carried by the handle bars and adapted to co-operate with the trips of the aforesaid shafts to effect upfolding of the wheels and to hold them and the shafts in fixed position.
8. In combination, a frame, longitudinal shafts journalled thereto and provided with supporting wheels, folding uprights and side bars, folding handle bars, a collapsible body, an apron extending from the body, a stay plece connected to the front end of the apron and adapted to be fitted to the front bar of the frame and to co-operate with sairl shafts to hold them and the supporting wheels in unfolded position, and co-operating trips between said shafts and handle bars to effect both a positive folding and unfolding of the contrivance, substantially as set forth.
No. 99,877. Smelting Furnace. Fondevic.

Fig.


Walter George Perkins, San Franclsco. Californla, U.S.A., 3rd July, 1906; 6 years. Filex 2nd April, 1!06. Recelpt No. 134,538.
Claim.-1. In a smelting furnace a hollow structure, the interlor of which is contracted between the two divisions.
with means for generating heat from an exterior source in the lower portion of the structure and means for conveying part of said heat to upper part of chamber other than through the mass contained therein.
2. In a smelting furnace a hollow structure, formed in two sections and having an interior contraction, means for generating heat from an exterior source of supply and means for removing the lower section, substantially as and for the purpose described.
3. In a smelting furnace, a hollow structure formed in two sections and having its interior contracted at the point of union of said sections, means for generating heat from an exterior source, and means for removing the lower section.
4. In a smelting furnace, a hollow structure formed in two sections and having its interior contracted at the point of union, means for introducing a blast of air into the upper section above said contracted portion, means for introducing heat from an external source into the lower section, and means for introducing air into the lower section.
5. In a smelting furnace. a hollow structure formed in two sections, the lower end of the upper section being contracted and provided with an opening, and the lower section being provided with a chamber which communicates with said opening, means for introducing a blast of air into the upper section above the contracted portion and means for introducing an inflammable gas into the chamber of the lower section.
6. In a smelting furnace a hollow structure formed in two sections, the lower end of the upper section being contracted and provided with an opening, and the lower section being provided with a chamber and a throat leading therefrom to said opening, means for introducing a blast of air into the upper sehtion above the contracted portion and means for introducing an inflammable gas into the chamber of the lower section.
7. In a smelting furnace a hollow structure formed in two sections, the lower end of the upper section being contracted and provided with an opening, and the lower section being provided with a chamber and a throat leading therefrom to said opening, means for introducing a blast of air into the upper section above the contracted portion and means for introducing an inflammable gas and an air blast into the chamber of the lower section.
8. In a smelting furance a hollow structure formed in two sections, the lower section being removable and provided with a throat which is adapted $t$ register with the lower end of the upper section, a discharge outlet and meanis for introducing jets of gas into said chamber.
9. In a smelting furnace a hollow structure formed in two sections, the lower section being removable and provided with an arched chamber and a throat leading from the top of the arch and adapted to register with the lower end of the c:pper section, a discharge outlet and gas pipes projecting into said chamber, the ends of which are contracted and curved.
10. In a smelting furnace a hollow structure formed in two sections, the lower section being removable and comprising an outer shell and an inner lining, said lining being removable and having a chamber formed therein with an upwardly extending throat adapted to communicate with the lower end of the upper section and means for introducing inflammable gas into said chamber.
11. In a smelting furnace a hollow structure formed in two sections. the lower section being removable and comprising an outer shell and an inner lining, said lining being removable and having a chamber formed therein and throat adapted to communicate with the lower end of the upper section and means for introducing gas into said chamber.
12. In a smelting furnace a hollow structure formed in two sections, the lower section being movable vertically and removable, and provided with a chamber adapted to communicate with the lower end of the upper section. screws for moving said section vertically, wheels for supporring it when it is removed, and pipes adapted to project into the chamber and supply the same with gas or air when the section is elevated into contact with the upper section.
13. In a smelting furnace a hollow body, means for charging and roasting or desulphurizing the material in the upper part thereof and smelting the residue in the lower portion by means of heat applied from a gaseous fuel, said process being continuous and the roasted product passing to the smelting zone by gravity.
14. In a smelting furnace, a hollow receptacle, means for applying heat and introducing air, and means for varying the heat zone within the mass by transferring a portion of the heat from the bottom of the mass to a point abuve the bottom.
15. In a smelting furnace, means for varying the location of the heat zone in the interior of the furnace by transferring a portion of the heat from the bottom to said interior otherwise than by passing it up through the mass of material.
16. In a smelting furnace, means for introducing air into te interior of the furnace and means for heating the same be-
fore it enters the furnace by a portion of the heat from the bottom of the furnace.
17. In a smelting furnace, means for generating heat at or near the bottom of the furnace, means for introducing air to the interior at the side of the furnace, and a conduit from the means at the bottom to the means at the side for conveying heat from the bottom to the interior of the furnace without passing it up through the mass of material.
18. In a smelting furnace, means at the bottom thereof for bottom of a mass of material and means for creating a forced draft upon the exterior of the mass thereby withdrawing heat units and introducing thm into the mass at a point above the bottom.
19. In a smelting furnace, means at the bottom thereof for generating heat from a gaseous fuel, means for introducing air through the side of the upper or lower receptacles, and a valved conduit leading from the heating means at the bottom to the means of introducing said air for conveying said heat and introducing it into the receptacle above.
20. In a smelting furnace, a double chambered receptacle, a wind box around one of the chambers, a condust leading from the other chamber and means for generating heat in said other chamber from a gaseous fuel.

No. 99,878. Saw Clamp, Set, Etc. Serre pour scies, etc.


Camille Baillargeon, Blind River, Ontario, Canada, 3rd July,
1906; 6 years. Filed 11th August, 1905. Receipt No. 127,605. Claim.-1. In a device of the character described, supporting members adapted to receive a saw intermediate thereof, means for clamping the saw, and a block secured to the supporting members and provided with a vertical slot from its under side and provided with intersecting slots from its upper side.
2. In a device of the character described, supporting members adapted to receive a saw intermediate thereof, means for clamping the saw and a block secured to the supporting members and provided with a vertical slot from its under side and provided with intersecting slots from its upper side, each of said intersecting slots having an incnned bottom.
3. In a device of the character described, supporting members adapted to receive a saw intermediate thereof, means for clamping the saw and a guiding block provided with a lug thereon, a securing member connecting the lug to one of the supporting members, a securing member connecting the opposite end of the block to the other of the supporting members, and said block being provided with file and saw guiding slots.
4. In a device of the character described, supporting members, a guide block carried by said members and provided with slots, an insertible stop member carried by the block, and means for clamping a saw.
5. In a device of the character described, supporting members, fle guiding means carried by the supporting members, and a clamp comprising a lug on one of the supporting members and provided with a recess, a thumb screw carried by the lug , and a block disposed on the thumb screw in said recess.
6. In a device of the character described, supporting members one of which is provided with a recess, a slidable member disposed in the recess, means for actuating the slidable member, a bridge across said recess, a screw disposed through the bridge, a block on said screw, and means for clamping a saw.
7. In a device of the character described, supporting members one of which is provided with a recess, a slidable member disposed in the recess, means for actuating the slidable member, means for limiting the movement of the slldable member, a thumb screw disposed through a slot provided in
cine of the aupporting members and engaging the slidable member, and means for clamping a saw.
8. In a device of the character described, supporting members provided with a rectangular depression therein, clamping means on the supporting members, means disposed in said depression for guiding a flle in an inclined and a horizontal plane, means for securing the guiding means in position, means for gulding a saw, and means for clamping a saw.
9. In a device of the character described, supporting members, a slotted block disposed on the supporting members and provided with an inclined face and a horizontal face, screws securing the block in position, a yoke disposed in the block and provided with a long arm and a short arm, the long arm being disposed in an opening and the short arm terminating in a recess in the block, a plurality of nuts on the shont arm, and means for clamping a saw.
10. In a device of the character described, supporting members, means for guiding a flle in a horizontal plane and in a plane at an angle to the horizontal, a clamping member on the supporting members, a setting member, means for actuating the setting member and spreading the clearing teeth of a saw comprising a standard carried by each supporting member, a spacing block intermediate of the standards, a thumb screw disposed through the standards, a handle on the thumb screw, and a hammer on the handle provided with a blunt end and a pointed end.
11. In a device of the character described, supporting members, means for guiding a file in a horizontal plane and a plane at an angle to the horizontal, means for maintaining a saw intermediate of the supporting members, a pivoted hammer carried by the supporting members, and means for supporting the hammer in an inoperative position comprising a rotatable standard provided with an angular extension thereon.

No. 99,879. Vehicle. Véhicule.


William H. F. Blume, Saint Louis, Missourl, U.S.A., 3rd July, 1906; 6 years. Filed 8th May, 1906. Receipt No. 135,675.
Claim.-1. The combiration with a stanhope body, of a supporting bracket hinged to the rear side of said stanhope body, and a coupe constructed to be positioned on the bracket against the stanhope body, substantially as specified.
2. The combination with a stanhope body, of a supporting bracket hinged to the rear end of said stanhope body, and a coupe body detachably secured to the stanhope body and supported by the bracket, substantially as specified.
3. A vehicle body comprising a stanhope body, a bracket h!nged to the rear side of said stanhope body, a coupe body edapted to be positioned against the rear side of the stanhope body upon the bracket, and locking devices for securing the bodies together, substantially as specified.

## No. 99,880. Numbering Mechanism.

 Mécanisme de numéroter.Lavid Carlaw, Sr., David Carlaw, Jr., Alexander Lyle Carlaw and James White Carlaw, co-inventors, all of Glasgow, Scotland, 3rd July, 1906; 6 years. Filed 1st March, 1906. Receipt No. 133,421.
Claim.-1. In numbering mechanism the combination with a surface for receiving impressions of numbering means, said means being automatically moved back rind forward laterally so as to bring the numbers into corect printing position.
2. In numbering mechanism the conibination with a surface for receiving impressions of a vumbering disc having numbers thereon, said disc being automatically moved back and forward laterally so as to bring the numbers into correct printing position.
3. In numbering mechanism the combination with a surface for receiving impressions of numbering discs having

numbers thereon, said discs belng automatically moved back and forward laterally so as to bring the numbers into correct printing position.
4. In numbering mechanism the combination with a surface for receiving impressions of a numbering disc having ridges with members thereon, said disc being automatically moved back and forward laterally so as to bring the numbers into corect printing position.
5. In numbering mechanism the combination with a surface for receiving impressions of a numbering disc having two parallel and circumferential ridges thereon, each ridge having a set of numbers, said disc being automatically moved back ahd forward laterally so as to bring the numbers into correct printing position.
6. In numbering mechanism the combination with a sur face for receiving impressions of a numbering disc, a sleeve, a shaft, and means for automatically moving the sleeve back and forward laterally on the shaft.
7. In numbering mechanism the combination with a surface for receiving impressions, of a shaft, a sleeve on the skaft, a numbering disc adjustably fitted on the sleeve, a lever for moving the sleeve laterally and means for operating the lever.
8. In numbering mechanism the combination with a surface for receiving impressions, of a shaft, a sleeve on the shaft, a numbering disc adjustably fitted on the sleeve, a lever for moving the sleeve laterally, a cam for operating the lever and means for rotating the cam.
9. In numbering mechanism the combination with a surface for receiving impressions of a strip let into sald surface, a raised part on the strip, numbering means, and means for shifting said uumbering means laterally.
10. In numbering mechanism the combination with a cylindrical surface for receiving impressions of a strip let into said surface along a line which is parallel to the axis of the cylindrical surface, a raised part on the strip, numbering means and means for shifting said numbering means laterally.
11. In numbering mechanism the combination with a surface for receiving impressions, of a shaft, a sleeve on the shaft, numbering discs adjustably fitted on the sleeve, a lever for moving the sleeve laterally, a cam for operating the lever, means for sliding the cam and means for operating the said sliding means.
12. In numbering mechanism the combination with an im pression cylinder, of a shaft for sald cylinder, a second parallel shaft, means for driving the second shaft from the first shaft, a sleeve on the second shaft, numbering discs on the sleeve, a lever for moving the sleeve laterally on its shaft. a cam on the cylinder shaft for operating sald lever, means for moving said cam laterally on its shaft, a second cam for operating said moving means and mechanism for rotating the second cam
13. In numbering mechanism the combination with an impression cylinder, of a shaft for said cylinder, a second par allel shaft, means for driving the second shaft from the first shaft, a sleeve on the second shaft, numbering discs on the sleeve, a lever for moving the sleeve laterally on its shaft, a cam with two grooves slidably fltted on the cylinder shaft a bar with pin engaging one of the grooves, a sccond cam adapted to engage a second pin on the said bar and worm gearing for operating said second cam.

No. 99,881. Brake. Freín.


Joseph Carr, Lexington, Missouri, U.S.A., 3rd July, 1906; 6 years. Filed 4th May, 1906. Receipt No. 135,522.
Claim.-1. In a brake of the kind described the combination with a sectional shoe, of a crank connected to said shoe, and operative means connected to said crank, for the purpose described.
2. In a device of the kind described the combination with a hub, of a sectional shoe loosely supported under sald hub and means connected to said shoe for drawing it against the hub, for the purpose described.
3. In a device of the kind described the combination with a hub, of a sectional shoe loosely supported under said hub at one end by a chain, and at the other end by a chain connected to a crank, and means connected to sald crank for operating said shoe, for the purpose described.
4. In a device of the kind described the combination with a wagon provided with a crank, of a sectional shoe adapted to be supported loosely under the hub of the wheel by chains, one of the chains being connected to the wagon, the other chain being connected to the crank, and a lever connected to said crank, for the purpose described.
5. In a device of the kind described the combination with a wagon provided with a crank, of curved blocks pivotally connected together, supported at each end by chains under the hub of the wheel, one chain being connected to the wagon, the other chain to the crank carried by the wagon and a lever carried by the wagon for operating the said crank, for the purpose described.

No. 99,882. Building System.
Système de construction.


George W. Chantigney and Joseph P. Morency, co-inventors, both of Montreal, Quebec. Canada. 3rd July, 1906; 6 years. Filed 25th November, 1905. Receipt No. 130.421.
Claim.-1. A building construction comprising solid foundation walls formed from plastic material, a plurality of vertical walls formed from plastic material and disposed on the foundation walls and provided with a dead air space therebetween and provided with inclined ducts leading from the dead air space, and floor joists formed from plastic material and reinforced with beams.
2. A building construction comprising foundation walls, vertical side walls comprising a plurality of members and provided with a dead air space therebetween, webs connecting the members of the vertical walls at intervals and provided with openings to permit the circulation of air, solfd partitions formed from plastic material, and reinforcing members joining the partitions to the vertical walls.
3. A building construction comprising solid foundation walls formed from plastic material, a plurality of vertical walls formed from plastic material and disposed on the foundation walls and provided with a dead air space therebetween and provided with inclined ducts leading from the dead air space, means for connecting the walls, and floor joists formed from plastic material and reinforced with beams.

No. 99,883. Cigar Vending Machine.
Machine pour la vente des oigares.


Edmond N. Cusson, Montreal, Quebec, Canada, 3rd July, 1906; 6 years. Filed 11th October, 1905. Recelpt No. 129,133. Claim.-1. In a device of the character described, a casting adapted to support a plurality of cigars, a movable member adapted to release one clgar and provided with integral lugs adapted to engage under the rest of the clgars when one cigar is being released, and coin actuated means for sald releasing member.
2. In a device of the character described, a rockable semitubular member provided with projections on its ends, and coin actuated means adapted to rock said member.
3. In a device of the character described a rockably supported semi-tubular member provided with lugs thereon, a rockable member disposed within said semi-tubular member, and coin actuated means adapted to rock sald members.
4. In a device of the character described, a rockable member provided with integral lugs and provided with a slot through one of said lugs, a second rockable member disposed within the first rockable member and provided with a pin disposed through said slot, and coin actuated means adapted to rock sald members.
5. In a device of the character described. a supporting frame provided with depending flanges on its upper transverse member, a rockable semi-cylindrical member carried by the frame and provided with lugs adjacent its ends, a rockable member disposed within said semi-cylindrical member. means adapted to rock said member disposed within said semi-cylindrical member after said semi-cylindrical member has been partly rocked.
6. In a device of the character described, a supporting frame provided with depending flanges. a lockable member carricd by said frame, a member pivotally supported within said rockable member and provided with a lip adapted to engage one of said depending flanges, means normally maintaining said members in one position, and coin actuated means adapted to rock said members.
7. In a device of the character deacribed, a casing, a hinged door thereon, a delivery spout through the door, a coln guide through the door, a coin chute in the casing adjacent the guide and provided with a magnetized bottom, a member adapted to be rocked by a coin deposited in the chute, and releasing members actuated by the rockable member.
8. In a device of the character described, a casing, a rockable shaft provided with a slot adapted to receive a coin, a frame rockably disposed on the shaft, means normally holding the frame in one position a contact member on said frame in the path of movement of a coin deposited in the slot of said rockable shaft, and releasing members connected with the frame.
9. In a device of the character described, a casing, a rockable shaft supported therein and provided with a slot adapted to receive a coin, a frame rockably disposed on the shaft, a spring normally holding the frame in one position, a contact member on the frame in the path of movement of a coin deposited in the slot of said rockable shaft. and releasing members connected with the frame.
10. In a device of the character described, a casing, a rockable shaft provided with a slot disposed within the casing and adapted to recelve a coin, a frame rockably disposed on the shaft, means normally holding the frame in one position. a rotatable contact member on said frame in the path of movement. of the coin deposited in the slot of said rockable shaft, and releasing members connected with the frame.
11. In a device of the character described, a casing, a rockable shaft disposed within the casing and provided with a slot adapted to receive a coin, a frame rockably disposed on the shaft, means normally holding the frame in one position. a spring pressed rotatable contact member carried by said frame in the path of movement of a coin deposited in the slot of said rockable shaft, and releasing members connected with the frame.
12. In a device of the character described, a casing, a supporting frame provided with a vertical partition and secured within the casing, a rockable shaft carried by said frame and provided with a slot adapted to receive a coin. a bracket secured to sald partition, adapted to support sald shaft and provided with a plurality of lugs thereon, a rockable frame disposed on said slotted shaft, a pivoted shaft carried by said frame adapted to contact against said lugs. a roller on said frame in the path of movement of a coin dieposed in said slot in sald shaft, a spring carried by said frame and adapted to depress said shaft carrying said roller, said latter shaft being adapted to ride over said lugs when sald frame is rocked by a coln, and releasing means connected to said rockable frame.
13. In a device of the character described, a casing, a supporting frame disposed in the casing. a slotted shaft carried by the frame, means for preventing rotation of the shaft in one direction, a rockable frame carried by the shaft. a contact member carried by the frame in the path of movement of a coin disposed in the slot in sald shaft, and releasing members connected to sald rockable irame.
14. In a device of the character described, a casing, a supporting frame lisposed in the casing. a slotted shaft carried by the frame and a ratchet on said shaft, a pawl adapted to engage sald ratchat, and a spring adapted to press sald pawl into engagement with the ratchet, a rockable frame carried by the shaft, a contact member carried by the frame in the path of movement of a coln disposed in the slot in said shaft. and releasing members connected to said rockable frame.
15. In a device of the character described. a casing, a rockable irame disposed within the casing, a slotted shaft disposed within said frame to one side of its axis, a contact member carried by the frame in the path of movement of a coin disposed in the slot in said shaft, and rockable releasing means connected to said frame.

## No. 89,884. Core for Concrete.

Noyau pour construction en béton.
dugust Phillip Diescher, Pittsburg, Pennsylvania, U.S.A., 3rd July, 1906; 6 years. Flled 24th March, 1906. Receipt No. 134,237\%
Olaim.-1. A flat metal bar for use as a core or tle rod for concrete structures having pockets or recesses in its opposite sides for the reception of portions of the concrete, said pockets or recesses having walls on all sides.
2. A flat metal bar for use as a core or tie rod for concrete structures having pockets or recesses in its sides and having protuberances along its edges in line transversely with the pockets or recesses.
3. A flat metal bar for use as a core or tie rod for concrete structures having pockets or recesses in its opposite sides, the pockets on one side being opposite these on the other side.
4. A flat metal bar for use as a core or tie rod for concrete structures having pockets or racesses in its sides, said

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pockets being arranged opposite each other and having protuberances along its edges in line transversely with the pockets or recesses.

5. A flat metal bar for use as a core or tie rod for concrete structures, the metal of the bar being displaced at intervals along its length to form pockets or recesses, and protuberances in line transversely with the pockets or recesses.
6. As an improvement in the art of forming cores or tie rods, which consists in depressing portions of the metal at intervals along a metal bar or rod to form pockets or recesses, having walls on all sides, and forcing the depressed metal laterally to form protuberances.

## No. 99,885. Process of Producing Textile Fibres.

 Procédé pour la construction des tissus textiles.Fritz Fuchs, Vienna, Austria, 3rd July, 1906; 6 years. Filed 9th December, 1905. Receipt No. 130,851.
Claim.-1. A process for obtaining textlle flbre from reeds. ruches and other fibrous matter, which process consists of tightly pressing the flbrous matter together and exhausting the air therefrom, then treating the fibrous matter to a bath of caustic lye, then removing the superfluous lye thereform, then washing the flbrous matter, and then drying it.
2. A process for obtaining textile flbre from reeds, rushes and other fibrous matter, which process consists of tightly pressing the fibrous matter together and exhausting the air therefrom, then treating the fibrous matter to a bath of caustic lye, then removing the superfluous lye therefrom, then washing, acidifying and drying the fibrous matter to obtain the textile fibre.
3. A process for obtaining fibre from reeds, rushes and other fibrous matter, which process consists of tightly pressing the fibrous matter together and exhausting the air therefrom, then treating the fibrous matter to a bath of caustic lye, then removing the superflunus lye, then heating the treated vegetable matter to a selected temperature, then iressing, washing, acidifying and drying the fibrous matter to obtain the textile fibre.

No. 99,886. Pianoforte. Piano-forte.


John W. Galloway, Linton, Indiana, U.S.A., 3rd July, 1906; 6
years. Filed 28th May, 1906. Receipt No. 136.323
Claim.-1. A string frame for planoforte and like musical itstruments having an approximately circular opening and a sounding board of corresponding shape fitted in said opening.
2. A string frame for planofortes and like musical instruwents having an opening of approximately circular outline. a sounding board arranged within sald opening, and a rim encircling the sounding board and flling the space between it and the wall of the said circular opening of the string prame.
3. A string frame for pianofortes and like musical instruments having an opening of approximately circular outline, a sounding board arranged within said opening, and a rim encircling the sounding board and filling the space between it and the wall of the said circular opening of the string frame, said rim being firmly attached to both the sounding board and string frame.
4. A string frame for pianofortes and like musical insiruments having an opening of approximately circular outline, a sounding board arranged within said opening, and a rim encircling the sounding board and fllling the space between it and the wall of the said circular opening of the string irame, said rim being of wood and having a circular outline.
5. A string frame for pianofortes and like musical instruments having an opening of approximately circular outline, a sounding board arranged within said opening, and a rim encircling the sounding board and filling the space between it and the wall of the said circular opening of the string frame, said rim being of wood and of a laminated structure, the layers being secured to one another and to the sounding board and the string frame.
6. A string frame for pianofortes and like musical instruments provided with an opening of approximately circular outline adapted to receive a sounding board, and strings extending across the opening of the string frame and attached t.. the latter at opposite points.
7. A string frame for pianofortes and like musical instrun:ents having an opening of approximately circular outline a sounding board of corresponding shape to said opening and fitted therein, and a continuous bridge attached to said sounding board.
9. A string frame for pianofortes and like musical instruments provided with an opening of approximately circular outline, a sounding board of corresponding shape to the opening and fitted therein, and a rim snugly fitting within said opening of the string frame and having its inner wall rabetted to form a seat for reception of the sounding board, the three parts being firmly united or bonded.

No. 99,887. Water Elevator. Elérateur à eau.


James A. Goodner, Rocky Ford, Colorado, U.S.A., 3rd July, 1906; 6 years. Filed 18th January, 1906. Recelpt No. 131,983.
Claim.-1. In a water elevator a casing, a sprocket wheel supported in said casing, the latter being provided with openings for the accommodation of sald sprocket wheel and for downgoing and upgoing pistons, a cylinder having flaring flanged ends, said cylinder being supported upon the casing in alignment with the opening for the upgoing piston members, a conducting pipe connected with the upper end of the cylinder, said conducting pipe being of an interior diameter greater than that of the bore of the cylinder, a lateral exit upon said conducting pipe, separable top members for the latter, having supporting brackets, a shaft journalled in said brackets, a sprocket wheel upon said shaft, an endless chain supported upon the upper and lower sprocket wheels, piston members carried by said chain, and packing rings upon said
piston members, the sprocket wheels being provided with recesses for the accommodation of said piston members.
2. A piston for water elevators consisting of a disc provided on its upper and undersides with aproximately semicircular yokes crossing each other at right angles.
3. A piston for water elevators consisting of a disc provided on its upper and under sides with approximately semicircular bails crossing each other at right angles and means for connecting said bails with adjacent chain links.
4. A piston for water elevators consisting of a disc provided on its upper and under sides with semi-circular yokes or bales crossing each other at right angles, said disc having an annular groove, and a packing ring seated in said groove.
5. A piston for water elevators consisting uf a disc provided on its upper and under sides with semi-circular yokes crossing each other at right angles, a hook member and a link member connected with said yokes at their points of intersection at opposite sides of the disc, and a packing ring seated in a groove in the latter.
6. A piston for water elevators consisting of a disc, two bail members, each comprising two semi-circular yokes crossing each other at right angles and means for connecting said bail members with each other and with the disc.
7. A piston for water elevators consisting of a disc having an annular groove and a packing ring seated in said groove, two bail nembers, each comprising a pair of yokes crossing each other at right angles, said bail members abutting upon opposite sides of the disc and a connecting bolt extending through said bail members at the points of intersection of the yokes composing the same.

No. 99,888. Brake. Frein.


Franklin A. Hawk, Central Point, Oregon, U.S.A., 3rd July, 1906; 6 years. Filed 29th May, 1906. Recelpt No. 136,390. Claim.-1. A brake bar, a brake shoe clip, adjustably mounted on the outer end of the brake bar, a step pendently supported on the said outer end of the brake bar and a means for clamping the clip and the step member to the brake bar, adapted to permit of the adjustment of the clip and the step with respect to the said brake bar, in unison.
2. A brake bar, a brake shoe clip, a step pendently support. ed on the outer end of the brake bar, a single clamping bolt and nut device passing through the step, the brake bar and the brake shoe clip for securing the shoe clip to the step, said brake shoe clip and said step including means for engaging the brake bar to prevent turning of the brake shoe clip and the step on the bolt, substantially as shown and described.
3. In a brake mechanism of the character described the combination with a slotted brake bar end, the shoe clip and the bolt secured to the clip and projected through the slot in the brake bar, of the step member having a clamping head provided with flanges to project with flanges to project over the upper and lower edges of the brake bar and apertured to receive the shank, and the clamping nut.

No. 99,889. Machine for Forming Blooms on Nuts, Tubes, Etc.
Machine potr former des loupes sur les noix, tubes, etc.


John George Inshaw, Church Hill House, Handsworth, near Birmingham, England, 3rd July, 1906; 6 years. Filed 21st November, 1905. Receipt No. 130,280.
Claim.-1. In apparatus for forming hollow metal blooms of the kind hereinbefore referred to the combination of a series of pairs of rolls and a bending or skelping machine, the pairs of rolls being arranged successively one in advance of another and the under rolls being provided with projections to form wedge-shaped or triangular recesses in the underside of the metal operated on and the bending or skelping machine being arranged to receive the rolled metal and bend it downwards and inwards so that detached scale will not be retained in the grooves or between the surfaces to be welded, all substantially as hereinbefore described.
2. In apparatus for forming hollow metal blooms of the kind hereinbefore referred to the combination of a series of pairs of rolls and a bending or skelping machine the pairs of rolls belng arranged successively one in advance of another and the under rolls being provided with projections to form wedge-shaped or triangular recesses in the underside of the metal operated on the first upper roll or rolls having rings or ribs, and the last pair of rolls or pairs of rolls being curved longitudinally, and the bending or skelping machine being arranged to receive the rolled metal and bend it downwards and inwards so that detached scale wil not be retained in the grooves or between the surfaces to be welded, all substanllally as herelnbefore described.
3. In apparatus for forming hollow metal blooms the combination of a series of pairs of horizontal shaping rolls the under rolls of which present a series of annular projections triangular in cross section and a series of pairs of bending or skelping rolls with means for operating said rolls, substantially as described and for the purpose set forth.
4. In apparatus for forming hollow metal blooms the combination of a series of pairs of horizontal shaping rolls, the under rolls of which present a series of annular projections triangular in cross section. and a series of pairs of bending or skelping rolls of which the upper roll of the first pair presents a concave surface and the under roll of such pair presents a convex surface, substantially as described and for the purposes set forth.
5. In apparatus for forming hollow metal blooms the combination of a series of pairs of horizontal shaping rolls, the under rolls of which present a series of annular projections trlangular in cross section, and a series of pairs of bending or skelping rolls of which the upper roll of the first pair presents a concave surface and the under roll of such pair presents a convex surface, while both rolls of the last pair of said skelping rolls present surfaces approximating the external shape in cross section of the bloom to be produced substantially as described and for the purposes set forth.
6. In apparatus for forming hollow metal booms. a series of pairs of shaping rolls A A, B B, C C, and D D. with means for operating same, the under rolls of each pair having a series of annular projections, the upper rolls of the pairs $C$ and $D$ presenting concave or curved surfaces and the lower rolls of such pairs $C$ and $D$ being of convex outline, substantially as described and for the purpose described.

No. 99,890. Wagon Brake. Frein de vagon.


Toris Nells Johnsen, Wilbur, Washington, U.S.A., 3rd July,
1906; 6 years. Filed 7th May, 1906. Recelpt No. 135,625.
Claim.-1. In a wagon brake the combination of the front and rear axles, the coupling poles, bolsters supported on the axles, standards on the bolsters, rollers Journalled in the standards longitudinally of the bolsters, rollers journalled in the individual standards longitudinally thereof, a wagon bed supported by the rollers, brackets on the bed, a cross bar secured to the coupling pole, bolts transversing the ends of the cross bar, and provided with upper and lower eyes, yokes engaging the upper eyes, rollers journalled in the arms of the yokes and engaging the brackets, eye bolts engaging the lower eyes, a brake beam secured to the eye bolts, brake shoes on the ends of the brake beam, bearings on the rear axle, a rock shaft journalled in the bearings, brackets on the sides of the bed and provided with perforations, upwardly extending arms on the ends of the rock shaft for engaging the brackets, a central depending arm on the rock shaft, and a rod connecting the depending arm with the brake beam
2. In a wagon brake the combination with the bed of a front and rear axle, the coupling pole, bolsters supported on the axles, standards on the bolsters, rollers journalled in the standards longitudinally thereof, means connected with the standards for supporting the wagon bed, a brake beam depending from the bed, means for maintaining the brake beam in flxed relation with respect to the coupling pole, brake shoes on the ends of the brake beam, a rock shaft journalled in the rear axles, brackets having a plurality of perforations secured to the bed, arms on the rock shaft for engaging the brackets, whereby the longitudinal movement of the bed may rock the shaft, and a connection between the rock shaft and the brake beam whereby the rocking of the shaft may operate the brake.
3. In a wagon brake the combination of a front and rear axle, bolsters having standards supported on the axles, a bed supported on the holsters. means whereby the bed may move longitudinally upon the bolsters, a brake beam depending from the bed, brake shoes on the ends of the brake beam, a rock shaft journalled on the rear axle, brackets having a nlurality of perforations secured to the bed, arms on the rock shaft for engaging the bracket, and connections between the rock shaft for engaging the bracket, and connections between the rock shaft and the brake beam whereby the rocking of the shaft may operate the brake.
4. In automatic wagon brakes the combination with the front and rear axles having wheels journalled thereon, of the reach connecting the axles, bolsters on the axles, standards on the ends of the bolsters, springs on each side of the holsters, hangers connected with the ents of the springs and the standards, a bed supported by the springs, horizontal
bars pivoted by their centers to the sides of the bed, vertical bars depending from the ends of the horizontal bars, a cross beam connected to the ends of the forward vertical bars above the reach, links on the ends of the cross beam, a brake beam supported by the links and having brake shoes for engaging the wheels, levers pivoted by one end to the ends of the rear pair of vertical bars. brackets depending from the bed and pivoted to the centers of sald levers, plates having perforations engaging the free ends of said levers and connected to the rear axle, and a connection between the bed and the brake beam for applying the brakes upon the forward movement of the bed with respect to the bolster.
5. In automatic wagon brakes the combination with the front and rear axles having wheels journalled thereon, of a bed supported for longitudinal and vertical movement with respect to the axles, horizontal bars pivoted by their centers to the sides of the bed, a brake beam depending from the front ends of the horizontal bars and having brake shoes engaging the wheels below the horizontal diameter thereof, and means connected with the rear ends of the horlzontal bars and engaging the rear axles for maintaining the brake shoes and the rear axle in a fixed vertical relation with respect to each other.
6. In automatic wagon brakes the combination with the front and rear axles having wheels journalled thereon, of a bed supported for longitudinal and vertical movement with respect to the axles, a brake beam supported by the bed and having brake shoes for engaging the wheels, a connection between the brake beam and the bed whereby the forward movement of the bed with respect to the axle will apply the brakes, and means for maintaining a fixed vertical relation between the brake beam and the axles.
7. In automatic wagon brakes the combination with the front and rear axles. of wheels on the axles, a bed movably supported on the axles, a brake beam supported below the bed and having shoes for engaging the neriphery of the rear wheels, means whereby the forward movement of the bed with respect to the axles will apply the brake shoes to the wheels, and means for preventing backward motion of the wheels when the wagon is at rest, comprising bands having ratchet teeth on the hubs of the rear wheels, pawls connected to the brake beams and normally engaging the ratchet teeth, a rock shaft pivoted longitudinally of the rear axle. and having projncifig arms provided with loops engaging the pawls, a handle for manipulating the shaft, and a bracket for retaining the handle in its adiusted position.
8. In automatic wagon brakes the combination with the front and rear axles, of wheels on the axles, a bed movably supported on the axles, breaking mechanism below the bed and adapted to engage the wheels. means whereby the forward movment of the bed with respect to the axles will actuate the breaking mechanism. and means whereby the backward movement of the wheels may actuate the breaking mechanism, comprising bands having ratchet teeth upon the hubs of the rear wheels, pawls connected with said braking mechanism and normally engaging the ratchet teeth, and means for retaining the pawls out of engagement with the teeth.
9. In automatic braking mechanism the combination with the front and rear axles, of wheels on the axles, a bed supported for longltudinal movement on the axles, breaking mechanism, means whereby the forward movement of the bed upon the axle will actuate the braking mechanism. and means whereby the backward movement of the wheels may actuate the braking mechanism, and means for restraining the operation of said last-named means.
10. In automatlc wagon brakes the combination with the front and rear axles and the wheels on the axles, of a bed supported for longitudinal movement on the axles, breaking mechanism, means whereby the forward movement of the bed with respect to the axles will actuate the breaking mech. anism, and means whereby the backward movement of the wheels may actuate the breaking mechanism.
11. In automatic wagon brakes the combination with the bed, of wheels for supporting the bed, breaking mechanism. and means wherebs the backward movement of the wheels will actuate said braking mechanism.
12. In automatic wagon brakes the combination with the front and rear axles having wheels thereon, of bolsters on the axles, standards on the ends of the bolsters, springs on each side of the bolsters, hangers connecting the ends of the springs with the standards, a bed resting on the springs, braking mechanism below the bed, and means whereby the forward movement of the bed with respect to the bolsters may actuate the breaking mechanism.
13. In automatic wagon brakes the combination with the front and rear avles having wheels journalled thereon, of bolsters on the axles, standards on the ends of the bolsters, braking mechanism, and means whereby the forward movement of the bed with respect to the bolsters may operate the braking mechanism.
14. In a wagon the combination with the front and rear axles, of a bed. springs interposed between the bed and the axles, a brake beam supported by the bed and depending therebelow, and means for retaining the brake beam in fixed vertical relation with respect to the axles.

## No. 99,891. Purffer and Soreen for Making Cellulose or Paper.

Epurateur et tamis pour faire du cellulose ou papier.


Leonhard Kruse, Zell in Wiesenthal, Baden, Germany, 8rd July, 1906; 6 years. Filed 27 th October, 1905. Receipt No. 129,574.
Claim.-In a pulp screen the combination with the trough $a$ having an opening $i$ in the end thereof and a conical surface $p$ adjacent said opening and the cylindrical screen adapted to revolve in said trough having a tubular portion $h$ passing through the opening $i$, of a rubber disc $o$ having an opening therein to admit of the passage therethrough of the tubalar portion $h$, means to fasten one portion of the rubber disc to the conical surface $p$ and a ring $r$ adjustably fastened to the tubular portion $h$ forming abutting means for the other portion of the rubber disc, substantially as set forth.

## No. 89,892. Linotype Machine. Machine linotype.

John Raphael Rogers, Brooklyn, New York, U.S.A., 3rd July. 1906; 6 years. Filed 9th March, 1905. Receipt No. 123.200. Claim.-1. In combination a slotted mould to form the lower portion of a linotype body co-operating slotted mat rices to form the upper part of said body, and division plates lying between the matrices and extending beyond the plane of the matrix characters to form slots in the linotype.
2. A slotted mould in combination with a serles of matrices having slots in align with and form a continuation of the mould, and characters or matrices proper at the bottom of the slots.
3. A series of matrices having slots to form the upper portion of a slug body and characters at the bottom of the slots in combination with matrices having like slots and no characters, and non-slotted plates lying between the matrices and extending above the plane of their characters, whereby the edge of the slug may be formed with raised characters, blank surfaces and rule receiving slots.
4. In a linotype machine a mould for a slug consisting of a rigid slotted portion to form the base of the slug, and a series of slotted separable members co-operating with the mould proper and forming jointly a mould for the upper part of the slug.
5. In combination a serles of matrices slot ted to form a mould, and plates siated between the matrices and dividing the slot into lengths or sections.
6. A composed line of table matrices comprising matrices deeply slotied to form a mould with characters at the bottom of the slots and corresponding matrices witn slots but no characters, whereby they are adapted to produce a slug having raised characters thereon with blank surfaces between them.
7. A set of matrices for producing figure tables comprising the deeply slotted matrices with characters therein and complementary matrices or division plates without slots.

8. In a linotype machine, a mould consisting of two cooverating slotted parts, one part consisting of composed rearrangeable members joined on a plane parallel with the printing face of the slug formed therein and separable at will.
9. In a linotype machine a mould consisting of a deeply grooved or slotted part, adapted to form the upper part of the slug body and the characters on its edge, and a co-operating separable part having a slot therethrough, that it may recelve metal at one slde and deliver it at the opposite side to the other mould member and also serve to give form to the base portion of the slug.

No. 99,893. Fleshing Apparatus. Echarnoir.


Laurente Rupp, Montreal, Quebec, Canada. 3rd July, 1906; 6 years. Filed 15th June, 1906. Receipt No. 131,855.
Claim.-1. A fleshing knife comprising the combination of a rotary cylindrical casing having a cutting edge, a casing adjustably disposed over the cylindrical casing, a guard plate disposed adjacent the blade and means for rotating the cylindrical casing.
2. A lieshing knife comprising the combination of a rotary cylindrical casing having a cutting edge, a casing adjustably disposed over the cylindrical casing and provided with a bevelled outer end, a guard plate disposed adjacent the blade and means for rotating the cylindrical casing.
3. A fleshing knife comprising the combination of a rotary cylindrical casing having a cutting edge, a casing disposed over the cylindrical casing, a guard plate adjustably secured adjacent the casing, and means for rotating the cylindrical casing.
4. A fleshing knife comprising the combination of a rotary cylindrical casing having a cutting edge, a casing disposed over the cylindrical casing , a guard plate disposed adjacent the cylindrical casing, and means for adjusting the guard plate laterally and horizontally.
5. A fleshing knife comprising the combination of a rotary cylinder having a cutting edge, a casing disposed over the cylinder. a guard plate disposed adjacent the cylinder and provided with a bevelled edge and a concave flange, and means for rotating the cylindrical casing.
6. A fleshing knife comprising the combination of a rotary cylinder having a cutting edge, a pedestal adjacent the cylinder, a casing disposed on the pedestal, a set-screw adjustably securing the casing, an adjustable guard plate carried by the pedestal, and means for rotating the cylinder.
7. A fleshing knife comprising the combination of a rotary cylinder having a cutting edge, a pedestal adjacent the cyllnder, a casing adjustably secured to the pedestal, a bracket disposed on the pedestal, a set-screw adapted to hold the bracket, a set-screw carried by the bracket, a guard plate provided with a slot adapted to receive the second set-screw, and means for rotating the cylinder.
8. In a fleshing knife the combination comprising a base plate, a rotary knife supported by the base plate, a pedestal on the base plate, a slotted plate on the pedestal, a casing carried by the slotied plate and disposed around the knife, a bracket disposed on the plate, a guard plate carrled by the bracket ,and means for rotating the knife.

No. 99,894. Rein Holder. Porte-rines.


Edward G. Stevens, Cranesville, Pennsylvania, U.S.A., 3rd July, 1906; 6 years. Filed 29th May, 1906. Receipt No. 136,375.
Claim-1. A rein holding attachment for harness consisting of anchoring stems, means for securing them longitudinally upon a portion of the harness, and a rearward extension movably connected to one end of the anchoring stems, sald extension having integral rein recelving portions.
2. A rein holding attachment for harness consisting of elongated anchoring stems having oppositely projecting extensions at one and thereof, parallel integral securing loops at the ends of the extensions, and a rearward extension movably connected to the other end of the stems and having a rein receiving portion.
3. A rein holding attachment for harness consisting of elongated anchoring stems, means for securing said stems at points between their ends, oppositely projecting extensions at one end of the stems and substantially at right angles thereto, parallel strap recelving loops integral with said extensions and at right angles thereto, a rearward extension to the stems, and means integral with said extension for surrounding reins.
4. A rein holding attachment for harness conslsting of anchoring stems, means for securing the stems to the harness
and a laterally adjustable rearward extension mounted upon and adjustably secured to the stems, said extension having a rein holding portion.
5. A rein holding attachment for harness consisting of anchoring stems, means for securing them to the harness, and a longitudinally and laterally adjustable rein holding extension connected to the stems.

No. 99,895. Horse Releaser.
Appareil d deteler les chevauc.


John B. S. P. Twaha, Spokane, Washington, U.S.A., 3rd July, 1906; 6 years. Filed 21st April, 1906. Receipt No. 135,151.
Claim.-1. A horse releaser comprising a singletree, trace engaging arms pivoted at one end to the singletree and lying normally with their other ends against the singletree. collars revolubly engaged with the singletree and extending over the ends of the arms to hold the arms against pivotal movement, said collars having notches therein and being movable to bring their notches into position for the passage of the ends of the arms therethrough, means for holding the collars yieldably with their notches out of such position, fingers carried by the collars, and devices connected with the fingers and adapted for operation to move the collars against the action of the holding means.
2. A horse releaser comprising a singletree, rods engaged in the ends of the singletree and having spaced ears at their outer ends, trace engaging arms having angular end portions pivoted between the spaced ears, said arms lying normally with their opposite ends against the sngletree, collars revolubly mounted upon the singletree and exending over the ends of the arms to hold the latter in their normal positions, said collars having notches therein and being movable to bring their notches into position for the passage of the ends of the arms therethrough, eyes carried by the collars, spring rods secured at one end to the singletree and engaged at the other ends in the eyes, said rods being arranged to hold collars yleldably with their notches out of position for the passage of the ends of the arms therethrough, fingers carried by the collars and extending outwardly therefrom, s.nd cables secured to the fingers, said cables being adapted to be pulled to move the collars against the action of the spring rods.

No. 99,896. Hay Rack. Ratelicr à foin.
Joseph Vogel, Maxville, Missouri, U.S.A., 3rd July, 1906; 6 years. Filed 27th April, 1906. Receipt No. 135,324.
Claim.-1. A rack for hay wagons and the like comprising longitudinally extending main beams, transversely extending beams connecting the same, means sccured to the main beams for detachably engaging the bolsters of a vehicle, a pivoted standard connected to one end of the main beams, a rotatable device connected to the rear ends of the main leams, said device having tapered ends and rope engaging means at the extremities of the tapered portions.
2. A rack for hay wagons and the like comprising longitudinally extending main beams, transversely extending top and bottom beams fastened to the main beams, a pair of longitudinally extending slats secured upon the ends of the top beams, a wheel guard mounted upon each pair of slats, bolster engaging devices secured to and lepending from the
main beams, a standard pivoted to the main beams at one end, a rotatable device mounted upon the beams at the other

end, and having tapered extremities, and rope engaging devices at the small ends of said extremities.

No. 89,897. Mould. Moule.


Nelson A. Austin, Greenville, Illinois, U.S.A., 3rd July, 1906;
6 years. Filed 29th May, 1906. Receipt No. 136,388.
Claim.-1. An implement for shaping plastic material upon walls and the like consisting of a holder and a mould carrier thereby with its outer edge provided with an ornamental configuration.
2. An implement for shaping plastic material upon walls and the like comprising a head constituting a hawk, a handle projected centrally at one side of the head and mould carried by one edge of the head and projected upon the opposte side thereof with its outer edge provided with an ornamental configuration for the support of the plastic material.
3. An implement for shaping plastic material upon walls consisting of a holder having a handle, a mould carried by one edge of the holder with the outer edge of the mould provided with an ornamental configuration, and means to detachably secure the mould to the holder.
4. An implement for shaping plastic material upon walls comprising a holder having a handle, a seat upon one edge of the holder, and a mould having a shank projected at one edge thereof for detachable engagement with the seat of the holder and its opposite edge provided with an ornamental conflguration for the support of the plastic material.
5. An implement for shaping plastic material upon walls comprising a holder having a handle, a pair of spaced laterally offset seats carried by the holder, and a mould having cne edge provided with a shank for detachable engagement with the seats and its opposite edge being provided with an ornamental configuration for the support of the plastic material.
6. An implement for shaping plastic material upon walls comprising a head constituting a hawk, a handle projected centrally from the head and a mould fitting against and detachably connected to one edge of the head, said mould being projected beyond the head opposite the handle with said projected portion provided with an ornamental conflguration.
7. An implement for shaping plastic material upon walls consisting of a polygonal head having edges of different shapes, moulds shaped to fit the respective edges of the head sind provided with ornamental configurations, and means to detachably connect the moulds to the corresponding edges $0^{\circ}$ the head.
8. An implement for shaping plastic material upon walls comprising a polygonal head having a straight edge and a bowed edge, moulds to respectively fit the straight edge and bowed edges of the head and provided with ornamental configurations, and means to detachably connect the moulds to the head.
9. An implement for shaping plastic material upon walls comprising a polygonal head having a straight edge, a convexed edge and a concave edge, a straight mould for application to the straight edge of the head and a bowed mould for alternate application to the concaved and convexed edges of the head, and means to detachably connect the moulds to the head.
10. An implement for shaping plastic materials upon walls comprising a polygonal head constituting a hawk and provded with a straight edge, a concaved edge and a convexed edge, a handle projected centrally from one side of the head, corner brackets upon one and the same side of the head, seats upon the corner brackets, and moulds to fit the respective edges of the head, each mould having a shank to fit a pair of seats with the outer edge of the mould provided with ornamental configuration.

No. 99,898. Wagon Box, Hay Rack, Etc. Boîte de wagon, ratelier d foin.


Elias A. W. Beemer, Scotland, Ontario, Canada, 3rd July, 1906; 6 years. Filed 22nd November, 1905. Receipt No. $130,311$.
Claim.-1. A wagon box in combination with hay rack sides provided with arms extending downwardly and inwardly to
the bottom of the box and adapted to hook on to the upper edges of the box sides, and detachable means securing the lower ends of the arms to the bottom of the box, substant:ally as described.
2. A wagon box in combination with hay rack sides provided with arms engaging the sides of the box and extending downwardly and inwardly to the bottom of the box where they are pivoted together in pairs, a metal tongue secured to each arm extending past the pivot, and a metal plate secured to the wagon bottom and having a slot formed thereis adapted to receive the tongues when parallel to one another, and to engage them when crossed, substantially as described.
3. A wagon box in combination with hay rack sides provided with arms extending downwardly and inwardly to the bottom of the box and adapted to hook into the bottom of the wagon box and over the sides of the box, substantially as described.
4. A wagon box in combination with hay rack sides provided with inner arms dteachably secured to the bottom of the box inside and hooked on to the upper edges of the box sides, and outer arms detachably secured to the inner arms, substantially as described.
5. A hay rack side provided with inner and outer arms, and a socket piece secured to each inner arm into engagement with which the outer arms may be slipped from an outward upper direction, substantially as described.
6. A hay rack side provided with inner and outer arms, the latter notched at their inner ends, and a headed bolt secured to each inner arm and adapted to engage the said notches, substantially as described.
7. In a hay rack side inner arms having their upper sides cut on two different pitches, a headed bolt secured to each inner arm at or below the apex of the two pitches, and outer arms, each slotted to engage the bolt and recessed to receivo the head of the bolt, substantially as described.
8. A wagon box in combination with hay rack sides provided with inner arms suitably secured to the box, outer arms detachably secured at their inner ends to the inner arms and carrying longitudinal slats, rack ends provided with hooks to engage the upper edge of the box enas, a cross bar adapted to rest on the slats of the rack sldes, and latches by means of which the racks may be locked to the box, substantially as described.
9. A wagon box, a tail board having rearwardly facing hooks rigidly secured at one end and simllar hooks at the other end formed on a yoke lever pivoted on the tail board, and slotted plates secured to the sides of th box and with which th hooks may be engaged, substantlally as described.
10. A wagon box provided with sockets on its sides, rack sldes having arms engaged with said sockets, and provided at one end with vertical cleats forming guideways, a holding bar provided with an enlargement or hook at each end passing through apertures in the rack sides and engaging the outer sides of a cleat, and an end adapted to be slipped down between the cleats and hold the said bar in place, substantially as described.

## No. 99,899. Interest-Bearing Instrument of Oblication. $\Delta$ ppareil d calculer l'intóret.

Charles Hall Davis, Petersburg, Virginia, U.S.A., 8rd July, 1906; 6 years. Filed 5th April, 1906. Recelpt No. 134,643. Claim-1. An interest bearing instrument of obligation consisting of a body portion and a plurality of interest coupons, said coupons each provided with like columns of numerals in which may be designated the money value of the coupon at maturity.
2. An interest bearing instrument of obligation consisting of a body portion and a plurality of interest coupons, said coupons each provided with like columns of numerals in which may be designated the money value of the coupons at maturity and indicia associated with said columns of figures Fndicating the meaning or purport thereof.
3. An interest bearing instrument of obligation consisting of a body portion and a plurality of interest coupons, said coupons each provided with like columns of numerals in which may be designated the money value of the coupons at maturity and sald coupons being further provided with columns of figures adapted to be used to designate the face valve of the obligation.
4. An interest bearing instrument of obligation consisting of a body portion and a plurality of interest coupons, said coupons each provided with like columns of numerals in which may be designated the money value of the coupons at maturity and indicia assoclated with said columns of figures indicating the meaning or purport thereof, and said coupon being further provided with columns of figures adapted to be used to designate the face value of the obligation.
5. An interest bearing instrument of obligation consisting of a body portion and a plurality of interest coupons in sheet form, the several coupon sheets being arranged in superposed
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relation and each coupon provided with like columns of numerals in which may be designated the money value of the coupons at maturity.

6. An interest bearing instrument of obligation consisting of a body portion and a plurality of interest coupons in sheft form, the several coupon sheets being arranged in superposed relation and each coupon provided with like columns of numerals in which may be designated the money value of the coupons at maturity, said coupons also being provided with columns of numerals adapted to be used to designate the face value of the obligation.
No. 99,900. Woll Drill. Fôrets pour puits.
John R. Griffith and Leslie G. Gosper, co-Inventors, both of Independence, Kansas, U.S.A., 3rd July, 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,239.
Claim-1. In a well drilling machine a main shaft, a drum upon said shaft extended to form a clutch member, a hub slidable upon and connected for rotation with the shaft and having a clutch member and a sprocket wheel, and a band wheel upon the shaft adapted to receive motion from the source of power.
2. In a well driling machine a driven main shaft, a drum upon said shaft having flanges connected therewith and recesses therein, anti-iriction rollers seated in the recesses, collars upon the shaft to confine the rollers in the recesses, and a bull wheel clamped between one of the flanges and an auxiliary ring.
3. In a well drilling machine a driven main shaft, a drum upon said shaft having flanges connected therewith and recesses.therein, anti-friction rollers seated in the recesses, collars upon the shaft to confine the rollers in the recesses, an auxiliary ring at one end of the drum, a bull wheel clamped between said ring and the proximate flange, a clutch member at one end of the drum, and a hub splined upon the shaft and having a clutch member and a sprocket wheel.
4. In a well drilling machine a main shaft, a band wheel. hub members mounted upon the shaft and clamping the band wheel between them, one of said hub members being composed of segments connected by means of clamping bolts, and a.key or spline cannecting the hub members with the shaft, gald key or spline being clamped upon the shaft by the segments of one of the hub members.
5. In a well drilling machine a main shaft having a bull wheel drum provided with a clutch member, a hub slidable
upon the shaft and having a olutch mamber on the sprocket upon the shaft and having a olutch mamber on the counter-
wheel, a countershaft, a drum loosely engaging the

shaft and having a clutch member, and a clutch slidable upon
countershaft and adapted for engagement with the member on the drum.
6. In a well drilling machine a main shaft having a bull wheel drum provided with a clutch member, a slidable hub spined upon the main shaft and having a clutch member and a sprocket wheel, a countershaft, a sprocket wheel on the countershaft. a link belt connecting the latter with the sprocket wheel of the hub upon the main shaft, a casing line spool upon the countershaft having a clutch member, and a clutch member slidable upon the countershaft between the casing line spool and the sprocket wheel.
7. In a well drilling machine a main shaft, a countershaft, means for transmitting motion to the latter from the main shaft, a casing line spool loosely engaging the countershaft, a spudding crank fixed upon the latter, and a clutch member upon the countershaft adapted for engagement with the casing line spool.
8. In a well drilling machine a main shaft having a band wheel, a sand reel shaft having a friction pulley adapted to engage the band wheel, and a lever affording a bearing for one end of the sand shaft, said lever being longitudinally divided and composed of two suitably connected members and a washer plate intermediate said members.

No. 99,901. Ore Jigger. Tamis d minerais.


Henry Lipson Hancock, Moonta Mines, South Australia, Australia, 3rd July, 1906; 6 years. Filed 29th March, 1906. Recelpt No. 134,414.
Chaim-1. In jigging machinery for dressing ores a device supported upon the ore body and capable of rising and falling with it for the collection and removal from above the moving sleve of any desired grade or strata of material held wholly or partially in suspension in strata according to gravity under the infuence of the pulsating or jlgging motion.
2. In jigging machinery for dressing ores a collector supported upon the ore body and capable of rising and falling With it, having adjusting means so as to receive and draw off from above a moving sleve any desired strata or grade of material which is held wholly or partially in suspension according to its gravity by the pulsating or figging motion, stibstantially as described.
3. In jigging machinery for dressing ores a collector supported upon the ore body and capable of rising and falling upon it, and having one or a series of valves or adjustable mouth pleces for reciving and drawing off from above a moving sleve any desired strata or grade of material held wholly or partially in suspension according to its gravity by the pulsating or jigging motion substantially as described.
4. In jigging machinery for dressing ores, two or more collectors supported upon the ore body and capable of rising and falling with it, and arranged so as to receive and draw off the various strata and grades of material from above a moving sieve by the pulsating or jlgging motion, substantially as described.
5. In jigging machinery for dressing ores, drawing off the slimes and fine sands from the body of material in suspenslon above a moving sieve by a collector supported upon the ore bed and adapted to rise and fall with it and the sieve, substantially as described.
6. In jigging machinery for dressing ores a collector for drawing off the slimes and flne sands from the body or material above the moving sleve or other perforated bed, the said collector being connected with piping passing through the moving sieve and the side of the hutch and having flexible unions so as to rise and fall with the sieve and the material in the sieve, substantially as described.

No. 99,902. Ore Jigger. Tamis d minerais.


Henry Lipson Hancock, Moonta Mines, South Australia, Australia, 3rd July. 1906; 6 years. Filed 2nd April, 1906. Recelpt No. 134,524.
Claim.-1. In jigging machinery providing the screen with a device capable of being ralsed and lowered or otherwise moved so as to regulate the flow of material through the sald screen and to control the discharge of concentrates or middles, substantially as described.
2. In jigging machinery a mechanically operated obstructional device capable of belng raised and lowered or otherwise moved into and out of engagement with openings in the screen, substantially as herein described and for the purpose indicated.
3. In jigging machinery a screen or supplementary perforated device having special openings and a mechanically operated device carrying pieces of material cavable of being ralsed or lowered or otherwise moved to close or partially close, and to regulate the flow of ore stuff through such openlugs, substantially as described.
4. In jlgging machinery a grating having pegs or other projections adapted to be mechanically raised and lowered into and out of engagement with openings in the screen or supplementary perforated device, substantially as herein described and for the purposes indicated.
5. In jigging machinery for dressing ores, apparatus for mechanically raising and lowering an obstructional device into or out of engagement with openings in the screen or supplementary perforated device comprising a screw hand wheel, or other suitable means arranged to operate a rod connect-ir- with hinged arms supporting the obstructional device, substantially as described and for the purposes indicated.
6. In jigging machinery for dressing ores a plate or grating having elongated openings and adapted to slide underneath the screen or supplementary perforated device whereby its openings are obstructed or partly obstructed, substantially as described and for the purposes indicated.
7. In jigging machinery for dressing ores a plece of screen or wire eloth arranged to slide or be mechanically raised upon a hinged joint so as to obstruct or partlally obstruct the flow of material through the screen or supplementary perYorated device, substantially as described and for the purposes indicated.

No. 99,903. Carbureter. Carburateur.


George Henry Holgate, Philadelphia, Pennsylvanla, U.S.A., 3rd July, 1906; 6 years. Filed 17th March, 1906. Recelpt No. 133,990 .
Claim.-1. A carbureter consisting of a font or receptacle, absorbent material contalned within sald receptacle, said absorbent materlal so arranged as to leave a space above and below the same within the receptacle, a stationary tube extending downward through the center of the receptacle open at its upper end and closed at its lower end, a central gas tube arranged within the first-named tube, sald gas tube also closed at its lower end and open at its upper end, means for causing the central gas tube to remain stationary, a middle tube arranged between the two aforesaid tubes, and adapted to revolve around between the same, ports formed through the walls of the two stationary tubes coincldent with one another within the space below the absorbent material, openings formed through the walls of the revolving tube adapted to be brought in and out of register with the ports c: the stationary tube, openings formed through the top of the font, a valve connected to the revolving tube for opening and closing these ports when the tube is revolved, ports for admitting alr through the lower end of the gas tube, means for opening and closing these ports by the revolution of the revolving tube, the bottom of the font provided with an opening for admitting air to the central gas tube, means for closing said opening when the font is to be filled with a liquid, a chimney surrounding the upper end of the gas tube, a burner arranged over the upper end of the tube within the chimney, as and for the purpose specited.
2. In a carbureter for lamps and the like, a font or receptacle, absorbent material contained within said font or receptacle, said absorbent material so arranged within the font as to leave a space above and below the same, a removable top for closing the upper end of the font, a tube open through the top at its upper end extending downward through the absorbent material to a point near the lower end of the font. the lower end of said tube being closed, a gas tube arranged within the other tube, said gas tube extending above the font and open at its upper end, the lower end being closed, means for causing said gas tub to remain stationary, a middle tube arranged between the two other tubes and adapted to revolve in close contact with both of sald tubes, the two stationary tubes provided with ports coincident with one another formed through the walls of the same within the space below the absorbent material, the revolving tubes provided with openings adapted to be brought in and out of register with the ports as the tube is revolved, the top of the font provided with openings, a ring lying flat over said openings, spring arms connecting said ring with the revolving tube so that the ring will be held in spring contact with the tube, said ring provided with openings adapted to be brought $\ln$ and out of register with the openlags through the tube when the tube
is revolved, the lower end of the two stationary tubes being provided with ports formed through the same coincident with one another, the lower end of the revolving tube being provided with openings adapted to be brought in and out of register with said ports when the tube is revolved, means for revolving said tube, the lower end of the font being provided with an opening through which air is admitted to the lower end of the gas tube, a hollow body in which the font is adapted to rest, a valve for controlling the opening through the lower end of the font, means for automatically opening said valve when the font is placed within the body, and means for automatically closing the valve when the font is removed, a chimney arranged around the upper end of the gas tube, and a burner within the chimney arranged above the gas tube, as specified.
3. In a carbureter, a receptacle, absorbent material arranged within the receptacle, said absorbent material formed in the shape of concentric rings nested one inside of the other and spaced a distance apart, means for holding said rings at equal distances apart, a perforated screen arranged within the receptacle a slight distance above the bottom of the same upon which the absorbent rings rest, the absorbent rings extending upward to within a short distance of the top of the receptacle so as to leave a space above the same, means for admitting air to the upper space, means for taking the mixed air and vapour from the lower space, and means for controlling these inlets from the exterior of the receptacle, as specified.

No. 89,904. Card Folder. Porte-carte.


Colin Campbell McPhee, Montreal, Quebec, Canada, 3rd July, 1906; 6 years. Flled 12th May, 1906. Receipt No. 135,835.
Claim.-1. In a magazine card folder the combination with a frame formed with an open face and closed back, of a plurality of leaves superimposed one on the other having the undermost leaf secured to the inner surface of said back, and a slidable cover adapted to turn said leaves over in succession, as-and for the purpose specified.
2. In a device of the class described in combination, a frame having a back formed therewith and an open end, a plurality of leaves having the undermost leaf secured to the back and the other leaves immediately thereabove, a backbone formed by said leaves receding from the lowermost leaf to the uppermost, and means secured to the lowermost leaf for opening said leaves successively at one operation, as and for the purpose specified.
3. In a device of the class described in combination, a frame having a back formed therewith and an open end, a plurality of leaves having the undermost leaves firmly secured to the back within the frame opening and the other leaves receding from that portion of the lowermost leaf to the top leaf and a tail piece joined with the uppermost leaf having an outfold, and a slidable cover dimensioned to fit in said frame and slide between the back and said frame and
having an infold engaging the outfold of said tall piece on the partial withdrawal of said cover, as and for the purpose specified.
4. In a device of the class described in combination, a trame formed with a back plece and having a length of suitable material folded and secured together to form a succession of leaves, said length of material terminating at the uppermost leaf in a tall piece having an outfold, and a cover having an infold at its upper end engaging said outfold on partial withdrawal from the frame, as and for the purpose specifled.
5. In a device of the class described in combination, a length of suitable material arranged in folds, said folds forming two sets of sections of different lengths and alternately arranged, the adjoining sections having their inner surfaces joined together and forming leaves, a suitable backing to which the end section is secured, and means engaging the uppermost section for displaying the pages of said leaves, as and for the purpose specified.

No. 99,905. Chain Securing Device.
Appareil à assujetir des chaines.


Frederick Pikard, Rhinelander, Wisconsin, U.S.A., 3rd July, 1906; 6 years. Filed 11th May, 1906. Receipt No. 135,800. Claim.-1. In a device of the character described the combination with a stationary jaw and means thereon adapted to be engaged by a chain, of a keeper extending from the stationary jaw, a second jaw pivoted to the stationary jaw, and means upon the plvoted jaw for engaging the keeper and locking the jaws.
2. In a device of the character described the combination with a stationary jaw having a keeper at one end and means upon said jaw adapted to be engaged by a chain, of a jaw pivoted to the stationary jaw, and a bolt suitably mounted within the pivoted jaw and adapted to engage the keeper.
3. In a device of the character described the combination with a stationary jaw, a keeper at one end thereof and means extending from the jaw adapted to be engaged by one end of a chain, of a jaw pivoted to the stationary jaw, a bolt slidably mounted therein adapted to engage the keeper, and a stem projecting from the bolt in front of the pivoted jaw.
4. In a device of the character described the combination with a stationary jaw having a keeper at one end and a loop extending from the jaw, of a second jaw pivoted to the stationary jaw, and a bolt slidably mounted within the pivoted Jaw and adapted to engage the keeper.
5. In a device of the character described, the combination with a stationary jaw having a keeper at one end and a loop, of a jaw pivoted to the stationary jaw and having a recess therein, a bolt slidably mounted within the pivoted jaw and extending across the recess and adapted to engage the keeper, and a stem projecting from the bolt and recess.
6. In a device of the character described, the combination with a stationary jaw having a keeper at one end and a loop, of a jaw pivoted to the stationary jaw and having a recess therein, a bolt slidably mounted within the pivoted jaw and extending across the recess and adapted to engage the keep$\in r$, a stem projecting from the bolt and recess, and a ledge within the recess adapted to engage the stem and hold the 'bolt against movement and adapted to support the stem in a raised position.
7. In a device of the character described, the combination with a stationary jaw having a keeper and a loop, of a jaw pivoted to the stationary jaw and having a recess in one face, both jaws having one lace bevelled, a bolt slidably mounted within the pivoted jaw and extending across the recess, said bclt adapted to engage the keeper, and a stem extending from the bolt and recess.

No. 99,906. Wood Distilling Apparatus.
spparell pour la distillation du bois.


George Gilbert Sibbitt, Carleton Place, Ontario, Canada, 3rd July, 1906; 6 years. Filed 20th April, 1906. Recelpt No. 135,123.
Olaim.-1. An improved primary retort for distilling wood tc: produce turpentine comprising a suitable shell, openings therein for the introduction and withdrawal of the wood, a plurality of mixing blades within the shell, means for continuously rotating the same and a plurality of steam injecting nozzles extending through the shell, as and for the purpase specified.
2. An improved primary retort for distllling wood to produce turpentine comprising a suitable shell, an opening at the top thereof for the introduction of the wood, an opening at the bottom for the withdrawal of the same, a plurality of vertically extending shafts within the shell, means for rotating the same, a plurality of mixing blades secured to the shafts and a plurality of steam injecting nozzles extending through the shell, as and for the purpose specified.
3. An improved primary retort for distilling wood to produce turpentine comprising a cylindrical shell, openings therein for the introduction and withdrawal of the wood, a plurality of mixing blades within the shell, means for rotating the same, a plurality of steam injecting nozzles extending through the shell, an incllned conical bottom for the shell, and a tar conducting pipe leading from the center of said battom, as and for the purpose specified.
4. In a wood distilling apparatus the combination with a primary retort comprising a suitable shell having within the same a plurality of mixing blades, and a plurality of steam injecting nozzles, of a valve outlet for the water turrentine and creosote vapours, means for separating and condensing the water turpentine and creosote vapours, a second valved outlet for the tar and tarry vapours and means for c'ndensing and separating the tar and tarry vapours, as and for the purpose specified.
5. In a wood distilling apparatus the combination with the primary retort comprising a sultable shell having therein a plurality of rotating mixing blades and a plurality of steam injecting nozzles, a conical bottom for said shell, an outlet centrally leading therefrom for the tar and tarry vapours and means for separating and condensing the tar and tarry vapours, a valve conducting pipe extending into the side of the retort for the water, turpentine and creosote vapours and means for separating and condensing the water, turpentine and creosote vapours, as and for the purpose specified.

No. 99,907. Mnsic Record. Registre de musique.


James John Walker, London, England, 3rd July, 1906; 6 years. Filed 12th December, 1905. Receipt No. 130,943.
Claim.-1. Apparatus for producing simultaneously, a record of the operations of the controlling members of a musi-
cal instrument, said record being adapted for the purpose of controlling a reproducer, and a companion record of the speed of each of such operations, said companion record being adapted for the purpose of controlling accelerators in the reproducer.
2. Apparatus for producing simultaneously a record of the operations of controlling members of a musical instrument and a companion record of the speed of each of such operations, comprising in combination controlling members, a plurality of recorders for each such member, a plurality of impulse transmitters governing the action of such recorders and means for successively energising such transmitters during one operation of a controlling member.
3. Apparatus for producing simultaneously a record of the operations of controlling members of a musical instrument and a companion record of the speed of each of such operations, comprising in combination a plurality of recorders for each key, a sliding carrier for each recorder, a normally dree reciprocating selector adapted to operatively engage said carrier, and a plurality of impulse transmitters connected with each controlling member for controlling the engagement of said selectors with sald carriers.
4. Apparatus for producing simultaneously a record of the operations of controlling members of a musical instrument and a companion record of the speed of each of such operations, comprising in combination controlling members, a plurality of recorders for each such member, a plurality of impulse transmitters governing the action of such recorders and on each said member a stepwise arrangement of energising devices for the impulse transmitters.
5. Apparatus for producing simultancously a record of the roperations of controlling members of a musical instrument and a companion record of the speed of each of such operat!ons comprising in combination controlling members, a plurality of recorders for each such member, a sliding carrier for each recorder, a normally free reciprocating selector adapted to operatively engage said carrier, a plurality of impulse transmitters governing the engagement of said selectors with said carriers and on each said member a stepwise arrangement of devices for energising said impulse transmitters.
6. Apparatus for producing simultaneously a record of the operations of controlling members of a musical instrument and a companion record of the speed of each of such operations comprising in combination controling members, a plurality of recorders for each such member, a oliding carrier for each recorder, a reciprocating selector adapted to operatively engage said carrier, means for maintaining said selectors normally free of said carriers, means for normally riaintalning said carriers in their lower position, a plurality of impulse transmitters for engaging said selectors with said carriers and on each said member a stepwise arrangement of devices for energising said impulse transmitters.
No. 99,908. Piano. Piano.


Peter Welin New Castle, Indiana, U.S.A., 3rd July, 1906; 6
years. Filed 30th December, 1904. Recelpt No. 121,175.
Claim-1. The automatic piano containing bellows and a storage reservolr located in the panels between the rear posts of the piano frame.
2. An automatic piano having folding pedais comprising pedal links connected to operate the bellows, and a swing-up frame for folding the pedals inside the casing, the pirot of the swing-up frame and the pivots connecting the pedal links having their axis substantially in line when in a position of rest so that the folding of the pedals will not change the reative positions of the frames and the foremost pedal link.
3. An automatic piano having the controlling levers located below the plano keys, and with a fall board which can be folded back to form part of the keyboard rail and conceal the controlling levers when not in use.
4. The combinalion of a piano casing controlling levers for automatic playing attachments with the ends of said levers below and in front of the piano keys, and a fall board or swinging cover for concealing said levers mounted to swing on a pivot located lower than the ends of said levers.
5. The combination of a piano casing controlling levers for automatic playing attachments and a pivoted fall board or rockable member which, when in normal position, conceals the controlling levers and forms part of the ledge or rail which co-operates with the key cover and which when open, forms a ledge or support for the hand of the operator.
6. The combination of a piano casing controlling levers for automatic playing attachments located below the piano keys and having their ends extending forward into a recess or onening in the key rall or ledge of the casing, and a pivoted fall board, which when in normal position conceals the controlling levers and forms part of the ledge or rall which cooperates with the key cover and which, when open, forms a ledge or support for the hand of the operator.
7. In an automatic combination plano, a recessed or hollow key slip composed of an inner member and an outer rockable member, in combination with the key bed, manual keyboard and expression manipulatory devices having their terminals beneath said key sllp.
8. In an automatic combination piano, a recessed or hollow key slip comprising an outer rockable member in combination with the manual keyboard and expression manipulatory devices having their terminals beneath said key slip, sald rockable member being adapted to swing outwardly under said manipulatory devices.
9. An automatic piano having a locking bar for the keys lifted by wedges and connected by a link to a locking lever.
10. An automatic piano having a governor box containing a choked valve, an automatic valve for modulating the action when the choker valve is closed. an automatic governor valve for the motor, a tempo-valve for the motor, a rewinding valve and valves for automatically opening direct connection to the motor and shutting off the action during rewinding.
11. An automatic piano having a pneumatic action in which two striking pneumatics are employed for each note. and means for controlling the action so that a single pneumatic will operate when a note is to be played suftly, and both pneumatics will operate when a note is to be struck more loudly.
12. An automatic piano having a pneumatic action in which two pneumatics are employed for each note, the service pneumatics being controlled by primary valves from a tracker board, and the auxiliary pneumatics being controlled by primary valves from a tracker board, and the auxiliary pneumatics being controlled by switch valves which will admit air from the primary valves to cause both pneumatics to act simultaneously.
13. An automatic piano having a pneumatic action the valves of which each consist of a disc with a stem socket extending down from the under face thereof.
14. An automatic piano having a pivotally mounted motor with connections for disengaging the gearing of the winding roll. tightening the drive chain, throwing in a rewinding connection with the music roll and disengaging the paper tensioning brake when the motor is tipped.

## No. 98,809. Scafiold. Echafaud.

Elljah McCoy and Charles H. H. Wheeler, co-Inventors, both of Detroit, Michigan, U.S.A., 3rd July, 1906; 6 years. Filed 28th May, 1906. Receipt No. 136,326.
Claim-1. In a scaffold support the combination with a horizontal supporting member having a hook at one end, of a brace member pivotally attached at one end to the supporting member near its outer end, a connecting member detachably engaging the brace member and connecting said members, and a brace pivotally attached at one end to the supporting member near its inner end and engaging the brace member intermediate its ends.
2. In a scaffold support the combination with a supporting member having a hook at one end, of a brace member pivotally attached at one end to the supporting member near its opvosite end, a connecting member pivotally attached at one end to the supporting member and detachably engaging the brace member at its opposite end, and a brace plvotally attached at one end to the supporting member near the end thereof having the hook and adapted to engage the brace member intermediate the ends thereof, said brace being greater in length than the shortest distance from the pivot of the brace to brace member.
3. In a scaffold support the combination with a supporting member having a hook at one end and a brace member pivotally attached at one end to the supporting member near its opposite end, of a loop pivotally attached at one end to the supporting member near said hook and adapted to receive the brace member at its lower end, a hook on the brace member to engage the loop, and a brace pivotally attached to the
supporting member near its hook and adapted to engage the brace member at its opposite end and force the same into engagement with the loop.

4. In a scaffold support the combination with a supporting member and a hook on said member to engage the inner surface of part of a wall, of a laterally projecting member on said supporting member adjacent to said hook to engage the outer surface of the wall and prevent lateral movement of the support.
5. In a scaffold support the combination with a supporting member and a hook on said member to engage the inner face of part of a wall, of means adjustable toward and from said hook to engage the outer surface of the wall.
6. In a scaffold support the combination with a supporting member and a hook on said member to engage the inner surface of part of a wall, of a foot on said member adjustable toward and from said hook.
7. In a scaffold support the combination with a supporting member and a hook on said member, of an adjustable foot on said member, and means for adjusting and holding the foot.
8. In a scaffold support the combination with a supporting member, a hook on said member, a brace member plvotally attached to said member and a connecting member connecting the said members, of means adjustably supported upon the supporting member adjacent to said hook for engaging the outer surface of a wall, and a brace extending between said means and the brace member to hold said means in contact with the wall.
9. In a scaffold support the combination with a supporting member, a hook on one end of said member, and a brace member pivotally attached at one end to the opposite end of said member, of a connecting member pivotally attached at its upper end to the supporting member and detachably engaging the free end of the brace member at its lower end, an adjustable foot on the supporting member and a brace pivotally attached at one end to said foot and adapted to engage the brace member intermediate the ends thereof at its opposite end.
10. In a scaffold support the combination with a supporting member, a hook on one end of said member, and a brace member pivotally attached at one end to said member near its opposite end, of a loop pivotally attached at one end to the supporting member and through which the free end of the brace member extends, and a hook on the brace member to ongage the loop.
11. In a scaffold support the combination with a supporting member, a hook on one end of said member, and a brace member pivotally attached at one end to said member near its opposite end, of a loop formed of a continuous wire pivotally attached at one end to the supporting member by passing through an eye on said member and adapted to receive the free end of the brace member, a foot adjustable longitudinally on the supporting member toward and from the hook, and a brace pivotally attached at one end to the foot and adapted to extend through the loop to engage the brace member intermediate the ends thereof at its opposite end.
12. In a scaffold support the combination with a supporting member, and a hook on one end of said member, of a brace member pivotally attached to said member at one end, a loop pivotally attached at one end to the supporting member and adapted to recelve the free end of the brace member, and a hook adjustably secured to the brace member to engage the loop.
13. In a scaffold support the combination with a supporting member formed of channel iron, of a hook secured to one end of said member within the channel, a brace member pivotally attached to the supporting member at one end, a connecting member connecting the free end of the brace member with the supporting member, a foot consisting of a sleeve portion slidable on the supporting member and a laterally extending flange on one end of said sleeve, and a brace pivotally attached at one end to the foot and adapted to engage the brace member at its opposite end.
14. In a scaffold support the combination with a supporting member formed of channel iron, of a hook secured to one end of said member within the channel and provided with a spur on its contact face, a casing forming an ear secured within the channel of the supporting member near the opposite end thereof, a brace member formed of channel iron pivotally attached to said ear at one end, a loop pivotally attached at one end to the supporting member, a hook on the brace member to engage the loop, a block in the free end of the channel bar forming the brace member and projecting beyond the end thereof, a foot sleeve on the supporting member and provided with a spur on its contact face, a rod pivotally attached at one end to the foot and having a sharpened end, and teeth on the brace member adapted to be engaged by the sharpened end of the said rod.
15. In a scaffold support the combination with a supporting member formed of channel iron, a hook on said member, a brace member pivotally attached to the supporting member, and a connecting member pivotally attached to the support ing member and engaging the free end of the brace member, of an extension member formed of a channel bar fitting over the supporting member and slidable therein, a loop on said extension member embracing the supporting member, and bolts to secure the adjustable member to the supporting member.

No. 99,910. Gas Combustion Process.
Procédé de combustion du gaz.


Luigi Moreno and Amedeo d'Anthony, co-inventors, both of Turin, Italy, 3rd July, 1906; 6 years. Filed 6th March, 1905. Receipt No. 123,112.

Claim.-A process for obtaining the rapid and complete combustion of any combustible gas which consists in separating the combustive air into its principal components, oxygen and nitrogen, and then separating these two gases by the chemical affinity existing between the oxygen and the combustlble gas, in order to allow the oxygen only to operate the combustion of the combustible gas.

No. 99,911. Lubricator. Graisqcur.


James Archibald Craig, Toronto, and Edward Woolrich Sault Ste. Marie, Canada, assignee of a half interest, 3rd July, 1906; 6 years. Filed 5th January, 1906. Recelpt No. 131,588
Claim.-1. In a lubricator the combination with a bearing, a shaft turning therein and a stationary open casing, supported above said bearing and having an opening in the bottom thereof, of a lining held in sald casing and having an orifice through the bottom thereof, a tube fixedly secured in sald orifice, and a rod extending from the interior of said lining through said tube and abutting said shaft, as and for the purpose speclfied.
2. In a lubricator the combination with a bearing, a shaft turning therein and a stationary open casing, supported above sald bearing and having an opening in the bottom thereof, of a lining held in said casing and formed of a material having less resistance in its heat conductivity than the surrounding material, and an orifice in the bottom thereof, a tube inserted in said orifice, and a rod extending from the interior of said lining through said tube and resting on said shaft and formed of a like material to said lining, as and for the purpose specifled.
3. In a lubricator the combination with a bearing, a shaft turning therein and a stationary open casing, supported above sald bearing and having an opening in the bottom thereof, of a lining held in said casing and formed of a material having less resistance in its heat conductivity than the surrounding material and an orifice in the bottom thereof, a tube fixedly secured in said orifice and having perforations immediately above the bottom of said lining. a false bottom supported above the real bottom of the lining and having a contral orifice, and a rod of like material to sald lining inserted through said tube and false bottom and resting on sald shaft, as and for the purpose specified.
4. In a lubricator the combination with a bearing, a shaft turning therein. and a stationary open casing supported above sald bearing and having an opening in the bottom thereof, of a lining held in said casing and having an orifice through the bottom thereof, a tube having bevelled upper edges fixedly secured in said orifice and perforations above said bottom, a false bottom having a central orifice and supported on downwardly extending flanges on sald real bottom, and a rod having a spread portion intermediate of its length and oxtending from the interior of said lining through said tube and resting on said shaft, as and for the purpose specifled.
5. In a lubricator the combination with a bearing, a shaft turning therein, and a stationary open casing supported above said bearing and having an opening in the bottom thereof, of a lining held in said casing and having a central orifice through the bottom thereof, a tube having bevelled upper edges and fixedly secured in said orifice and perforations above the bottom of said lining. a packing of a resilient material surrounding said lining and abutting the top of said casing and extending downwardly therearound, and a metal covering protecting sald packing, a false bottom supported on downwardly extending flanges therefrom on said real bottom and having a central orifice immediately over said tube, and a rod extending from the interior of said lining through said tube and resting on sald shaft and having a spread portion above said tube, as and for the purpose specified.
6. In a device of the class described in comblnation, a motor, a casing therefor having reduced extending portions at each end thercof and openings through the top of said extending portions, bushings Inserted in said extending portions having openings registering with the aforesald openings and forming bearings for the motor shaft, stationary
open casings forming part with said opening portions and projecting vertically immediately over sald openings, linings to said open casings and formed of a metal having less resistance in its heat conductivity than said casings and having an orifice in the bottom thereof, a tube fixedly secured in each of sald orifices having perforations therethrough immediately above the bottom of the lining, a false bottom in each of sald linings having central orifices and supported by downwardly extending flanges on the real bottom and dividing said oil receptacle into upper and lower chambers respectívely, said lower chambers containing hard grease and said upper chambers a lubricating oil, a packing surrounding each of said oil receptacles and abutting the top of said casings, and a rod like material to said lining extending from the interior through said tube and resting on the motor shaft, as and for the purpose specifled.
7. In a device of the class described in combination, a motor suitably encased, a lining held in a receptacle in the casing of said motor above the bearing and formed of metal having greater heat conducting properties than the surrounding metal and in the interior thereof divided into two compartments and having an orifice in the bottom thereof communicating with the journal, a tube formed of a like material to said lining fixedly secured in said orifice having perforations immediately above the bottom of the lining and forming the means of communication between the upder chamber through said tube and resting on said shaft and formed of a material having the same properties as the metal of said lining, as and for the purpose specified.
8. In a lubricator for a motor bearing the combination with a flxed and open casing secured over said bearing and communicating therewith, of a metal lining to said casing having an orifice through the bottom thereof, a false bottom supported above said real bottom and having a central orifice, a perforated tube fixedly secured in the orifice through said lining and extending upwardly through the orifice in said false bottom, and a rod of lesser diameter than said tube extending therethrough and resting lightly on a shaft and having a spread portion above sald tube, as and for the purpose specified.
9. In a lubricator for a motor bearing the combination with a fixed and open casing secured over said bearing and communicating therewith, of a metal lining to said casing having an orifice through the bottom thereof, a partition forming : false bottom and dividing the chamber contained in said lining into upper and lower compartments, said upper compartment containing oil and said lower compartment containing hard grease and having an orifice in alignment and corresponding with the aforesaid orifice, a perforated tube fixedly secured extending through said partition, lining bottom and hard grease, and a rod having a spread portion above a partition and extending through to the shaft and resting lightly thereon and formed of lesser dlameter than sald tube to permit the free passage of oil therethrough, as and for the purpose specifled.
10. In a lubricator for a motor bearing, the combination with a fixed and open casing secured over said bearing and communicating therewith, of a metal lining to said casing having an orifice through the bottom thereof, a partition having a central orifice and downwardly extending flanges supporting said partition from the bottom of said lining, said partition dividing the interior contained within said metal lining into a lower compartment for hard grease and an upper compartment for oil, a perforated tube fixediy secured and extending through sald partition, hard grease and lining bottom and a rod of lesser diameter than said tube to permit the flow of oil around the rod and through the tube and resting lightly on a shaft, as and for the purpose specified.

No. 89,912. Starting Gate. Barrierc.


John M. Flynn and Thomas Garety, assignee of a half interest, both of New York City, New York, 3rd July, 1306; 6 years. Filed 10 th May, 1906. Receipt No 135,785 .
Claim-1. In a starting gate, guide rods arranged at an upward incline, longitudinal wires along which said guide rods
are movable, elastic devices for causing the movements of the rods along said wires, a barrier movable along the rods and means for moving the barrier upward after its movement lengthwise of the wires.
2. In a starting gate, guide rods, wires along which said guide rods are movable, elastic devices for causing such movements along the wires, runners mounted to move on the guide rods, flexible devices for causing the upward movement of the runners at the end of the movement of the rods along the wires, and a barrier having connection with the runners.
3. A starting gate comprising upright guide rods, longitudinal wires along which the upper portions of said guide rods are movable, longitudinal wires along which the lower portions of the rods are movable. runners movable on the gulde rods, pulleys at the upper ends of the guide rods, elastic devices having connection at one end with the guide rods and passing over said pulleys and connecting at the opposite end with the runners and a barrier having connection with said runners.
4. A starting gate comprising upright guide rods, runners movable on said rods, buffers at the upper portions of the rods against which said runners may strike, pulleys at the upper ends of the guide rods, elastic devices connected at one end to the guide rods and passing over sald pulleys and carried by said runners, the connection between the barrier connecting at the other end with sald runners, and a barrier carried by said runners, the connection between the barrier and one of the runners being elastic.
5. In a starting gate, upper wires arranged along a track at oposite sides thereof, lower wires extended along the opposite sides of the track, guide rods, rollers at the upper ends of said guide rods engaging on the upper sides of the upper wires, rollers at the upper ends of the guide rods for engaing at the outer sides of the wires, rollers at the lower erds of the guide rods for engaging with the outer sides of the lower wires, and a barrier movable along said guide rods.
6. A starting gate comprising upper wires extended along a race track at opposite sides, lower wires extended along the track at opposite sides, guide rods, rollers on the upper ends of said rods for engaging with the upper wires, rollers a) the lower portions of the rods for engaging with the lower wires, runners movable on sald rods, elastic devices for moving said runners upward, and a barrier having connection with the runners.
7. A starting gate comprising guide rods arranged at opposite sides of a race track, runners movable along said guide rods, means for moving the runners upward on the rods. yckes atached to the runners, a roller mounted on one of the yokes, hooks on said yoke having a roller, a barrier having one end extended around said roller. an elastic connection between said hooks and the barrier, and a fold in said barrier, another elastic conncetion engaging in said fold, and also connecting at the ends with the barrier, and cords connecting the opposite end of the barrier with the opposite yoke, the said cords having less strength than the elastic connections.
8. A starting gate comprising guide rods, upper wires arranged along a race track at opposite sides, lower wires arranged at opposite sides of the track. rollers carried by said gulde rods and engaging with the wires, elastic devices for moving the guide rods lengthwise of the wires, means for regulating the speed of movement along the wires, and a barrler movable on said guide rod.
9. A starting gate comprising guide rods, upper and lower wires extended along opposite sides of a race track and on which said guide rods are movable, posts supporting the wires at the ingress end, posts supporting the wires at the egress end, pulleys on said last-named posts, elastic tubes having conection with said guide rods, passing around said pulleys and having their opposite ends anchored at the ingress end of the device, a barrier movable on said rods, and elastic devices for causing the upward movements of the barrier.
10. A starting gate comprising upper and lower wires arranged along the opposite sides of a race track, guide rods, pulleys at the upper ends of sald guide rods engaging with the upper sides of the upper wires, pulleys at the lower ends of the rods for engaging with the lower wires, rollers at the upper ends of the rods for engaging against the outer sides of the wires, rollers movable on the guide rods, pulleys at the upper ends of the guide rods, pulleys at the lower ends of the gulde rods, runners on the guide rods, a cable having connection with said runners and passing around said upper and lower pulleys, means for moving the guide rods lengthWise of the wires, a barrier movable with said runners, and means for causing the vertical movements of said barrier.
11. In a starting gate, upper and lower wires extended along opposite sides of a race track, guide rods, pulleys at the upper ends of the guide rods for engaging with the upper wires, pulleys at the lower ends of the gulde rods for engaging with the lower ends of the wires. other pulleys adjacent
to said upper pulleys, a cable having connection with the guide rods and extending over gaid other pulleys, the said cable having a flexible portion, pulleys on said cable, runners movable on the guide rods, cords having connection with said runners and passing over the pulleys supported by said cable, and a barrier connected to the runners and with which said cords engage.
12. In a starting gate, upper and lower wires extended along a race track and above the same at opposite sides, guide rods movable along sald wires, means for causing said movement along the wires, runners movable on the rods, electrioally controlled locking devices for holding the runners in lowered position, elastc devices for moving the runners upward on the rods, and a barrier carried by said runners.
13. In a starting gate, guide rods arranged at opposite sides of the track, runners movable on said rods, a barrier connecting with the runners, pulleys at the upper ends of the rods, tubular elastic devices connecting at one end with the rods passing over said pulleys and engaging at the other end with the runners, and electrically controlled locking devices for holding the runners in lowermost position.
14. In a starting gate, upper and lower wires arranged along a track at opposite sides, guide rods movable along said wires, elastic devices for moving said rods in one direction, a barrier carried by the rods and movable vertically thereon, a winding drum, and cable connections between sald winding drum, and the rods whereby the rods and barrier may be returned to initial position.
15. In a starting gate, upper and lower wires extended along a track at opposite sides, gulde rods movable along said wires, a barrier carried by the rods and movable along the same, elastic devices for moving the rods toward the egress end, a winding drum, cable connections between said drum and rods, a brake wheel having driving connection with said drum, and a brake shoe for engaging with said brake wheel.
16. In a starting gate, a irame for the gate, comprising opposite posts at the ingress end, opposite posts at the egress end, wires connecting with the upper ends of the posts of a side, wires connecting with the lower portions of eaid pests, guide rods movable along said wires, rollers on the posts at the egress end, rubber tubes passing around sald rollers and engaging at one end with the guide rods, the other ends being anchored near the ingress posts, a barrier movable along the guide rods, elastic tubes for moving the barrier upward, means for moving the guide rods toward the ingress posts, longitudinally controlled locking devices for bolding the barrier in lowered position, and a gong arranged is the electric circuit to be sounded upon the releasing of the barrier.
17. In a starting gate, barrier carrying guides, horizontal wires along which said guides are movable, and elastic devices for moving sald guides in one direction along the wires.
18. In a starting gate, guide rods, horizontal wires along which sald rods are movable, elastic devices for moving the rods along the wires, a barrier movable along the rods, and rueans for moving the barrier upward after its movement along the wires.
19. In a starting gate, opposite supports, a barrier having a fold, an elastic connection between the folded portion and the barrier, and connections between said barrier and the supports.
20. In a starting gate, opposite supports, a barrier having a fold, an elastic connection between said fold and the barrier, an elastic connection between the barrier and one of said supports, and a connection between the barrier and the other of said supports.

No. 99,913. Drawer 8top. Arrête-tiroir.


Herman Henry Borgerding, assignee of William Louis Tuell. both of New Albany, Indiana. U.S.A., 3rd July, 1906; 6 years. Filed 26th February, 1906. Receipt No. 133,351.
Olaim. -The hereindescribed drawer stop comprising a flattened body, relatively thin in one dimension and relatively broad in another dimension, said body being formed with an entering point to be driven into a drawer irame, and a head
at the outer end of said point, said head being broader than the said point and having laterally curved wings projecting beyond and overhanging the edges of the shank or point, said wings being notched in the edges thereof which are contiguous to those of the point or shank.

## No. 99,914. Screwing Die and Tap Spindle.

Disque d̀ vis.


Edward Duncan Cleghorn, Henry Jacob Smith and Charles George Smith, all of England, each an assignee of a third interest, 3rd July, 1906; 6 years. Filed 29th January, 1906. Receipt No. 132,396.
Claim.-1. In a screwing and tapping device, a slidable body, a tool spindle and a sleeve around it rotatable in the said body, a double clutch sleeve and a single clutch sleeve, the former being slidably secured and the latter gartered to the said spindle to rotate with the sleeve in the said body and impart rotary motion to the sald spindle when the sald double sleeve is in engagement therewith, all combined substantially as and for the purpose set forth.
2. In a screwing and tapping device, a slidable body. a tool spindle and a sleeve around it rotatable in the said body, means for kicking the said spindle in the said sleeve in advance of the movement of the sald body to the end of the work and imparting a slight push thereto while making the first thread and means for returning the said spindle to its normal position in the sald sleeve when having left the work, all combined substantially as and for the purpose set forth.
3. In a screwing and tapping device, a slidable body, a tool spindle and a sleeve around it rotatable in and a lever fulcrumed to the said body, one end of which engages the rear end of the said spindle, means for locking the said lever and thereby the said spindle in its back position, and a cam dog to act upon the other end of the said lever and thereby push lorward and a spring for the return of the said spindle, all combined substantially as and for the purpose set forth.
4. In a screwing and tapping device, a slidable body, a tool spindle and a sleeve around it rotatable in the said body, a single clutch sleeve and a double clutch sleeve, the latter being gartered to the said spindle and rotated by the sleeve in the said body, a rod slidable in the said spindle to which the said double clutch sleeve is secured, a rotary stationary clutch sleeve around the said spindle and means for imparting an intermittent reciprocatory longitudinal movement to the sald rod and thereby bring the said double clutch sleeve alternately in and out of engagement with the said rotary and the said rotary stationary clutch sleeve, all combined substantially as and for the purpose set forth.
5. In a screwing and tapping device, a slidable body, a tool spindle mounted therein and moving longitudinally therewith, a double clutch sleeve slidable on and a rod slidable in the said spindle the forward end of which is connected with the said sleeve and the rear end extending through the sald spindle, a trip cone and two adjustable nuts on the latter, a fixed abutment with which the said nuts contact alternately, and trip bolts in the rear end of the said spindle to operate in conjunction with the said trip cone, all substantially as and for the purpose set forth.
No. 99,915. Bed Spring Tightener.
Tendeur pour sommier élastique.
Albert L. Barnum, Pineridge, South Dakota, and Bruce H.
Hewitt and Frank M. Hewitt, asignees of a half Interest.
both of Gordon, Nebraska, U.S.A., 3rd July, 1906; 6 years. Flled 1st May, 1906. Recelpt No. 135,428.
Claim.-1. A bed spring tightener comprising a stationary member provided with a series of chambers or pockets, a series of rolls adapted to turn upon sald statlonary member. and dogs disposed in said pockets and adapted to engage the rolls to hold the same from retrograde rotation, sald dogs being adapted to tilt to permit the rolls to be turned in one direction for tightening a spring.
2. A bed spring tightener comprising a stationary member composed of a bar provided with means of attachment to the

side rails of a spring frame and having a series of pockets, a series of rolls mounted to turn upon said bar, discs or heads mounted upon the ends of the bars and closing the outer ends of the outer rolls, and dogs in said pockets to engage and hold the rolls from retrograde rotation, sald dogs being adapted to tilt to permit adjustment of said rolls in one direction, whereby the rolls may be independently adjusted to tighten the spring.
3. A bed spring tightener comprising a stationary member provided with a pocket having walls arranged approximately at right angles to each other, a roll adapted to turn upon the stationary member, and a segmental dog disposed loosely in said pocket, said tog having a straight bearing edge adapted to rest against one of said walls, a rocking edge adapted to rest upon the other wall, and an abutting tooth to engage and hold the roll from retrograde movement, the construction being such that when the roll is turned forwardly the dog will tilt upon its rocking edge to accommodate such movement and adapt the roll to be turned forwardly to the desired extent, whereby upon a prescribed retrograde movement of the roll the dog will swing back to locking position to hold the roll from further retrograde movement.
4. A bed spring tightener comprising a stationary member provided with a series of chambers or pockets, a series of rolls adapted to turn upon sald stationary member, each of said pockets having walls arranged substantially at right angles to each other, and segmental dogs loosely disposed in said pockets, each of said dogs having a bearing edge to engage one of the walls, a fulcrum edge to tilt upon the other wall, and an abutting tooth to engage the roll, whereby when the roll is turned forwardly the dog will tilt upon its fulcrum edge to accommodate such movement and permit the roll to be adjusted as desired, and upon the prescribed retrograde movement of the roll the dog will swing back to locking position to hold the dog from further retrograde movement.

No. 99,916. Column. Colonne.


The American Column Company, assignee of Frederick P. Angell, all of Battle Creek, Michigan, U.S.A., 3rd July, 1906: 6 years. Filed , 9 th December, 1905. Receipt No. 130,811
Claim.-1. In a tubular column the assemblage of staves joined together at their edges and metallic staples overlapping the adjoined edges of said staves and driven within the same from the interior of the column to secure said staves together.
2. In a tubular column the assemblage of staves joined together at their edges and metallic staples overlapping the adjolned edges of said staves, said staves having double oppo-
itely disposed barbs at either end thereof driven within sald column from the interior thereof in such a manner that said barbs will diverge when driven, and bind the edges of said staves together.
3. In a tubular column the assemblage of staves having oppositely disposed holes formed within their edges and dowel pins inserted within said holes and adapted to connect said staves together, and metallic staples overlapping the adjoined edges of said staves and driven within the same from the interior oi the column to secure said staves together.
4. In a tubular column the assemblage of staves joined together at their edges, and a metallic strip having barbed points adapted to overlap the adjoined edges of the staves and driven within the same from the interior of the column to secure the same together.

No. 99,917. School Desk. Pupitre d'école.


James B. Wall, assignee of Thomas H. Wall, assignee of William H. Stockman, all of Buffalo, New York, U.S.A., 3rd July, 1906; 6 years. Filed 12th April, 1906. Receipt No. 134,863.
Claim.-1. A desk having side standards provided with elevated portions at their inner ends extending above the plane of the upper edges of said standards and having upward and forwardly curved slots opening at the upper edges of said standards, said elevated portions having lateral flanges and a dovetail portion above said flanges. a ledge provided with dovetail grooves to fit the dovetailed portions of said elevated portions and overhanging said elevated portions to lie above the open ends of said slots, and a slidable top having a flexible portion extending into said slots.
2. A desk having standards provided with upwardly and forwardly curved slots opening at the upper ends thereof, a wooden slidable top having a rigid front portion and a flexible rear portion, said flexible portion only being adapted to enter said slots, said top having a groove near each side extending through said entire flexible portion and through said rigid portion to a point near the front edge thereof, each of said grooves having one wall of that part formed in the rigid portion of said top formed of metal, the cop of the standards fitting into said grooves.
3. A desk having standards provided with Inwardly directed flanges at their upper ends and having rearwardly and downwardly curved guide slots at their rear ends, a slidable top lying on said standards and comprising a rigid front portion and a flexible rear portion, said flexible portion only being adapted to enter said guide slots, said top being provided on its underside with guide grooves, and metal strips on the rigid portion of the top only and extending into said grooves and lying underneath the inwardly directed flanges on the standards.
4. A desk having side standards provided with inwardly and outwardly directed flanges near the upper edges thereof and with inwardly directed flanges at said edges, and a slidable top supported on the first-mentioned flanges and having guide grooves on its underside, and metal strips extending into said grooves and lying underneath the second-mentioned flanges.

No. 99,918. Garment Support. Support de vêtement.
Charles Chrysler, Los Angeles, California, U.S.A., 10th July, 1906; 6 years. Filed 14th May, 1906. Receipt No. 135,913.
Claim.-1. A garment supporting device comprising a waist band, one or more waist retaining plates provided with slots by which they are secured on said band and formed between said slots with inwardly extending spurs, and a skirt and belt retainer also provided with slots by which it is mounted on the waist band, said skirt and belt retainer consisting of a plate provided between its slots with a bulged portion formed with spurs at its apex and said plate also having at its upper edge a downwardly facing hook having outwardly facing spurs on its bill portion.
2. In a garment supporter a plate provided with vertical slots and between said slots with a bulge or protuberance

portion having punched out spurs at its apex, said plate being also provided at its upper edge with a downwardly facing hook having outwardly facing punched out spurs on its bill portion, as and for the purpose set forth.

No. 99,919. Box. Boite.


Joseph L. Ware and Z. Roberts, assignee of a half interest, both of St. Paul, Minnesota, U.S.A., 10th July, 1906; 6 years. Filed 13th June, 1906. Receipt No. 136.832.
Claim.-1. A box blank comprising parallel wooden strips fording when cut to the desired length, the top and bottom rails of the box, each of said strips being provided with a diagonal slot extending throughout its length upon its inner side, and a sheet or panel of flexible material having its longitudinal edges secured in said slots and flush substantially with the inner surfaces of said strips, substantially as described.
2. A box blank comprising wooden strips of sultable length to form, when cut, the top and bottom rails of the box, each of said strips having a diagonal slot extending longitudinally in its inner surface, a continuous sheet or panel of flexible material having its longitudinal edges arranged in said slots, substantially as described.
3. A knock down box comprising wooden strips forming the top and bottom rails of the box, each of said strips being provided upon its inner surface with a diagonal slot extending throughout the length of said strip, a continuous sheet or panel of flexible material having its longitudinal edges secured in said slots and bent or folded at right angles to form the corners of the box, and posts fitting the spaces between the contiguous ends of the top and bottom rails at the corner, substantially as described.
4. A knock down box comprising top and bottom rails, each having a slot extending longitudinally therein and a continuous flexible sheet or panel having its longitudinal edges secured in said slots and its inner surfaces flush substantially with the corresponding surfaces of said ralls, said panel being bent to form the corners of the box, posts fitting into the spaces between the ends of the side and end ralls and bearing on said panel corners, and supporting strips secured to said corner posts between the top and bottom rails, substantially as described.
5. A knock down box comprising side and end rails for the top and bottom of the box, each having longitudinal slots thereln, a continuous flexible sheet or panel having its longitudinal edges secured in sald slots, posts fitting into the slots between the contiguous ends of the side and end rails, and metallic straps securing sald posts to said ralls, substantially as described.
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6. A box blank comprising wooden strips of suitable length to form, when cut, the top and bottom ralls of the box, each of said strips having a diagonal slot extending longitudinally in its inner surface, and a continuous sheet or panel of flexible material having its longitudinal edges arranged in said slots and clamped therein, substantially as described.
No. 99,920. Metal Hoop. Cerceau en métal.


James E. Wright and John M. Kelton, assignee of a half interest, both of Bay City. Michigan, U.S.A., 10th July, 1906; 6 years. Filed 15th June, 1906. Receipt No. 136.921.
Claim.-1. As an article of manufacture, a hoop comprising a flat body portion, the entire inner tranverse periphery of which engages the receptacle to which it is applied, and an aproximately semi-cylindrical bead formed on the upper edge of the body portion to afford a broad, hollow, driving edge, the bead extending outwardly away from the body portion, thence downwardly and thence inwardly in an approximately straight line toward the body portion constituting a hollow unreinforced arch, the inwardly extending end of the arch abutting directly against the outer periphery of the body portion at substantially right angles thereto to brace the arch and resist distortion by the impact of the driving means.
2. As an article of manufacture, a hoop comprising a flat body portion, the entire inner traisverse periphery of which engages the receptacle to which it is applied, and an approximately semi-cylindrical, hollow, unreinforced bead extending along the upper edge of this body portion and of a predetermined conformation to resist breaking down under the impact of a driving means, the free lower edge of the bead against the body portion at such an angle as to prevent its slipping.
3. The combination with a metallic hoop, of a hollow unreirforced, rigid bead constituting a driving edge for the hoop, the bead being approximately semi-cylinder, the free edge of the bead extending in a straight line toward and abutting the outer face of the hoop at substantially right angles thereto to prevent a slipping or a distortion of the bead.
No. 99,921. Plough and Harrow. Charrue et herse.


Fidouard Marie Quellennec, and Edmond Nicolas Vermond, as signee of a half interest, both of Paris. France, 10th July. 1906; 6 years. Filed 9th June, 1906. Rereipt No. 136,728.
Claim.-1. A rotary automobile ploughing and harrowing inachine constituted by a frame on four wheels at the rear of which there is flxed by the Intermediary of a jib or otherwise. 'o plcking or shovelling tool formed by a certaln number of discs each of which is provided with several picks, shovels or

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cutting elements, and mounted upon the same horizontal shaft perpendicular to the direction of translation of the frame, and which receives its rotary movement from a motor of any appropriate kind placed upon the frame, the said machine likewise comprising a cleaning device formed by a row of knives interposed between the different discs of the rotary tool, and likewise a rake arranged at the rear.
2. The special arrangement of the cutting tool which may be employed alone, or in combination with the picks and shovels in order to ensure the digging, breaking up, harrowing and raking of land of any kind and in any condition.

No. 99,922. Side Wall Register. Registre pour murs.


The McClary Manufacturing Company, assignee of Marco $F$. Irwin, all of London, Ontario, Canada, 10th July, 1906; 6 years. Filed 16th June, 1906. Receipt No. 136,960.
Clain.-1. In a device of the class described the combination with a wall plate in which an opening is formed, of a hot air duct or tube, substantially as described and for the purpose specified.
2. In a device of the class described the combination of a wall plate in which an opening is formed, with a register face in which an opening if formed and means for permitting or preventing egress through said openings, substantially as described and for the purpose specified.
3. In a device of the class described the combination with a wall plate in which an opening is formed, of a register face in which an opening is formed, a valve plate secured to said register face and means for operating said valve plate to permit or prevent egress through said openings, substantiall: as described and for the purpose specified.
4. In a device of the class described a register face in which an opening is formed, and a valve plate pivotally secured to said register face, and adapted to permit or prevent egress through said opening, in combination with a lever pirotally mounted on said register face, and a coupling connected at one end to sald valve plate and at the other end to cne end of said lever, substantially as described and for the purpose specified.
5. In a device of the class described a wall plate in which an opening is formed, a register face in which an opening is formed, a register face in which an opening is formed, and a valve plate pivotally secured to said register face, and adapted to permit or prevent egress through said openings in combination with a lever mounted on said register face, a hook secured to said valve plate, and a coupling link connected at one end of said hook and at the other end to said lever, substantially as described and for the purpose specified.

No. 89,923. Car Coupler. Attelage de chars.


Joseph William Robertson and John A. Gun, assignee or a half interest, both of Hot Springs, Virginia, U.S.A., 10th July, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,020.
Claim.-1. In a car coupling the combination of a knuckle provided with a vertical aperture to receive a pivot therefor, a detachable wear plate applied to the working face of said knuckle and an extension projecting from said wear plate and having an aperture through which the pivot of the knuckle may pass.
2. In a car coupling the combination of a pivoted knuckle provided with a dovetailed seat in its working face, a wear plate arranged in said seat. lugs projecting from the knuckle to prevent downward vertical displacement of said wear plate, and an extension projecting from the wear plate and provided with an opening to recelve the pivot of the knuckle.

No. 99,924. Railway Freight Car.
Char d̀ marchandises.


William Redford Mulock, Winnlpeg, Manitoba, Canada, 10th July, 1906; 6 years. Filed 11th'June, 1906. Receipt No. 136,777.
Claim.- 1 . A railway freight car provided with a skeleton bottom with a series of hoppers beneath said bottom and with a removable floor formed of interchangeable sections substantially equal in length to the distance between the car walls.
2. A rallway fright car comprising a skeleton bottom, a flicoring formed of removable sections and a plurality of conoidal hoppers located beneath the floor line of the car, the sloping side walls of said hoppers extending substantially to the side walls of the car body.
3. A rallway freight car provided with a skeleton bottom, with a floor formed of separate interchangeable sections substantially equal in length to the distance between the car walls and with a pluraity of conoidal hoppers located below the floor line of the car, said hoppers having their sloping side walls extending substantially to the line of the side walls of the car body, and the end hoppers having their sloping end walls extending substantially to the end walls of the car body.
4. A railway freight car provided with a skeleton bottom formed of narrow, longitudinal and transverse metal bars, a plurality of conoidal hoppers located beneath said skeleton tottom, the sloping walls of adjacent hoppers being secured to transverse bars of the skeleton bottom and the sloping side walls of said hoppers extending substantially to the side walls of the car body.
5. A railway freight car having its lower portion formed of side and end sllls of angle bars and having a skeleton bottom comprising longitudinal and transverse bars united to sald side and end sills, and having a plurality of conoidal hoppers located beneath said skeleton bottom, the side walls of sai: 1 hoppers being united to the side sills, and a removable flooring formed of detachable sections adapted to rest upon said skeleton bottom.
6. A rallway frelght car having a bottom portion formed of side and end sills and having a skeleton bottom formed of longitudinal and transverse metal bars riveted to said side and end sills, a removable floor formed of detachable sections adanted to rest upon said skeleton bottom, and a plurality of hoppers located entirely beneath said removable floor, the side walls of said hoppers being secured to the side sills of the car bottom and the end walls of sald hopper being secured to the transverse bars of sald skeleton bottom.
7. A railway freight car comprising a skeleton bottom and a floor formed of removable sections adapted to extend transversely of the car and substantially equal in length to the distance between the car walls, the body of the car bein ${ }_{F}$ formed with a doorway and with vertical battens at the sides of said door way, the battens being separated a distance substantially equal to the length of the removable floor sections, whereby one of said floor sections will be set between said battens to serve as a door.
8. A railway frelght car comprising a skeleton bottom, a plurality of conoidal hoppers located beneath the floor line of the car of said hopper being provided at its discharge opening with a slideway, individual gates for closing the hopper bottoms, sald gates fitting in sald slideways, and an operating rod whereby said gates be shifted simultaneonsly.
9. A railway freight car comprising a skeleton bottom, a plurality of conical hoppers located beneath the floor line of the car, each of said hoppers being provided at its discharge opening with a slideway, individual gates for closing the hopper bottoms, sald gates fitting in said slideways, a supporting bracket extending beneath and across each of said hopper bottoms, and an operating rod connected to sald several gates.
10. A railway freight car comprising a skeleton bottom, a plurallty of conical hoppers located beneath the floor line of the car, each of said hoppers being provided at its discharge opening with a slideway, said gates fitting in said slideways and being provided with angular flanges at their front ends to close said slideways.
11. A railway freight car having a plurality of hoppers located beneath the floor line, each of said hoppers being provided at its discharge opening with a sideway, individual gates arranged within said slideways, a common operating rod for said gates and yielding or spring connections between sald gates and said operating rod.
12. A rallway freight car comprising a skeleton bottom, a plurality of hoppers located beneath the floor of the car, gates for closing the lower ends of sald hoppers, a removable floor comprising a number of sections arranged to be supported upon said skeleton bottom and means for jamming said floor sections together.
13. A railway freight car comprising a skeleton bottom, a plurality of hoppers located beneath the floor line of the car, gates for closing the lower ends of sald hoppers, a removable floor comprising a number of sections arranged to be suppcrted upon said skeleton bottom, a movable cross bar at one end of the car for forcing the floor sections together, screws for operating said cross bar and common actuating means for sald screws.

No. 99,925. Car Underframe. Chîssis dc chars.


Anton Becker, Columbus, Ohlo, U.S.A., 10th July, 1906; 6 years. Filed 14th June, 1906. Receipt No. 136,898.
Claim.-1. In a car, an underframe composed of a plurality of sills extending lengthwise of the car, a central girder of greater height than the sills, having part of its height extending above the bottoms of the sills and part of its height extending below the bottoms of said sills, a plurality of
cross bearers composed of separate top and bottom plates with intermediate fillers extending cross wise of the car, the top plates of the cross bearings being adjacent to the bottoms of the sills and extending acros the car through slots cut in the central girder, the bottom plates of the cross bearings extending across the bottom of the girder and the fillers being located at each side of the girder between the top and bottom plates, and means engaging the sills and the bottom plates of the cross bearers for securing the whole together.
2. In a car an underframe composed of a plurality of sills extending lengthwise of the car, a central girder of greater height than the sills, having part of its helght extending above the bottoms of the sills and part of its height extending below the bottoms of said sills, a plurality of cross bearers composed of top and hottom plates extending from side to side of the car and triangular fllers between sald top and bottom plates, the top plates of said cross bearers belng adjacent to the bottoms of the sills and extending across the car through slots cut in the central girder and the bottom plates of the cross bearers extending across the bottom of the girders and a plurality of bolts extending through said sills, top and bottom plates and fllers of the cross bearers to secure the whole together, substantially as described.
3. In a car an underframe composed of a plurality of sllls extending lengthwise of the car intermediate between two side sills of greater depth than said first-mentioned sills also extending lengthwise of the car, a central girder of greater height than said intermediate sills having part of its height extending above the bottoms of the sills and part of its height extending below the bottoms of sald sills, a plurality of cross bearers composed of top plates extending across the car adjacent to the bottoms of the intermediate sills, triangular fillers below said top plate as described, and a bottom plate extending crosswise of the car across the bottom of said central girder and along the bottoms of said fillers, means upon the ends of said cross bearers for securing them to the side sills and a plurality of bolts through said first-mentioned sills the top and bottom plates and fllers of sald cross bearers whereby the whole may be detachably secured together as deacribed.
4. In a car the combination of a central plate girder having an inverted $U$-shaped notch 41 extending upward from the bottom of said girder, sald notch being of the same depth as the height of the bolster which is to be inserted therein, a reinforcing plate or plates 43 secured to sald girder adjacent to said notch, a bolster inserted crosswise of the car in said U-shaped notch and unsecured to sald girder, and a flat plate extending along the bottom of said girder secured to the girder proper and to said bolster.
5. In a car the combination of a longitudinal girder made of metal plates or channel irons, a shelf on the side of said girder formed by slitting down a portion of the plate and bending the slitted portion to a position at right angles to the plane of the main plate or channel, and an end sill mounted crosswise of the girder on said shelf and secured thereto.

No. 89,826. Tie Plate. Plaque pour dormants.


George Washington Dennis, Chicago, Illinois, U.S.A., 10th July, 1906; 6 years. Filed 4th June, 1906. Recelpt No. 136,534.
Clatm.-1. In a device of the class described a plate adaptci to project at each end beyond a rail and upwardly and inwardly directed brace laterally offset from one end thereof and adapted to extend beneath the spike head.
2. In a tie plate the combination with a wear plate having a laterally directed web thereon, of a brace extending upwardly and Inwardly from said web and adapted to extend at its lower end beneath the spike head.
3. In a device of the class described the combination with a wear plate of a laterally offset portion and an upwardly directed brace on said portion adapted to engage over a rail flange beneath a spike head.
4. In a device of the class described the combination with a plate comprising interfitting sections each of which is provided with an upwardly and laterally offset portion adapted to overlap the other section and an inwardly facing brace on each section adapted to engage the rail.
5. In a device of the class described the combination with a two-part plate of a laterally directed upwardly offset web thereon and means on said web adapted to engage over the rall flange on each side of a rail.
6. A tie plate comprising interfitting, duplicate sections each having an offset portion overlapping the other.
7. A the plate comprising interfitting sections, a laterally and offiset web on each section adapted to engage over the adjacent end of the opposite section and an inwardly facing brace on each web and provided with a vertical fold therein.
8. A tie plate comprising interfitting oppositely facing sections having registering apertures therethrough and an upwardly and inwardly directed brace on each section.
9. A sectional tle plate comprising in combination metallic strips, a laterally directed web on each adapted to overlap the adjacent strip and an upwardly and inwardly directed brace on each section.
10. In a tie plate the combination with a pair of wear plates of an integral web on one end of each adapted to overlap the opposite end of the other and means on said webs adapted to engage over the rall flanges.
11. In a tie plate a pair of interfitting duplicate sections adapted to engage beneath the rall from opposite sides and each provided with a laterally directed upwardly offset web thereon having an integral upwardly directed brace adapted to engage over the rail flanges.
12. In a device of the class described, the combination with a pair of wear plates adapted to be inserted beneath a rall of laterally directed, upwardly offset, integral webs thereon, each adapted to overlap the adjacent plate and a plurality of braces on said plates, adapted to engage the rail, said webs and plates being provided with apertures so disposed that when in register said braces closely impinge the rail.
13. A tie plate embracing two sections, each extending beneath the rail and having an inwardly directed integral brace thereon overlapping the end of the other and apertured to receive the spikes whereby the spikes lock the sections to the rall.
14. A tie plate comprising two sections each extending beneath the rail, laterally offset upwardly and inwardly directed bracing flanges thereon, that on each section overlying the end of the other section, said flanges and ends being apertured to receive the spikes whereby the spikes lock the sections to the rall.
15. A tie plate comprising two duplicate stamped sections adapted to lie side by side beneath the rail, a laterally offset end on each adapted to overlie and interfit the end of the other section, an integral brace on each offset end adapted t") bear against the opposite sides of the rall, sald sections having registering apertures to receive the spikes whereby the same are locked together.
16. A tle plate comprising two sections eacb adapted to lie beneath the rail laterally of the other, a laterally offset upwardly directed brace on each adapted to overlie the end of the other and engage a rail from opposite sides, said braces having a vertical central fold therein extending bracingly leneath the rall head.

## No. 89,927. Railway Car Stake.

Jalons pour chars de chemin de fer.
Charles M. Funk, Centralia, Washington, U.S.A., 10th July, 1906; 6 years. Filed 11th June, 1906. Receipt No. 136,788.
Claim.-1. The combination substantially as herein described of the car bed, the hooks at the opposite sides thereof and provided with shanks, keepers secured to the car bed for said hook shanks, the stakes, the stake plates having staples to which the stakes are secured and provided above said staples with outwardly projecting lugs adapted to receive their respective stakes between them, keepers secured to the car bed for said stake plates, and binders connected at their ends with their respective stakes and engaged between their ends with hooks at the opposite sides of the car from said stakes and having between said hooks latch hooks, and means for securing and releasing the same, all substantially as and for the purpose set forth.
2. In a log binder for car beds a stake combined with a stake plate to which the stake is swivelled at its lower end, and lugs projecting outwardly from the plate above the con. r.ection of the stake therewith and adapted to receive the stake between them, substantially as set forth.
3. The combination with the car having the outwardly facing hooks and stakes at the opposite sides of the car, of a

binder secured to the stakes and extending thence across the car and engaged with the hooks at the oppositie stdas o:' the car, substantially as set forth.
4. A car having at its opposite sides stakes arranged in pairs and provided with outwardly facing hooks between the said stakes, and binders secured at their ends to the stakes at the other side of the car and extending thence across the car and engaging with the outwardly facing hooks at the opposite sides of the car, as set forth.
5. A car platform or bed having transverse upwardly projecting beams, stakes at the sides of the car and outwardly facing hooks at the opposite sides of the car bed from their respective stakes, and load binders connected at their ends With the stakes at the same side of the car and extending thence across the car body and engaging with the hooks at the opposite side of the car bed, substantially as set forth.
6. The combination with a car bed, of a keeper secured thereto, a stake plate fitting removably to the keeper and provided at its upper end with outwardly projecting lugs. and a stake $s$ wivelled to the stake plate below said lugs and adapted to turn up between the same, substantially as described.

No. 99,928. Log Turner. Appareil d tourner les billots.


Fred William Beitner, Traverse City, Michigan, U.S.A., 10th July, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,021.
Cialm.-In a device of the described character, a toothed member, a piston rod plvotally connected with and adapted to impart longitudinal movement to said toothed member, and arother piston rod pivotally and slidably connected with and adapted to impart transverse movement to said toothed nuember.

No. 99,929. Throat Protector. Protecteur pour la gorge:
Henry E. Buttray, London, Ontario, Canada, 10th July, 1906; 6 years. Filed 5th June, 1906. Receipt No. 136,585.
Claim.-1. A throat protecting flap secured to and in combination with a hat, cap or other head wear, substantially as shown and described and for the purpose specified.
2. In a device of the class described, the combination with a hat, cap or other head wear, and a band pendent therefiom, of a throat protecting flap secured at its ends to the front edges of said pendent band, substantially as shown and described and for the purpose specified.
3. As a new article of manufacture, a hat, cap or other head wear formed with a throat protecting flap, substantially as shown and described and for the purpose specified.
4. The combination with a hat, cap or other head wear, of a throat protecting flap adapted to be attached to or de-
tached from said hat, cap or other head wear, and means for adapting said throat protecting flap to be attached to or

detached from said hat, cap or other head wear, substantially as shown and described and for the purpose specified. 5. The combination with a hat, cap or other head wear, and a band pendent therefrom, of a throat protecting flap udapted to be secured at its ends to the front edges of said pendent band, and fasteners for adapting said throat protecting flap to be attached to or detached from said pendent band, substantially as shown and described and for the purpose specified.

No. 99,930. Bottle Washer.
Machine d laver les bouteilles.


Edward Travers Dixon, Woolston, Southampton, England, 10th July, 1906; 6 years. Filed 21st May, 1906. Receipt No. 136,104.
Claim.-1. For use in bottle washing machines of the typo described, a contrivance for transmitting a rotary motion to a brush whilst permitting it to undergo longitudinal movement comprising a brush spindle having an elongated keyway formed therein, a hollow power driven shaft within which the brush handle is adapted to slide and fit one end thereof, and a feather key secured to one end of the hollow shaft.
2. For use in bottle washing machines of the type described a contrivance for transmitting a rotary motion to a brush whilst permitting it to undergo longitudinal movement, comprising a brush spindle having an elongated keyway formed therein, a hollow power driven shaft, within which the brush spindle is adapted to slide and fit one end thereof, a slotted nut adapted to fit a screw-threaded and slotted end of the hollow shaft, a feather key adapted to fit the clotways formed in sald shaft and nut and lock nut adapted to enclose and secure the feather key to the hollow shaft.
3. For use in bottle washing machines of the type described and in a contrivance for transmitting a rotary motion to a brush, whilst permitting it to undergo longitudinal movement, which contrivance comprises a brush spindle having an elongated keyway formed therein, a power driven shaft, within which the brush spindle is adapted to sllde and fit one end thereof, and a feather key secured to one ena of the hollow shaft, a sleeve adapted to slide and turn freely relatively to the brush spindle and house the bristles of the brush when the latter is withdrawn from the bottle and an annular space formed within the hollow shaft and extending from one end throughout the greater part of its length, which space is adapted to receive the bristle housing the sleeve and permit its free rotation and longitudinal movement therein.

No. 99,931. Nnt Lock. Arrête-écrou.


Albert L. Eicher, Alliance, Ohio, U.S.A., 10th July, 1906; 6 years. Filed 19th June, 1906. Receipt No. 137,073.
Cluim.-1. A lock nut made of metal having a grain and being bent to concavely curve its inner face in the direction thereof, there being a kerf in the outer face across the grain with the adjacent parts compressed along the grain to approximately close the kerf.
2. A lock nut made of metal having a grain, there being a kerf in the face across the grain with the adjacent parts compressed along the grain to approximately close the kerf.

No. 99,932. Crate. Manne.


Frank J. Hipp, New Brighton, Minnesota, U.S.A., 10th July. 1906; 6 years. Filed 13th June, 1906. Recelpt' No. 136,858. Claim.-1. A crate comprising a bottom having cross strips thereon at each end, sides composed of upright posts and slats connecting them, said sides also having bars parallel with said posts and spaced therefrom, pins passing through the lower end of said bars and posts, and through said strips and hinging sald sides on said strips, the pace between said bars and posts being of sufficient width to receive said strips when said sides are swung down flat upon them, and ends composed of slats and bars connecting them adapted to fit into the spaces between said side posts and bars and locking them in an upright position, substantially as described.
2. A folding crate comprising a bottom having cross strips thereon, sides composed of upright posts and slats connecting them and bars parallel with said posts and spaced therefrom, said posts having rabbeted inner edges, pins passing through the lower ends of said bars and posts, and also through said strips and hinging the sides thereon, ends also having upright posts and slats connecting them and adapted to fit into the spaces between the posts and bars of said sides, and said ends having locking plates adapted to slip into said rabbets when the crate is set up, and means for locking said ends and sides together, substantially as described.
3. A folding chicken crate comprising a close board floor and strips arranged transversely thereon at each end, sides comprising upright posts and slats connecting them and bars spaced from said posts, pins passing through the lower ends of said bars and posts and said strips, and hinging the sides thereon, ends also composed of posts and slats connecting
them and adapted to fit into the spaces between said side posts and bars, means for locking said ends and sides together, means for securing said ends to sald strips, a top also consisting of cross strips and slats connecting them and means for locking said top to said ends.
4. In a folding chicken crate the combination with the hinged sides adapted to swing in toward one another to a horizontal position, said sides having posts with rabbeted inner edges, ends having posts and plates to enter said rabbets and lock said sides and ends together, substantially as described.
5. A folding chicken crate comprising a floor and sides hinged thereon and adapted to swing into a horizontal position, ends removably fitting between said sides and means for locking them together, said ends having upright pins or sides, a top having holes to receive said sides and means for securing said top to said sides and ends.
6. A folding chicken crate comprising a floor, sides hinged thereon and adapted to swing in to a horizontal position, posts and bars provided at each end and the middle of said sides and spaces being provided between said posts and bars and said posts having rabbeted inner edges, ends and a middle partition having bars adapted to enter the spaces between said side posts and bars, plates provided on said ends and partition to enter said rabbets and lock said sides and ends and partition together, means for securing said ends to said floor, a top fitting over said sides and means tor securing said top to said sides and ends, substantially as described.

No. 99,933. Washing Machine. Machine d laver.


George H. Huenergardt, College View, Nebraska, U.S.A., 10th July, 1906; 6 years. Filed 14th June, 1906. Receipt No. 136,893 .
Claim. - In a washing machine the combination with a suds box provided with a wringer board, of a handle comprising lever, a hand grip arranged at one end thereuf, a shank disposed at right angles to the lever and in parallelism with the hand grip, and an approximately L-shaped attaching member projecting from the shank and secured to the suds box and to the wringer board.

No. 99,934. Eay Stacker. Anculonneur de foin.


Casper Koehler. Canyon City, Oregon, U.S.A., 10th July, 1906; 6 years. Filed 14th June, 1906. Receipt No. 136,891.
Claim.-1. A hay stacker comprising a base frame, verti-
c. lly swinging stacker arms pivotally supported upon the
frame, a stacker head carried by the free ends of the arms, a mast pivotally rising from the frame, a prop hinged to the frame and straddling the mast, a connection between the frec end of the prop and the stacker arms, a connection between the free ends of the mast and the prop, and a block and tackle connected to the mast and the rear portion of the frame for swinging the mast and elevating the stacker arms.
2. In a hay stacker the combination with a base frame, of longitudinally extensible stacker arms pivotally supported upon the base frame, a stacker head carried by the free ends of the arms, a mast pivotally supported upon the frame, a prop hinged to the base frame and comprising spaced members embracing the mast, an extensible prop member shiftable endwise between the outer end portions of the hinged prop members. a connection between the extensible prop member and the stacker arms, another connection between the top of the mast and the extensible prop member, and a block and tackle extending between the top of the mast and the base frame.
3. In a hay stacker the combination of a base frame made up of spaced sills, and front, intermediate and rear cross bars connecting the same, of a rock bar mounted upon the rear portion of the frame and projected at opposite sides therof, stacker arms carried by the projected ends of the rock bar and extending in front of the base frame, a stacker head carried by the free ends of the stacker arms, a mast pivotally raising from the front cross bar, a prop pivotally supported upon the intermediate cross bar and stradding the mast, a connection between the fres ends of the stacker arms and the free end of the prop, a connection between the free ends of the mast and the prop, and a block and tackle extending between the free end of the mast and the rear cross bar of the base frame.

No. 99,935. Canning Apparatus.
Appareil de mise cn boîte.


Lilford Leland Lawrence, Jackson, Alabama, U.S.A., 1 ath July, 1906; 6 years. Filed 15th June, 1906. Receipt No. 136,937.
Claim.-1. The combination of a casing, a fire box therein, a lining within the casing above the fire box and forming an air chamber open at top and in communication with air inlets in the side of the casing, and a vat suspended in the lining and forming an outlet therearound for the products of combustion.
2. The combustion of a casing, a fire box therein a lining within the casing above the fire box, said lining being spaced from the casing to form an air chamber open at top and communicating with inlets in the sides of the casing, a vat supported within the lining and terminating above the bottom of the same, sald vat being of greated diameter or area than the fire box and spaced from the lining to form an intervening outlet therearound for the products of combustion.
3. The combination of a casing, a fire box therein partially spaced from the wall of the casing, an interior lining above the fire box and forming an air chamber therein closed at bottom and open at the top and communicating with inlets in the sides of the casing, a vat supported within the lining above the fire box and bottom of the lining and of greater area than the fire box, and deflectors enclosing the vat and secured to the lining.
4. The combination of a casing. a vat supported therein, a float arranged in the vat and means for conducting steam from the top of the vat to the float.
5. The combination of a casing, a vat therein, a float within the vat, and a weighing plate carried by the float and projecting beyond the same to govern the circulating space between the vat and float.
6. The combination of a casing, a vat therein, a hollow float within the vat and of less diameter than the came, a
steam supply pipe carrield by the float and extending into the top of the vat, and a plate carried by the float and extending beyond the edges of the float.
7. The combination of a casing, a vat therein, a fioat within the vat, pipe connections for supplying and withdrawing water to and from the vat, and a gauge carried by said connections for indicating the amount of water in the vat.
8. In a casing apparatus, a casing having a fire box, and provided with an opening for the insertion of a soldering iron into said box.

No. 99,936. Foraminous Fire Plate and Cover. Plaque et couvercle perforts pour le fer.


Patrick James Mooney, Brazil, Indiana, U.S.A., 10th July, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,018.
Claim.-1. As a new article of manufacture, a foraminous plate designed to be superposed on a bed of fuel, for the purpose specified.
2. As a new article of manufacture, a foraminous plate designed to be superposed on a bed of live fuel and to be supported solely thereby, said plate being provided with means for regulating the area of its openings.
3. The combination with a stove or the like, of a foraminous plate designed for insertion in sald stove, and for superposition upon the fuel therein, said plate being supported directly upon and solely by sald fuel whereby it will sink as the bed lowers, and said plate being spaced from the walls of the stove.
4. The combination with a stove or the like of a cover for the fuel bed, said cover being supported directly upon and by said bed, and being foraminous, as and for the purpose set forth.

No. 99,937. Chnri. Baratte.


Francis Michael Mulligan, Eyeta, Minnesota, U.S.A., 10th July, 1906; 6 years. Filed 15th June, 1906. Receipt No. 136,936.
Olaim.-1. A cream vat, a receptacle arranged to receive material from the vat and formed with an open spout, a churn, a communication between the churn and receptacle, a steam ejector device, and a removable connection between said ejector and the churn.
2. A cream vat, a receptacle arranged to receive material from the vat and provided with a spout in open communication with the receptacle, a churn, a pipe connected with the churn and extending within the receptacle, said pipe being supported by the spout and having a tapering elbow where It is connected to the churn, a steam ejector, and a removable connection between sald ejector and churn whereby operation of the ejector will create a partial vacuum within the churn body for drawing into said body the mateiral in the receptacle.

No. 99,938. Spool and Needle Cases.
Bobine et étui d aiguille.


Joseph George Sipoz, East Kootenay, British Columbia, Canada, 10th July, 1906; 6 years. Filed 6th May, 1906. Recelpt No. 135,574.
Claim.-1. A device of the character described, comprising a spool provided with a passage closed at one end and fully open at its other end, and a cap adapted to support needles within said passage and to seal the passage to render the same molsture proof.
2. A device of the character described, comprising a spool having two or more winding faces and a passage closed at one end and open at its other end, and a cap adapted to support needles within and seal the passage to render the same moisture proof.
3. A device of the character described comprising a spool provided with a passage having one end closed and its other end fully open, one end of the spool being provided with an annular recess arranged concentrically with relation to the passage, a cap having the ends of its flange fitted within said recess, said cap being adapted to support needles within and seal the passage to render the same moisture proof.
4. A device of the character described comprising a spool provided with a passage having one of its ends closed and its other end open, a cap adapted to seal the openings and a cushion filling for the cap, said cushion flling being adapted to receive needles.
5. A device of the character described comprising a spool having a passage closed at one end and open at its other end, said spool being provided with an annular recess arranged concentrically with relation to the passage, a cap adapted to seal sald passage and having the edge of its flange disposed within said reecss, and a cushion filling for the cap. said cushion flling being adapted to receive needles.

No. 99,939. Cultivator. Cultivateur.


Alfred T. Westlake, Newburgh, New York, U.S.A., 10th July. 1906; 6 years. Filed 11th June, 1906. Recelpt No. 136,782.
Claim.-1. An article of the class described comprising a blade having ears formed thereon and extending therefrom at an angle.
2. The combination with the shovel beams of a cultivator, of a blade having ears arranged for attachment thereto, said ears being extended at an angle from said blade.

## No. 98,940. Land Gultivating Instrument.

Instrument d'agriculture.
Arthur Jones, Bondoola, Rockhampton, Oueensland, Australialia, 10th July, 1906; 6 years. Filed 14th June, 1906. Recelpt No. 136,897.
Claim.-1. In an implement for cultivating land a plurality of discs mounted on shanks extending from a rotatable beam arranged parallel to said discs, and means for rotating sald beam.
2. In an implement for cultivating land a plurality of discs mounted on shanks extending from a beam parallel to said

discs and fournalled at each end in bearings on the frame, a bar connecting said shanks and a spring toothed lever in engagement with a rack and attached to said beam and bar, substantially as set forth.
3. In an implement for cultivating land a rotatable beam carrying a number of discs and parallel thereto, sald beam being journalled at either end in adjustable bearings, one end of the latter being pivoted to the frame and the other end adjustably secured thereto and means for rotating said beam substantially as set forth.
4. In an implement for cultivating land a plurality of discs mounted on crank-shaped shanks rotatably journalled in a horizontal beam arranged parallel to said discs and means for rotating said shanks, substantially as set forth.
5. In an implement for cultivating land a pluraity of discs revolvably mounted on the bent ends of crank-uhaped shanks rotatably journalled in a horizontal beam arranged parallel to said discs, short cranks on the forward end of said shanks connected together by a bar and means for operating said cranks, substantially as set forth.
6. In an implement for cultivating land a plurality of discs revolvably mounted on the belt ends of crank-shaped shanks rotatably journalled in a horizontal beam arisnged parallel to said discs, short cranks on the forward ends of sald shanks connected together by a bar, a forked arm having a threaded nut at one end and connected at the other end to said bar, a screw extending through said nut and through a vertical standard on the horizontal beam, a crank handle on said screw and collars thereon on either side of said standard, substantially as set forth.
7. In an implement for cultivating land a plurality of discs mounted on crank-shaped shanks rotatably mounted in a rotatable beam arranged parallel to said discs, short cranks on the forward ends of said shanks coupled together by a bar, means for operating said cranks and rotating said beam.
8. In an implement for cultivating land a disc mounted on a crank-shaped shank one end of which fits into a sleeve on the concave side of said disc, substantially as set forth.
9. In an implement for cultivating land, a grader situate behind the discs consisting of a curved plate pivotally connected about the center at elther end to straps pivoted on the frame, lateral lugs on the ends of said plate adapted to abut against said arms, substantially as set forth and as llustrated.
10. In an implement for cultivating land an adjustable furrow wheel having a bent axle the shank of which is adapted to extend up through bearings on the frame in combination with a screw having a crank handle and adapted to pass through a threaded nut on a bracket mounted on the frame and bear against the end of said shank, substantially as set forth.

## No. 99,941. Milking Machine.

Machine d traire les vaches.
Hinrich P: D. Ohlhaver, Sande, near Bergedorf, Prussia, Germany, 10th July. 1906; 6 years. Filed 13th June, 1906. Receipt No. 136,885.
( Claim.-1. In a milking machine the combination with a multiple suction pump having a separate barrel, outlet tub, suction passage and teat cup to each teat of the animal, of a non-return valve interposed between the pump and the suction passage, and an air regulating passage or orifice connecting the suction passage between the non-return valve and the teat with the external air, so that the milk will not exude therethrough owing to the vacuum in the suction passage.
2. In a milking machine the combination with a multiple suction pump having a separate barrel, outlet tube, suction passage and teat cup to each teat of the animal, of a non-return valve interposed between the pump and the suction passage, an air regulating passage connecting the suction
passage between the non-return valve and the teat with the external air, and means for regulating the size of the said

passage so that the suction effect can be regulated without the milk coming into contact with the regulating means.
3. In a milking machine the combination with a multiple suction pump having a separate barrel, outlet tube, suction passage and teat cup to each teat of the animal, of a nonreturn valve interposed between the pump and the suction passage, an air regulating passage connecting the suction passage between the non-return valve and the teat with the external air, a regulating screw adjustable in the said passage, and a tapered slot on the side of the regulating screw whereby the size of the passage can be varied and the suction regulated for each teat, substantially as described.
4. In a milking machine the combination with a multiple suction pump having a separate barrel, outlet tube, suction passage and teat cup to each teat of the animal, of a nonreturn valve interposed between the pump and the suction passage, an air regulating passage connecting the suction passage between the non-return valve and the tent with the external air, a regulating screw, and a coned end or plug adjustable by means of the regulating screw over the end of the passage whereby the size thereof can be varied and the suction regulated for each teat, substantially as described.

No. 99,942. Milk Strainer. Couloir d lait.


Hormidas Leduc, St. Germain de Grantham, Quebec, Canada, 10th July. 1906; 6 years. Filed 13th June, 1906. Receipt No. 136,836.
Claim.-1. In a device of the character described, the combination comprising a receptacle, a perforated cover therefor, a body of foraminous material carried by the receptacle, a removable cap carried by the receptacle, a body of foraminous material carried by the cap, and a perforated supyort for the receptacle.
2. In a device of the character described, the combination comprising a receptacle having a tapered discharge nozzle, a perforated cover therefor, a body of foraminous materiai carried by the receptacle, a removable cap carried by the receptacle, a body of foraminous material carried by the cap. and a support for the receptacle having a tapered hollow sleeve adapted to hold the tapered discharge nozzle by frictional contact, said support being provided with a plurality ci perforations.
3. In a device of the character described, the combination comprising a receptacle, a removable segmental cover therefor provided with perforations, a body of foraminous matcrial carried by the receptacle, a removable straining mem-
ber carried by the receptacle, and a perforated support for the receptacle.
4. In a device of the character described, the combination comprising a receptacle provided with a screw-threaded reduced discharge nozzle, a perforated cover disposed on the receptacle, a screw-threaded cap carried by the reduced end of the receptacle, a body of foraminous material carried by the screw-threaded cap, and a perforated support for said reduced discharge end of the receptacle.
5. In a device of the character described, the combination comprising a receptacle provided with a straining member fixed thereon, and a removable straining member, and a Hanged perforated support for the receptacle provided with supporting legs.
6. In a device of the character described, the combination comprising a receptacle, a removable perforated cover for the receptacle, a fixed straining member carried by the receptacle, a removable straining member carried by the receptacle, a supporting member adapted to carry the receptacle and provided with perforations, and legs secured to the receptacle and provided with hooked horizontal extensions.
7. In a device of the character described, the combination comprising a receptacle, an aerated member carried by the receptacle, straining members carried by the receptacle, a flanged supporting member provided with a perforated domeshaped floor, a perforated sleeve carried by the floor and adapted to engage the receptacle, and supporting members carried by the dome-shaped floor and provided with horizontal extensions.

No. 99,943. Sand Box. Boîte d sable.


Mary E. Langley, Rouse's Point, New York, administratrix of the estate of Lawson C. Ritch, deceased, 10th July,
1906; 6 years. Filed 11th June, 1906. Receipt No. 136,778.
Claim.-1. A device of the class described comprising a receptacle having concaved recesses formed in its bottom and having openings formed through its bottom and opening into said recesses, and spouts leading from said receptacle and communicating with sald opening.
2. A device of the class described comprising a receptacle having inwardly enlarged openings formed through its floor, and spouts leading from said receptacle and communicating with said opening.

No. 99,944. Sander. Machine à sabler.


William Henry Quinn, Swansea, Ontario, Canada, 10th July, 1906; 6 years. Filed 22nd May, 1906. Receipt No. 136,147. Claim.-1. A sander, means for discharging sand therefrom, a rotatable discharge spout adapted to receive sand 7-8
from the sander, and means for rotating the spout, substantially as described.
2. A rotary sander, a rotatable discharge spout adapted to receive sand from the sander, and means for rotating the sander to discharge sand therefrom and for rotating the spout, substantially as described.
3. A rotary sander, an operating shaft therefor, a suitably journalled discharge spout adapted to receive sand from the sander, a bevel gear wheel on the shaft, a bevel gear pinion on the spout with which the bevel wheel meshes, and means tor rotating the shaft, substantially as described.
4. A rotary sander, an operating shaft therefor, a sultably journalled discharge spout adapted to receive sand from the sander, a bevel gear wheel on the shaft, a bevel gear pinion on the spout with which the bevel wheel meshes, means for rotating the shaft, and means for permitting the continued forward rotation of the bevel wheel after the sander has stopped, substantially as described.
5. A rotary sander, an operating shaft therefor, a suitably inיrnalled discharge spout adapted to receive sand from the sander, a bevel gear wheel on the shaft, a bevel gear pinion on the spout with which the bevel wheel meshes, means for rotating the shaft, and a spring actuated ratchet clutch forming and driving connection between the shaft and the bevel wheel whereby the latter may rotate forward independent of the former, substantially as described.
6. A sander, means for discharging sand therefrom, a rotatable discharge spout adapted to receive sand from the sander, means for rotating the spout, and a cone-shaped deflector connected to the spout and held with its apex just in front of the center of the end of the same, substantially as described.
7. A rotary sander, an operating shaft therefor, a horizontal driving shaft geared to the operating shaft, a gear pinion cn the driving shaft, a suitably journalled gear wheel meshing with the pinion. a ratchet wheel secured thereto, a lever provded with a suitable pawl to co-act with the ratchet wheel, a plunger adapted to depress the lever, and a spring adapted to raise the same, substantially as described.
8. A rotary sander, an operating shaft therefor, a horizontal driving shaft geared to the-operating shaft, a gear pinion on the driving shaft, a suitably journalled gear wheel meshing with the pinion, a ratchet wheel sccured thereto, a lever provided with a suitable pawl to co-act with the ratchet wheel, a plunger adapted to depress the lever. a spring adapted to raise the same, a vertical shaft provided with a crank handle, gearing between the vertical and horizontal shafts, and means permitting the forward rotation of the horizontal shaft independent of the vertical shaft, substantially as described.

No. 99,945. Rail Joint. Joint de rails.


William R. Thomas, Watertown, Wisconsin, and Frank E Wire, Libertyville, Illinois, U.S.A.. 10th July, 1906; 6 years. Filed 17th April, 1906. Receipt No. 134,941.
Claim.-1. In a rallway joint the combination with the meeting ends of two railway rails of an integrally formed flah plate and base plate and an integrally formed fish plate and wedge, the horizontal portion of the base plate being provided with a vertical flange formed at an angle to the longitudinal center of the railway rails, whereby an angular space is provided between said vertical flange and the vertical edge of the rails for the reception of said wedge, substantially as set forth.
2. In a rallway joint, an Integrally formed base plate and fish plate provided with a vertical fange formed at an angle to the longitudinal center of the rallway rails. In combination with an integrally formed wedge and fish plate, said wedge being adapted when in place between the angular flange of the base plate and the railway rails to serve the two-fold purpose of a wedge and flsh plate for locking the meeting ends of the ralls-qogether.
3. In a railway rail joint the combination with the meeting ends of two rallway ralls, the webs of which are provided with a plurality of transverse apertures, of an integrally formed fish plate and base plate, the vertical portion of which is provided with a plurality of horizontal projections adapted to register with and engage the apertures of the rails, while thts horizontal portion is provided with a vertical diagonal recessed flange formed at an angle to the railway rails for the reception of a wedge, and an integrally formed fish plate and wedge adapted to be interposed between the diagonal flange of the base plate and the meeting ends of the rails.
4. In a railway rail joint the combination with the meeting ends of two railway rails, of an integrally formed fish plate and base plate, and an integrally formed fish plate and wedge, the horizontal portion of the base plate being provided with a vertical recessed flange formed at an angle to the longitudinal center of the rallway rails, whereby an angular space is left between said vertical recessed flange and the vertical edge of the rails for the reception of said wedge, said wedge being of greater length than the base plate and adapted to project past the front end of the latter, a plurality of rail supporting ties and a spike rigidly secured on an end in one of said ties and having its other end secured against the protruding end of said integrally formed wedge and fish plate.

No. 99,946. Hat. Chapeau.


Gueseppe Melan, Milano, Italy, and the Waldron Drouin Company, Montreal, Quebec. Canada, 10th July, 1906; 6 years. Filed 11th October, 1905. Receipt No. 129,134.
Claim.-1. In combination with a hat provided with ventilating openings, a band disposed on the hat and having loosely woven sections in its body coinciding in position with the ventilating openings in the hat.
2. In combination with $a$ hat provided with ventilating openings, a band disposed on the hat and having foraminated sections in its body coinciding in position with the ventilating openings in the hat.
3. In combination with a hat provided with a plurality of rectangular ventllating openings, a band disposed on the hat and provided with a plurality of rectangular sections of foraminated material which sections are disposed over the ventilating openings in the hat.
4. A hat band provided with loosely woven sections in its body.
5. A hat band provided with sections adapted to permit the Pree passage of air.

## No. 99,947. Pastenrizing Process for Cream.

Procédé à pastcuriser pour la crême.
La Compagnie De Laiterie St. .Laurent, assignee of Hubert Napoleon Rivard, all of Montreal, Quebec, Canada, 10th July, 1906; 6 years. Filed 27th March, 1906. Receipt No. 134,324.
Claim.-1. In a device of the character described, a supporting casing, a pasteurizing drum supported by the casing and provided with discharge spouts, means for applying heat to the drum, and cooling members disposed below the drum.
2. In a device of the character described, a drum having an inclined double bottom, a continuous helical wall disposed in the drum, spouts disposed through the double bottom, said bottom being provided with an upwardly extending flange and provided with a downwardly extending flange of greater width than the length of sald spouts, and means for applying heat to the double bottom.
3. In a device of the character described. a pasteurizing drum comprising a receptacle having an inclined double bottom provided with discharge openings, a continuous helical flange carried by the bottom, a perforated pipe disposed between the members of the double bottom, a feed plpe leading to the perforated pipe, and means for regulating heat applied through the perforated pipe.
4. In a device of the character described, a pasteurizing drum comprising a receptacle having an inclined double bot-

tom provided with discharge openings, a continuous helical flange carried by the bottom, a perforated pipe disposed between the members of the double bottom, a feed pipe leading to the perforated pipe, a valve on the feed pipe, a handle on the valve, a pipe leading from the double bottom, an openended casing carried by the latter pipe and provided with a discharge opening, a float disposed in the casing, a rod connected to the float, and a connection between the rod and the handle on the valve.
5. In a device of the character described, a pasteurizing drum comprising a receptacle having an inclined double bottom provided with discharge openings, a continuous helical flange carried by the bottom, a perforated pipe disposed between the members of the double bottom, a feed pipe leading to the perforated pipe, a valve on the feed pipe, a handle on the valve, a pipe leading from the double bottom, an openended casing carried by the latter pipe and provided with a discharge opening, a float disposed in the casing, a rod connected to the float, and provided with a screw-threaded end, a lever connected at one end to the rod, a fulcrum for the lever secured on the casing, and a rod adjustably secured to the opposite end of the lever and to the handle of the valve.
6. In a device of the character described, a supporting casing, a pasteurizing drum carried thereby and provided with discharge openings, a rotatable corrugated casing disposed below the pastcurizer and provided with outer downwardly inclined flanges and provided with an inner upwardly inclined perforated flange and provided with a horizontal upper flange, a second casing disposed within the movable casing, braces connecting the two latter casings, a bearing for the scond casing, and means for applying a liquid cooling medium to the casings.
7. In a device of the character described, a supporting casing. a pasteurizing drum carried thereby and provided with discharge openings, a rotatable corrugated casing disposed below the pasteurizer and provided with outwardly inclined flanges and provided with an inner upwardly inclined perforated flange and provided with a horizontal upper flange, a second casing disposed within the movable casing, braces connecting the two latter casings and provided with a conical cover and a central bearing and provided with inclined extending flanges, and a shaft carried by the supporting casing and inserted in the bearing.
8. In a device of the character described a supporting casing, a pasteurizing drum provided with staggered discharge spouts and carried by the casing, a plurality of rotatable casings disposed within the supporting casing and provided with flanges, a trough disposed below the flanges, and means for applying a liquid cooling medium to both rotatable casings.
3. In a device of the character described a supporting casing, a pasteurizing drum provided with staggered discharge spouts and carried by the casing, a plurality of rotatable casings disposed within the supporting casing ana provided with flanges, a trough disposed below the flanges, a pump connected with the trough, a clean-out valve on the connection between the pump and the trough, and means for applying a liquid cooling medium to both rotatable casings.
10. In a device of the character described a supporting casing, a pasteurizing drum disposed on the casing, a pair of rotatable connected casings disposed within the supporting casing, a feed pipe leading from the lower part of the supporting casing, a valve on the feed pipe, a pipe leading from the feed pipe back to the casing, a pump on the latter pipe, a strainer in the latter pipe, and a plurality of perforated pjpes connected to the feed pipe and extending upward inside and outside of the rotatable easings.
11. In a device of the character described a supporting casing, a pasteurizing drum thereon, a pair of rotatable casings disposed within the supporting casing, an ice receiving trough projecting from the supporting casing, means for applying a llquid cooling medium to the casing, a cream receiving trough supported adjacent the rotatable casings, and means for removing cream from the trough.
12. In a device of the character described a supporting casing, a pasteurizing drum thereon, a pair of rotatable casings disposed within the supporting casing, an ice receiving trough projecting from the supporting casing, means for applying a liquid cooling medium to the casing, a cream receiving trough supported adjacent the rotatable casings, and means for removing cream from the trough oomprising a pipe leading to the cream trough, a pump connected to the pipe, means for driving the pump, and a clean-out on the pipe.
13. In a device of the character described a supporting casing, a pasteurizing drum thereon, a pair of rotatable casings disposed within the supporting casing, an ice receiving trough projecting from the supporting casing, means for applying a liquid cooling medium in the casing, an overflow pipe connected to the bottom of the supporting casing, a cream receiving trough supported adjacent the rotatable casings, and means for removing cream from the trough.

No. 99,948. Photo-Mechanical Printing. Imprimerie photomécanique.


Albert Henry Walker, assignee of John W. Ippers, New York Clity, New York, U.S.A., 10th July, 1906; 6 years. Filed 28th March, 1906. Receipt No. 134,387.
Claim.-1. The following process of photo-meuhanical printin:, making a sensitive gelatine plate on a flexible celluloid base, which base is temporarily glued down upon a flat and horizontal plate while the gelatine is setting, exposing that sensitive gelatine plate to light through a translucent picture, developing that exposed gelatine plate by bathing it in water, and thereby making numerous irregular and irregularly distributed cracks in its surface, drying that developed gelatine plate in air, stripping that gelatine plate with its flexible base, away from that flat plate, applying glycerine solution to those parts of the surface of that developed gelatine plate which will take it, applying ink to the other parts of the surface of that developed gelatine plate, transferring ink from that inked flexible gelatine plate to a metal surface, by pressing the inked flexible gelatine plate directly against the metal surface, etching away the uninked parts of that metal surface, applying printing ink to the printing parts thus produced on that metal surface, and transfering ink from those printing parts directly to the surface of whatever material constitutes the base of the picture which results from the process, all substantially as described.
2. The following process in photo-mechanical printing, making a sensitive gelatine plate on a flexible celluloid base. which base is temporarily glued down upon a flat and horizontal plate while the gelatine is setting, exposing that sensitive gelatine plate to light through a translucent picture, developing that exposed gelatine plate by bathing it in water, and thereby making numerous irregular and irregularly distributed cracks in Its surface, drylng that developed gelatine plate in air, stripping that gelatine plate, with its flexible base, away from that flat plate, applying glycerine solution to those parts of the surface of that developed gelatine plate which will take it, applying ink to the other parts of the surface of that developed gelatine plate, transferring ink from that inked flexible gelatine plate to a metal surface, by pressing the inked flexible gelitine plate directly against the metal surface, and etching akay the uninked parts of that metal surface, all substantlally as described.
3. The following process in photo-mechanical printing making a sensitive gelatine plate on a flexible celluloid base, which base is temporarily glued down upon a flat and horizontal plate while the gelatine is setting, exposing that sensitive gelatine plate to light through a translucent picture, developing that exposed gelatine plate by bathing it in water,
and thereby making numerous irregular and irregularly distributed cracks in its surface, drying that developed gelatine plate in air, stripping that gelatine plate, with its flexible base, away from that flat plate, applying glycerine solution to those parts of the surface of that developed gelatine plate which will take it, applying ink to the other parts of the surface of that developed gelatine plate, and transferring ink from that inked flexible gelatine plate to a solid surface, by pressing the inked flexible gelatine plate directly against the solid surface, all substantially as described.
4. The following process in photo-mechanical printing. making a sensitive gelatine plate on a flexible celluloid base, which base is temporarily glued down upon a flat and horizontal plate while the gelatine is setting, exposing that sensitive gelatine plate to light through a translucent picture, developing that exposed gelatine plate by bathing it in water, and thereby making numerous irregular and irregularly distributed cracks in its surface, drying that developed gelatine plate in air, and stripping that gelatin plate, with Its flexible base, away from that flat plate, all substantially as described.
5. The following process in photo-mechanical printing, making a sensitive gelatine plate on a flexible celluloid base, having a gelatine coat of uniform thickness, exposing that sensitive gelatine plate to light through a translucent pleture, developing that exposed gelatine plate by bathing it in water and thereby making numerous irregular and irregularly distributed cracks in its surface, drying that developed gelatine plate in air, applying glycerine solution to those parts of the surface of that developed gelatine plate which will take it, applying ink to the other parts of the surface of that developed gelatine plate, transferring ink from that inked fiexible gelatin plate to a metal surface, by pressing the inked flexible gelatine plate directly agalnst the metal surface, and etching away the uninked parts of that metal surface, all substantially as described.
6. The following process in photo-mechanical printing, making a sensitive gelatine plate on a flexible celluloid base, having a gelatin coat of uniform thickness, exposing that sensitive gelatine plate to light through a translucent picture, developing that exposed gelatine plate by bathing it in water, and thereby making numerous irregular and irregularly distributed cracks in its surface, drying that developed gelatine plate in air, applying glycerine solution to those parts of the surface of that developed gelatine plate which will take it. applying ink to the other parts of the surface of that developed gelatine plate, and transferring ink from that inked flexible gelatine plate to a solid surface by pressing the inked flexible gelatine plate directly against the solid surface, all substantially as described.
7. The following process in photo-mechanical printing, making a gelatine plate on a flexible celluloid base having a gelatine coat of uniform thickness sensitized with bichromate of ammonia and chlorid of calcium, exposing that sensitive gelatine plate to light through a translucent picture, developing that exposed gelatine plate by bathing it in water and thereby making numerous irregular and irregularly distributed cracks in its surface and drying that developed gelatine plate in air, all substantially as described.

No. 99,949. Photo-Mechanical Printing. Imprimerie photomécanique.


Albert Henry Walker, assignee of John W. Ippers, New York City, New York, U.S.A., 10th July, 1906; 6 years. Filed 28th March, 1906. Receipt No. 134,388.
Claim.-The following process in photo-mechanical printing. making a gelatine emulsion, sensitized with bichromate of ammonia, applying that gelatine emulsion to a flat base, and drying and baking it thereon, exposing the resulting baked gelatine plate to light through a sheet having a uniformly translucent area and a uniformly opaque area. developinc that exposed gelatine plate by bathing it in water and thereby swelling intosmooth and uniform relief that area thereof which was under the opaque area of that sheet during the exposure, while leaving in smooth and uniform depression that area thereof which was under the translucent area of that sheet during the exposure, drying that developed gelatin plate in alr, applying glycerine solution to the smooth and uniform relief area of that dried gelatin plate, applying printing ink to the smooth and uniform depressed area of that glycerine gelatine plate, and transferring printing ink from that smooth and uniform depressed area to a smooth and solid surface of stone or metal, all substantially as described.

No. 99,950. Printing Frame. Cadre à imprimer.


William Bruce Young, Brandon, Manitoba, Canada, 10th July 1906; 6 years. Filed 29th March, 1906. Receipt No. 134,407.
Claim.-1. In a printing frame comprising a frame provided with flanges to receive the negative, a removable back for holding the sensitive paper against the negative, said back having an opening with transparent material therein, as and for the purpose specified.
2. In a device of the class described the combination with the receiving frame, of a spring pressed removable transparent back, as and for the purpose specified.
3. In a printing frame the combination with the receiving frame, of a spring pressed removable back, said back being composed of two portions hinged together, one portion of which has an opening extending therethrough and a transparent material secured to and flush with the inner face thereof, as and for the purpose specified.
4. In a printing frame the combination with the receiving frame, of a removably secured back, said back being composed of two portions hinged together, one portion of which has an opening extending therethrough and grooves cut in the outstanding sides, so placed and designed to secure and hold the glass flush with the inner face of the back, as and for the purpose specified.

## No. 99,951. Method of Burning Acetylene Gas.

 Méthode de brûler le gaz acétylène.


John B. Carroll, Chicago, Illinois, U.S.A., 10th July, 1906; 6 years. Filed 30th March, 1906. Receipt No. 134,447.
claim.-1. The process of burning acetylene gas, which consists in projecting a jet of the gas through an orifice, burning the gas, and maintaining at the orifice a temperature above that which permits the accumulation of carbon or solid hydro-carbons.
2. The process of burning acetylene gas, which consists in projecting a jet of the gas through an oriflce, causing the gas to burn with the base of the flame at or near said orifice, and heating the air supplied to the base of the flame, thereby maintaining at said orifice a temperature above that which permits the accumulation of carbon or solid hydro-carbons.
3. The process of burning acetylene gas, which consists in projecting a jet of the gas through an orifice, causing the gas to burn with the base of the flame at or near said orifice and shielding the base of the flame, thereby heating the air supplied to the base of the flame and maintaining at said orifice a temperature above that which permits the accumulation of carbon or solid hydro-carbons.
4. The process of burning acetylene gas, which consists in projecting a jet of the gas through an orifice, causing the gas to burn with the base of the flame at or near the orlfice, heating the air supplied to and causing it to move toward the base of the flame, thereby maintaining at the orifice a temperature above that which permits the accumulation of carbon of solid hydro-carbons, and shielding the base of the flame and thereby restraining the escape of heat from the air which is moving toward the orifice.

No. 99,952. Acetylene Gas Burner.
Brûleur à gaz acétylène.


John B. Carroll, Chicago, Illinois, U.S.A., 10th July, 1906; 6 years. Filed 30 th March, 1906. Receipt No. 134,448.
Claim.-1. An acetylene gas burner, consisting of a body of refractory heat insulating material provided with a supply conduit, a recessed flame chamber, preferably cylindrical, of sufficient width to admit air around and to the base of the flame, and a duct, preferably short and in axial allgnment wth said flame chamber, extending from said conduit to said chamber, as set forth.
2. An acetylene gas burner, consisting of a body of refractory heat insulating material, provided with a supply conduit, a cylindrical flame chamber of sufficient width to admit air around and to the base of the flame, and a central duct extending from said conduit to sald chamber, as set forth.
3. An acetylene gas burner, consisting of a body of refractory heat insulating material, provided with a supply conduit, a cylindrical flame chamber of sufficient width to admit air around and to the base of the flame, and a short central duct extending from said conduit to said chamber, as set forth.
4. An acetylene gas burner, consisting of a body of refractory heat insulating material, provided with a supply conduit, a cylindrical flame chamber of sufficient width to admit air around and to the base of the flame, and a short duct extending from sald conduit to sald chamber, said duct and chamber being in axial alignment, as set forth.
5. An acety'ene gas burner, comprising tips of refractory heat insulating material, two supply conduits, two opposed recessed flame chambers of sufficient width to admit air around and to the base of the flame, and ducts extending from said conduits to said chambers, as set forth.
6. An acetylene gas burner, comprising tips of refractory heat insulating material, two supply conduits, two opposed cylindrical flame chambers of sufficient width to admit air around and to the base of the flame, and short central ducts extending from said condults to sald chambers, as set forth.
7. An acetylene gas burner, comprising tips of refractory heat insulating material, two supply conduits, two opposed cylindrical flame chambers of sufficient width to admit air around and to the base of the flame, and short ducts extending from said conduits to sald chambers, the corresponding ducts and chambers being in axial alignment, as set forth.

No. 99,953. Pin Fastener. Attache d'épingle.


Agnes Edmond, Dunedin, New Zealand, 10th July, 1906; 6 years. Filed 28th March, 1906. Receipt No. 134,368.
Claim.-1. In fastenings of the kind indicated, a brooch or other body having mounted movable or hinged thereon a lin, a post having a cap under upward spring pressure, a Ilate having a recess so placed that the pin must be moved angularly to be inserted, and having an arm against which the said cap is pressed closing the gap leading to the recess.
2. In fastenngs of the kind indicated, a brooch or other body having mounted movably or hinged thereon a pin, a post having a cap under upward spring pressure, the said post and cap being hollow and contaning the spring, a plate having an angular passage or recess extending inward and downward, and an arm against which the said cap is pressed closing the gap leading to the recess.
3. In fastenings of the kind indicated, a brooch or other ledy having a movable pin, a post having a member under siring pressure closing the entrance of an angular pin recess provided to restrain the pin from becoming accidentally unfastened.
4. In fastenings of the kind indicated, a brooch or other body having a movable pin, a post having a member under spring pressure closing the entrance of an angular pin recess, having one or more shoulders therein provided to restrain the pin from becoming accidentally unfastened.
5. In fastenings of the kind indicated a brooch or other hody having a movable pin, a post having a flanged cap under spring pressure, and a pin recess formed by a plate having an arm against which the cap closes, the pin being adapted to pass under the flange.

No. 99,954. Keyboard for Mnsical Instruments.
Clavicr pour instruments de musique.


Wilhelm Menzel, Berlin, Germany, 10th July, 1906; 6 years. Filed 28th September, 1905. Receipt No. 128,830.
Claim.-1. In a musical instrument, a reversible keyboard provided with keys on its upper and lower surfaces in such manner that by turning over the keyboard either set of keys can be brought into position for playing, substantially as set forth.
2. In a musical instrument, the combination with a reversible keyboard having keys on its upper and lower surfaces, of an adjustable rod placed over the keys and provided with springs for holding sald keys in position during reversal of the keyboard and for regulating the touch.

No. 99,955. Mould for Cement. Moule pour ciment.


James G. Mills, Toronto, Ontario, Canada, 10th July, 1906; 6 years. Filed 7th April, 1906. Receipt No. 134,701.
Claim.-1. A mould for veneering concrete walls comprising a mould wall, means for attaching it to the surface to be veneered, and battens secured to the back extending down to a short distance from the bottom of the wall and a corresponding distance above the top of it, substantially as described.
2. A mould for veneering concrete walls comprising a mould wall, means for attaching it to the surface to be veneered, battens secured to the back extending down to a short distance from the bottom of the wall and a corresponding distance above the top of it, a plurality of loops for ccupling wedges secured to the back of the mould near its upper edge, and a corresponding number of similar loops stcured to the back near its lower edge, substantially as described.
3. A mould for veneering concrete walls comprising a mould wall, means for attaching the mould wall to the surface to be veneered, an end stop, and a clamp whereby the end stop may be adjustably secured to the face of the mould wall, substantially as described.
4. A mould for veneering concrete walls comprising two mould walls, means for connecting the mould walls in alignment with either uppermost, and a $V$-shaped metal packing strip fitted into the joint between the two mould walls, substantially as described.
5. In a mould for veneering concrete walls, a wall surface, a mould wall secured thereto at a suitable distance there'from, a hopper adapted to discharge into the space between the wall surface and the mould wall supported by and longitudinally movable on the mould wall, substantially as described.
6. A hopper for a cement veneering mould comprising a hopper V-shaped in cross section and open at its inner side. lfgs depending from the hopper, and hooks at the upper ends of the legs facing towards the inner side of the hopper. substantially as descrlbed.

No. 99,956. Step Ladder. Echelle à marches.

regeras:
John G. Socrgee, Dallas, Texas, U.S.A., 10th July, 1906; 6 years. Filed 5th June, 1906. Receipt No. 136,580.
Cialm.-1. A step ladder comprising front and rear sections, the front section comprising parallel side pleces arranged in pairs, steps detachably carried by the front section, bolts connecting the side pleces of each pair, U-shaped wire members having their free ends bent around the bolts, screw eyes carried by the front section and adapted to be engaged by the bow portions of the $U$-shaped members, and $U$-shaped wire members pirotally carried by the steps and adapted to engage the U-shaped members first-mentioned.
2. In a ladder of the kind described comprising front and rear sections, notched side members forming part of the rear section, a round having reduced end portions adapted to engage mortises in the side members, a metal loop pivotally connected at its ends to one of the side members, said loon encircling and engaging the round, a lower round longitudinally slotted at each end, the ends engaging notches in the side members, plates secured to the side members intermediate the rounds and bent at each end to form eyes, loops engaging the lower eyes formed on sald plates and the slotted end portions of the lower round, and brace bars pivoted at their upjer ends to the side members and having their lower ends bent to engage the upper eyes of the plates, substantially as set forth.
3. A ladder of the kind described comprising a front step section and a rear supporting section, a step, wire loop frames arranged on the under side of the step and having depending portions. $\mathbf{U}$-shaped wire members having their ends beut to form eyes, said eyes engaging the depending portions of the frames, bolts carried by the side members of the front section transversely to the steps. l-shaped members having: their free ends bent around the bolts, the wire members depending from the frames being adapted to slide in the members connected to the bolts. and screw eyes adapted to be engaged by the wire members connected to the volts, said eyes being carrled by the side members of the front section, as and for the purpose sot forth.

No. 99,957. Bed. Sommier élastique


Willam C. Burdette and Hiram H. Malone, co-inventors, both of Anderson, Indiana. U.S.A., 10th July, 1906; 6 years. Filed 11th May, $1: 06$. Receipt No. 135.802.
Claim.-The bed bottom consisting of the studded side rails the studded cross bars attarhed to said side rails and the single wire embracing the studs of the side rail and cross bars and arranged in longitudinal zigzag branches, each said longitudinal branch overlapping two adjacent longitudinal branches to form a series of mutually supporting large diamond form figures and centrally within the same a series of small diamond form figures and transverse coil springs connecting said branches at the lateral bends of said central diamond form figures, substantially as specifled.

## No. 99,958. Water Polo Apparatus.

Appareil pour jeux de polo.


Jọnn Fremont Conklin, Hawley, Pennsylvania, U.S.A., 10th July, 1906; 6 years. Filed 26th March, 1906. Receipt No. 134,273.
Claim.-1. A frame for use in playing games on water, said frame being composed of parallel side and parallel end members consisting of separate parts detachably connected and provided at their opposite ends with goals which open toward the center of the frame, sald frame being also provided centrally with a transverse raised device for dropping a ball in the middle of the frame, substantially as shown and described.
2. A frame for use in playing games on water, said frame being composed of parallel side and parallel end members consisting of separate parts detachably connected and provided at their opposite ends with goals which open toward the center of the frame, said frame being also provided centrally with a transverse raised device for dropping a ball in the middle of the frame, consisting of upright side members and wires or cords connected with the tops thereof and extending transversely of the frame and connected at the center of the frame with a ring, substantially as shown and described.
3. A frame of the class described designed for use in marking off a field on water within which to play a game, said frame being composed of separate detachably connected parts and being oblong in form and provided at each end with goals which open inwardly, said frame being also provided transversely of the middle thereof with means for dropping a ball centrally thereof, substantially as shown and described.

## No. 99,959. Sewer Inlet. Conduite dégout.

Simon Cameron Corson, Norristown, Pennsylvania, U.S.A., 10th July, 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,221 .
Cialm.-1. In a sewer construction the combination with a catch basin and its main, of a fitting for connecting said main and basin, the sale having an inlet branch extending through the wall of the basin below the water level thereof, and $a$
branch arranged opposite the main opening and extending through the wall of the basin above the said water level, said

branches having flanges for engaging the inner face of the wall, substantially as and or the purpose set forth.
2. In a scwer construction the combination with a catcb basin and its main. of a fitting for connecting sald main and basin adapted to be partlally embedded in the wall of said basin from the exterior thereof, the same having an inlet branch extending through the wall of the basin below the water level thereof, and a branch arranged opposite the main opening and extending through the wall of the basin above the said water level, said branches having flanges for engaging the inner face of the wall, substantially as and for the purpose set forth.

## No. 99,960. Post Hole Digger.

Appareil d creuser les trous de poteaux.


John Dunn, Kelso, Roxburgh, Scotland, 10th July, 1906; 6 years. Filed 1st June, 1906. Receipt No. 136,477.
Claim.-1. A post hole digger comprising a hub portion, a disc portion partially split and encircling said hub portion in a helical manner and separating said spllt portions, the lower of said split portions having cutting edges and a shaft extending into and through said hub and forming the handle of the device. as and for the purpose specifled.
2. A post hole digger comprising a hub portion having a squared hole therethrough, a disc portion partially split and encircling said hub portion in a helical manner and separating said split portions, one of sald split portlons having in plurality of teeth bevelled on the upper surface edges and forming knife blades, and a shaft extending through sald hole in the hub and having at the lower end beneath sald hub a spear point and at the upper end a suitable handle, as and for the purpose specified.
3. A post hole digger comprising a hub portion, a disc portion encircling said hub portion and split from one edge thereof to said hub, said split edges being separated for the length of said hub and causing said disc to encircle said hub in a helical manner, the lower of said edges having a plurality of teeth with bevelled upper surfaces forming knife blades, a knife rigidly arranged circumferentially on the underside of said disc in proximity to said teeth and depending downwardly therefrom, and a shaft extending through said hub, as and for the purpose specifled.
4. A post hole digger of disc formation and encircling a central and hub portion, said disc being partially split and having the split edges separated one to each end of said hub and a lower edge formed into a plurality of teeth and a plurality of knives rigid with said disc and depending downwardy therefrom and arranged circumferentially therewith, and a shaft having a spear point projecting below the lower end of said hub and a suitable handle at its upper end, as and for the purpose specifled.

No. 99,961. Cigar Bunching Machine. Machine à lier les cigares.


Alexantder Gordon, Detroit, Michigan, U.S.A., 10th July, 1906; 6 years. Filed 23rd May, 1906. Receipt No. 136,171.
Claim.-1. In a cigar bunching machine the combination with the bunching apron and its front and rear carriers adapted to form a pocket in sald apron and to actuate the same in rolling the bunch, of a bunch former movable toward said front carrier in advance of the movement of the same and operating to confline the filler in the pocket of the apron, and thence to hold the bunch in stationary position while belng rolled.
2. In a cigar bunching machine the combination with the bunching apron, of oscillating front and rear carriers having segmental cylindrical faces and adapted to form a pocket in said apron and to actuate the same by the movement of said carriers, the rear carrier having a movement in advance of the front carrier and being located above the front carrier and adapted to carry the rear end of the apron forwardly over the front carrier and thereby close the pocket in the upron by the movement of sald carrier alone.
3. In a cigar bunching machine the combination with the bunching apron, of oscillating front and rear carrlers having segmental cylindrical faces and adapted to hold the apron in their normal position to form a pocket for the reception of the filler and close the same by an indpendent movement of the rear carrier while the front carricr remains stationary and a bunch former conjointly moving with the rear carrier in advance of the movement of the front carrier and cooperating therewith to close the pocket and confine the filler therein.
4. In a cigar bunching machine the combination with the bunching apron, of oscillating front and rear carriers having segmental cylindrical faces and normally holding the apron in position to form a pocket for receiving the fller, said rear carrler having an independent movement in advance of the front carrier and operating to close the pocket in the apron while the front carrier remains stationary and the front carrier having a conjointed movement with the rear carrier adapted to actuate the apron.
5. In a cigar bunching machine the combination with the bunching apron and its front and rear carrier adapted to form a pocket in said apron and actuate the same in rolling the bunch, of a movable bunch former actuated by the movement of the rear carrier and adapted to close the pocket in the apron in the movement of said carrier in advance of that of the front carrier, said carrier being adapted to maintain the slack in the apron during the movement of the bunch former in closing the pocket.
6. In a cigar bunching machine the combination with the bunching apron, of oscillating front and rear carriers adapted to form a pocket in the apron and to actuate the same in rolling the bunch, the rear carrier having an independent movement in advance of the front carrier and a conjointed movement with the front carrier for actuating the apron in rolling the bunch and a bunch former actuated by the rear carrier in the independent movement thereof and remaining stationary during the conjointed movement of the carrlers.
7. In a cigar bunching machine the combination with the bunching apron and its front and rear carriers adapted to form a pocket in sald apron and to actuate the same in rolling the bunch, of a movable bunch former arrangement to jointly move with the rear carrier in advance of the front carrier and adapted to close the pocket in sald apron, and means whereby the front carrier remains stationary and is locked in position till the pocket is closed and the slack is taken out of the apron.
8. In a clgar bunching machine the combination with the bunching apron and its front and roar carriers adapted to form a pocket in said apron and to actuate the same in roll-
ing the bunch, of a movable bunch former and means for imparting a joint movement to the rear carrier and to the bunch former in advance of the movement of the front carrier and adapted to first close the pocket in the apron and thence to take the slack out of the apron. While the front carrier remains stationary and is locked in position.
9. In a cigar bunching machine the combination with the bunching apron and its front and rear carriers adapted to form a pocket in said apron and actuate the same in rolling the bunch, of means for importing a conjoint movement to said carriers and an independent movement to the rear carrler in advance of the front carrier, and a movement bunch former co-operating with the rear carrier to close the pocket and take up the slack in the apron during the independent movement of sald rear carrier.
10. In a cigar bunching machine the combination with the bunching apron and its front and rear carriers adapted to form a pocket in said apron and actuate the same in rolling the bunch, of a movable bunch former, an actuating spring therefor adapted to move it into operative position, and hold the same in rolling the bunch and means for controlling the movement of said bunch former by the movement of the rear carrier, sald rear carrier having a movement in advance of the front carrier.
11. In a cigar bunching machine the combination with the bunching apron and its front and rear carriers adapted to form a pocket in said apron and to actuate the same in rolling the bunch, of means for Imparting movement to the rear carriers in advance of the front carrier, a movable bunch former, means adapted to move said bunch former into operative position by the advance movement of the rear carrier and to release the same from engagement with said rear carrier when in said position and a spring adapted to hold said bunch former in its operative position independently of said rear carrler.
12. In a cigar bunching machine the combination with the bunching apron and its front and rear carriers adapted to form a pocket in sald apron and to actuate the same in rolling the bunch, of a bunch former, an oscillating frame carrying sald bunch former, a spring adapted to actuate the frame to move said bunch former into operative position and yieldingly ho'd the same in said position and means for controlling the movement of sald frame by the movement of the rear carrier, said means adapted to release sald frame from control when the bunch former has moved into operative position.
13. In a cigar bunching machine the combination with the bunching apron and its carriers adapted to form a pocket In the apron and actuate the same in rolling the bunch, of a bunch former composed in parts of a flexible pressure bar and means applied thereto for shortening or lengthening the portions of said bar subjected to flexure in rolling.
14. In a cigar bunching machine the combination with the bunching apron and its co-operating carriers, of a bunch former composed of a rigid and a flexible portion or pressure bar, and means for supporting sald flexible portion upon the rigid portion at variable points of its length against flexure in rolling the bunch.
15. In a clgar bunching machine the combination with the bunching apron and its co-operating carriers, of a bunch former composed of a rigid bar, a coll spring secured at its ends to the rigid bar and supports carried by the rigid bar slidingly adjustable thereon and adapted to support said coll spring intermediate its ends against flexure in rolling the bunch.
16. In a cigar bunching machine the combination with the frame, of a bunching apron, oscillating front and rear carriers for said apron. each consisting of a rocker mounted upon a shaft journalled in the frame and provided with a segmental cylindrical face for the apron to wind upon. and actuating devices therefor comprising pinions carried by the shafts of the rockers and an oscillating gear segment travelling in continuous mesh with the pinion of the rear carrier and in discontinuous mesh with the pinion on the front carrier whereby said front carrier remains stationary during a portion of the movement of the rear carrier.
17. In a cigar bunching machine the combination with the frame, of a bunching apron, oscillating front and rear carriers for said apron each consisting of a rocker mounted upon a shaft journalled in the frame and provided with a segmental cylindrical face for the apron to wind upon, and actuating devices therefor comprising pinlons carried by the shafts of the rockers and an osclliating segmental rack travelling in continuous mesh with the pinion of the rear carrier and in discontinuous mesh with the pinion of the front carrier, said pinion and rack having mutilated portions adapted to delay the motion of the front carrier and lock the same in position, and means for throwing said rack and pinion into gear at the end of the delay.
18. In a cigar bunching machine the combination with the frame, of a bunching apron, oscillating front and rear car-
riers for sald apron each consisting of a rocker mounted upon a shaft journalled in the frame and provided with a segmental cylindrical face for the apron to wind upon, pinions carried by the shafts of the rockers, an oscillating rack in continuous mesh with the pinion of the rear carrier and in discontinuous mesh with the pinion of the front carrier, means for locking said front carrier in position when not in mesh with the rack and means for imparting one complete oscillation to the oscillating rack under control of a foot lever.
19. In a cigar bunching machine the combination wlth the frame and bunching apron, of oscillating front and rear carriers for said apron consisting of rockers mounted upon shafts journalled in the frame, pinions on said shafts, an oscillating rack actuating said pinions, a continuously revolving pinion, a gear wheel meshing with said pinion and having a hinged section carrying a small portion of the gear teeth of said wheel, a spring for normally throwing said section out of operative position, a foot lever adapted to throw the same into operative position, a crank carried by the shaft of the gear wheel, and a connecting rod connecting said crank with the oscillating rack and adapted to actuate the same, means being provided for frictionally locking the shaft of the gear wheel after each revolution into its prescribed normal position.
20. In a cigar bunching machine the combination with the frame and bunching apron, of oscillating front and rear rockers mounted upon shafts journalled in the frame and adapted to actuate the apron in forming the bunch, pinions mounted tupon the shafts of the rockers, an osciliating rack adapted to oscillate the rockers through the medium of said pinions and impart a conjointed motion thereto and an independent motion to the rear rocker in advance of the front rocker, a movable bunch former actuated by the rear rocker in advance of the front rocker, and means under control of the operator for imparting to the rack one complete oscillation through a prescribed angle of motion.
21. In a cigar bunching machine the combination with the frame and the bunching apron, of front and rear carriers therefor adapted to form a pocket in the apron and actuate the same in rolling the bunch, a movable bunch former actuated by the rear carrier and co-operating therewith to contact the pocket in the apron around the filler and carry it into position for rolling while the front carrier remains stationary, and a stationary table above the front carrier and adapted to support the binder in position.
22. In a cigar bunching machine the combination with the frame and bunching apron, of oscillating front and rear carriers for the apron, each consisting of a segmental cylindrical rocker co-operating with each other in rolling the 'bunch, the one in front forming the bunching table and operating to pay out the apron in a rearward direction and the one in rear operating to take up the apron in an upward and forward direction, the rockers being of like radius and oscillating in opposite directions.
23. In a cigar bunching machine the combination with the frame and bunching apron, of oscillating front and rear carriers for the apron each consisting of a segmental cylindrical rocker co-operating with each other in rolling the bunch, the front rocker adapted to form the table and pay out the apron in a rearward direction and the rear rocker adapted to take up the apron in an upward and forward direction, the two rockers being of the same radius and oscillating alike but in opposite directions, and a movable bunch former cooperating with the rear rocker to take up the slack in the apron in advance of the movement of the front rocker and remaining stationary in rolling the bunch.
24. In a cigar bunching machine the combination with the frame and bunching apron, of a stationary binder table, an oscillating rocker below said table carrying the front end of the apron and forming the table for rolling the bunch, an oscillating rocker above the table carrying the rear end of the apron, the two rockers adapted to form a pocket in the apron adjacent to the rear end of the binder table and to actuate the apron in rolling the bunch by oscillating in opf:osite drections to each other, and a movable bunch former co-operating therewith.

## No. 99,962. Suspender. Bretelles.

Carl Ludolph, Berlin. Ontario, Canada, 10th July, 1906; 6 years. Fi.ed 2nd June, 1906. Receipt No. 136,501.
Ciaim.-1. In suspenders the combination with the shoulder s raps and the trouser back connector provided with suitable tabs and formed of cord, and looped guides pivotally connected to the bottom end bars of the shoulder straps, of a double loop guide through which the two sides of the cord of the trouser back connector extend, and a supplemental loop connected to the shoulder straps at each side and having the end extending downwardly between the shoulder straps and
connected to the double loop of the trouser back connector, as and for the purpose specified.

2. In suspenders the combination with the shoulder straps and the trouser back connector proviled with sultable tabs and formed of cord, and loop guides pivotally connected to the bottom end bars of the shoulder straps, of a double loop guide through which the two sides of the cord of the trouser lack connector extend, supplemental loop arc-shaped guides located at each side and connected to the shoulder straps and through which the supplemental loop extends, the sajd supplemental loop having a guide loop at one end and through which the other end extends down to the double loop of the trouser back connector, as and for the purpose specified.
3. In susp ${ }^{\circ}$ nders the combination with the shoulder straps and the trouser back connector provided with suitable tabs and formed of cord. and loop guides pivotally connected to the bottom end bars of the shoulder straps, of a double loop gulde through which the two sides of the cord of the trouser back connector extend. supplemental loop arc-shaped guides. adjustable bars on the shoulder straps to which the loop guides are pivotally connected. the said supplemental loop extending through the loop guides and having a guide loop at one end through which the outer end extends down to the double loop of the trouser back connector, as and for the purpose specified.
4. In suspenders the combination with the shoulder straps and the trouser back connector provided with suitable tabs and formed of cord, and loop guides pivotally connected to the bottom end bars of the shoulher straps, of a double loop guide through which the two sides of the cord of the trouser back connector extend and a supplemental loop slidably connected to the shoulder straps at each side and at the bottom tc the double loop trouser back connector, as and for the purpose specified.

No. 99,963. Garment Supporter.
support de vêtement.


George Martin, Toronto, Ontario, Canada. 10th July, 1906; 6 years. Filed 1st June, 1906. Receipt No. 136,474.
Claim.-1. In a garment supporter the combination of a length of wire formed into adouble spring loop and forming a central stirrup within the outer wires, and straps of flexible material strung through said stirrup, as and for the purpose specified.
2. In a garment supporter the combination of a length of wire bent at the ends and forming a stirrup, said outer ends
forming a double spring loop, and straps of flexible material strung through said stirrup, as and for the purpose specified. 3. In a garment supporter the combination of lengths of wire having a straight portion forming a stirrup and bent at the ends forming spring loops and extending ends from said loops, means for fastening the extending ends of one length of wire to the extending ends of the other length of wire, and flexible straps strung through said stirrups, as and for the purpose specifled.
4. In a garment supporter the combination of lengths of wire having a straight portion forming a stirrup and bent at the ends forming a double spring loop and extending ends therefrom and eyes formed at the extremities thereof, one of sald double loops being inverted and having the eyes registering with the eyes of the other double spring loop, eyelets or rivets passing through said eyes and flexibly securing them together in pairs, a strap of flexible material strung through one of sald stirrups forming shoulder straps and a strap of flexible material strung through the other of sald stirrups to secure the supporter to the garmnet, as and for the purpose specified.
5. In a garment supporter, the combination of a length of wire bent at the ends and forming a stirrup and having the said bent ends forming a double spring loop and extending ends therefrom, a strap of flexible material strung through sald stirrup, a strap of flexible material secured to the extending ends of said double spring loop to secure the supporter to the garment, as and for the purpose specified.
6. In a garment supporter, the combination of a length of wire bent at the ends and forming a stirrup and having the said bent ends forming a double spring loop and extending cuds therefrom, a strap of flexible material strung through said stirrup, a strap of flexible material to secure sald supporter to said garment having flexible loops therefrom secured to the extending ends of sald double spring loop, as and for the purpose specified.
7. In a garment supporter, the combination of a length of wire bent at the ends and forming a stirrup and having the said bent ends forming a double spring loop and extending erds therefrom, said extending ends having loops formed therein and straight extensions from said loops and hooks fcrmed at the extremities thereof, as and for the purpose specified.

No. 99,964. Game. Jeu.


Charles Adam Miller, Buffalo, New York, U.S.A., 10th July, 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,226.
Claim.-1. A game apparatus comprising a game board having its surface divided into playing spaces, said spaces divided into two fields separated by a center line, and parallel lines passing through the playing spaces diagonally across the board.
2. A game board having its surface laid off in circular playing spaces connected by crossed lines between the spaces, said spaces divided into two fields separated by a center line.
3. A game board having its surface laid off in circular playing spaces, said epaces divided into two fields separated ty a center line, and game pieces of different forms adapted ic be used in connection with the board.
4. A game board having its surface lald off in circular playing spaces arranged in two fields separated by a center line, parallel lines passing centrally through adjacent playing spaces and extending diagonally across the board, and game pieces adapted to be used in connection with the board.
5. A game apparatus comprising a game board having its surfaces divided into playing spaces constituting two fields separated by a center line, means for distinguishing two parallel diagonal series of spaces, and movable pieces associated with the board, said pleces being of different shapes.

No. 99,965. Game. Jeu.


Peter William Nelson, New York City, New York, U.S.A. 10th July, 1906; 6 years. Filed 21st March, 1906. Receipt No. 134,110.
Claim.-The described amusement device consisting in a pack of rectangular separate cards, each having in one corner the representation of a part of a different object' pr animal, so proportioned that when the cards are indiscriminately assembled they will accurately fit together and produce representation of a complete although heterogeneous object.
No. 99,966. Nail Holder. Porte-clous.


John E. Pank, Palmer, Nebraska, U.S.A., 10th July, 1906; 6 years. Filed 11th April, 1906. Receipt No. 134,835.
Claim.-1. A nail holder comprising a series of receptacles aranged in parallel relation and each provided with a nail receiving channel and a slot for projection of the shanks of the nails, transverse supporting elements connecting the re'ceptacles at their lower and upper ends, and attaching devices connected with said supporting elements to adapt the holder to be secured to the person.
2. A nail holder comprising a series of receptacles each provided with a nail receiving channel and a slot for passage of the shanks of the nails to the exterior thereof, supporting plates connected to and holding the serles of receptacles in parallel relation, means for closing the lower ends 0 : the series of receptacles, and means connected with said supporting plates for attaching the device to the person, substantially as described.

## No. 99,967. Hinge. Penture.

Frank Ellsworth Sprague, Nashua, New Hampshire, U.S.A. 10th July, 1906; 6 years. Filed 20th March, 1906. Receipt No. 134,096
Claim.-1. A butt hinge comprising a plurality of members rrovided with interengaging tubular sections, a fastening pin having an annular shoulder and traversing the tubular stctions, and means for engaging the shoulder to prevent the pin from working out of the sections, embodying a slidable plate having therein an opening through which the pin extends.
2. A butt hinge comprising a plurality of members provided with interengaging tubular sections, a fastening pin having an annular shoulder and traversing the tubular sections, and means for engaging the shoulder to prevent the pin from working out of the sections, embodying a slidable plate formed with an eccentric portion and having therein an opening through which the pin extends.
3. A butt hinge comprising a plurality of members provided with interengaging tubular sections, a fastening pin

traversing the tubular sections, and provided with an annular shoulder, and means for engaging the shoulder to prevent the pin from working out of said sections, embodying a slidable plate having an eccentric portion and a projecting tongue, and formed with an opening through which the pin extends.
4. A butt hinge comprising a member provided at'its inner edge with a centrally disposed tubular section having a horizental slot cut therein, another member having tubular sect:ons aligning with the ends of the said sections, a fastening pin extending through all the sections and having an annular shoulder thereon, and a plate having a hole for recelving the pin loosely mounted in the slot for engaging the shoulder.

No. 99,968. Flushing Valve. Soupape.


William Turnbull, Lambton Quay, Wellington, New Zealand, 10th July, 1906; 6 years. Filed 30th May, 1906. Receipt No. 136,415.
Claim.-1. For the purpose indicated a flushing valve comprising in combination, a valve chamber, a downpipe cap secured to the bottom of the valve chamber. a seating upon the cap and entering the valve chamber, a regulating chamber secured to the valve chamber, a perforated bottom to the regulating chamber, a valve rod having a recess in its upper end and radial holes communicating with the recess, the said rod passing through the valve chamber and into the regulating chamber a stop valve within the valve chamber integral with the valve rod, a perforated plunger fitting loosely upon the upper end of the valve rod and resting upon a shoulder formed on the valve rod, a valve seating upon the plunger a regulating valve fixed to the top of the valve rod, means for regulating the flow of water through the recess of the valve rod, and means for operating the valve rod, substantially as set forth.
2. For the purpose indicated a flushing valve comprising in combination, a valve chamber, a downpipe cap secured to the bottom of the valve chamber a seating upon the cap and entering the valve chamber a regulating chamber secured to the valve chamber, a perforated bottom to the regulating chamber, a valve rod having a recess in its upper end and radial holes communicating with the recess, the said rod passing through the valve chamber and into the regulating chamber, a stop valve within the valve chamber integral with the valve rod, a perforated plunger fitting loosely upon the upper end of the valve rod and resting upon a shoulder formed on the valve rod, a valve seating upon the plunger, a regulating valve fixed to the top of the valve rod, a screw having a saw cut through its stem and fitting the recess in the valve rod, a screw cap closing the top of the regulating chambor, and means for operating the valve rod, substantially as set forth.
3. For the purpose indicated, a flushing valve comprising in combination, a valve chamber, a downpipe cap secured to the bottom of the valve chamber, a seating upon the cap and entering the valve chamber, a regulating chamber secured to the valve chamber, a perforated bottom to the regulating chamber, a valve rod having a recess in its upper end and radial holes communicating with the recess, the said rod passing through the valve chamber and into the regulating chamber a stop valve within the valve chamber integral with the valve rod, a perforated plunger fitting loosely upon the upper end of the valve rod and resting upon a shoulder formed on the valve rod, a valve seating upon the plunger, a regulating valve fixed to the top of the valve rod, means for regulating the flow of water through the recess of the valve rod, a shaft entering a recess in the cap of the downpipe, a stuffing box on the downpipe and through which the shaft passes, a handle upon the shaft, an arm within the recess and fixed to the shaft, and a link and pins coupling the arm to the valve rod, substantially as set forth.

No. 99,969. Saw Set. Fer ì contourner.


Frederick A. Wuest. Lawrenceburg, Indiana, U.S.A., 10th July,
1906; 6 years. Filed 21st May, 1906. Recelpt No. 136.137.
Claim. -The combination with a saw blade and a saw frame formed with a slot to receive the saw blade and with a recess intersecting said slot, of a screw connected to said saw blade and seated in said recess, a clip on said screw having lengitudinal arm bearing on opposite sides of said frame and covering said recess and that portion of the screw therein, and a nut on the end of said screw engaging said clip.

## No. 99,970. Rim for Vehicle Wheels.

Joute pour roues de voitures.


Isaac Hodgson, Minneapolis, Minnesota, U.S.A., 10th July, 1906; 6 years. Filed 14th May, 1906. Receipt No. 135,877.
Claim.-1. An elastic rim combining a plurality of channelled plates $f$ flexibly united by cables $g$, the pad $h$, springs $d$ engaging said channelled plates $f$. and the base plates $c$. the latter being secured to the band b, substantially as and for the purpose set forth.
2. An elastic rim combining a suitable cover $i$, secured to the reel plates $f$, by the bolts $j$, its open edges being secured to the band $b$. by the annular clamps $l$, substantially as shown and described.
3. In a resilient tire, a plurality of springs, and a tension band surrounding said springs and holding the same under an initial compression, substantially as described.
4. The combination with a wheel rim, of a plurality of radially disposed circumferentially spaced coiled springs applied around sald rim, and a flexible tension band surrounding said springs and holding the same under an initial compression. substantially as deseribed.

1To. 99,971. Disc Wheels for Road Vehicles.
Roue à disque pour vêhicules.


Fdward Martin, 61 Newland Terrace, Queen's Road, Battersea, London, England, 10th July, 1906; 6 years. Filed 14th May, 1906. Receipt No. 135,905 .
Claim.-1. A pneumatic disc wheel comprising two discs bolted together with an inner middle portion at the hub of the wheel and a circumferential ring portion provided with radial holes, in combination with a pneumatic tire, the cover of which is bolted between the edges of the discs and the circumferential ring portion so that the interior of the disc wheel and the interior of the pneumatic tire may form one air tight chamber in connection with one another for the purposes set forth.
2. The combination with a disc wheel comprising two discs bolted together with an inner middle portion at the hub of the wheel and a circumferential ring portion of a solid tire provided with a $U$-shaped cover, such cover being bolted between the discs and the circumferencial ring portion substantially as described.

## No. 99,972. Wheel. Roue.



Frank P. Pendergast. Dagus Mines, Pennsylvania, U.S.A., 10th July. 1906; 6 years. FHled 9th April, 1906. Receipt No. 134,784.
Claim.-1. In combination, a felly, a channel iron, a tire, and fastenings securing the tire to the channel iron and adapted to interlock the channel iron with the felly by a lateral and circumferential movement of the channel iron on the felly.
2. In combination, a felly, a channel iron, a tire, and fasfenings securing the tire to the channel iron and provided with heads projecting from the inner side of the channel iron, the felly being provided with a circumferential groove tc recelve the fastenings of the tire to interlock the channel iron with the felly.
3. In combination, a felly provided with a circumferential groove, and lateral grooves leading thereto, a channel iron, a tire on the channel iron, fastenings securing the tire to the channel iron and having the heads thereof projecting from one side of the channel iron, the fastenings of the tire being situated at intervals equal to the intervals between the latfral slots on the felly, whereby the heads of the said fastenings may be passed into the lateral slots on the felly, and by circumferential movement of the channel iron caused to interlock in the circumferential groove thereof, and means for preventing circumferential movement of the channel iron after the same has been interlocked with the felly.
4. In combination, a felly, a channel tron thereon, a tire on the channel iron, means carried by the channel iron adapted to interlock the same with the felly, by lateral and circumferential movement of the channel iron on the felly, and reans for preventing circumferential movement of the channel iron after the same has been interlocked with the felly.
5. In combination, a felly, a channel iron, a tire composed of a metallic strip colled upon itself to form a plurality of spring coils, and fastenings securing the coils of the tire at intervals to the channel iron, sald fastenings being adapted to be interlocked with the felly by lateral and circumferential movement of the channel iron thereon.

No. 99,973. Pnoumatic Truck. Camion pneumatique.

A. R. Bannerman, William Summerton and Domald MacDonald, co-inventors, all of Winnipeg, Manitoba, Canada, 10th July, 1906; 6 years. Filed 1st May, 1906. Receipt No. 135,436 .
Claim.-1. An apparatus of the class described comprising a movable truck or base, hollow pistons secured thereto at or near each corner thereof, a vertically movable platform, cylinders secured or attached to said platform and designed to enclose said hollow plstons, and means for controlling fluid to and from said pistons in order to raise and lower sald movable platform.
2. An apparatius of the class described comprising a mova ble truck or base, hollow pistons secured thereto at or near each corner thereof, a vertically movable platform, cylinders secured or attached to sald platform and designed to enclose said hollow pistons, means for controlling fluid to and from said pistons in order to raise and lower eald movable platform, and means carried by sald platform and cooperating therewith so as to move a burden carried by sald platform to one side thereof.
3. An apparatus of the class described comprising a movable truck or base. hollow pistons secured thereto at or near each corner thereof, a vertically movable platform, cylinders secured or attached to sald platform and designed to enclose said hollow pistons, means for controlling fluid to and from said plston in order to raise and lower said movable platform, an endless conveyer carried by baid platform, and means for operating same.
4. An apparatus of the class described comprising a movable truck or base, hollow plstons secured thereto at or near each cornet thereof, a vertically movable platform, cylinders secured or attached to said platform and designed to enclose said hollow pistons, means for controlling fluid to and from said piston in order to ralse and lower said movable platform, rollers journalled to said platform and down each side thereop, an endless conveyer operating around sald rollers and above said platform, and means for operating sald conveyer.
5. An apparatus of the class described comprising a movable truck or base, hollow pistons secured thereto at or near each corner thereof, a vertically movable platform, coflimders secured or attached to said platform and deaigned to fnclose said hollow pistons, means for controlling fluld 10 and from said piston in order to raise and lower said mov'able platform. rollers journalled to sald platform and down each side thereof, an endless conveyer operating around said
rollers and above said platform，friction rollers journalled to said platform and in proximity to each side thereof，over which said endless conveyer passes，and means for operating said conveyer．
6．An apparatus of the class described comprising a mov－ able truck or base，hollow pistons secured thereto at or near each corner thereof．a vertically movable platform，cylin－ ders secured or attacte－to said platform and designed to enclose said hollow pistons，means for controlling fluid to and from said piston in order to raise and lower said mov－ able platform，rollers journalled to said platform and down each side thereof，an endless conveyer operating around said rollers and above sald platform，friction rollers journalled to said platform and in proximity to each side thereof over which sili endless conveyer passes，a plurality of longitu－ dinal slats or strips secured to said conveyer，and means for operating said conveyer．

7．An apparatus of the class described comprising a mov－ able truck or base consisting of longitudinal metallic sup－ ports and upper and lower plates secured at outer ends of same and crosswise thereto，hollow pistons secured to said truck or base by their lower threaded ends extending through said upper and lower plates and the adjacent longitudinal support，nuts screwing on sald threaded ends and against said upper and lower plates，conduits or pipes for a motive fuid opening into sald hollow pistons through an opening in their ends，cylinders secured or attached to said platform and designed to enclose said hollow pistons，and means for controlling fluid to and from pistons in order to raise and lewer said movable platform．
8．In an apparatus of the class described，the combination with a movable platform，of a roller journalled down each side of sald platform，an endless conveyer passed thereover and operating on the upper side of said platform，and means for operating sald conveyer．

9．In an apparatus of the class described，the combination with a movable platform，of a roller journalled down each side of said platform，an endless conveyer passed thereover ard operating on the upper slde of said platform，friction rollers journalled down each side of said platform and in proximity to the side edge thereof in order to keep said end－ less conveyer from contact with the edges of said platiorm， and means for operating said conveyer．
10．In an apparatus of the class described，the combination with a movable platform，of a roller journalled down each side of said platform，an endless conveyer passed thereover and operating on the upper side of said platform，friction rollers journalled down each side of said platform and in proximity to the side edge thereof in order to keep said end－ less conveyer from contact with the edges of said plaform， metallic eyelets secured in said endless conveyer，pins se－ cured to said rollers and operating in said metallic eyelets in order to provide positive means for operating said con－ veyer，and means for operating said rollers．
11．In an apparatus of the class described the combination with a movable platform，of a roller journalled down each side of sald platform，an endless conveyer passed thereover and operating on the upper side of said platiorm，friction rollers journalled down each side of said platform and in proximity to the side edge thereof in order to keep said end－ less conveyer from contact with the edges of said platform， metallic eyelets secured in said endless conveyer，pins secured to said rollers and operating in said metallic egelets in order to provide positive means for operating said conveyer，a plurality of longitudinal slats or strips secured to said con－ veyer，and means for operating said rollers．
12．An apparatus of the class described comprising a mov－ able truck or base，hollow pistons secured thereto at or near each corner thereof and provided with flared heads，a ver－ tically movable platform，cylinders secured or attached to said platiorm and designed to enclose said hollow pistons and provided with small holes in their lower portion，springs within sald cylinders and resting in the bottom thereof and around said hollow piston therein，and means for controlling motive fluid to and from sald pistons in order to raise and lower said movable platform．

## No．99，974．Truck．Camion．

George A．Browne，Tacoma，Washington，U．S．A．．10th July， 1906； 6 years．Filed 5th May，1906．Receipt No．135，589．
Claim．－1．The combination with a rack having side rails and cross beams or bars and whereon lumber or other ma－ terial is placed，of a raising device substantially oval in cross section mounted on said side rails and adapted to rotate thereon，and means for operating said raising device．
2．The combination with a truck having side rails and cross bars whereon the load is placed，of a lifting device provided at one end of said truck and comprising a flattened tubing having a minor transverse axis of less length than the depth of said cross beams，and a major transverse axis of greater length than the depth of said beams，and means for rotating said tubing，substantially as described．

3．The combination with a truck having side rails and cross bars or beams whereon the load is placed，of a lifting device

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provided at one end of said truck and comprising a tube sub－ stantlally oval in cross section having reinforcing heads in its ends and sockets therein，and operating levers fitting within said sockets，and said tube being adapted when rotated to lift one end of the load off the truck，substantially as des－ cribed．

4．The combination with a lumber truck having side rails and centrally arranged carrying wheels and cross bars or beams whereon the load is placed，of a lifting device pro－ vided at one end of said truck and consisting of a rotating member substantially oval in cross section，and operating levers provided at the ends of sald member，and said member being adapted when rotated to engage the bottom of the load and lift it off the truck at one end thereof，substantially as described．
5．In a device for transferring lumber from supports onto a truck or from a truck onto suports，the combination with a two whecled truck having cross bearers upon which the load rests when on the truck，of an elevating bolster extending across the width of the truck adjacent to one of the end cross bearers thereof，the thickness of such bolster being approxi－ mately that of the cross bearers of the truck and the width relatively greater，and means for turning sald bolster on its edge so that its greater dimension is interposed between the upper side of the truck and the underside of the load．
6．The combination with a two wheeled truck，of a bolster extending across the width of the truck having a width re－ latively greater than its thickness and having the side and the corner which contact with the load in the act of turning rounded to an appropriate ellipse in cross section，and means for turning such bolster．
7．In a device of the character described the combination with a wheeled truck，of a bolster held across the width of the truck and unattached thereto，the width of such bolster being relatively greater than its thickness and means for turning such bolster on its edge．

No．98，975．Roller Window Screen．
Ecran de fenêtre．


Andrew J．Baker，Adrian，Michigan，U．S．A．，10th July，1906； 6 years．Filed 25 th October，1405．Receipt No．129，553．
Claim．－1．In a window screen the combination of a case，a spring roller therein，a screen upon said roller，guides for embracing the edges of said screen，a sash to which the screen is attached，a movable water shed and means for automatically moving said shed to exclude water from the case when the sash is closed．
2. In a window screen $t\{0$ combination of a case, a spring roller therein, a screen upon said roller, guides for the edges of said screen, a window sash to the bottom of which the screen is attached, a water shed movably mounted upon the case and adapted to close against said sash and means for automatically actuating sald shed when said sash is closed.
3. In a window screen the combination of a spring roller, a screen thereon attachable to the lower rail of a sash, telescovic guides laterally adjustable having ways which embrace the margins of said screen, an adjustable plate extending between the upper ends of said guides and secured to the lower rail of the upper sash, a flexible filed projecting from sald plate into terminal contact with the glass of the lower sash.
4. In a window screen the combination of a case, a roller therein, a screen upon said roller, a window sash to the lower rail of which said screen is attached, a movable water shed mounted on said case, rock shafts having crank arms which engage said shed, projecting ends upon said shafts which lie under said rail of said sash when the sash is closed, whereby upon the closing of the window, the water shed is automatically actuated to close against the outer face of the lower rall of said sash.

No. 99,976. Means of Balancing and Fastening Window Sashes.
Moyen d'assujettir et balancer les croisées de fenêtre.


Anthur Curwood, Campbelltown, Otago, New Zealand, 10th July, 1906; 6 years. Filed 3rd November, 1905. Receipt No. 129,799.
Claim.-1. A device of the character described comprising in combination with a window frame, a sash. racks fixed on the sash, brackets secured to the window frame opposite each side of the sash, toothed wheels revolubly mounted in the brackets and in mesh with the rack, and a balance weight disposed through the bracket and having teeth in mesh with the toothed wheel.
2. A device of the character described comprising in combination with a window frame, a sash, racks fixed on the sash. brackets secured to the window frame at the sides of the sash, toothed wheels revolubly mounted in the brackets and in mesh with the racks, a balance welght having teeth in mesh with the toothed wheels, means for gulding the balance weight, and means for locking the toothed wheels.
3. A device of the character described comprising in combination with a window frame, a sash having a groove formed on each side, a rack fixed in each groove, brackets secured adjacent each side of the sash, toothed wheels revolubly mounted in the brackets and in mesh with the rack, balance weights having teeth in mesh with the toothed wheels, means for guiding the balance weights, locking bars disposed through slots provided in the brackets and passing between the teeth of the toothed wheels, stems upon the locking bars, levers pivoted to the stems, and rods and handles for operating the levers.
4. A device of the character described comprising the combination of a sash, racks secured upon each side of the sash, toothed wheels gearing with the racks, weights disposed at the sides of the sash and having teeth in mesh with the toothed wheels, and means for locking the wheels against rotation.
5. A device of the character described comprising in combination with a window frame, sashes, racks fixed in the sashes, brackets secured to the window frame, toothed wheels revolubly mounted in the brackets, said wheels being in mesh with the racks, balance we ghts disposed through the brackets and having terth in mesh with the toothed wheels. locking bars disposed through slots provided in the brackets and adapted to engage the teeth of the wheels, stems on the lock. ing bars, levers pivoted to the stems, and rods and handles on the levers.

## No. 99,977. Fastener for Window Sashes.

 Attache pour chessis de fendtre.

Arthur Curwood, Campbelltown, Otago, New Zealand, 10th July, 1906; 6 years. Filed 3rd November, 1905. Receipt No. 129,800 .
Claim.-In a device of the character described in combination with a frame and a sash slidably disposed therein, a plate provided with openings and secured to the sash, a casing fixed within the frame and provided with a slot, a toothed wheel rotatably mounted in the casing and in mesh with the rack, a second casing secured within the frame adjacent the first casing, a locking bar disposed in the second casing and in engagement with the toothed wheel and provided with a handle having an integral stem, and a coil spring disposed on the stem.

No. 99,978. Latch. Loquet.


David Cassels, Portage la Prairle, Manitoba, Canada, 10th July, 1906; 6 years. Filed 12th March, 1906. Receipt No. 133,839.
Claim.-1. In a latch the combination with a keeper loop, of a sliding and swinging member having a loop at one end and also having a hook at the opposite side of the sald loop with reference to the romainder of the member.
2. In a latch the combination with a horizontally disposed keeper loop, of an endwise and vertically movable member having a depending loop at one end and also having a hook at the opposite side of the said loop with reference to the remainder of the member.
3. In a latch the combination with a horizontally disposed keeper loop, of a vertically and endwise movable member having a handle at an intermediate polnt of Its length and a closed loop or eye at one end and also having a depending loop at its opposite end and a hook at the opposite side of the depending loop, with reference to the remainder of the member and a loop resting loosely in the loop or eye of the member and adapted for attachment to a gate or the like.
4. The combination in a latch of a kecper and an endwise and laterally movable member, the said keeper and member being provided with co-operating means whereby disconnection of the member from the keeper is prevented when the member is moved in but one of the directions mentioned.
5. The combination in a latch, of a keeper, and an endwisc and laterally movable member, the said keeper and member being provided with co-acting means for preventing disconnection of the two when the member is swung laterally in one direction or the other and for preventing disconnection of the two when the member is moved in the direction of its length.

No. 99,979. Bucksaw Frame. Cadrc de scie.


Jerome C. Dietrich, Galt, Ontario, Canada, 10th July, 1906; 6 years. Filed 25th April, 1906. Receipt No. 135,259
Claim.-1. A bucksaw comprising a saw blade, end pleces and cross brace suitably connected in combination with two diagonal braces each comprising a wire rod doubled on itself around an end piece, and having its ends brought close together, and a plate secured to the upper side of the cross brace to which the ends of the diagonal braces are suitably secured, substantially as described.
2. A bucksaw comprising a saw blade, end pieces and cross brace suitably connected, in combination with two diagonal braces each comprising a wire rod doubled on itself around an end piece, and having its ends brought close together, and bent to form hooks, and a plate secured to the upper side of the cross brace provided with a hole with the ends of which the hooked ends of the diagonal braces may be engaged, substantially as described.

No. 99,980. Tobacco Cutter. Couteall à tabac.


Napoleon Du Brul, Cincinnati, Ohio, U.S.A., 10th July, 1906; 6 years. Filed 5th April, 1905. Recelpt No. 124,014.
Claim.-1. In a tobacco cutting machine, a feeding mechanism comprising a series of compression rolls and means for making these rolls self adjusting about two different centers.
2. In a tobacco cutting machine, a feeding mechanism comprising a plurality of compression rolls in which the one last acting upon the tobacco is self adjusting about a center from which it is driven and in which a primary compression roll is relatively self adjusting about the center of the compression roll last acting upon the tobacco.
3. In a tobacco cutting machine, a feeding mechanism comprising an adjustable frame, a final feeding roll carried thereby, a swinging frame carried by the adjustable frame and a primary feeding roll mounted on the swinging frame and swinging independently of the final compression roll.
4. In a tobacco cutting machine the combination of a reciprocating knife with a continuous feeding mechanism embodying a lower series of rolls, and an upper series of rolls adjustable relatively to the lower series of rolls and to one another.
5. In a tobacco cutting machine the combination with a lower series of rolls, of an upper series of rolls, of which those first acting on the tobacco are automatically selfadjusting in an arc concentric with the axis of, and are gearid to, the roll last acting.
6. In a tobacco cutting machine, a feeding mechanism em bodying a swinging frame, a gear wheel journalled on an axis in alignment with the pivot of the irame, a roll carried by said swinging frame and geared to said gear wheel, a second frame swung on the axis of said roll, a roll or rolls carried by said second frame and geared to the first-mentioned roll and a weight connected to the second-named frame near its fulcrum on the first-named frame and thereby acting on both swinging frames.
7. In a tobacco cutter the combination with the continuous feeding mechanism, of a knife and mechanism for causing the knife to make a draw cut on its down stroke and to move away from the material in the direction of its feed, on its up stroke, so that the material may be continuously fed.
8. The combination with the continuous feeding mechanism, of a knife holder, vibratory links connected to the knife holder in such manner as to cause an endwise reciprocation thereof, and a crank shaft also connected to the knife holder.
9. In a machine for cutting tobacco the combination with the drive shaft, carrying a gear, of feeding rolls, a shaft for operating the feeding rolls, a gear carried thereby, a swinging arm journalled on said shaft, and a reducing gear carried by the swinging end of the arm and geared to the drive shaft and the feed roll operating shaft, and a knife operated cont!nuously from the drive shaft.
10. In a machine for cutting tobacco the combination with the feeding rolls, of a drive shaft. reducing gearing between the drive shaft and the feeding rolls constructed to continuously operate the rolls and a knife operated continuously from the drive shaft.
11. In a tobacco feeding mechanism. a plurality of independently and relatively self adjusting rolls acting successively upon the tobacco.
12. In a tobacco cutting machine. a feding mechanism embodying a swinging frame, a roll journalled thereon, a frame swinging on the first-mentioned frame, and rolls carried by the second frame.
13. In a tobacco cutting machine. a feeding mechanism tmbodying a swinging irame, a roll journalled thereon. a frame swinging on the first-mentioned frame, rolls carried by the second frame and a weight acting on both frames.
14. In a tobacco cutting machine, a feeding mechanism embodying a swinging frame, a gear wheel journalled on an axis in alignment with the pivot of the frame, a roll carried by the swinging frame and geared to said gear wheel, a second frame swung on the axis of said roll, and rolls carried by the second frame and geared to the first-mentioned roll.
15. In a tobacco cutting machine, a feeding machanism embodying a swinging frame, a gear wheel journalled on an axis in alignment with the pivot of the frame, a roll carried by said swinging irame and geared to said gear wheel, a second frame swung on the axis of said roll, a roll or rolls carried by said second frame and geared to the first-mentioned roll and a weight acting on both swinging frames.
16. In a tobacco cutter, the combination with the continuous feeding mechanism, of a knife, and mechanism for causing the knife to make a draw cut on its down stroke and move out of the path of the material on fis up stroke, so that the material may be continuously fed.
17. In a tobacco cutter. the combination of an oscillating frame, and a knife having a draw cut movement on said frame.
18. In a tobacco cutter, an oscillatory frame, a knife holder guided on the frame, a swinging link connected at one end to the frame, and the other end to the knife holder, a lever connected at one end to the knife holder, and mechanism causing the other end of the lever to move in a circular path.
19. In a tobacco cutter, an oscillatory frame, a knife holder guided in an oblique path thereon, a lever connected at one cnd to the knife holder, and mechanism causing the other end of the lever to travel in a circular path.
20. A tobacco cutter comprising a frame, a crank shaft journalled thercon, a lower series of feed rolls, a reducing gear connecting the crank shaft and the lower series of feed rells. an upper series of feed rolls geared to the lower series of feed rolls and adjustable relatively to the lower series oi feed rolls and to one another, an oscillatory frame mount pd on the main frame near the mouth of the feed, a knife tholder guided on said frame and a lever connected at one cond to the knife holder and at its other end to the crank sbaft.
21. In a tobacco cutter, the combination with the cont'nuous feeding mechanism, of a knife, and mechanism causing the knife to make a draw cut and to oscillate out of the way of the material in the direction of its feed.
22. In a tobacco cutter, the combination of an oscillatory frame, and a knife having a reciprocating movement on the frame and a lever connected at one end to the knife and at its other end to a part having a rotary movement.
23. In a tobacco cuttor, an oscillatory frame, a knife holder guided on the frame, a swinging link connected to the frame
and to the knife holder, and mechanism for moving the knife and causing the frame to oscillate.
24. In a tobacco cutter, an oscillatory frame, a knife holder guided in an oblique path thereon, a lever connected at one end to the knife holder and a crank shaft connected to the other end of the lever.
25. A continuous feed reciprocating tobacco cutter comprising continuously revolving feed rolls, a mouth to which tobacco is delivered by said rolls to be cut, a knife mounted at an angle to the plane of said mouth, moving downward in suitable relation to cut tobacco protruding therefrom and mounted to rock upon an axis in a horizontal plane passing through the knife, a crank shaft suitably mounted upon the lower portion of the machine beneath the knife parallel to the rocking axis of the knife, and a connection between the crank of said shaft, and the knife through which the downward cutting movement is imparted to the knife during the downward rotation of the crank, an outward rocking movement to remove the blade from the mouth and an upward movement to said blade is imparted during the upward movement of the crank.
26. The combination with the drive shaft, of a feeding mechanism, reducing gear connecting the drive shaft and the feed mechanism, constructed to cause the continuous operation of the feed mechanism, a reciprocating knife and means for causing it to oscillate about an axis in a horizontal plane intersecting the knife, while it is reciprocated by the crank shaft.
27. In a machine for outting tobacco, the combination with the drive shaft carrying a gear, of feeding rolls, a second shaft parallel to the first for operating the feeding rolls, a gear carried thereby, a swinging arm journalled on said second shaft, and a reducing gear carried by the swinging end of the arm and geared to the drive shaft and the feed loll operating shaft.
28. In a machine for cutting tabacco, the combination with the drive shaft carrying a gear, of feeding rolls, a shaft for operating the feeding rolls, a gear carried thereby, a awinging arm journalled on said shaft, and a reducing gear carried by the $s$ winging end of the arm and geared to the drive shaft and the feed roll operating shaft, and a pitman driven knife operated continuously from the drive shaft.
29. In a machine for cutting tobacco having continuously rotating feed rolls, the tobacco feeding rolls, a drive shaft, a reciprocating cutter operated through an arcuate path by the drive shaft, a pinion secured to the drive shaft, an intermediate reducing gear driven by sald pinion, a reducing gear leading to feed rolls driven by the intermediate reducing gear.

No. 99,981. Door Knob. Bouton de porte.


Joseph T. Henderson, Niagara Falls, Ontario, Canada, 10th July. 1906; 6 years. Filed 7th April, 1906. Receipt No. 134.703.

Claim.-The combination of a knob spindle having a portion of angular form in cross section and also having a threaded end portion, a hollow knob movable on said spindle in the direction of the length thereof and having an extension provided with an angular opening recelving the angular portion of the spindle and also having an exteriorly rounded back wall and a countersunk tapered opening in the center of said back wall, and a tubular follower of circular form in cross section having a threaded bore receiving the threaded end of the spindle and also having a bevelled head at its outer end disposed in the tapered countersink of the knob and provided with an outer side shaped in conformity to and arranged flush with the exterior of the knob.

## No. 89,982. Tobacco Pipe. Pipe ì fumer.

Patrick Alfred Kenna, Sydney, New South Wales, Australia, 10th July, 1906; 6 years. Filed 26th February, 1906. Receipt No. 133,323.
Claim.-1. A tobacco pipe comprising a bowl, a stem, a projection for the free end of the stem and of less dimensions
than the dimensions thereof, a smoke passage through the projection and stem communicating with the chamber of the

bowl, a saliva chamber removably fitted on the free end of the stem and enclosing the projection and having an unobstruced passage therethrough, a sleeve fitted on the free end of the projection having a baffle opposed to the smoke passage and having an aperture in its oottom surface adjacent to the baffle to permit of the egress of the smoke from the smoke passage into the saliva chamber, and a mouth piece fitted to the sallva chamber having a projection extending therein with a smoke passage through the projection and mouth piece.
2. A tobacco pipe comprising a bowl, a stem for the bowl with a smoke passage therethrough, a tube fitted into the smoke passage and extending beyond the free end of the stem, a sleeve fitted on the projecting end of the tube and having a baffle opposed to the end thereof and an opening in its under side adjacent to the baffle to permit of the egress of the smoke therefrom, a saliva chamber fitted on the free end of the stem to enclose the projecting end of the tube and a mouthpiece fitted to the saliva chamber and having a smoke passage therethrough.
3. A tobacco pipe comprising a bowl, a stem for the bowl, with a smoke passage therethrough, a tube fitted into the smoke passage and extending beyond the free end of the stem, a sleeve fitted on the projecting end of the tube anil having a baffle opposed to the bore thereof and an opening in its underside adjacent to the baffle to permit of the egress of the smoke therefrom, a saliva chamber fitted on the free end of the stem to enclose the projecting end of the tube $a$ mouthpice fitted to the saliva chamber and having a projection extending therein with a smoke passage through the mouthplece and projection.
4. A tobacco pipe comprising a bowl, a stem for the bowl having a smoke passage therethrough communicating with the chamber of the bowl, a saliva chamber fitted on the free end of the stem, a tube fitted into the smoke passage of the stem and above the bottom of the saliva chamber and having its bore communicating with said smoke passage, a tubular baffle fitted on the tube with its closed end opposed to the bore thereof and having an opening for the egress of th. smoke into the saliva chamber, and a mouthplece fitted to the saliva chamber having a projection extending therein.

No. 99,983. Vehicle Seat. siège de voiture.


William Samuel Laycock, Sheffeld, England, 10th July, 1906; 6 years. Filed 6th October, 1906. Receipt No. 129,021.
Claim.-In a rallway seat the combination with the seat, back and frame on which the seat normally rests, of arms supporting the back, pins secured thereto extending through slots in the frame, levers pivotally connected to said arms and connected at their opposite ends to the seat, pins or projections secured to sald levers, slots secured in the frame through which said pins or projections extend, cam surfaces on the ends of the arms carrying the seat back and fixed pins secured to the frame which said cam surfaces are adapted to engage, as and for the purpose specified.

No. 99,984. Vestlette for Conductors. Veste pour conducteurs.


Orville Nelson, McClintock. Cleveland, Ohio, U.S.A., 10th July. 1906; 6 years. Filed 2nd April, 1906. Receipt No. 134,513
Claim.-1. In a detachable front for conductor's use the combination of a main or body portion of flexible material, of integral shoulder straps thereon, straps attached thereto and adapted to cross over the back of the wearer, buttons riveted upon the inner edges of the front and eyes upon the outer ends of the straps adapted to engage therewith, a back strap adjustable in length provided with an eye at elther end, buttons upon the inner edges of the front adapted to be engaged thereby, and up upper row of pockets entirely across the front face of the front, a central row of coin pockets on said front face, and a strip covering the lower portion of said front having its upper corners cut away and separated into side and center pockets, and means for reinforcing said pockets consisting of double lines of stitching about the outer edge of the said strip, and double lines of stitches separating the center and side pockets, and intersecting delow the central pocket.
2. In a detachable front for the purposes described the combination with a body portion, of integral shoulder straps, crossed straps attached thereto and provided with eyes at their outer ends, buttons riveted upon the innor edges of the body portion to which the eyes are attached, a back strap adjustable in length and provided with eyes at its outer ends, buttons riveted in the inner edges of the body portion to which eyes in the back strap are attached, a series of ticket pockets across the upper part of the body portion composed of a strip of flexible material having rows of stitches separating the pockets and about the lower margin, means for securing the upper corners of said strip consisting of the riveted buttons in which the cross straps are attached, an intermediate row of coin pockets similarly formed upon the body portion, and a lower row of larger pockers, composed of a strip of material sewed to the lower edge and sides of the body portion and separated into three pockets by means of central seams defining a shield-shaped central pocket and intersecting below said pocket, the upper corners of said lower strip being cut away, a hook secured at said intersecting points of said seams, and a reinforcement for the upper corners of sald lower strip consisting of the riveted buttons to which the back strip is attached.
3. The combination in a vestlette of shoulder straps therefor having terminal metal eyes, buttons upon the edge of the vestlette to which the eyes are secured, a detachable back strap therefor having an adjustable loop, an eye in said loop, an eye secured to the opposite end of the back strad.ralid riveted buttons upon the back of the vestlette, to which said eyes are attached, series of pockets formed transversely across the front of the vestlette, in upper, middle and lower rows, the said rivets to which the back strap is secured being inserted within the outer edges of the outer pockets of the lower row, for the purposes described and the central pockets of the middle and lower row being formed by double rows of vertical stitches coming together and intersecting to form a central loop near the lower edge of the vestlette, as and for the purpose described.
4. In a vestlette for conductor's or analogous uses, a body of flexible material, a transverse row of short upper small pockets for tickets, transfers and similar articles, a central overlapping row of larger pockets for coins and tools, and a lower row of large pockets for bills, rivets within the margins of the outer pockets on the lower row forming stops and reinforcing means therefor, and $V$-shaped seams separating the central pockets of the middle and lower row, said seams intersecting at the lower end to enclose a space, and a metal hook secured within said space, substantially as described.

No. 99,985. Releasing Hook or Block.
Crochet ou poulie d déclic.


Angus A. McIntosh, Alexandria, Ontario, Canada, 10th July. 1906; 6 years. Filed 3rd April, 1906. Receipt No. 134,566 Claim.-1. A releasing hook comprising a rigid shank, offset at one end, a rigid member pivotally connected to the offset end, a latch at the opposite end of the shank, for engaging the free end of the member to retain the hook in locked position, the member when in locked position being inclined relative to the shank and having its free end lying past dead center and nearer the shank than the pivotal point of the member and shank.
2. A device comprising a shank, a member pivotally connected thereto and capable of movement toward and from the shank, means for connecting the free end of the member and the shank to leave a space therebetween and enlargement on the member near its free end for closing the throat of said space.
3. A device comprising a shank, a member pivotally secured at one end thereto, links pivotally secured to the shank, shoulders for limiting the movement of the links and a latch pivotally mounted between the links and adapted to engage and lock the free end of the member in closed position.
4. A device comprising a plurality of members pivotally connected at one end, links pivotally secured to one of the members and adapted to embrace the remaining member and a latch pivotally mounted between the links and adapted to engage the free end of the member to lock the member in closed position.
5. A device comprising a shank recessed at one edge, a member pivotally secured to the shank, a latch. the outer periphery of the head of which is adapted to be received and turn in the recess, the latch adapted to retaln the member in closd position and means for pivotally connecting the latch and shank.
6. A device comprising a shank, a member pivotally secured thereto, a latch suitably conncted to the shank for locking the pivoted member in closed position, the member provided with a recess at its free end and a tooth on the latch adapted to take into the recess to throw the pivoted member outward as the device is unlocked.
7. A device comprising a shank, a member pivotally secured tiereto, a latch suitably connected to the shank and having a recess formed therein to receive the free end of the member and a tooth on the free end of the member adapted to engage one corner of the recess and forming a center about which the latch moves through a part of its path.
8. A device comprising a shank, a member one end of which is pivotally secured thereto, a curved face located on the free end of the member, and a latch pivotally connected to the shank and having a recess formed therein to receive the free end of the member, one wall of the recess being curved in conformity with the curved face to facilitate the entrance of the free end of the member into the recess.
9. A device comprising a shank. a member, one end of which is pivotally secured thereto, connecting means pivoted to the shank, a recessed latch pivotally secured to the connecting means and adapted to receive the free end of the member when in closed position, the latter lying out of allgnment with the pivotal points of the latch and connecting means when in closed position.
10. A device comprising a shank, a member pivoted at one end thereto, links pivoted to the shank, a latch plvoted between the free ends of the links and adapted to lock the member in closed position, the free end of the member when in locked position extending out of allgnment with the pivotal points of the links and latch
11. A device comprising a shank, a member, one end of which is pivoted to the shank, the outer face of the member near its free end being recessed, a latch pivotally connected
to the shank and adapted to engage and lock the member in closed position, a faced portion on the latch received in the recess in the member and a tall on the latch offset from the member and latch.
12. A releasing hook comprising an offset shank, a member pivotally secured at one end to the offiset, a recessed latch pivotally connected with the shank, the free end of the member recelvable in the recess and adapted to be kicked by the rotation of the latch over dead center in one dirction or the other.

No. 99,986. Cream Separator. Séparateur d créme.


Lauchlan Allan McLean, Toronto, Ontario, Canada, 10th July,
1906; 6 years. Filed 3rd April, 1906. Recelpt No. 134,169.
Claim.-1. In a machine of the class described in combination, a base and frame arising therefrom having offset portlons at the top thereof forming a receptacle for the operatIng mechanism, a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath one of said offset portions, a vertically adjustable step bearing in said casing, a tubular bowl supported in said bearing, a spindle extending upwardly from said bowl, a vertically adjustable bearing in said receptacle, a spindle journalled in said bearing and extending downwardly and coupled to said bowl spindle, spindle operating means within the aforesaid receptacle, and a milk receptacle having communication with said bowl, as and for the purpose specifled.
2. In a machine of the class described in combination, a base and frame arising therefrom having offset portions at the top thereof forming a receptacle for the operating mechanism, a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath one of said offset portions, a vertically adjustable step bearing in said casing, a tubular bowl supported in said bearing, a spindle extending upwardly from sald bowl above the top of said casing having lateral projections extending therefrom, a vertically adjustable bearing in said receptacle, a spindle supported in said bearing and extending downwardly therefrom having a reduced portion engaging said bowl spindle, a coupling sleeve slidably arranged on said spindle having slots to engage the lateral projections on said bowl spindle, spindle operating means within the aforesaid receptacle, and a milk receptacle having communication with said bowl, as and for the purpose specifled.
3. In a machine of the class described in combination, a base and frame arising therefrom having offset portions at the top thereof forming a receptacle for the operating mechanism, a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath no of said offset portions, a vertically adjustable step bearing in said casing. a tubular bowl supported in said bearing, a spindle extending upwardly from sald bowl above the top of said casing having a recess in the top thereof and lateral projections extending therefrom, a vertically adjustable bearing in said receptacle, a spindle supported in said bearing and extended downwardly therefrom having a squared portion and flange below said squared portion and reduced lower end engaging the recess in said bowl spindle, a hollow coupling sleeve having a squared opening slidably arranged on the squared portion of sald spindle and L-shaped slots to engage the lateral projections on said bowl spindle, a spiral spring surrounding said upper spindle and engaging said coupling sleeve, spindle operating means within the aforesaid receptacle, and a milk receptacle having communication with said bowl, as and for the purpose specified.

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4. In a machine of the class described in combination, a base and frame arising therefrom having offset portions at the top thereof forming a receptacle for the operating mechanism, a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath one of said offset portions, discharging compartments enclosing the top of said casing having a vertical central orifice therethrough, a vertically adjustable step bearing in said casing, a tubular bowl journalled in said step bearing, a spindle extending upwardly from said bowl and protruding through and beyond said discharge compartments, a vertically adjustable bearing in said receptacle, a spindle supported from said bearing and extending downwardly and coupled to said bowl spindle, spindle operating means within the aforesaid receptacle, and a milk receptacle having communication with said bowl, as and for the purpose specified.
5. In a machine of the class described in combination, a base and framefarising therefrom having offset portions at the top thereof forming a receptacle for the operating mechanism, a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath one of said offset portions, a semi-cylindrical casing projecting upwardly therefrom and forming part with said casing, a semi-cylindrical casing abutting the aforesald semi-cylindrical casing and hinged thereto, annular flanges from said casings forming part with the halves thereof and forming discharge compartments, a suitable packing inserted in the edges of one of said half casings and abutting the other half, means for securing said halves firmly together, a vertically adjustable step bearing secured in the bottom of said longitudinal casing, a tubular bowl journalled in said step bearing, a spindle extending upwardly from said bowl and protruding above the annular flanges in said top casing, a vertically adjustable bearing in said receptacle, a spindle supported from said bearing and extending downwardly and coupled to said bowl spindle, spindle operating means within the aforesald receptacle, and a milk receptacle having communication with said bowl, as and for the purpose specifled.
6. In a machine of the class described in combination, a base and frame arising therefrom having forwardly and rearwardly extending portions forming a receptacle, of a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath one of said offset portions, discharge compartments enclosing the top of said casing having a vertical orifice therethrough, a vertically adjusiable step bearing in said casing, a tubular bowl having a removable bottom end journalled in said step bearing, a vertical spindle projecting upwardly from said removable bottom havIn a central orifice therein and a plurality of onenings therethrough communicating with said central orifice, a spindle extending upwardly from said bowl and projecting through and beyond said discharge compartments, a vertically adjustable bearing in said receptacle, a spindle supported from said bearings and extending downwardly and coupled to said bowl spindle, spindle operating means within the aforesaid receptecle, and a milk receptacle having communication with said bowl, as and for the purpose specifled.
7. In a machine of the class described in combination, a base and frame arising therefrom having forwardly and rearwardly extending portions forming a receptacle, of a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath one of said offset portions. discharge compartments enclosing the top of suld casing having a vertical oriflce therethrough, a vertically adjustable step bearing in said casing, a tubular bowl having a removable bottom and journalled in said step bearing, a vertical spindle projecting upwardly from said removable bottom having a central orifice therein, and a plurality of openings therethrough communicating with said central orifice, and a plurality of vertical slots in the exterior surface of sald spindle arranged alternately with said openings, ribs or wings inserted in said slots and extending outwardly from said spindle, a spindle extending upwardly from said bowl and projecting through and beyond said discharge compartments, a vertically adjustable bearing in said receptacle, a spindle supported from said bearing and extending downwardiy and coupled to said bowl spindle, spindle operating means within the aforesaid receptacle, and a milk receptacie having communication with said bowl, as and for the purpose specifled.
8. In a machine of the class described in combination, a base and frame arising therefrom having forwardly and rearwardly extending portions forming a receptacle, of a casing projecting outwardly therefrom and longitudinally with the standard of sald frame beneath one of sald uffet portions, discharge compartments enclosing the top of said casing having a vertical orifice therethrough, a vertically adjustable step bearing in said casing, a tubular bowl having a removable bottom and journalled in said step bearing, a vertical spindle projecting upwardly from sald removable bottom having a central orifice therein and a plurality of openings therethrough communicating with said central orifice and a plurallty of vertical slots in the exterior surface of said spindle arranged alternately with said openings, ribs or wings in-
serted in said slots and extending radially therefrom and abutting the interior surface of said bowl and downwardly abutting the interior surface of said removable bottom, a spindle extending upwardly from said bowl and projecting through and beyond said discharge compartments, a vertically adjustable bearing in said receptacle, a spindle supported from said bearing and extending downwardly and coupled to said bowl spindle, spindle operating means within the aforesaid receptacle, and a milk receptacle having communication with said bowl, as and for the purpose specified.
9. In a machine of the class described in combination, a base and frame arising therefrom having forwardly and rearwardly extending portions forming a receptacle, of a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath one of said offset portions, discharge compartments enclosing the top of said casing having a vertical orifice therethrough, a vertically adjustable step bearing in said casing, a tubular bowl journalled in said step bearing having a removable cap at the upper end thereof and a central threaded recess in the underside thereof, an inverted cup having a centrally disposed projection in the top thereof externally threaded to engage the threaded recess in said cap and vertical depending sides in close proximity to the interior surface of said bowl, a spindle rising from said cap and projecting through and beyond said alscharge compartments and having discharge recesses therein communicating with said bowl and the interior of said cup and leading to said discharge compartments, a vertically adjustable bearIng in said receptacle, a spindle supported from said bearing and retending downwardly and coupled to said bowl spindle, spindle operating means within the aforesaid receptacle, and a milk receptacle having communication with said howl, as and for the purpose specified.
10. In a machine of the class described in combination, a base and frame arising from having offset portions at the top thereof forming a receptacle for the operating mechanism, a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath cre of said offset portions, a vertically adjustable step bearing in said casing, a tubular bowl supported in said bearing, a spindle extending upwardly from said bowl above the top of said casing, a ledge or projection in said receptacle having an orifice therethrough, a cylindrical journal box secured in said orifice, a spindle supported in said bearing and extending downwardiy therefiom and coupled to said bowl spindle, spindle operatiing means within the aforesaid receptacle, and a milk receptacle having communication with said bowl, as and for the purpose specified.
11. In a machine of the class described in combination, a base and frame arising therefrom having offset portions at the top thereof forming a receptacle for the operating mechanism, a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath one of sald offset portions, a vertically adjustable step bearing in said casing, a tubular bowl supported in said bearing, a spindle extending upwardly from said bowl above the top of said casing, a ledge or projection in said receptacle having an orifice therethrough, a cylindrical journal box secured in said orifice and having a central orifice in the bottom thereof, an inverted cup slidably arranged within said cylindrical journal box, a spindle coupled to said bowl spindle having a reduced upper end extending through said orifice, a head fixedly secured to said spindle having a bevelled upperside and a bevelled lower side and located within sald cylindrical journal box, ball bearings inserted in said journal box between the corner of said journal box and the develled lower side of said head and between the corner of said inverted cup and the top bevelled side of said head, yielding means for retaining said inverted cup and its bearings in engagement with said head, a spindle operating means within the aforesaid receptacle, and a milk receptacle having communication with said bowl, as and for the purpose specified.
12. In a machine of the class described in combination, a base and frame arising therefrom having offset portions at the top thereof forming a receptacle for the operating mechanism, a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath one of said offset portions, a tubular bowl suitably supported in said casing, a spindle extending upwardly from said bowl, a spindle adjustably journalled in said receptacle and extending downwardly and coupled to said bowl spindle, a pulley fixedly secured to said spindle, journal bearings secured in the sides of said receptacle, a shaft journalled in said bearings, journal bearings adjustably arranged in said receptacle, means for adjusting said bearings, a shaft journalled in said bearings, means for rotating said shaft, pulleys mounted on said shafts and connected together and with the aforesaid spindle pulley by suitable belts, and a milk receptacle having communication with said bowl, as and for the purpose specifled.
13. In a machine of the class described in combination, a base and frame arising therefrom having offset portions at the top thereof forming a receptacle for the operating mech-
anism, a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath one of said offset portions, a tubular bowl suitably supported in said casing, a spindle extending upwardly from said bowl, a spindle adjustably journalled in said receptacle and extending downwardly and coupled to said bowl spindle, a pulley fixedly secured to said spindle, journal bearings secured in the sides of said receptacle, a shaft journalled in said bearings, journal bearings adjustably arranged in said receptacle, means for adjusting said bearings, a shaft journalled in said bearings, means for rotating said shaft, a pulley fixedly secured to said shaft, a pulley fixedly secured to the shaft journalled in the fixed bearings and connected with said pulley by a suitable belt, a pulley fixedly secured to the shaft journalled in the fixed bearings, a pulley loosely mounted on the aforesaid shaft journalled in the adjustable bearings and connected with the aforesaid pulley by a suitable belt, a pulley fixedly secured to the said loose pulley and loosely mounted on the adjustable shaft connected with the pulley on said spindle, and a milk receptacle having communication with said bowl, as and for the purpose specified.
14. In a machine of the class described in combination, a base and frame arising therefrom having offset portions at the top thereof forming a receptacle for the operating mechanism, a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath one of said offset portions, a tubular bowl suitably supported in said cesing, a spindle extending upwardly from said bowl, a spindie adjustably journalled in said receptacle and extending downwardly and coupled to said bowl spindle, a pulley fixedly stcured to said spindle, journal bearings secured in the sides of said receptacle, a shaft journalled in said bearings, journal bearings adjustably arranged in said receptacle, means for adjusting said bearings, a shaft journalled in said bearings, a crank loosely mounted on said shaft at one end thereof having recesses therein and spring-held ratchet pins iv said recesses, a collar fixedly secured to the end of said slaft and abutting said crank and having sloping recesses in the inner face thereof to engage said ratchet pins, pulleys mounted on said shafts and connected together and with the aforesaid spindle pulley by suitable belts and rotated by said crank shaft, and a milk receptacle having communication with said bowl, as and for the purpose specified.
15. In a machine of the class described in combination, a base and frame arising therefrom having offset portions at the top thereof forming a receptacle for the operating mechanism and slots in the sides thereof, a casing projecting outwardly therefrom and longitudinally with the gtandard of sald frame beneath one of said offset portions, a tubular bowl suitably supported in said casing, a spindle extending upwardly from said bowl, a spindle adjustably journalled in said receptacle and extending downwardly and coupled to said bowl spindle, a pulley fixedly secured to said spindle, journal bearings fixedly secured in the sides of said receptacle, a shaft journalled in said bearings, journal bearings located in the slots in said receptacle, a slidable yoke located within said receptacle and embracing said bearings, means secured to said yoke protruding through the casing of said receptacle for adjusting said yoke, a shaft journalled in said bearings, means for rotating said shaft outside of said receptacle, pulleys mounted on said shafts and connected together and with said spindle pulley by sultable belts and rotated 'by said crank shaft, and a milk receptacle having communication with said bowl, as and for the purpose specifled.
16. In a machine of the class described in combination, a base and frame arising therefrom having offset portions at the top thereof forming a receptacle for the operating mecha nism, a casing projecting outwardly therefrom and longitudinally with the standard of said frame beneath one of said offset portions, a tubular bowl suitably supported in said casing, a spindle extending upwardly from said bowl, a spindle adjustably journalled in said receptacle and extending downwardly and coupled to said bowl spindle, spindle operating means within the aforesaid receptacle, a milk receptacle supported from said frame, a feed tube having communication with said milk receptacle and extending within said casing and terminating near the bottom thereof, a U-shaped tube having one end engaging the end of said feed tube and extending below the said casing and having communication with the said bowl, and adjustable means for retaining said $U$-shaped tube in position, as and for the purrove specified.

No. 99,987. Cess Pool. Puisard.
Edward L. Parsons. St. John, New Brunswick, Canada, 10th July, 1906; 6 years. Filed 9th March, 1906. Recelpt No. 133,716.
Claim.-In a cess pool, the combination of a receiving chamber having sewer connection, an air chamber at the base thereof and extending beyond the same, a blind drain
of an area equal to that of the air chamber and an air circulating pipe connecting the receiving chamber with the air

chamber, substantially in the manner and for the purpose set forth.

## No. 89,888. Arle Nut. Noiه d'essieuc.



William S. Pugsley, London, Ontario, Canada, 10th July, 1906; 6 years. Filed 14th February, 1906. Receipt No. 132,902.
Claim.-1. In an adjustable locking axle nut, a spindle nut provided with an external annular locking shoulder or flange, and an annular ring or ball race adjustable on said spindle rut, in combination with a jam or lock nut adjustable on said annular ring or ball race, and the end of said jam or lock nut adapted to engage with said annular locking flange or shoulder on said spindle nut, to lock sald annular ring or ball race in place.
2. In an adjustable locking axle nut, the combination with a spindle nut provided with an external annular locking flange or shoulder and with a screw thread on its outer face and an annular ring or ball on its internal and external faces, the screw threaded inner face of which is adapted to engage with the screw threaded exterior face of said spindle nut, of a jam or lock nut screw threaded on its Internal face, which is adapted to engage with the screw threaded exterior face o. said annular ring or ball race, and the end of the jam or lock adapted to engage with said locking shoulder or flange of sald spindle nut, to rigidly hold and lock the annular ring or ball race in place.
3. In an adjustable locking axle nut, a spindle nut provided with an external annular locking flange or shoulder and with a screw thread on its outer face, ball races one of Which is formed screw-threaded on its interior and exterior faces, and the other plain and provided with an external annular flange, and ball bearings between said ball races, in combination with a jam or lock nut provided with an internal flange and with a screw thread on its internal face adapted to engage with the screw-threaded ball race and said locking fiange or shoulder on said spindle nut.
4. An adjustable locking axle nut comprising a spindle nut provided with an external annular locking shoulder or flange, an annular ring or ball race adjustable on said spindle nut, and a jam or lock adjustable on sald annular ring or ball race and adapted to engage with said annular locking shoulder or flange on said spindle nut, in combination with an axle spindle formed with a reduced screw-threaded portion and a shoulder on said spindle at the inner end of said reduced screw-threaded portion and an axle box on said spindle.
5. An adjustable locking axle nut. comprising a spindie nut provided with an external annular locking shoulder or flange, ball races adjustable on said spindle nut, bearing balls between sald ball races, and a jam or lock nut adjustable on one of said ball races, and adapted to engage with
said annular locking shoulder or flange on said spindle nut, in comblnation with an axle spindle formed with a reduced screw-threaded portion and a shoulder on said spindle at the inner end of said reduced screw-threaded portion and an axle box on said spindle.
6. In an adjustable locking axle nut, a spindle nut provided with an external annular locking shoulder or fiange, and an annular ring or ball race adjustable on said spindle nut and provided with a right hand screw thread on its outer face, it combinaton with a jamb or lock nut provided with a left hand screw thread on its interlor face and adjustable on said exteriorly screw-threaded annular ring or ball race.
7. In a device of the class described, a vehicle axle, a spindle on each end of sald vehicle axle, and an axle box on each of said spindles, in combination with spindle nuts one of which is secured on the outer end of each of said spindles, and each provided with an external annular locking shoulder or flange, an annular ring or ball race adjustable on each of said spindle nuts, and a jam or lock nut adjustable on each of said annular rings or ball races, and adapted to engage with the locking shoulder or flange on the spindle nut on which it is mounted, and a right hand screw thread formed on the exterior face of the annular ring or ball race at the other end of the axle, and a left hand screw thread formed on the inner face of the jam or lock nut that engages with the annular ring or ball race with the right hand screw thread, and a right hand screw thread formed on the inner face of the jam or lock nut that engages with the annular ring or ball race with the left hand screw thread on its outer face.

No. 99,989. Top Rest for Carriages.
Apput-soufliet de voitures.


William Roland Roote, Guelph, Ontario, Canada, 10th July,
1906; 6 years. Filed 7th May, 1906. Receipt No. 135,621.
Claim.-A top rest for the tops of buggies or carriages, consisting of a suitable shaped rubber cushion or bumper held in position by and in combination with a square metallic sleeve for the purpose of attaching the same to the back prop, substantially as hereinbefore described.

No. 99,990. Canopy for Vehicles.
Couverture de véhicules.


James R. Ryan, Sault Ste. Marie, Michigan, U.S.A., 10th July.
1906; 6 years. Filed 12th May, 1906. Receipt No. 135.847.
Claim.-1. In a canopy in combination with a base irame adapted to rest upon the seat of a vehicle, extensible slde pleces at each end of said base frame and normally rising perpendicularly thereto, adapted to lle therewithin when not in use, coupling pieces adapted to hold the side pieces apaced when raised, a cover adapted to be drawn thereover, and an apron extending across the front of the frame, substantially as described.
2. A canopy frame having in combination a base adapted to retreat on a vehicle seat, jointed standards adapted to fo!d into the base, coupling members adapted to connect the standards, a cover to be drawn over said frame, an apron to engage the cover and enclose the front of said frame, substantially as described.
3. In a canopy frame the combination of a base portion adapted to be placed on the seat of a vehicle a collapsible framewark raising therefrom, and adapted to be folded thereover when not in use, spacing members extending from one sille of said framework to the other, and an enclosing cover portion to be drawn thereover, substantially as described.
4. A canopy frame, having in combination a base portion, jointed side standards hinged thereto and adapted to fold thereover, means for bracing said side standards when raised, means for spacing the same one from the other, a cover portion adapted to be drawn thereover, and an apron extending across the front of the frame, substantially as described.

No. 99,991. Refrigerator Boz. Boite de refrigérateur.


Vondon D. Sibley, Port Hammond, British Columbla, Canada, 10th July, 1906; 6 years. Filed 9th December, 1905. Receipt No. 130,829.
Claim.-1. In a refrigerator of the class described the comfination therewith of an ice chamber, occupying the middle upper portion of the box, a water drain from the lower part of the chamber through one of the slides of the box, sald irain preserving a water seal in the drain aperture, a guard Frotecting the outlet of the drain, and a drip plate from the drain outlet having an outward projection to deliver the water clear of the bottom of the box.
2. In a refrigerator of the class described the combination therewith of an ice tank ocupying the upper middle portion of the box, a drain pipe from the ice tank through one of the sides of the box said drain pipe consisting of a nipple threaded into the ice tank below the level of its bottom and having an aperture through it from the lower edges where it is inserted in the ice chamber to the upper edge at the outer side, whereby a water seal is preserved in the drain pipe.
3. In a refrigerator box of the class described the combination therewith of an ice chamber in the upper middle portion of the box, a gauze strainer above the drain in the ice chamber, a drain pipe from below the bottom of the ice chamber the outlet of the drain being above the inlet to fit in the ice chamber, a guard acrosis the outlet of the drain and a strip from the outlet projecting outward at the lower end to deliver the drip clear of the side of the box.

## No. 99,992. Wooden Sheet Piling. Pilotis.

Henry Louis Zander, New Orleans, Loulsana, U.S.A., 10th July, 1906; 6 years. Filed 19th February, 1906. Receipt No. 133,046 .
Claim.-1. A sheet piling comprising a plurality of sections each having a projecting tongue on one side provided with a laterally enlarged head and having a groove in another side provided with a contracted neck to receive the tongue of the adjoining section, said groove being larger than the head of the tongue, to form a space between the tongue and the opposing face of the groove, means on one of said sections to close the bottom of said space, and a plastic fllling in said space to effect a water tight joint between sald sections.
2. A sheet piling comprising a plurality of sections, each of said sections having along one of its edges a tongue provided with an enlargement or head and along its other edge a groove provided with a contracted neck and adapted to receive the head of the tongue of the adjacent section, said groove being of greater size than said tongue to receive a filing of cement or the like, a bottom closing the lower end
of the groove in each section, and a projection upon the lower end of the head of the tongue of each section, said projection

being adapted to enter the groove in the adjacent section, substantially as described.
3. A sheet plling section comprising a body having along one of its edges a longitudinally extending groove provided with a contracted neck, a bottom closing the lower end of said groove, a longitudinally extending tongue upon the opposite edge of sald section and provided with a longitudinally extending enlargement or head adapted to enter the groove of an adjacent section, and a projection upon the lower end of said head or tongue, substantially as described.
4. A sheet plling section comprising three boards secured to each other in parallel relation with the intermediate one projecting in one direction to form a tongue and the two outer ones projecting in the opposite direction to form a groove, cleats upon said tongue and in said groove, a block in the lower end of said groove and a projection or block upon the lower end of said tongue, substantially as described.
No. 99,993. Sheet Piling. Pilotis on feutlle.


Luther Peter Friestedt, Chicago, Illinois, U.S.A., 10th July. 1906; 6 years. Filed 3rd February, 1905. Receipt No. 122,222.
Claim.-1. In sheet plling, a series of I-beam sections joined edgewise, the face sides of the cross flange abutting, and means for locking all the sections together against displacement when assembled in a wall structure.
2. In sheet piling, a wall structure composed of I-beams joined endwise and angle clamping irons rigidly mounted on alternate sections and overlapping the flanged edges of the joining sections.

## No. 99,994. Metal Piling. Pilotis en métal.

James J. Harold, New York City, New York, U.S.A., 10th July, 1906; 6 years. Filed 22nd December, 1905. Recelpt No. 131,257.
Claim.-1. In piling, flanged beam members and interlocking bolts, said interlocking bolts adapted to receive flanges of said beam members and lock said beam members together.
2. In plling, channel beams and interlocking bolts, said bolts adapted to receive the flanges of said channel beams and lock said beams together.

3. In piling, the flanges of channel beams turned away from each other and the backs of said channel beams locked together by interlocking bolts engaging some of said flanges.
4. In piling, flanged beam members and interlocking boits and said interlocking bolts having looped hooks and adapted to recelve and lock the flanges of said beam members.

No. 99,995. Metal Piling. Pilotis en métal.


James J. Harold, New York City, New York, U.S.A., 10th July, 1906; 6 years. Filed 18th December, 1905. Recelpt No. 131,133.
Claim.-1. In piling, beam members provided with flanges on opposite sides of one face thereof, planks adopted to engage the channels, formed by said flanges, one of the flanges on one beam member adapted to slide between a flange on another beam member and its plank, a plate at the outer edge of each of said planks extending over the back of the adjoining beam member, and said plate secured to sald plank by bolts passing through its beam member.
2. In piling, beam members provided with fianges on opposite sides of one face thereof, planks adopted to engage the channels formed by said flanges, one of the flanges on one beam member adapted to slide between a flange on another beam member and its plank, a plate at the outer edge of each of said planks extending over the back of the adjoining beam member, a plate on the opposite side of the piling extending over the adjoining plank, and sald plates secured by bolts passing through said planks and said beam members.

No. 99,996. Metal Piling. Pilotis en métal.
James J. Harold, New York City, New York, U.S.A., 10th July, 1906; 6 years. Filed 26th April, 1906. Rece1pt No. 135,315.
Claim.-1. In piling, flanged beam members and Interlocking members, said interlocking members tapered toward the bottom of the piling and provided with projecting flanges adopted to retain said flanged beam members in place.
2. In piling, flanged beam members and interlocking mem. bers tapered from the center toward the top and bottom of the piling and provided with flanges adopted to retain said flanged beam members in place.
3. In piling, flanged beam members and reinforced tapered interlocking members, said interlocking members provided

with projecting flanges adopted to retain said flanged beam members in place.

No. 99,987. Metal sheet Piling.
Pilotis en feuille de métal.


Walter Charles Harder, Chicago, Illinois, U.S.A., 10th July, 1906; 6 years. Filed 2nd October, 1905. Recelpt No. 128,912.
Claim.-1. In sheet piling, a beam section provided on one of its edges with an integral cross flange and having a flanged recess in the other edge corresponding to the contour of said cross flange.
2. A beam piling section comprising in its integral structure, a web part, a cross flange on one edge thereof, and a cross flanged recess in the opposite edge.
3. A beam piling section having a straight cross flange on one of its edges, and a C-shaped fiange on the other edge. 4. In sheet piling, a beam section provided with a C-shaped flanged edge and a companion beam provided on its joining edge with a cross flange engaging the recessed C-edge.

## No. 99,998. Metal gheet Pling.

Pilotis en reuille de métal.
Henry Wittekind, Chicago, Illinois, U.S.A., 10th July, 1906 :
6 years. Filed 18th November, 1904. Receipt No. 120.102
Claim.-1. A metal sheet piling composed of interlocked cuplicate sections, each section having an offset laterally projecting flange at one side edge and an angular channel at its other side edge of a cross section to receive the flange on the adjacent section.
2. In a metal sheet piling, a section composed of a plate. an offset laterally projecting fiange at one side edge, and an angular channel at its other side edge conforming in cross scetion to said flange.
3. In a section for metal sheet piling, the combination with a central plate, of a Z-beam having one flange rigidly

secured to one side of sald plate and its other flange projecting laterally, an angle beam spaced apart from said plate and extending around the other side of said plate thereby forming a channel conforming in cross section to the projecting portion of said Z-beam.
4. In a section for metal sheet piling, the combination with a central plate, of a $Z$-beam having one flange rigidly secured to one side of sald plate and its other flange projecting laterally therefrom, an angle beam extending around the oiher side edge of said plate, and a filler strip interposed between said plate and angle beam thereby forming a channel corresponding in cross section to a portion of said $Z$ beam projecting from said plate.
5. In a compound section of metal sheet piling, the combination with a plate, of an angle beam extending around cne side edge of the plate, and a fller bar interposed between said plate and angle beam thereby forming a channel to interlock with the adjacent section of piling.
6. In a metal sheet piling, the combination with a section ccmposed of a plate and an angle beam spaced from the plate and extending around one side edge thereof thereby fcrming a channel, of a co-operating section having an angular side flange adapted to be received within the channel of said first section.

No. 99,999. Metal Piling. Pilotis en métal.


James J. Harold, New York City, New York, U.S.A., 10th July, 1906; 6 years. Filed 4th May, 1906. Receipt No. 135,551.
Claim.-In metal piling, interlocking members and flanged beams, said interlocking members provided with channels and flat surfaces, said flat surfaces of said members fastened together and said channels adapted to engage and retain the flanges of said beams.

## No. 100,000. Sheet Metal Piling.

Pilotis en feuille de métal.
Micharl John Haney, Toronto, Ontario, Canada, 10th July, 1906: 6 years. Filed 4th February, 1905. Receipt No. 122,228.
Claim.--1. A sheet metal piling comprising plates abutting each other at their longitudinal edges, angle bars suitably
riveted adjacent to one longitudinal edge on both sides of the plate and lugs disposcd at desired distances apart at the

opposite longitudinal edge and suitable riveted to the plate in pairs one at each side and having inturned lips designed to receive the outer turned portions of the angle bars of the adjacent plate, as specified.
2. A sheet metal piling comprising plates abutting each other at their longitudinal edges and angle bars secured to one longitudinal edge of the plate on opposite sides thereof and projecting beyond such edge or width of the plate, and angle plates or bars secured to the opposite longitudinal edge of the plate, one on each side and opposite each other and so arranged that the opposite longitudinal edge projects beyond the angle iron bars or plates and provided with irturned lips for gripping the free edge of the angle bars of the next plate, so as to cover the joint or abutting edges os the plate, as specified.
3. In a sheet metal piling, a series of plates abutting each nther, means for interlocking the plates at their longitudinal edges and diagonal strengthening bar extending across the plates, as specifled.

No. 100,001. Metal Sheet Piling.
Pilotis en feuille de métal.


The Duplex Stcel Plate Piling Company, assignee of John Robert Williams, all of East Orange, New Jersey. U.S.A., 10th July, 1906; 6 years. Filed 27th September, 1905. Receipt No. 128,765.
Claim.-1. A metal sheet piling composed of sections each having in one integral piece a transverse member and members extending laterally in opposite directions from the edges thereof and being about equal in extent, one of said lateral members having a locking tongue, and a locking member secured to said transverse member and affording, with the
adjacent walls of the section, at one end a receiving recess and at the other end a locking receiving recess, substantially as set forth.
2. A metal sheet piling composed of sections each having a transverse member and parallel members extending laterally in opposite directions from the edges thereof and at an angle thereto and being about equal in extent, one of said lateral members having a locking tongue, and a locking member secured to said transverse member and affording, with the adjacent walls of the section, at one end a receiving recess and at the other end an angular locking receiving reces, substantially as set forth.
3. A metal sheet plling composed of sections each having in one integral piece a transverse diagonally disposed member and members extending laterally in opposite directions from the edges thereof and being qbout equal in extent, one of said lateral members having a locking tongue, and a locking member secured to said transverse member and affording with the adjacent walls of the section, at one end a receiving recess and at the other end an angular locking receiving recess, substantially as set forth.
4. A metal sheet piling composed of sections each having a diagonally disposed transverse momber and parallel members extending laterally in opposite directions from the edges thereof and at an angle thereto and being about equal in extent, one of said lateral members having a locking tongue, and a locking member secured to said transverse member, and affording with the adjacent walls of the section, at one end a recelving recess and at the other end an angular locking receiving recess, substantially as set forth.
5. A metal sheet piling composed of sections each having in one integral piece a transverse member 11 and oppositely extending lateral members 12,13 , the former having a tongue 14, and a locking member 15 secured to said transverse member and having at one end a flange 16 and at its other end being extended to and along said member 13 so as to form a locking recess, substantially as set forth.
6. A metal sheet piling composed of sections each having in one integral plece a transverse member and parallel members extending laterally in opposite directions from the edges thereof and being about equal in extent, said sections being alternately faced in opposite directions with the adjacent lateral members thereof in face to face contact, combined with means carried by said sections for locking them together in series, substantially as set forth.
7. A metal sheet piling composed of sections each having in one integral piece a transverse diagonally disposed member and parallel members extending laterally in opposite directhons from the edges thereof and at an angle thereto and being about equal in extent, sald sections being alternately faced in opposite directions with the adjacent lateral members thereof in face to face contact, combined with means carried by said sections for locking them together in series, substantially as set forth.

No. 100,002. Liquid Separator.
Séparateur de liquides.


The Massey-Harris Company, Toronto, Ontario, Canada, assignee of Wilbur W. Marsh, Waterloo, Iowa, U.S.A., 10th July, 1906; 6 years. Filed 21st October, 1905. Feceipt No. 129,440 .
Claim.-1. A liner for centrifugal liquid separators comprising a series of superimposed coned separating discs, smooth on the underside, and provided with ribs on their upper surfaces forming helical channels between them, and having their upper edges scalloped, substautially as described.
2. A liner for centrifugal liquid separators comprising a series of superimposed coned separating discs, smooth on the underside, and provided with ribs on thelr upper surfaces forming hellical channels between them, substantially as described.

No. 100,003. Liquid Cooler.
Réfrigérant pour liquides.


The Canadian Dairy Supply Company, Montreal, assignee of Emile Laurin, St. Esutace, both In Quebec, Canada, 10th
July; 6 years. Filed 13th June, 1906. Receipt No. 136,841. Claim.-1. In a cooler for liquids, means for slowly feeding a liquid over moving and stationary surfaces, means for circulating a fluid of low temperature to chlll the moving surfaces and means for circulating a fluid of lower temperature over the stationary surfaces.
2. In a cooler for liquids, means for slowly feeding a liquid spirally in thin layers over chilled corrugated surfaces, and means for circulating the liquid over a further chilled surface until the desired temperature is reached
3. In a cooler for liquids, means for slowly feeding a liquid spirally in thin layers over moving corrugated surfaces, means for cooling said surfaces, and means for collecting and circulating the llquid over a further surface chilled to a lower temperature than the corrugated surfaces.
4. In a two-stage cooler for llquids, means for. slowly feeding a liquid spirally over moving corrugated surfaces, means for circulating a fluid of lower temperateure than the liquid between said corrugated surfaces, means for collecting and circulating the liquid over a further surface, and means for circulating a second fluid of lower temperature than the first to chill said surface.
5. In a two-stage cooler for liquids, a plurality of moving corrugated surfaces, a stationary surface, means for catling the corrugated surfaces, means for chilling the stationary surface to a lower temperature, means for slowly feeding a liquid spirally in thin layers over said corrugated surfaces, and means for collecting sald liquid and circulating it over said stationary surface.
6. In a device of the class described, a reservoir, an annular channel therein, a false bottom in said channel enclosing an annular chamber, a hopper opening in sald annular chamber, a second hopper opening into the reservoir below said annular chamber, an annular channelled cover for said reservoir, apertures in the bottom of said cover, closure means for said aperture, a vertical spindle fixed to the reservoir, a double walled cylinder revoluble on said spindle, $n$ feed pipe, and a plurality of branches from said feed pipe extending downwardly between the walls of sald cylinder.
7. In a device of the class described, a reservoir, an annular channel therein, a false bottom in said channel enclosing an annular chamber, a hopper opening into said annular chamber, a second hopper opening into the reservoir below said annular chamber, an annular channelled cover for said reservolr, apertures in the bottom of sald cover, closure means for sald apertures, a vertical spindle fixed to the reservoir, a cylinder revoluble on sald spindle, inner and outer corrugated walls for said cylinder, an inwardly projecting flange on the inner wall of said cylinder, an outwardly projecting flange on the outer wall of sald cylinder, apertures in both of said flanges, apertures in the cylinder bottom inside the inner wall, a central tube surrounding the spindle, a ball bearing in the upper end of said tube, a feed pipe, a plurality of branches from said feed pipe extending downwardly through the cover into the space between the cylinder walls, and a transverse aperture in the lower end of each of said branches.
8. In a device of the class described, a reservoir, an annular channel therein, a cross diaphragm in said channel, an external drain spout for said channel, a false bottom in said channel, an annular chamber enclosed by said false bottom, a hopper opening into said annular chamber, a drip pipe near the top of sald annular chamber, a second hopper opening into the reservoir below sald annular chamber, a strainer in the bottom of said reservoir, a section plpe extending out-
wardly from said strainer, a central vertical spindle fixed to the reservoir, a conical baffle plate fixed to the spindle below the annular chamber, a cylinder revoluble on said spindle, a feed pipe, and a plurality of branches from said feed plpe extending downwardly between the walls of said cylinder.
No. 100,004. Clothes Pin. Epingle d linge.


Andrew Chandler Brown and Joseph Green Brown, both of Montpeller, Vermont, asignees of Frederick Henry Potter, Beverly, Massachusetts, U.S.A., 10th July, 1906; 6 years. Filed 26th December, 1905. Receipt No. 131,302.
Claim.-1. A clothes pin presenting a wire spring of the class described and two legs shaped at their front ends to present a line space, and a communicating open mouth, each of said legs being provided at their inner faces with a spring receiving recess, the faces of said legs when the pin is not in use contacting between said line space and said spring receiving recess and tipping one on the other when the pin is put in use at a point between the head end of the pin and the central part of the spring.
2. A clothes pin presenting a wire spring of the class described and two legs shaped as shown, said legs at thelr front ends presenting a line receiving space, and normally open mouth leading from the front end of said legs into sald space, sald legs contracting at their outer ends only as they are being separated at their front ends in opposition to the action of the spring as the front ends of the pin are being passed onto clothes on a line.

No. 100,005. Clothes Pin. Epingle à linge.


Andrew Chandler Brown and Joseph Green Brown, both of Montpeller, Vermont, assignees of Frederick Henry Perry, Beverly, Massachusetts, U.S.A., 10th July, 1906; 6 years. Filed 21st March, 1906. Receipt No. 134,141.
Claim.-1. A clothes pin of the class described comprising two legs and a wire spring bent to present a central straight portion disposed between the said legs and from one end of which the wire is bent upwardly, backwardly, downwardly and forwardly in substantially continuous curve, and from the opposite end of sald central portion said wire is bent downwardly, backwardly, upwardly and forwardly in a curve devold of angular bends, said curves forming braces for the legs, the ends of the wire spring each engaging one of the legs.
2. A clothes pin comprising two legs and a wire spring bent to present a central straight portion disposed between the said legs, from which central portion one end of the wire is bent upwardly, backwardly, downwardly and forwardly in a substantially continuous curve devoid of angular bends, said end engaging one of the legs, the other end of the wire being curved downwardly, backwardly, upwardly and forwardly in a curve devoid of angular bends and engaging the other of said legs, said curves forming braces for the legs. said legs being cut away at their inner faces to form a recess within the curve of the wire.

## No. 100,006. Holder for Brooms. Porte-balai.

Charles J. Wren and John F. H. Wyse, assignee of a half interest, both of Toronto. Ontario, Canada, 10th July, 1906; 6 years. Filed 17th April, 1906. Receipt No. 134,956.
Claim.-1. A broom holder comprising a base adapted to be secured to a wall, spring arms connected therewith ad-
facent to one another, and rollers vertically journalled on said arms, substantially as described.

2. A broom holder comprising a base, two adjacent vertical torsion springs held thereby, and arms extending out from said springs and adapted to engage and hold a broom handle, substantially as described.
3. A broom holder comprising a base and a wire held thereby and bent to form two vertical torsion springs and arms extending out therefrom, the arms being adapted to engage and hold a broom handle, substantially as described.
4. A broom holder comprising a wire bent to form two vertical tension springs connected by a bend, and arms extending out therefrom, the arms being adapted to engage and hold a broom handle, in combination with a wire looped round the aforesaid bend, twisted together and having its ends spread and separately connected each with one of the vertical torsion springs, substantially as described.
5. A broom holder comprising a wire bent to form two vertical torsion springs connected by a bend, and arms extending out therefrom, the arms being adapted to engage and hold a broom handle, and upwardly extending journals at the ends of the arms, in combination with a wire looped round the aforesaid bend, twisted together and having its ends spread and separately connected each with one of the vertical torsion springs, and rollers journalled on said journals, substantially as described.

No. 100,007. Spring Wheel for Vehiclem. Roue d ressort pour véhicules.


The Sherola Spring Wheel Company, 5 Watts Avenue, assignee of Percy John Neate. Belsize, Watts Avenue, aforesaid, Rochester, Kent. England, 10th July, 1906; 6 years. Filed 19th May, 1906. Recelpt No. 136,070.
Claim.-1. In a spring wheel the combination of a fixed plate carrying cups for receiving rolling balls, freely suspended plates carrying cups facing the cups on the fixed plate, rolling balls between the opposing faces of the cups. the freely suspended cup carrying plates being capable of permitting unequal movements of the cups approximately parallel to the axis of the wheel as required by the varying conditions of torque and load.
2. In a spring wheel, a hub and rim connected by an arrangement comprising a pair of plates maintained at a fixed distance apart, springs abutting against said fixed plates, a pair of cup carrying plates pressed inwards by said springs. a central cup carrying plate, balls forming a rolling connection between the opposing cups in the cup carrying plates.
3. In a spring wheel, a wheel rim, a cup carrying plate connected to the hub on either side of the cup carrying plate carried by the rim, balls arranged between the cups on the respective rim and hub plates.
4. In a spring wheel, a hub comprising side plates maintalned at a fixed distance, inner cup carrying plates, balls carried in sald cups, a rim, cup carrying plates connected to the wheel rim, springs pressing the inner cup-carrying plates towards the cup-carrying plate, which is connected to the rim.
5. The improved spring wheel for vehicles and cycles comprising independently moving hub and rim members, suspended plates disposed between said hub and rim members. springs pressed on said suspended plates, rolling cup, and ball devices coupling sald suspended plates to one member of the wheel, said suspended plates being so mounted upon the other member of the wheel or driven therefrom as to be free to move along the axis of the wheel and adapted to allow of unequal axial movement of individual cups under the varying relative movement of the cup and ball devices and the laterally disposed springs, substantially as described.
6. The improved spring wheel for vehicles and cycles comprising the combination with independently moving hub and rim members, of suspended plates, springs forcing said suspending plates together, means for suspending and driving said plates from one member of the wheel, said suspended plates being so mounted on said member of the wheel as to have axial movement in regard thereto, with freedom to tilt in regard to the plane of the wheel, but restrained in other directions, rolling cup and ball devices coupling said suspended plates to the other member of the wheel, said cup and ball devices being adapted to convert the relative movements of the nut and rim members into axial or inclined movements of the said spring pressed intermediate plates and which allow of unequal axial movement of the cups in regard to one another, substantially as described.
7. In a spring wheel, the combination of a fixed plate carrysing a group of cups for receiving balls, freely suspended plates each carying a group of cups facing the group of cups on the fixed plate, springs pressing on each group of cups, rolling balls between the opposing faces of the cups, means for maintaining each group of cups in position in relating to the hub and allowing of independent movement of each group of cups parallel to the axis.
8. In a spring wheel, the combination of a fixed plate carrying groups of cups for receiving balls, freely suspended plates each carrying a group of cups facing the group of cups on the fixed plate, springs pressing on each group of cups, rolling balls between the opposing faces of the cups, flexible connections for maintaining each group of cups in pcsition in relation to the hub and aliowing of independent movement of each group of cups parallel to the axis.
9. In a spring wheel, the combination of a hub member, a rim member, a rolling cup and ball connection between said hub and rim members, said members being radially displaceable relatively to each other, and wherein the spring supported cups being carried by the hub portion, so that the vibratory shocks which the rim member receives direct from the road are transmitted to the springs through cups and balls, substantially as described.
10. In spring wheels such as are herein referred to, the combination with an inner cup carrying plate of stops to limit its movement in relation to the outer plates which serve as abutments for the springs, substantially as and for the purpose described.
11. A spring wheel having a plate carrying three cups on each side in combination with treely suspended plates each carrying three cups, springs acting on said freely suspended plates, and balls between the opposing faces of the cups, the arrangement of these cups on each side serving to secure continuous contact between each ball and its pair of enclosing cups when subject to combined load and torque, substantially as set forth.
12. A spring wheel comprising a cup carrying plate connected with the hub in connection with cup carrying plates on either side thereof connected with the rim by means of spokes in tension, said spokes diverging from the rim to said plates, a spring serving to press the plates inward by the tension of the spokes, substantially as described.
13. A spring wheel comprising a hub member and a rim member, a central cup carrying plate connected with the hub, cup carrying side plates disposed on either side of said central cup carrying plate, spokes in tension connecting said side plates with the rim, said tension spokes diverging from them to sald plates and serving to press the plates inwards, springs embodying sald tension spokes and adding to the resiliency thereof.
14. A spring wheel having a hub member and rim member capable of relative movement, in combination with transverse springs coupling said hub member and rim member together, said springs being rigidly fixed at their respective

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ends to the hub and rim members whereby all irictional movement between the springs and sald members is avoided and necessity for lubricating the junction between the springs and the members is avoided, substantially as set forth.
15. A spring wheel having a hub member and rim member capable of relative movement in combination with springs coupling said hub and rim members together and rigidly fixed thereto at their ends, said springs being-formed at or near their ends as flat or conical spirals, portions of which may be formed or flattened, or reduced sections whereby they are enabled to resist the combined tensional and bending stresses due to torque and load, substantially as set forth.
16. A spring wheel having a hub member and a rim member capable of relative movement in combination with transverse or axial springs rigidly fixed at their respective ends : 5 said hub member and rim member, said springs being formed at or near their ends, as flat or conical spirals portions of which may be of flattened or reduced section, the spiral portions being coupled by a stralght part, substantially as set forth.
17. A spring wheel having a hub member and a rim member capable of relative movement in combination with trans$t \in$ rse or axial springs rigidly fixed at their respective ends to said hub member and rlm member, said springs being formed at or near their ends as flat or conlcal spirals, portions of which may be of flattened or reduced section, the spiral portions belng coupled by a straight part whilst the spiral parts are disposed outside the rim and hub members to which they are fixed, substantially as set forth.
18. A spring wheel having a hub member and a rim memher capable of relative movement and transverse springs coupling said members together, sald springs being rigidly fixed to said members at their ends and each spring being in the form of a spiral having its end portions flattened or of ruduced section, substantially as set forth.
19. A spring wheel having a hub member and a rim member capable of relative movement and springs arranged between said members and disposed axially of the wheel, each of said springs being in the form of a spiral and having its ends connected to said hub and rim and having a straight connecting portion between its ends, substantially as set ferth.

No. 100,008. Spring. Ressort.


Fercy John Neate, Belsize, Watts Avenue, Rochester, Kent England, 10th July, 1906; 6 years. Filed 19th May, 1906. Receipt No. 136,077.
Clain.-1. A spring formed of two springs of any known type wherein the section is torsionally stressed, formed in cne plece or joined solidly together at points furthest from their axes and supported at the apex or axis of each spring end loaded at the junction in the center or vice versa, substantially as set forth.
2. A spring formed of two opposite curves or spirals joined in one and adapted to be stressed or supported at their junction and at points on opposite sides of the junction in the curved portions or at the axes thereof.
3. A spring formed of two opposite curves joined in one abutments for said spring disposed on opposite sides thercor an abutment on one side being disposed at the junction of the two curves and abutments on the other side being disfosed at points away from the junctions and in the curved portions, substantially as set forth.

No. 100,009. Hammer Drill. Forit.
The ller Rock Drill Manufacturing Company, assignee of Alfred E. Johnson, all of Denver, Colorado, U.S.A., 10 th July, 1906; 6 years. Filed 28th May, 1906. Receipt No. 136,305.
Claim.-1. In a hammer drill the combination of the drill body, an abutment, a rigid fluid condult connecting said drill
and abutment, and means for introducing operating fluid to said fluid conduit at its abutment extremity.

2. In a hammer drill the combination of the drill body, an abutment, a rigid fluid conduit connecting said drlll body and abutment, means for introducing operating fluid to said fluid condult at its abutment extremity, and means for controlling the fluid supply through the connection between said fluid conduit and abutment.
3. In a hammer drill the combination with the drill body, of a hollow crank connected with said body to rotate same and adapted to convey fluid under pressure to said drill body from a suitable source of supply.
4. In a hammer drill the combination with the body of the instrument, of an abutment, a hollow crank journalled in the abutment at one extremity and connected with the body of the device at the other extremity, and suitable means for introducing operating fluid to the said crank ac its abutment extremity.
5. In a device of the class described the combination with the drill body, of a hollow crank and an abutment in which the rear extremity of the crank is journalled. its forward extremity being rigidly connected with the drill body for rotating purposes, the abutment being provided with a forwardly extending sleeve having a chamber into which the rear extremity of the crank protrudes, the rear extremity of the crank being provided with a passage connecting said chamber with the longitudinal passage of the hollow crank, and sultable means for connecting the chamber of the sleeve with a source of operating fluid.
6. The combination with the drill body, of a hollow crank connected therewith at its forward extremity to dellver operating fluid thereto, an abutment in which the rear extremity of the hollow crank is journalled, the said abutment having a forwardly extending sleeve provided with a chamber, the rear extremity of the crank consisting of a hollow spindle or journal for the crank and having ports connecting the chamber of the sleeve with the longitudinal passage of the crank, the sleeve having a shoulder at the forward extremity of its chamber, and the rear extremity of the spindle member of the crank being provided with a bevelled face opposite said shoulder when the abutment is at its rearward limit of movement, the sleeve being provided with an induction port communicating with the space between the bevelled face of the spindle and the shoulder of the sleeve, the rear extremity of the spindle member of the crank being of a size to allow the onerating fluid to pass around it within the chamber of the sleeve.
7. In a hammer drill the combination with the body of the instrument, of an abutment, a hollow crank connecting the body of the tool with the abutment, the crank being revolubly connected with the abutment, the rear extremity of the crank beine also slidable in the abutment to control the supply of operating fluid to the hollow crank.
8. In a hammer drill the combination with the hody of the instrument, of an abutment, a hollow crank having its forward extremity rigidly connected with the body and its rear extremity slidable in the abutment for the purpose of regulat-in- the admission of operating fluid to the hollow crank, the crank being revoluble in the abutment to permit rotation of the tool, and the abutment being provided with a chamber adapted to form a fluid cushion between its rear extremity and the crank.
9. The combnation with the body of the drill, of a hollow crank rigidly connected therewith, and an abutment provided with a chamber into which the rear extremity of the crank protrudes and with which the longitudinal opening in the crank communicates, the rear extremity of the crank being slidable and revoluble in the abutment which is constructed to regulate the admission of the operating fluid as the rear
extremity of the crank slides therein, and at the same time forming an air cushion between the crank a ad the rear extremity of the abutment.
10. The combination with the drill body, of an abutment, a rigid fluid conduit rigidly connected with the rilll body at one extremity, the abutment being proivded with a chamber into which the other extremity of the conduit protrudes and with which it is slidably connected, and means for introducing the fluid to the chamber of the abutment, the latter being constructed to form a fluid cushion between the abutment and the conduit and to control the passage of fluid to the conduit by virture of the sliding connection.

No. 100,010. Machine for Making Nails, Rivets, Etc.
Machine pour faire des clous, etc.


Alfred Charles, Worchester, England, 10th July, 1906; 6 years. Filed 15th February, 1906. Recelpt No. 132,931.
Claim.-1. In a nail making machine the combination of a bed plate, a plunger reciprocating thereon, a plurality of heading dies connected to said plunger, cylindrical dies arranged in pairs in front of the plunger co-operating with the heading dies. cach pair comprising an upper and lower die. said dies having aligned transverse groove $\boldsymbol{e}^{11}$ therein adapted to recelve the wire, means for feeding the wire to the dies, means for cutting the wire, dowel pins $e^{2}$ connecting the dies of each pair together, pins having heads connected to the upper end of the upper die, and the lower end of the lower die, a bed having slots therein in which the pins of the upper dics are rotatably held, a cross bar $f$ having vertical movement in the bed, said bed having slots therein in which the pins of the lower dies engage, mrans for partially rotating the dies, and means for raising the bar $f$ to raise the lower dies to grip the wire, substantially as described.
2. In a mail making machine the combination of the bed plate, upper cylindrical dies having vertical dovetall grooves in their sides, cutters in said grooves, lower eylindrical dies having vertical grooves thercin in alignment with the grooves in the upper dies, sliding cutters in sald givoves, a lifting cross bar $f$ baving vertical movement in the bed plate, sald bar having quadrantal slots therein through which the lower ends of the cutters in the lower dies pass, a cross bar $n$ on which the ends of the sliding cutters rest, means for lifting the cross bar $f$ and $n$ and means for partially rotating the dies.
3. In a nail making machine the combination of a reciprocating plunger, heading dies thereon, cylindrical dies arranged in pairs in front of said plunger and having aligned grooves, means for feeding the wire between the aligned grooves of each pair of dies, means for bringing the dies together to grip the wires, means for cutting the wire, and means for rotating said dies so as to bring the end of the wire opposite the corresponding heading die whereby sald heading die will form the head.
4. In a nail making machine the combination of a reciprocating plunger, heading dies thereon, cylindrical dies arranged in pairs in front of the plunger and having aligned grooves, an upper and lower die in each palr, means for feeding wire into the grooves on said dies, cutters carried by said dies, a cross bar on which the lower dies rest, a second cross bar on which the end of the cutters of the lower dies rest, means operated by the plunger for raising both cross bars to grip the wire and to cut the same, and means for rotating the dies so as to bring one end of the nall opposite the corresponding heading die on the plunger to form the head.
5. In a nail making machine the combination of cylindrical dies $l$, having vertical dovetall grooves therein, cutters $g$ in said grooves, cylindrical dies $c^{1}$ having dovetalled grooved therein, cutters $g^{1}$ having sliding movement in said grooves, a gripping lifting cross bar $f$ having slots therein through which the sliding cutters pass, said bar $f$ carrying the dies $\boldsymbol{e}^{1}$. a lifting cross bar $k$ situated below the bar $f$, the ends of the sliding cutters resting on said bar $k$, a shaft $i$, the parts of levers fulcrumed on said shaft for raising the cross bars.
means for actuating said levers and springs for controlling said levers.
6. In a machine for making nails the combination of a bed plate, cylindrical dies $l$ cylindrical dies $l^{1}$ dowel pins connecting both sets of dies, sald dies $l^{1}$ having teeth on one quarter of their circumference, backing bars $o o^{1}$ having curved recesses within which the dies fit, recejiving dies $t t^{2}$, an axis $t^{2}$ in the die $t$, means for raising said axis $t^{2}$, a lifting cross bar $f$ on which the dies $l^{1}$ and the die $t^{1}$ rest, means for giving said bar vertical movement, a rack bar $m$ having teeth adapted to engage with the teeth of the dies $l^{1}$, a feeding die $s^{6}$ adapted to feed the wire to the receiving dies $t t^{1}$, a contact block $w$ suspended from the die $8^{6}$, a stop $w^{2}$ on die $8^{6}$ for limiting the movement of the block w, a contact block $20^{\circ}$ on the opposite side of the die $8^{6}$, the guide $8^{5}$ for the die $8^{\circ}$, slot $\omega^{2}$ having the curved end $w^{4}$ in which the block 20 engages, an arm $m^{2}$ atached to the rack bar $m$ with which the block $t o$ engages when the die $8^{\circ}$ is moved back from its fceding stroke so as to rotate the dies $l l^{l}$, the curve $w^{4}$ serving to disengage the block $w$ from the arm $m^{2}$ and a lever $x$ fulcrumer at $x^{2}$ and having link connections with the arm $m^{2}$, sald lever being adapted to be engaged by the contact block $20^{6}$ on the backward movement of the die $s^{6}$, so that said lever and its connections will return the rack $m$ to normal position.
7. In a nall making machine the combination of the bed plate, the cylindrical dies carried thereby, each pair of said dies comprising an upper and lower die, means for holding the wire transversely between the dies of each pair, and means for knocking the finishing nail therefrom, said means consisting of a cross bar $n$ knocking out tools $n$ connected thereto, plungers $\boldsymbol{n}^{2}$ having heads $n^{3}$, secured to said bar n, said plungers passing through the bed plate, springs $n^{4}$ between said heads $n^{2}$ and the bed plate, a shaft $p^{1}$ connected to the bed plate, striking levers $p$ carried by said shaft and adapted to contact with the heads $n^{3}$ to force the tools into contact with the nalls, the weight shaft $p^{1}$, a sliding bar $r$ a pin $r^{2}$ thereon, a bell crank $s$ suitably pivoted to the bed plate, one end of said bell crank having a slot therein with which the pin $r^{2}$ engages, a crank, a rod $q^{2}$ connecting the crank with the bar $r$, means for disengaging $q^{2}$ from the bar $r$, a projection $r^{2}$ on the bar $r$, a lever $p^{4}$ secured-to the shaft $p^{2}$ with which the projections $r^{2}$ engages. whereby the shaft $p^{1}$ will be rocked, a feeding die $s^{6}$ for feeding the wire to the cylindrical dies and guides $8^{\circ}$ in which said die $s^{\circ}$ reciprocates, said die $s^{6}$ being operated by the arm $8^{\circ}$ of the bell crank.
8. The combination in a machine for making wire nails and the like, a reciprocating plunger, for forming the nail heads, suitable dies, means for bringing the dies together to grip the wire means for cutting the wire, means for rotating said dies and means for feeding the wire from the side of the machine and at right angles to the plunger to the dies, substantially as described.
9. In combination with a machine for making nails, a reciprocating plunger having a dovetalled recess in its front end, a correspondingly shaped bar fitting in sald recess and dies connected to said bar, substantially as described.

No. 100,011. Gole Ball. Boule d golfe.


Frank Hedley Mingay, Berfield, Bridge of Weir, Renfrewshire, Scotland, 10th July, 1906; 6 years. Filed 26th April, 1096. Receipt No. 135,288 .

Claim.-1. A ball for use in the game of golf, made with a core or nucleus of incompressible fluid forced into and contained within a receptacle of elastic material which, when expanded to the required size, is closed and thereafter wound round with rubber thread or tape. substantially as described.
2. A golf ball comprising in combination incompressible fluid contained in an elastic receptacle, rubber thread or tape wound round about the outer surface of the receptacle and an outer shell or cover, substantlally as described.

No. 100,012. Merry-go-Round. Carrousel.


Ernest James Mitcheson, Toronto, Ontario, Canada, 10th July, 1906; 6 years. Filed 9th April, 1906. Receipt No. 134,747.
Claim.-1. In a merry-go-round, the combination with a base and screw standard, of a platform supported on the screw standard, and a nut connected to the platform the thread of which fits the thread of the standard, as and for the purpose specified.
2. In a merry-go-round, the combination with a base and screw standard, of a platform supported on the screw standard, a canopy connected to the platform by sultable standerds, a nut secured on the top of the canopy, and having the thread thereof fitting the thread of the standard, as and for the purpose specifled.
3. The combination with the base and screw standard and platform, and a divided nut suitably supported on the platform, a swivel top for the standard provided with pulleys, ropes connected to the platform and extending over the pulleys, an upright also connected to the platform and provided with pulleys through which such ropes will extend, and a riel journalled in the bottom of the upright and to which the lower ends of the ropes are connected and a ratchet wheel secured to the end of the reel and engaged by a pawl, as and for the purpose specified.
4. The combination with the base and screw standard and platform, and a dividing nut suitably supported on the platform, a swivel top for the standard provided with pulleys. ropes connccted to the platiorm and extending over the pulleys, an upright also connected to the platform and provided with pulleys through which such ropes extend, a reel journalled in the bottom of the upright and to which the lower ends of the ropes are connected, a ratchet wheel secured to the end of the reel and engaged by a pawl, and means for throwing the nut apart when manipulating the reel, as and for the purpose specified.
5. The combination with the base and screw standard and platform and divided nut sultably supported on the platform. a swivel top for the standard provided with pulleys, ropes connected to the platform and extending over the pulleys, an upright also connected to the plaform and provided with rulleys throush which such ropes extend. a reel journalled ir the bottom of the upright and to which the lower ends of the ripes are connected, a ratchet wheel secured to the end of the reel and engaged by a pawl, means for throwing the nut apart when manipulating the reel, and a flight of steps designed to eviend from the ground to the height of the platform in its raised position, as and for the purpose specited.
6. In combination, a base, a suitable screw standard, a r,latform, a canopy supported on the platform, a divided nut located centrally on the canopy. guideways for the same. springs having a normal tendency to hold the divided nuti apart, pins on one portion of the divided nut and pulleys on the other portion, pulleys on the canopy. a rope connected to the pins of one portion of the divided nut and extending over the pulleys aforesaid, a cross bar to which the ropes aro connected extending through slots in the guideways, a rope connerted to the center of such bar and extending over the pulleys on the upright, a pull bar located to the lower rid of such rope and having a tooth thereon, suitable brackets in which such pull bar is supported, the lower one of which is provided with a tooth, ropes connected to the upper end of the canopy, a swivelled top for the screw standard provided with pulleys over which such ropes extend, an upright secured to the platform and provided with a bearing,
'bracket pulleys over which the raising ropes extend, a spring-pressed lever pawl engaging such ratchet wheel, a lever pivotally connected to one end of the lever pawl and to the lower end of the pull bar, as and for the purpose specifled.

## No. 100,013. Doll. Poupée.



Edward E. Rouech, Detroit, Michigan, U.S.A., 10th July, 1906; 6 years. Flled 23rd April. 1906. Receipt No. 135,181.
Claim.-1. In a doll, the combination of a body composed of two complimentary parts adapted to form the front and back, sald parts being secured together by a seam having the free edges turned inwardly, a separate face and back secured to the front and back of the body respectively at their lower edges, and secured at the remalnder of their edges between the edges of the body portions, the edges of the separate face and back being inturned as are the edges of the body portions, and sheets of soft material placed between the separate face and back and the body portions respectively.
2. In a doll, the combination of a body composed of two complimentary parts adapted to form the front and back, said parts belng secured together at their edges with inturned edges, a separate photographic face secured at the bottom to the outside of the front of the body, and at the remainder of its edge between the inturned edges of the portions of the body, and a sheet of soft material placed back of the separate face.
3. In a doll, the combination of a body composed of two complimentary parts adapted to form the front and back, said parts being secured together with inturned edges, and a separate face secured at its outer edge between the intturned edges of the portions of the body.
No. 100,014. Carbureter. Carburateur.


Elder E. Shiess, Newport, Arkansas, U.S.A., 10th July, 1906; 6 years. Filed 7th May, 1906. Receipt No. 135,615.
Claim.-1. A carbureter comprising an ofl tank, a horizontal carbureting clyinder thereunder, containing a lining of capillary material and a series of horizontal transverse sheets of similar material, a series of pipes leading from the tank into the top of the cylinder, a splasher under each pipe arranged to distribute the oil therefrom to a different sheet, and inlet and outlet pipes in opposite ends of the cylinder.
2. In a carbureter the combination with a tank, a carbureting chamber and a series of feed pipes connecting the same, of a series of capillary sheets extending across the chamber at different height and located under the respective pipes. and a splasher arranged under each pipe and arranged to distribute oil theefrom onto each sheet respectively.
No. 100,015. Saw Filing Device.
Apparcil à limer les scies.


Frederlck A. Wuest, Lawrinceburg, Indiana, U.S.A., 10 th July. 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,714.
Claim.-1. In a saw flling device a frame adapted to be slidably engaged with the saw ti be filed, a movable flle holder upon said frame, guided for reciprocating movement in a fixed straight line, and means for mounting a file upon said holder at an angle to the plane of movemnt thereof, whereby said frame will be slid along the saw as said flle holder is operated.
2. In a saw filing device a frame adapted to be slidably engaged with a saw, a reciprocatory flle holder upon said frame, guided for movement in a fixed straight line, and means for securing a file upon said holder at an angle to the plane of movement thereof. Whereby said frame will be slid along the saw as said file holder is reciprocated.
3. In a saw fling device a frame adapted to be slidably engaged with a saw, a guide upon said frame, a file holder mounted to reciprocate in said guide in a fixed straight line. and means for adjusting a flle upon and angularly with respect to the plane of movement of said holder, whereby said frame will be moved longitudinally upon said saw as said fle holder is reciprocated, substantially as described.
4. In a saw filing device a frame adapted to be slidably engaged with a saw, a guide upon said frame, means for adjust ing said guide. a file holder mounted to reciprocate in sald guide in a fixed straight line, means for securing a flle in said holder, and means for adjusting said securing means to hold a flle angularly with respect to the plane of movement of said file holder, substantially as described and for the purpose set forth.
5. The combination of a frame adapted to be slidably engaged with a saw, a swinging element upon said frame, an adjustable means for limiting the movement of said element, an angularly adjustable guide upon said element, a file holder to reciprocate in said guide in a fixed straight line, fle engaging elements upon said holder, and means for adjusting one of said file engaging elements to hold a file angularly with respect to the plane of movement of said holder, substantially as described.
6. The combination of a frame adapted to be slidably engaged with a saw, an arm pivotally mounted upon said frame to $s$ wing in a vertical plane, a screw for limiting the swinging movement of said arm, an adjustable guide plvotally mounted upon said arm to swing in a plane at right angles to the plane of movement of said arm, a file holder mounted to reciprocate in said guide in a fixed straight line, means upon said holder for engaging one end of a file, an element mounted to slide transversely upon said holder and adapted to engage the opposite end of the file, and means for securing said sliding element to hold the filf angularly with respect to the plane of movement of said holder, substantially as described.
7. In a saw filing device the combination with a guide, of a file holder comprising an element slidably mounted in said guide, a transversely extending guide upon one end of said element, a file engaging block adjustably secured in said transversely extending guide, and means upon said elemen: for securing the opposite end of a file, substantially as des. cribed.

8．In a saw fling device the combination with a guide，of a file holder comprising an element slidably mounted in said guide，a transversely extending guide upon one end of sald element，a file engaging block adjustably secured in said transversely extending guide，a clamping band upon said ele－ ment，a file handle in said band，a spacing block in said band between sald element and said handle，and a set－screw in said band for adjustably clamping said element and said handle in said band，substantially as described．

No．100，016．Saw－Set．V＇er ì contourner．


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Frederick A．Wuest，Lawrenceburg．Indiana，U．S．A．， $10 t^{h}$ July，1906； 6 years．Filed 8th June，1906．Receipt No． 136，715．
Claim．－The hereindescribed saw－set comprising the anvil block having the shoulder on one side provided with the an－ gularly disposed faces 11,12 ，the arm 8 having its inner end secured to the anvil block，the guide forming the three－sided casing in which the anvil block is placed，and having the guide arms 14 extending from opposite sides of the anvil shoulders，the set－screws carried by the said arms，the handle having one end opposed to the rear side of the anvil block，said handle and guide being secured to the anvil block and said handle being at substantially right angles to the arm 8，and the hammer having its handle pivoted to the outer end of said arm，substantially as described．

No．100，017．Gate Mechanism．Mécanisme de barrièrc．


Charles Joseph Fensom，Toronto，Ontario，Canada，10th July，
1906； 6 years．Filed 19th April，1906．Receipt No．135，048．
Claim．－1．In a lock gate mechanism，the combination with a lock gate，of a connecting rod pivotally connected at one end to the lock gate，a sliding head to which the other end of the connecting rod is pivotally secured，a suitable slide－ way for the head，and means for imparting a backward and ferward movement to the head，as and for the purpose specified．

2．In a lock gate mechanism，the combination with a lock gate，of a connecting rod pivotally connected at one end to the lock gate，a sliding head to which the other end of the connecting rod is pivotally secured，a suitable slideway for the head，an endless chain in the length of which the head is interposed and wheels carrying such chain，and means for imparting movement to one of the wheels，as and for the purpose specified．
3．The combination with the lock gate and connecting rod and sliding head to which the connecting rod is pivotally $\mathrm{s} \in \mathrm{cured}$ ，of the bearing bed plate，the wheel carried thereby， the concrete bed，and subway formed therein，the cross bars in the subway，the slideway carried by such cross bars，the sprocket wheel and gearing and house therefor，the endless chain carried by the aforesaid wheels and having the slid－ ing head interposed in its length and located on the slideway， as and for the purpose specified．
4．The combination with the lock gate and connecting rod， of the slideway suitably supported and the sliding head piv－ otally secured to the inner end of the connecting rod and having a cross bar formed thereon，the draw bolts secured in the cross bar and the endless chain carried by sultable wheels and suitably driven and connected to the draw bolts， as and for the purpose specifled．

5．In a device of the class described，the combination with the lock gate and connecting bar，of a sliding mechanism suitably connected to the inner end of the connecting bar and a casing or housing for the same，as and for the pur－ pose specified．

6．The combination with the lock gate and connecting bar pivotally connected to the same at one end，and sliding mech－ anism to which the other end of the bar is connected，de－ signed to have movement to and from the edge of the canal， of operating mechanism located at a point remote from the side of the canal，whereby the tow path is left unobstructed， as and for the purpose specified．

7．The combination with the lo：k gate and connecting bar pivotally connected to the same at one end，and sliding mech－ nnism to which the other end of the bar is connected，de－ signed to have movement to and from the edge of the canal． of operating mechanism located at a point remote from the side of the canal，whereby the tow path is left unobstructed， and a suitable subway and housing for the mechanism，as and for the purpose specified．

8．In a device of the class described，the combination with the gate and connecting bar，and the shaft suitably jour－ nalled，of a slecve having a central bearing on the shaft and an arm secured to the end of the connecting rod，as and for the purpose specifled．

No．100，018．Means for the Automatic Removal of the Ashes from Gas Generators．
Moyen d＇enlever les cendres des générateurs d gas．


Anton von Kerpely，Vienna，Austria，10th July，1906； 6 years． Filed 5th April，1906．Receipt No．134，654．
Claim．－Means for the automatic removal of the ashes from gas generators provided with a pan－shaped rotatable ash pit， comprising a stationary stowing plate or scraper depending siantingly into the ash pan and extending in one direction to beneath the lower opening of the generator shaft and in the other direction to above the edge of the ash pan and being so arranged as to receive the accumulating ashes，conduct them upwards and discharge the same outwardly，substan－ tially as hereinbefore described．

## No. 100,019. Horseshoe Caulk.

Crampon de fer d cheval.


William A. Comins and Joseph Connor, both of Stafford Springs, Connecticut, U.S.A.. 10th July, 1906; 6 years. Filed 20th April, 1906. Receipt No. 135,115.
Claim.-A horseshoe caulk having a hard metal core and a soft metal exterior, said caulk being bifurcated substantially midway of its ends, and the core being exposed in the bifurcation.

No. 100,020. Toy. Jeu.


Braulio Antonio De Costa, Cardenas, Cuba, 10th July, 1906; 6 years. Filed 16th June, 1906. Receipt No. 136,964.
Claim.-1. In a mechanical toy the combination comprising a casing, a pictorial background carried by the casing, a bar disposed within the casing, means for reciprocating the bar, links and levers connecting with the bar, and representations of animals adapted to be moved by the links and levers.
2. In a mechanical toy the combination comprising a supporting casing, a frame within the casing, a shaft carried by the frame, a gear mounted on the shaft, means for producing a tension on the shaft, a pin carried by the gear, a reciprocable bar provided with a lug in the path of movement of the pin, a spring connected with a bar and having its opposite ends secured, and representations of animals adapted to be rocked by movement of the bar.
3. In a device of the character described the combination comprising a supporting casing, a shaft supported within the casing, a spring coiled about the shaft and having one of its ends secured thereto, a bar adapted to secure the opposite end of the spring, a gear on the shaft, a pawl adapted to engage the gear, a lever plvoted in the casing having one end connected to the pawl and the opposite end projecting from the casing, a pin on the gear, a bar provided with a lug di:3posed in the path of movement of the pin when the gear is rotated, guides for the bar, means for reciprocating the bar in one direction when the pin is disengaged from the lug, and representations of animals adapted to be moved by movement of the bar.
4. In a device of the character described the combination comprising a casing. a spring actuated rotatable gear. a pin on the gear, a bar adapted to be reciprocated in one direction by the pin, a spring secured to the bar adapted to reciprocate the same in an opposite direction, a shaft disposed
adjacent the gear, a pinion on the shaft in mesh with the gear, a gear on said latter shaft, and a pinion in mesh with the latter gear and rotatably supported adjacent thereto, means for locking the first-named gear against rotation, and a plurality of representations of animals udapted to be moved when the bar is reciprocated.
5. In a device of the character described the combination comprising a bar, means for reciprocating the bar, a standard carried by the bar, a link pivoted to the standard, a lever pivoted to the link and to the casing, a representation of an animal secured to the lever. a slotted member carried by the reciprocable bear, a lever pivoted adjacent thereto and provided with a pin disposed through the slotted member, a link pivoted to the lever and provided with a pin disposed in a slot provided in the casing, and a representation of an animal adapted to be moved by the link.
6. In a device of the character described the combination comprising a supporting casing, a pictorial background supported by the casing, representations of two animals disposed above the casing, means for rocking one of the representations, and means for reciprocating the other representation.

No. 100,021. Slack Adjuster.
Appareil d ajuster le mou.


Charles Oscar Anderson and Albert Thomas Austin, assignee of a half interest, both of Omaha, Nebraska, U.S.A., 17 th July, 1906; 6 years. Filed 8th July, 1906. Receipt No. 136,676.
Claim.-1. In a slack adjuster the combination of two internally threaded brake rigging members, a right and left hand threaded screw engaged in the same, a mleeve slidably mounted on the screw and engaged therewith, a ratchet in connction with the sleeve, a pawl co-acting with the ratchet, and means actuated by a part of the brake rigging for driving the pawl.
2. In a slack adjuster the combination with parts of a brake rigging, of an adjustable connection between the same, means for operating said connection including a ratchet, a pawl coacting with the ratchet, and an elbow lever carrying the pawl, the elbow lever having a yoke loosely receiving a part on the swinging member of the brake rigging, for the purpose specified.
3. In a slack adjuster the combination with parts of a brake rigging, of an adjustable connection between the same, means for operating said connection including a ratchet, a pawl coacting with the ratchet, an elbow lever carrying the pawl, the elbow lever having a yoke loosely receiving a part on the swinging member of the brake rigging, for the purpose specified, and an adjustment screw arranged in said yoke.
4. In a brake rigging the combination of a means in connection with a brake beam, a lever, an adjustable connection joined to said means and said lever, a second lever, means connecting the second lever with a second brake beam, a pivot between the two levers, and devices for adjusting the said adjustable connection which devices include a lever, the fulcrum of which is coincident to the joint between the first lever and said adjustable connection.
5. In a brake rigging the combination of a means in connection with a brake beam, a lever, an adjustable connectio: joined to said means and to sald lever, a second lever, at means connecting the second lever with a second brake beam. a pivot between the two levers, and devices for adjusting the said adjustable connection, which devices include an elbow lever, the fulcrum of which is coincident to the joint between the first lever and said adjustable connection.
6. In a brake rigging the combination of a means in connection with a brake beam, a lever, an adjustable connection joined to sald means and to said lever, a second lever, a means connecting the second lever with a second brake beam, a pivot between the two levers, and devices for adjusting the said adjustable connection, which devices include a lever, the fulcrum of which is coincident to the joint between the first lever and said adjustable connection, and a pln colncident to the pivot connecting the two levers, the pin being connected with one end of the last-named lever to have limited movement independently thereof.
7. In a brake rigging the combination of a lever, a means in connection with a brake beam, an adjustable connection pivoted to the lever and sail means, a second lever, a second means in connection with a brake beam to which the second lever is connected, a pivot joining the two levers, and means for adjusting said adjustable connection which means include a lever having its fulcrum coincident to the pivot between the first lever and said adjustable connection.
8. In a brake rigging, the combination of a lever, a means in connection with a brake beam, an adjustable connection pivoted to the lever and said means, a second lever, a second means in connection with a brake beam to which the second lever is connected, a pivot joining the two levers, and means for adjusting said adjustable connection which means include a lever having its fulcrum coincident to the plvot between the first lever and said adjustable connection, and devices actuated by excessive movement of the first-named lever for operating the last-named lever.
9. In a brake rigging, the combination of a lever, a means in connection with a brake beam, an adjustable connection pivoted to the lever and said means, a second lever, a second means in connection with a brake beam to which the second lever is connected, a pivot joining the two levers, means for adjusting said adjustable connection, which means include a lever having its fulcrum coincident to the pivot between the first lever and said adjustable connection, and a pin coincident to the pivot between the two first-named levers, sald pin having connection with one end of the third lever and such connection allowing the pin limited independent movenient for the purpose specifled.
10. In a brake rigging, the combination of a lever, a second lever, a pivot connecting the two, a means in connection with a brake beam, an adjustable connection between the first-named lever and said means, a means in connection with a second brake beam and connected to the second lever, devices for adjusting said adjustable connection, a lever for actuating said devices, and means for operating the third lever by the movement of the first two levers.
11. In a brake rigging, the combination of a lever, a second lever, a pivot conecting the two, a means in connection with \& brake beam, an adjustable connection between the firstnamed lever and said means, a means in connection with a second brake beam and connected to the second lever, devices for adjusting said adjustable connection, a lever for actuating said devices, and means for operating the third lever by the movement of the first two levers, the third lever having its fulcrum coincident to the point of connection between the first lever and the said adjustable connection.
12. In a brake rigging, the combination of a lever, a means connected to a brake beam, an adjustable connection between said means and said lever, a second lever plvoted to the first, a second means connected to a brake beam and to the second lever, a means for adjusting the said adjustable connection, and an elbow lever for operating the last-named nieans, the elbow lever being fulcrumed colncldent to the connection between the first-named lever and the said adJustable connection and engaged with limited Independent movement by the pivot between the two first-named levers.
13. In a brake rigging, the combination with two members thereof, of a screw edjustably connecting them, a sleeve arranged to slide on the screw, the screw turning with the sleeve, a spring bearing between the sleeve and a part of the screw for the purpose specified, and a means for turning the sleeve.

## No. 100,022. Air Brake. Frein d air.

Hans Christian Luck and William Henry Major, assignee of a half interest, both of Telluride, Colorado, U.S.A., 17th July, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,172.
Claim. 1 . An air brake appliance for automatically setting the brakes on the derallment of a car in the train, comprising a fork fixed on the car truck and having its members arranged in a horizontal plane, a branch plpe connected with the train pipe, and a valve controlled by a lever fulcrumed on the car body and normally closing the end of said tranch pipe, the free end of said lever extending between the members of the said fork whereby the rotation of the truck upon the car body beyond a predetermined angle may operate the lever to open the valve.
2. An air brake appliance for automatically setting the brakes of a car in the train, comprising actuating means on


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the car truck, a valve discharging air from the train plpe, and a universal conection between the sald actuating means and the sald valve to open the latter on the car moving in any direction out of its normal position in the train.
3. An air brake appliance for automatically setting the brakes of a car in the train, comprising a fork fixed on the car truck, a valve for discharging air from the train pipe, and means connected with the sald valve and controlled by the sald fork for opening the valve on the fork moving sidewise, up or down beyond a predetermined angle.
4. An air brake appliance for automatically setting the brakes of a car in the train, comprising a fork fixed on the car truck, a valve for discharging air from the train plpe, and a spring-pressed connection capable to swing sidewisc and up and down, the said connection being controlled by the said fork and connected with the said valve to open the latter on the fork moving the sald connection sidewise, up $o^{i}$ down beyond a predetermined angle.
5. An air brake appliance for automatically setting the brakes of a car in the train, comprising a fork flxed on the car truck, a valve for discharging air from the train plpe, a rectangular seat on the car body. and a spring-pressed plate normally seated on the said seat and having a shank connected with the stem of the said valve, the shank having vertical and transverse arms adapted to be engaged by the said fork on the latter moving beyond a predetermined angle in a sidewise, up or down direction
6. An air brake appliance for automatically setting the 'brakes of a car in the train, comprising a fork fixed on the car truck, a valve for discharging air from the train plpe, a rectangular seat on the car body. and a spring-pressed plate normally seated on the said seat and having a shank flexible connected with the stem of the said vaive, the shank having vertical and transverse arms adapted to be engaged by the sald fork on the latter moving beyond a predetermined angle in a sidewise, up or down direction.
7. An air brake appliance for automatically setting the brakes of a car in the train, comprising a fork fixed on the car truck, a valve for discharging air from the traln pipe, a rectangular seat on the car body, a spring-pressed plate normally seated on the sald seat and having a shank flexibly connected with the stem of the said valve, the shank having vertical and transverse arms adapted to be engaged by the said fork on the latter moving beyond a predetermined angle in a sidewise, up or down direction, and a spring for holding the valve to its seat.
8. An air brake appliance for automatically setting the brakes of a car in the train, comprising actuating means on the car truck, a plug valve for discharging alr from the train pipe on pulling the plug axially into an open position, and a connection between the said plug and the sald actuating means for pulling the plug open on the car moving out of its normal position in the train.

## No. 100,023. Rolling Drum Plough.

Tambour de charrue
Jehiel P. Smlth, James Loftus Larmer and John Smith McCutcheon, all of Frobisher, Saskatchewan, Canada, 17th
July, 1906; 6 years. Filed 21st June, 1906. Receipt No. 137,116.
Claim.-1. In a device of the class described the combination comprising a wheeled frame, a dependent adjustable frame, a rotatable drum supported by the adjustable frame and cutting blades radially extending about the drum, as and for the purpose specified.
2. In a device of the class described the combination comprising a wheeled frame, a dependent adjustable frame, a
rotatable frame, blades passing transversely across and extending radially from the drum, coulters dependent from the

adjustable frame, and members slidable between the afore said blades, as and for the purpose specified.
3. In a device of the class described the combination comprosing a wheeled frame, a dependent adjustable frame, coulters supported by the frame and a rotatable cutting drum designed to co-operate with the coulters to cut the ground into block strips, as and for the purpose specified.
4. In a device of the class described the combination with a wheeled frame of a dependent adjustable frame, a centrally disposed rotatable drum, cutting blades secured transversely across and extending radially from the drum, slldable normally outwardly pressed bars between the blades, and means for restraining and releasing said bars at predetermined instants, as and for the purpose specified.
5. In a device of the class described the combination with a rectangular wheeled frame, of a dependent rectangular adjustable frame, a shaft centrally disposed across the dependent frame, wheels or supports secured to the shaft, shears bolted to the wheels passing transversely thereacross and extending radially therefrom, cylindrical strips secured to the base of the shears and disposed laterally from the center, sets of rods extending radially from the shaft and bearing at their outer extremity upon the strips midway between the successive shears, plungers slidabe between the shears extending at either end, straps secured to the plungers and guided by the rods, said straps being limited in their outer positions by the cylindrical strips, spiral springs enveloping the rods and abutting upon their inner extremity the shaft, and at their outer the inner face of the straps, guideways dependent from the adjustable frame, co-operative with the extending ends of the plungers, for withholding the plungers in a restrained position, and means for forcing the plungers to their extreme outward position upon their being released from the guideways, as and for the purpose specified.
6. In a device of the class described the combination with a wheeled frame, of an inner frame pivoted thereto and a rotatable cutting drum bearing within the inner frame, of means for raising and means for lowering the pivoted frame, as and for the purpose specified.
7. In a device of the class described the combination with the rotatable cutting drum disposed within the adjustable frame of a shaft disposed transversely across the frame and dependent therefrom, sets of scufliers extending radially from the shaft and means whereby the successive sets of scufflers are brought into position to co-operate with the successive cutting blades of the drum at predetermined intervals, as and for the purpose specified.
8. In a device of the class described the combination with the rotatable cutting drum disposed within the adjustable frame, of a shaft disposed transversely across the frame and dependent therefrom, sets of scufflers extending radially from the shaft, a sprocket wheel secured to the drum, a sprocket wheel secured to the transverse shaft and a chain connecting the sprocket wheels, said wheels being designed so that in their rotation predetermined sets of scufflers are brought into position to co-operate with the successive cutting blades of the drum at predetermined intervals, as and for the purpose specifled.
9. In a device of the class described the combination with the adjustable frame, the revoluble cutting drum and the slidable plungers between the shears of the cutting drum, of guideways concentric with the drum shaft and dependent from the frame, said guideways being designed to receive the extending ends of the plungers and restrain them therein for a predetermined length of time, as and for the purpose specified.
10. In a device of the class described the combination with the adjustable frame and the slidable plungers between the
shears of a rotatable drum, a guideway having an angle bar cross section dependent from the frame and disposed at either side thereof to the rear of the drum, said guideways being concentric to the drum shaft and designed to constrain the extending ends of the plungers for a predetermined length of time, as and for the purpose specified.
11. In a device of the class described the combination with the adjustable frame, the rotatable cutting drum, the plungers and the plunger guldeways, of means whereby the plungers are successively forced to their extreme outer position when released from the guideways, as and for the purpose specified.
12. In a device of the class described the combination with the adjustable frame, the rotatable cutting drum, the plungers and the plunger guideways, of revoluble shafts supported from the frame to the rear of the drum, wheels rigid to the inner ends of the shafts, rollers pivoted circumferentially ufion the inner face of the said wheels, the sucecssive rollers being designed in the rotation of the wheels to engage with the rear face of the extending ends of the sucessive plungers and force them to their extreme outer position when the plungers are released from the guideways, as and for the purpose specifled.
13. In a device of the class described the combination with the adjustable frame, the rotatable cutting drum dependent within the frame, the scufflers, the plungers actuating wheels disposed behind the drum and upon the frame and the plunger guideways, of means whereby contingent with the rotation of the drum, the scufflers and the plunger actuating wheels are revolved, as and for the purpose specified.
14. In a device of the class described the combination with the adjus: able frame of a rotatable cutting drum, a gear wheel secured to the shaft supporting the drum and at the side thereof, a shaft bearing in the frame and behind the drum having scufflers radially extending therefrom, a set of gear wheels at one extremity of the said shaft, a gear wheel at the other extremity, a chain connecting the gear on the drum with one of the opposing gears of the set on the shaft, shafts having bearings, in the frame at either side at the rear of the drum and supporting the plunger actuating wheel, gear wheels secured to the extremeities of the actuating wheels shafts and chains connecting the gears of the actauting wheels with the adjoining gears of the scuffler shaft, as and for the purpose specified.
15. In a device of the class described the comblnation com$\downarrow$ rising the rectangular carriage frame, an inner dependent rectangular frame pivoted rearwardly thereto, bearings exlending upwardly from the carriage frame, shafts within the bearings, carriage wheels rigid with the shafts, racks secured to the dependent frame, pinions revoluble upon the shafts and in mesh with the racks, clutches rigid to the pinions and enveloping the shafts, clutches feathered on the shafts and slidable therealong and means for throwing the slidable clutches into engagement with the pinion clutches, as and for the purpose specified.
16. In a device of the class described the combination comprising the rectangular carriage frame, an inner dependent rectangular frame pivoted rearwardly thereto, bearings extending upwardly from the carriage frame, shafts within the bcarings, carriage wheels rigid with the shafts, racks secured to the dependent frame, pinions revoluble upon the shafts and in mesh with the racks, clutches rigid to the pinions and enveloping the shafts, clutches feathered on the shafts and slidable therealong, bell crank forked levers pivoted at their angle from the carriage frame, the forked arm of the said bell crank levers resting within a groove in the slidable clutch, rods secured to the free arm of the bell cranks, links connected to the rods actuated by a lever, as and for the purpose specified.
17. In a device of the class described the combination comprising a rectangular carriage frame, an inner dependent rectangular frame pivoted rearwardly thereto, an upwardly extending pawl rack secured to the carriage frame, a spring pressed pawi normally engaging the rack and dependent from the inner frame and means for releasing the pawl from active engagement, as and for the purpose specifled.
18. In a device of the class described the combination comprising a rectangular carriage frame, an inner dependent rectangular frame pivoted rearwardly thereto, an upwardly extending pawl rack secured to the carriage frame, a guideway for the rack extending from the pivoted frame, a pawi normally engaging the rack and means for throwing the pawl out of active engagement with the rack, as and for the purpose specified.
19. In a device of the class described the combination with the adjustable frame of an upper dependent platiorm and opposing boxes laterally disposed thereon, as and for the purpose specifled.
20. In a device of the class described the combination with the adjustable frame having the revolvable cutting drum supported therein, of a cross beam extending rearwardly behind the drum and within the frame and a knife or scraper
secured to the face of the cross beam designed to clear the shears on the drum, as and for the purpose specified.
21. In a device of the class described the combination with the main frame having carriage wheels secured thereto and forwardly disposed, and a swivel wheel rearwardly and centrally disposed and a dependent frame rearwardly pivoted to the main frame, of coulters designed to cut longitudinally, and a drum having shears extending peripherally therefrom designed to cut transversely and means whereby the dependent frame may be adjusted relatively from the main frame, as and for the purpose specified.

No. 100,024. Thermostat. Thermostate.


The Petaluma Incubator Company, assignee of Lyman C. Byce, all of Petaluma, California, U.S.A., 17th July, 1906; 6 years. Filed 20th June, 1906. Receipt No. 137,078.
Claim.-1. In a temperature regulator the combination of a plurality of thermostatic units each comprising a pair of discs having respective male and female telescoping fianges securely united at their edges to provide a containing chamber, said chambers belng suitably connected centrally, one of said discs having a nipple with an orifice to communicate with one of said chambers and provided with a permanently attached skin of a compressible metal or alloy around the orifice, and a closure for said orifice having a flange to seat on said skin and provide a tight joint.
2. An improved thermostat consisting of pairs of metallic discs each having peripheral flanges, one fitting within the other and rigidly connected, said discs being corrugated in concentric lines, an exteriorly threaded nipple carried by one of the discs and having an internally threaded orifice which communicates with the chamber inclosed by the discs, said nipple having its outer end provided with a permanently attached skin or coating of soft compressible metal, a screw plug fitting said orifice and seating on said metallic coating and being freely removable, a support for the thermostat having an internally threaded socket into which said nipple screws, a sleeve between each pair of discs, said sleeve having two diameters the larger of which fits a corresponding perforation in one of the discs and the smaller fits a like perforation in the other disc, said sleeve having a flange surrounding the base of its larger diameter and adapted to abut against the inner side of its disc, and the portion of the smaller diameter projecting beyond the outside of sald disc and adapted to be permanently fitted to a perforation in the adjacent disc.

## No. 100,025. Hot Air Furnace.

## Fournaise d air chaud.

Arthur Boyce, DesMoines, Iowa, U.S.A., 17th July, 1906; 6 years. Filed 16th June, 1906. Receipt No. 136,969.
Claim.-1. In a furnace the combination of a combustion chamber, an air chamber located under sald combustion chamber and in open communication therewith at a plurality of points, a fire pot located alongside of sald combustion chamber and in open communication therewith, a plurality of tubes, each of said tubes at its lower end being in open communication with said air chamber and having its upper end extended upward into and terminated within the path of the products of combustion as they pass from the fire pot into the combustion chamber and adapted to feed air into the midst of sald products of combustion and means for controlling the supply of air to said air chamber.

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2. In a furnace, a combustion chamber, an air chamber under the combustion chamber provided with air holes in its

top to ald in producing an upward draft in the furnace, means for regulating the passage of air into the air chamber, a fire pot communicating with the front and lower portion of the combustion chamber and means to feed air to the products of combustion as they pass from the fire pot into the combustion chamber.
3. In a furnace, a combustion chamber, an air chamber under the combustion chamber, closed at its front end and provided with air holes in its top to feed air into the combustion chamber at different points to produce an upward draft in the furnace, means for regulating the passage of air into the air chamber, a fire pot in front of the air chamber in a plane above the air chamber, a plurality of open-ended tubes fixed in the air chamber immediately in rear of the fre pot to feed air upward into the products of combustion as they pass from the fire pot into the combustion chamber.
4. In a furnace, a combustion chamber, an air chamber under the combustion chamber closed at its iront end and provided with means to admit air at its rear end, a plurality of open-ended tubes fixed in the top of the air chamber, a fire pot communicating with the lower end and front of the combustion chamber and a fuel magazine on top of the firo pot extending upward and inclining forward, and an air conductor on the back of the magazine communicating with the combustion chamber to mingle air with the products of combustion as they pass from the fire pot into the combustion chamber.
5. A hot air furnace comprising a double walled combustion chamber, an air chamber under the combustion chamber closed at its front end and provided with an air register at its rear end and air holes in its top, a plurality of open-ended tubes fixed in the top and front of the air chamber, a fire pot communicating with the lower end and front of the combustion chamber, a fuel magazine on top of the tire pot extending upward and inclined forward, an air conductor on the back of the magazine communicating with the combustion chamber to mingle air with the products of combustion as they pass into the combustion chamber, a grate in the bottom of the fire pot and an ash chamber under the grate arranged and combined as shown and described to operate in the manner set forth for the purpose stated.
6. A hot alr furnace comprising a double walled combustion chamber, a radiator connected with the top of the combustion chamber, a hot air chamber in the top of the combustion chamber, an air chamber under the combustion chamber closed at its front end and provided with an alr register at its rear end and air holes in its top, a plurality of open-ended tubes fixed in the top and front of the air chamber, a fire pot communicating with the lower end and front of the combustion chamber, a fuel magazine on top of the fre pot extending upward and inclining forward, an air conductor on the back of the magazine communicating with the combustion chamber to mingle air with the products of combustion as they pass into the combustion chamber, a grate in the bottom of the fire pot and an ash chamber under the grate, arranged and combined as shown and described to operate in the manner set forth for the purposes stated.
150. 100,026. Furnace Cadng. Enveloppe de fournaise.

Robert Arthur Somers, Montreal, Quebec, Canada, 17th July.
1906; 6 years. Filed 15th June, 1906. Receipt No. 136,933. Claim.-1. In a portable furnace casing the combination with a furnace, of a plurality of sheet metal sections having vertical corrugations merging into plain surfaces at their upper and lower ends, and jolnt members haviag corresponding plain surfaces engaging by the aforesaid plain surfaces on the sections, as and for the purpose specified.

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2. In a portable furnace casing the combination with a furnace, of a plurality of sheet metal sections conforming to the

shape of said furnace and having their peripheries vertically corrugated for a portion of their length, the said corrugations merging into plain surfaces at their upper and lower ends. and joint members having flanges engaging said plain surfaces, as and for the purpose specified.
3. In a portable furnace casing the combination with a furnace, of a plurality of sheet metal sections having vertical corrugations extending to and merging into plain annular surfaces at the top and bottom of said sections and openings in said sections through which the door frames and other parts of the furnaces extend, said openings having plain surfaces therearound into which said corrugations merge, and joint members having annular flanges engaging said annular plain surfaces, as and for the purpose specified.
4. In a device of the class described in combination, a base having an upwardly projecting annular flange, a furnace mounted on said base within said annular flange, a sheet metal section surrounding said furnace and having a plain annular surface engaged by said flange, an opening in the front thereof and plain surfaces surrounding said opening and corrugations vertically arranged and extending to said door opening and to a plain annular surface at the top of said section, a ring having plain annular surfaces and an outwardly extending flange and engaging the upper plain surface of said section with its lower plain surface, an upper section having a plain annular surface engaging the upper plain annular surface of said ring and opening at the front thereof surrounded by the plain surface and corrugations extending from the lower plain surface, and upper plain surface and the said plain surface surrounding the door, a ring having a plain annular surface surmounting said upper section engaging said annular surface and a top mounted on said ring, as and for the purpose specified.

No. 100,027. Feating Apparatus.
Appareil de chauffage.


Joremie Rh'aume, Montreal, Quebec, Canada, 17th July, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,143.
Olaim.-1. In a heating appliance, a combustion chamber, a rotatable grate, a rack on the lower side of said grate, a
pinion meshing with said rack, a shaft for said pinion, a bracket supporting sald shaft, an ash chamber, an ash receptacle therein, and a second door near the lower end of said combustion chamber.
2. In a heating appliance. a combustion chamber, a rotatable grate, a rack on the lower side of said grate, a pinion meshing with said rack, a shaft for said pinion, a bracket supporting said shaft, an ash chamber, an ash receptacle therein, and a second door slidably mounted near the lower end of said combustion chamber.
3. In a heating appliance, a combustion chamber, a feed door near the upper end therof, a second door near the lower end thereof. an angular inwardly extending support below said lower door, a grate mounted on said support, a rack on the lower side of said grate, a pinion meshing with said rack, a shaft carrying said pinion, a bracket supporting said shaft and an ash chamber below said grate.
4. In a heating appliance, a combustion chamber, a feed door near the upper end thereof, a second door slidably mounted near the lower end thereof, an angular inwardly extending support below said lower door, a grate, a pinion said support, a rack on the lower side of said grate, a pinion meshing with said rack, a shaft carrying said pinion, a bracket supporting said shaft and an ash chamber below said grate.

No. 100,028. Water Feater. Chauffeur d'eau.


John Demarest, Binghampton, New York, U.S.A., 17th July, 1906; 6 years. Filed 21st June, 1906. Receipt No. 137,137.
Claim.-1. A domestic water heater comprising an outer chamber provided with means for connecting it to the water front of a range to secure the circulation of heated water therein. a truncated cone-shaped inner chamber within said outer chamber, reaching from the bottom thereof to a point below the top and being open at the top and means to permit the withdrawal of water from the inner chamber so enclosed.
2. The combination with a range and its water front or coil, of a water heater connected thereto and comprising an outer chamber', pipes connecting said chamber to the water front or coil so as to secure the circulation of hot water in said chamber, an open heated water chamber within said first-mentioned chamber and means to permit the withdrawal of water from said Inner chamber.
3. The combination with a range provided with an apertured extension shelf, and its water front or coll, of a water heater secured within the aperture of the said shelf and comprising an outer heating water chamber, connected to the water front or coil and an inner heated water chamber, the latter being of less height than the heating water chamber and open at the top and means to permit the withdrawal of water from said heated water chamber.

No. 100,029. Churn. Baratte.
Alfred J. Anderson, Wylie, Minnesota, U.S.A., 17th July, 1906; 6 years. Filed 20th June, 1906. Receipt No. 137,096.
Claim.-In a churn, a body, a dasher shaft journalled in said body, the shaft having a series of enlargements to form,
shoulders arranged one above the other, dashers arranged upon the shaft and supported by the said shoulders, means

for operating the shaft and its dashers, and an outlet at the bottom.

No. 100,030. Harrow. Herse.

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Andrew D. Angele, Hillsdale, Louisiana, U.S.A., 17th July,
1906; 6 years. Filed 20th June, 1906. Recelpt No. 137,097.
Claim.-1. A farm implement comprising a central beam having means at its forward end for attachment of draft appliances, the opposite end face of the beam having a projection, handles attached to the forward end of said beam and extending upwardly and rearwardly therefrom, braces connected between the handles and said beam intermediate the ends of the latter, additional beams at the sides of the firstnamed beam and hinged thereto at their forward ends for movement toward and away from the first-named beam, and for vertical movement, a member connected to the rear end of each side beam and having perforations, the said members overlapping with their corresponding perforations registering, the registering perforations bing adapted for interchangeable connection with the aforesaid projection of the frst-named beam for holding said beams against separation, and other members connected to the rfar ends of the side beams and converting upwardly toward each other and overlapping the aforesaid braces, the last-nnmed members being adjustably assoclated with the braces.

## No. 100,031. Milking Apparatus.

Apparcil d traire les vaches.
Paul E. Bartelmus, Pendleton, Oregon, U.S.A., 17th July, 1906; 6 years. Flled 22nd June, 1906. Receipt No. 137,152.
Claim.-1. A milking implement comprising a main arm, an arm plvoted thereto, both of said arms carrying rollers and arranged to receive a teat between them so that pressure may be exerted theron, and means tending to move sald arms apart.
2. A milking implement comprising a main arm, two supplemental a:ms pivoted to the main arm at opposite sides of the latter, a spring tending to move said pivoted arms away from the main arm, two rollers carried by the main arm, and complementary rollers carried by the pivoted arms.
3. A milking implement comprising a main arm and two supplemental arms pivoted thereto at opposite sides thereof,
means tending to move sald pivoted arms outwardly away from the main arm, and a guide secured to the main arm and

extending around the pivoted arms and arranged to limit the outward movement of the latter.
4. A milking implement comprising a main arm, two pivoted arms connected therewith at one end and each provided with a lug, a spring secured to one lug and passed around the butts of said arms and connected at its outer end to the other lug, said spring tending to move said arms outwardly and each of said pivoted arms provided with a finger hold, and rollers carried by said arms.
5. A milking implement comprising a main arm, and two pivoted arms, all connected together at one end, a bracket secured to the free end of the main arm, two rollers journalled in said bracket and said main arm, and a roller journalled in the free end of each of the other arms.
6. A milking implement comprising pivoted arms, one of which is provided with a longitudinal guideway, and a funnel slidably connected to said arm in the guideway thereof.
7. A milking implement comprising pivoted arms carrying rollers, one of said arms being provided with spaced-apart longitudinal bars, and a funnel provided with a loop receiving one of said bars and retained thereby, the funnel being longitudinally adjustable with respect to the said arm.
8. In a device of the character described, a milking implement designed to exert pressure on the teats, a funnel connected to said implement and longitudinally adjustable with respect to the same, and a neck strap connected to said funnel.
9. In a device of the character described, a milking implement designed to exert pressure on the teats, a funnel connected to said implement and longitudinally disposed with respect to the same, a neck strap connected to said funnel, and a body brace also connected to the funnel.
10. In a device of the character described, a milking implement designed to exert pressure on the teats, a funnel connected to said implement and longitudinally adjustable with respect to the same, a neck strap connected to the funnel, and a body brace provided with a bliurcated end plvotally connected to the funnel and also provided at its other end with a foot designed to bear against the body of the operator.

## No. 100,032. Oil Can. Bidon à huile.

John F. Cody, London, Ontario, Canada, 17th July, 1906; 6 years. Filed 23rd May, 1906. Receipt No. 136,164.
Olaim.-1. In a device of the class described, a removable strainer in combination with and located centrally in an oil can body, to divide the latter into two compartments, substantially as shown and described and for the purpose specified.
2. In a device of the class described, an oil can body and flanges in which grooves are formed secured to the sides and bottom of said body in combination with a removable strainer fitted to and secured in said grooves, substantially as shown and described and for the purpose specified.
3. In a device of the class described, an oll can body, a bottom supported above the lower edge thereof, and openings formed in said body below said bottom, substantially as shown and described and for the purpose specifled.
4. In a device of the class described, an oll can body and a removable strainer located centrally therein, in combination with a bottom supported above the lower edge of said body, and openings formed in said body, below said bottom, substantially as shown and described and for the purpose specifled.
5. In a device of the class described, an oil can body, flanges in which grooves are formed secured to the sides and bottom

of said body, a bottom secured to said body above the lower edge thereof, and openings formed in said body below said bottom, in combination with a strainer secured in the grooves in said flanges, substantially as shown and described and for the purpose specified.
6. In a device of the class described the combination with an oll can, the top of which is composed of a stationary closed portion and an adjustable portion, of a removable strainer secured in said oll can at the junction of said stationary and adjustable portions of sald top, substantially as shown and described and for the purpose specified.
7. In a device of the class described the combination with closed portion and an adjustable portion, and flanges in bottom of the body of said oil can at the junction of said which grooves are formed secured to the opposite sides and botitom of the body of sald oll can at the junction of sald stationary and adjustable portions of said top, of a strainer secured in the grooves in sald flanges, substantially as shown and described and for the purpose specified.
8. In a device of the class described, an oil can body or reservoir, the top of which is composed of a stationary closed portion and an adjustable portion, and a removable strainer secured in said oil can at the junction of said stationary and adjustable portions of said top, in comblnation with a bottom secured to the can body at a point above the lower end thereof, and openings or apertures formed in said body below said bottom, substantially as shown and described and for the purpose specifled.
9. In a device of the class described, an oll can body or reservolr, the top of which is composed of a stationary closed portion and an adjustable portion, flanges in which grooves are formed, secured to the two opposite sides and bottom of said bodv a bottom secured to sald body above the lower edge thereof, and openings or apertures formed in said body below said bottom in combination with a strainer secured in said grooved flanges, substantially as shown and described and for the purpose specifled.

No. 100,033. Baling Press. Presse d'emballage.


James Licurges Coldiron, Loca, Indian Territory, U.S.A., 17th July, 1906; 6 years. Filed 20th June, 1906. Receipt No. 137,098.
Claim.-1. In a baling press in combination, a press box having a middle receiving chamber and end baling chambers, the side walls of the middle chamber having slots, and tracks on the outside above and below said slots, a reciprocating
plunger in the box having a bar projecting through sald slots, rollers on the ends of the bar travel on said tracks, and means connected to the ends of the bar to reclprocate the plunger.
2. In a baling press in combination, a press box having a middle receiving chamber and end baling chambers, the side walls of the middle chamber being slotted, a reciprocating plunger in the box having a bar projecting through the slots, a crosshead reciprocating under the box and having upwardly projecting castings rigidly mounted thereon and connected to the ends of the bar, a crank shaft extending across under the box, and a pitman connected to the crank shaft and to the crosshead at the middle thereof.

No. 100,034. Logging Engine. Machinc d billot.


William H. Corbett, Portland, Oregon, U.S.A., 17th July, 1906; 6 years. Filed 15th June, 1906. Receipt No. 136,924.
Claim.-1. The combination with a driving shaft, of a drum shaft geared to said driving shaft, a loosely mounted drum on said drum shaft, means for temporarily locking said drum to its shaft, a second drum shaft, gear mounted thereon, a pinion provided on said first-named drum shaft and meshing with said gear, whereby said gear will be driven at a slower speed than said first-named drum, a second drum mounted on said second-named drum shaft, and means for temporarily locking sald second-named drum to said gear, substantially as described.
2. The combination with a driving shaft, of a drum shaft geared thereto, a pinion mounted on said drum shaft, a second drum shaft, gear mounted thereon, and meshing with said pinion, drums loosely mounted on said shafts, and means for temporarily locking them thereon, substantlally as described. 3. The combination with a driving shaft, of a high speed drum shaft geared thereto, a low speed drum shaft having gear connection with said high speed shaft, and drums mounted on said shafts, and operating in the same direction. the drum on said high speed shaft being of less diameter than the drum on said low speed shaft, substantially as described.
4. The combination with a driving shaft, of a high speed shaft geared thereto, a head provided on the outer end of said high speed shaft, a pinion mounted on the opposite end of said high speed shaft, a low speed shaft gear mounted thereon and meshing with said pinion, drums loosely mounted on said high and low speed shafts, and means for temporarily locking said drums on said shafts, substantially as described.
5. An engine comprising in combination, a frame, a driven shaft mounted thercon. a pinion secured on said shaft, a high speed shaft journalled in said frame, a gear macured on said shaft and meshing with said pinion, a pinion provided on one end of said high speed shaft, a low speed shaft also fournalled in said frame, an internal gear mounted on sald low speed shaft and meshing with said last-named pinion, whereby said shafts will be driven in the same direction, winding drums loosely mounted on said shafts, whereon a trip line and a hauling-in cable are wound, and means for temporarily locking said drums on said shafts, substantially as described.
6. The combination with a driving shaft, of a drum shaft geared to said driving shaft, a loosely mounted drum on said drum shaft, means for temporarily locking said drum to ths shaft, a second drum shaft, an internal gear mounted thereon, a pinion provided on said first-named drum shaft and meshing with said internal gear. whereby said internal gear will be driven at a slower speed than sald first-named drum, a second drum mounted on said second-named drum shaft, and means for temporarily locking said second-named drum to said internal gear, substantially as described.
7. The combination with a driving shaft, of a drum shaft geared thercto, a pion mounted on said drum shaft, a second drum shaft, an internal ring gear mounted thereon, and
meshing with said pinion, drums loosely mounted on said shafts, and means for temporarily locking them thereon, substantially as described.
8. The combination with a driving shaft, of a high speed drum shaft geared thereto, a low speed drum shaft having an internal gear connection with said high speed shaft, and drums mounted on said shafts, and operating in the same direction, the drum on sald high speed shaft being of less diameter than the drum on said low speed shaft, substantially as described.
9. The combination in an engine of the class described with a driving shaft, of a direct geared trip drum, a compound geared main drum and a supplementary gipsy winch, and means for causing said drums and winch to revolve in the same direction, substantially as cescribed.
10. The combination in an engine of the class describer with a driving shaft, of a direct geared trip drum, a compound geared main drum, and means for causing said drums to revolve in the same direction.
11. The combination in an engine of the class described with a driving shaft, of a direct geared high speed trip drum. a compound geared low speed main drum, overwound cables for said drums and means for causing said drums to revolve in the same direction. substantially as descrijed.

No. 100,035. Tea and Coffee Pot. Théière et cafetière.


The Right Honourable Douglas MacKinnon Baillie Hamiiton Cochrane, Earl of Dundonald, 34 Portman Square, London, England, 17th July, 1906 ; 6 years. Filed 20th June, 1906. Receipt No. 137,086.
Claim.-1. A tea or coffee pot consisting of a suitably shaped vessel having a hollow top, part of which top in combination with a pervious tray forms a compartment for the leaves or berries, the other part being formed as a lid which closes both the inlet to the pot and the inlet to the compartment, construoted substantially as described.
2. A tea or coffee pot such as described in the first claim, in which the second base on which it is stood for infusion of its contents is formed by means of the handle and two projecting studs, substantially as herein described.

## No. 100,036. Disc Cultivator, Road Machine, and Farm Wagon.

Culticatellr d disquc, machine àchin et cagon.
Abram Larkin Foote, Fayette, Iowa, U.S.A., 17th July, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,642.
Claim.-1. A carrying frame including side members, obliquely disposed cross members, a hind axle and a front bolster, a front axle pivoted beneath the bolster, a brace member connecting the front axle with the forward oblique cross bar, a disc carrying frame, a disc carrying shaft supported in said frame, draft means connecting sald shaft with the front bolster, flexible means connecting the head of the disc carrying frame with the rear oblique cross bar. a draft tongue connected with the front axle, and means for vertically adjusting and for retaining at varlous adjustments the ends of the disc carrying frame.
2. In a machine of the class described, a carrying frame ircluding side members, a hind axle and a front bolster, a fiont axle pivoted beneath the bolster, an adjustably supported disc carrying frame, a disc carrying shaft in said frame and means connecting said shaft flexibly with the front bolster, a draft tongue connected with the front axle, rearwardly extending downwardly curved beams pivoted upon the side beams of the carrying frame, a scraper carried by said beams, and means for adjusting the scraper carrying beams and for retaining them at various adjustments.
3. In a machine of the class described, a carrying frame itcluding side members, a-hind axle and a front bolster, a.
front axle pivoted beneath the bolster, an adjustably supported disc carrying frame, a disc carrying shaft in said

frame, and means connecting said shaft flexibly with the front bolster to one side of the line of draft, a draft member connected with the front axle, rearwardly extending downwardly curved beams pivoted upon the side beams of the carrying frame, a scraper carried by sald beams, springs disposed to exert downward pressure upon the scraper carrying beams, and means for adjusting said beams and for retaining them at various adjustments.
4. In a machine of the class described, a carrying frame, rearwardly extending downwardly curved beams pivoted upon the side beams of the carrying frame, a scraper carrled by said beams, springs disposed to exert downward pressure upon said beams, adjusting levers plvoted upon the side beams of the frame, links connected pirotally with sald lt vers and supporting the scraper carrying beams, and means ior securing the levers at various adjustments.
5. In a machine of the class described, the combination with a carrying frame, of an obliquely disposed adjustably supported disc carrying frame and an adjustably supported obliquely disposed scraper, the disc carrying frame and the scraper being obliquely disposed in opposite directions.

No. 100,037. Dnmping Vehicle, Machine à bascule.


John Marston Goodwin, Mount Vernon. New York, U.S.A., 17th July, 1906; 6 years. Field 15th June, 1906. Receipt No. 136,957 .
Claim.-1. In a dumping vehicle, a cargo receptacle having a flat horizontal bottom composed of marginal valves pivoted exterior of the said receptacle, and detent valves pivoted centrally of sald receptacle, the pivotal axes of the several valves .being located in substantially the same horizontal piane, in comblation with releasable means located beneath sald detent valves adapted to hold them in horizontal posi-
tion wherein they support the inboard edges of said marginal valves, and inclined discharge chutes below said valves. 2. In a dumping vehicle, a cargo receptacle having side walls, inclined hanger plates secured on the exterior thereof, linge brackets secured between the lower margins of said walls and plates, and dumping valves constituting the floor of said receptacle pivotally carried by said brackets.
3. In a cargo receptacle having upright side walls, longitudinal dumping valves forming a bottom therefor, and means for releasably supponting said valves, in combination with inclined hanger plates secured to the exterior of said s'de walls at about the center thereof and sloping downward and outboard, and hinge brackets secured between the lower margins of said walls and plates, forming the pivotal support for said dumping vehicle.
4. In a dumping vehicle, a cargo receptacle having a side wall, U-shape sheet metal brackets secured to said wall, a longitudinal shaft passing through perforations in said brackets and dumping valves for said receptacle supported to rotate on sald shaft.
5. In a dumping vehicle, the combination with the side wall of the cargo receptacle, and the hanger plate secured thereon, of a hinge bracket interposed between said parts and formed out of sheet metal provided with flanges adapted to be riveted respectively to said side wall and hanger plate.
b. In a dumping vehicle, the combination with the side "all of the cargo receptacle and the hanger plate secured thereto, of a sheet metal hinge bracket interposed between said parts and having perforated ears depending below said hanger plate, and a valve hinge shaft held in said ears.
7. In a dumping vehicle, the combination of the pivoted hinge links, a dumping valve pivotally connected to said l:nks, a shaft located outboard of said valve and means independent of sald links adapted to be operated by said shaft for replacing the valve in closed position.
8. In a dumping vehicle, the combination of a pivotally supported dumping valve, a rotary shaft, an arm on sald shaft and means connecting the free end of sald arm with the valve whereby said parts are constrained to move together.
9. In a dumping receptacle, the combination of a dumping valve adapted to be moved beyond its point of equilibrium by the pressure of the load upon discharge and automatic means for retaining said walve against closure.
10. In a device of the class described, a cargo receptacle provided with a pivoted dumping valve and ratchet mechanism adapted to permit the opening movement of said valve but preventing the closing thereof.
11. In a device of the class described, a cargo receptacle having a pivotally supported dumping valve, in combination with mechanism adapted to prevent the pivotal movement of sald valve in a closing direction and means operatable from the end of the vehicle for controlling the action of said mechanism.
12. In a device of the class described the combination of a cargo receptacle having a gravity dumping valve hinged thereto, an inclined discharging chute beneath said valve and mechanism for automatically retaining sald valve in its opened position.
13. In a device of the class described, a pivotally mounted gravity valve, a rotary shaft, an arm on said shaft connected with said valve and mechanism acting on said shaft for automatically retaining the valve in its opened position.
14. In a device of the class described, a cargo receptacle, links pivotally carried thereon, a dumping valve pivotally connected with said links and adapted to open downwards, in combination with a discharge chute beneath said valve and mechanism for automatically retalning the said valve in its opened position.
15. In a device of the class described, a shaft, links pivotally carried theron, a dumping valve pivotally connected with said links and adapted to open downwards, and an arm on the shaft connected with said valve, in combination with a discharge chute beneath the valve and means acting on said shaft and arm for automatically retaining the valve in an opened position.
16. In a dumping vehicle the combination of a dumping valve, a means of pivotal support therefor, and mechanism adapted to be set in alternative position to prevent either the closing or the opening movement of said valve.
17. In a device of the class described the combination of a cargo receptacle, of a dumping valve, mechanism associated with said valve adapted to prevent either the opening or the closing movement therof, and means located at the end of the said receptacle for setting said mechanism to produce such alternative effects.
18. In a dumping vehicle, a hinged dumping valve and a longitudinal rotary shaft connected to turn with said valve, in combination with means operatable from the end of the vehicle for preventing rotation of said shaft and valve alternatively in either direction.
19. In a device of the class described, a hinged gravity valve, a rotary shaft adapted to turn therewith, a ratchet wheel connected to sald shaft and a pawl co-operating with sald ratchet wheel to hold said valve and shaft in an opened position.
20. In a device of the class described, a hinged dumping valve, a rotary shaft adapted to turn with said valve, doubleacting ratchet wheel mechanism connected to sald shaft, and pawls co-operating with said ratchet mechanism, in combination with means for withdrawing one or the other of said pawls from engagement with its ratchet wheel.
21. In a dumping vehicle, a dumping valve, a rotary shaft, a pair of hinge links supporting said valve from the shaft; in combination with an arm fast on said shaft and located thereon between said links, said arm having its free end adapted to engage said valve.
22. In a dumping vehicle, a releasing dumping valve, a rotary shaft, a ratchet wheel fast on said shaft and provided with an angular hub in combination with a valve engaging arm fitted on said angular hub, and a pawl for engaging said ratchet wheel.
23. In a dumping vehicle, a valve replacing and retaining shaft, a ratchet wheel fast thereon and provided with an angular hub, an oppositely faced ratchet wheel fitted on said angular hub, and a pawl for each ratchet wheel.
24. In a dumping vehicle, a dumping valve formed of flanged sections united by their contiguous flanges, hinge blocks secured to the opposite sides of said united flanges, a pair of hinge links connected to said blocks, and a valve engaging arm located between said hinge links.
25. In a device of the kind described, a valve supporting shaft, a pair of opposite ratchet wheels thereon, and a pawl for each ratchet wheel, in combination with a second shaft, and means carried thereby for throwing elther pawl out of engagement with its ratchet wheel.
26. In a device of the kind described, a dumping valve and means for alternately preventing movement thereof in opposite directions, comprising two opposite ratchet wheels and pawls respectively therefor, in combination with a pawl shaft upon which said pawls are mounted and means carried by said shaft for disconnecting either of said pawls.
27. In a device of the class described, a dumping valve comprised of a plurality of flanged sheet metal sections, united by their contiguous flanges, hinge blocks secured to opposite sides of said united flanges and hinged links, adapt-- d to support said valve, secured to sald hinge blocks.

No. 100,038. Die Lifter.
Appareil d soulever les matrices.


Edwin B. Hawkins, San Francisco, California, U.S.A., 17th July, 1906; 6 years. Filed 27th July, 1905. Receipt No. 127,236.
Claim.-1. A device of the kind described comprising a metal band adapted to encircle a die and a lever pivoted to said band having the lower serrated end adapted to engage the die at a point below the band.
2. A device of the kind described comprising a circular band adapted to flt over a cylindrical object, a lever having a lower serrated end and pivoted to said band at a point adjacent said end, and a fulcrum point for said lever arranged intermediate its ends.
3. A device of the kind described comprising a circular band, said band being cut and the ends turned outward, a lever having a lower serrated end and an upper straight handle portion, said lever being pivoted between the end of the band at a point adjacent its lower end, means secured to the lever intermediate its ends and adapted to lift the same
vertically, said means forming a fulcrum point for the lever.
4. A device of the kind described comprising a metal band adapted to fit over a die, said band having an undercut inner face, and being cut transversely and the ends bent outward, a lever pivoted between sald bent ends, the pivotal point being adjacent the lower end of the lever, and means for lifting said lever vertically, substantially as described.

No. 100,039. Shid Setting Gange. Jauge de sabot.


Felix Hughes, Vancouver, British Columbia, Canada, 17th July, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,147.
Claim.-1. In a device of the class described, two members endwise slidable in relation to one another one of which members has at Its end an outward projection from the face on which the other member is slidable, means for maintaining the slidable allgnment of the members and means for securing them together in any position of endwise extension.
2. In a device of the class described, two members endwise slidable in relation to one another, one of which members has a projection at its foot from the face on which the other member is slidable a band secured to the end of the other member adjacent to the foot projection, which band encircles the other member and retains it in slidable relation, a mounting secured to the upper end of the member which is provided with a foot projection, sald member having projections which laterally engage the other slidable member, and means secured to such mounting for securing the members together in any position of endwise extension.
3. In a device of the class described, two members endwise slldable one on the other, a projection from the contacting face at the lower end of one member, a band secured to the adjacent end of the other member and encircling the firstnamed member, an elongated slot in the member to which the band is secured, and a screw secured to the upper end of the member having the foot projection, which screw projects through the elongated slot and is furnished with a nut by wh!ch the two members may be secured in any position of endwise extension.
4. In a device of the class described, an elongated member having a projection from one face of it at one end and a screw secured in the other end and projecting outward from the face as the projection at the other end, a member having a slot extending lengthwise of it through which slot the screw of the other member projects, a band secured to the lower ent of the member provided with the slot and encircling the other member and a crank handle the eye of which is threaded on the screw and engages the face of the elongated slot.
5. In a device of the class described, the member 10 having the projection 12 at the lower end and the screw 16 secured in and projecting from the other end, the member 11 slldable on the face of 10 and having the elongated slot 21 through which the screw 16 projects, the band 13 secured to the lower end of 11 and encircling the member 10 , and the crank handle 19, the eye 18 of which is threaded onto the screw 16.

## No. 100,040. Triple Valve. Soupape.

David Inches and Edward J. Hosker, Kamloops, British Columbla, Canada, 17th July. 1906; 6 years. Flled 22nd June, 1906. Receipt No. 137.146.

Claim.-1. In a triple valve of the class described, a passage through which air may pass from the auxiliary reservoir
side of the triple valve piston when such is in the normal or feed position to the train line side of the same, and means

for closing such passage by any movement of the triple valve piston that would move the slide valve thereof.
2. In a triple valve of the class described, an air passage from the auxiliary reservoir side of the triple valve piston when such is in the normal or feed position to the train line side of the same, said passage terminating in a port in the triple cylinder the location of which is such that it will be closed by the ring of the piston when such piston is in first contact with the adjacent end of the graduating stem and that will be open to the train line side of the piston when the piston moves back to close the graduating valve of the slide.
3. In a triple valve of the class described, an air passage from the auxiliary reservoir side of the triple valve piston when such is in the normal or feed position to the train line side of the same, such passage terminating on the train line side in a port in the wall of the triple cylinder the location of which is such that it will be open to the auxiliary reservoir side of the piston when such piston is in first contact with the adjacent end of the graduating stem and that will be open to the train line side of the plston when such piston has moved backward a sufficient amount to close the graduating valve of the slide.
4. In a triple valve of the class described, an alr passage from the auxiliary reservoir side of the triple valve piston when such piston $i s$ in the normal or feed position to the train line side of the same, the outlet of such passage on the train line side being such in location and width that it will be closed by the ring of the piston when such piston is in first contact wth the adjacent end of the graduating stem but will be open to the train line side of the plston when the piston has moved back off the graduating stem a sufficient amount to close the graduating valve of the triple valve slide, means for preventing the passage of air through such passage from the train line side to the auxiliary side of the piston, and means for preventing the passage of air through such passage from the auxiliary reservoir side of the piston to the train line side until a predetermined difference of pressure has been attalned.
5. In a triple valve of the class described, an air passage from the auxlliary reservoir side of the triple valve plston when such is in the normal or feed position to the train line side of the same, the outlet of which passage on the train line iside of the piston is so located that it will be closed when the piston is in first contact with the graduating stem, but opened to the auxiliary reservoir side of the plston with any further movement that would compress the graduating spring. a check valve in such passage that will prevent the passage of air therethrough from the train line side to the auxiliary reservoir side of the piston, and means for loading such check valve that it will not open until a pressure exists on the auxiliary reservoir side of the piston slightly over what is required to operate the triple valve piston and its slide when such are in good working condition.

## No. 100,041. Car Sill Remover.

## Appareil d enlever les soléoes des chars.

John Kheil, Fond du Lac, Wisconsin, U.S.A., 17th July, 1906; 6 years. Filed 13th June, 1906. Recelpt No. 136,848.
Claim.-1. In a car sill remover, a support adapted to be braced by the car bottom and a sill pulling member having connection with the support and provided with means for engaging a car sill.
2. In a car sill remover, a support, screw standards carried by the support for bracing the support form the car bottom,

and a sill pulling member connected to the support and having means for engaging a car sill.
3. In a car sill remover, a support, ratchet operated screw standards connected with the suport and adapted to brace it by engaging the car sills, and a sill pulling member connected to the support and having means for engaging a car sill.
4. In a car sill remover, a support and a sill pulling member connected with the support and comprising a screw having means for engaging the car sill.
5. In a car sill remover, a support and a sill pulling member connected thereto comprising a standard, a screw-threaded therein, a ratchet for turning the screw and means carried by the screw for engaging a car sill.
6. In a car sill remover, a support and a sill pulling member connected thereto comprising a standard, a screw-threaded therein, means for turning the screw, and a head swivelled to the screw and provided with means for engaging a car sill.
7. In a car sill remover, a support and a sill pulling member connected thereto comprising a sultably mounted screw, means for turning the screw, a head swivelled to the screw, and hooks carried by the head and adapted to engage a car sill.
8. In a car sill remover, a support and a sill pulling member connected thereto and having a sill engaging means adapted to clamp the sill with increasing force as draft is applied thereto, and means for applying draft to the sill engaging means.
9. In a car sill remover, a support, a sill pulling member connected thereto comprising a suitably mounted screw, - means for turning the screw, a head swivelled to the screw, and a sill engaging hook carried by the head adapted to clamp the sill with increasing force as draft is applied to the head by the screw.
10. In a car sill remover, a support, a sill pulling member connected thereto comprising a pair of hooks adapted to clamp a sill with increasing force as draft is applied thereto, means for applying draft to the hooks, and plates adapted to be arranged on opposite sides of the sill and provided with openings through which the hooks engage the sill, said plates serving to limit the extent of penetration of the hooks into the sill.
11. In a car sill remover, a support, a pulling member connected thereto comprising a pair of hooks adapted to clamp a sill with increasing force as draft is applied thereto, means for applying draft to the hooks, and a pair of plates to be placed on opposite sides of the sill being removed and havin - hooks to be forced between said sill and the decking to which it is attached, said plates being adapted to be engaged by the hooks.
12. In a car sill remover, a support, a sill pulling member connected thereto and comprising a pair of hooks adapted to clamp a car sill with increasing force when draft is applied thereto, and means for applying draft to the hooks, a pair of plates adapted to be placed on opposite sides of the sill to be removed and having hooks to be driven between the upper edge of the sill and the decking to which it is attached, the hooks of the sill pulling member being adapted to enter openings in the plates, and spurs on said hooks to engage the plates and limit the extent of penetration of said hooks into the sill.
13. In a car sill remover, a support, a sill pulling member connected thereto and comprising a suitably mounted screw, means for turning the screw, a head swivelled to the screw and having a pair of opposite plates, a pin slidable in slots of said plates, and a pair of sill engaging hooks pivoted to said pin and having connection to the head.
14. In a car sill remover, a support, a sill pulling member connected thereto and comprising a suitably mounted screw,
means for turning the screw, a head swivelled to the screw and having a pair of opposite plates, a pin slidable in slots of said plates and projecting beyond to form handles, and sill engaging hooks pivoted to said pin.
15. In a car sill remover, a support, a sill pulling member connected thereto and comprisifig a suitably mounted screw, means for turning the screw, a head swivelled to the screw and having a pair of opposite plates, a pin slidable in slots of said plates, a pair of sill engaging hooks pivoted to the pin, one passing through an opening in the other, and links connecting the hooks to the head.
16. In a car sill remover, a support, a sill pulling member connected thereto and comprising a suitably inounted screw, means for turning the screw, a head swivelled to the screw, a pair of sill engaging hooks carried by the head, and a $\mathbf{U}$ shaped member plvoted to the head and adapted to embrace the sill and prevent the head turning with the screw.
17. In a car sill remover a supporting bar, a pair of screw standards connected thereto, a sill pulling member also connected to the supporting bar and comprising a suitably mounted screw, means for turning the screw, and a sill engaging means carried by the screw.
18. In a car sill remover a supporting bar, a pair of screw standards connected thereto and adapted to bear against the car sills, a sill pulling member also connected to the supporting bar and comprising a suitably mounted screw, and sill engaging means connected to the screw.
19. In a car sill remover a supporting bar, a pair of screw standards adjustably connected thereto adapted to bear against the car sills, a sill pulling member also adjustably connected to the supporting bar and comprising a standard, a screw threaded therein, means for turning the screw, a head swivelled to the screw, a pair of sill engaging hooks connected to the head adapted to clamp the sill with increasing force when draft is applied thereto, a pair of plates adapted to be placed on opposite sides of the sill to be removed and having hooks for engaging the sill, said sill engaging hooks being adapted to enter openings in the plates, and a Ushaped member pivoted to the head and adapted to embrace the sill.

No. 100,042. Bntter Cntter. Couteau d beurre.


Edward J. Luhman, San Francisco, California, U.S.A., 17th July, 1906; 6 years. Flled 21st June, 1906. Recelpt No. 137,124.
Claim.-1. In an apparatus for cutting butter and analagous substance the combination with a plurality of cutters spaced apart, of a carrier movable with respect to the plurallty of cutters and comprising members detachably connected together.
2. In an apparatus for cutting butter and analagous substance the combination of a cutter, and a carrier movable with respect to the cutter and having members one of which is movable past the cutter and the other of which is adaptto be positioned so as to pass the cutter and be then restored to its original position relative to the first-mentioned member.
3. In an apparatus for cutting butter and analagous substances the combination with one or more cutters, of a carrier movable with respect to the cutter or cutters, the said carrier being arranged to rock, and being made up of members detachably connected together.
4. In an apparatus for cutting butter and analagous substance the combination with one or more cutters, of a carrier movable with respect to the cutter or cutters, the said carrier being arranged to rock or turn toward the cutter or cutters and being made up of a member having a socket adjacent to one end, and a member having a tongue at one end removably arranged in the socket of the first-mentioned member.
5. In an apparatus for culting butter and analogous substance the combination with a main frame, and a plurality of cutting wires arranged transversely above the main irame, of a carrier movable on the main frame and adapted to be
turned thereon, sald carrier comprising members detachably counected to each other and arranged to rest against different sides of a mass of butter or the like.
6. In an apparatus for cutting butter and analagous substance the combination of a main frame, a sub-frame rising from the main frame and provided with a fastening device a wire frame removably arranged on the main frame and against the sub-frame and having an appurtenance for the engagement of the said fastening device, and a carrier movable on the main frame and adapted to rock and comprising a horizontal member and an upright member detachably engaged with the horizontal member.
7. A carrier for the purpose described comprising members provided with co-operating means whereby they are detachably held together at right angles to each other.
8. In an apparatus for cutting butter and analagous substance the combination with a main frame having side bars provided in their upper edges with notches the outer walls of which are inclined, and a sub-frame rising from the main frame and provided with a fastening device, of a wire frame comprising uprights having lower rabbeted ends, a cross bar arranged in the rabbets of sald side ends and having an edge inclined in conformity with the inclined walls of the notches, a crown bar bearing an appurtenance for engaging with the fastening device, and wires stretching between the uprights.

No. 100,043. Bntter Monld. Moule d leurre.


Edward J. Luhman, San Fransisco, California, U.S.A., 17th July, 1906; 6 years. Filed 21st June, 1906. Receipt No. 137,125.
Claim.-1. A mould for giving shape to butter and other material comprising a bottom, side sections arranged at opposite sides of the bottom and having interlapping end portions provided with opposed grooves, and keys removably arranged in the said opposed grooves of the side sections.
2. A mould for giving shape to butter and other material, comprising a bottom, side sections arranged at opposite sides of the bottom and having interlapping tongues at their ends in the outer sides of which are provided opposed grooves having inclined walls, and tapered keys removably arranged in the said opposed grooves of the side sections.
3. A mould for giving shape to butter and other materials comprising a bottom, side sections arranged at opposite sides of and removable from the bottom and having lapped end portions, and means co-operating with the sald lapped end portions of the sections and detachably connecting the same together.
4. A mould for glving shape to butter and other material, comprising a bottom, and side sections arranged at opposite sides of and removable from the bottom and detachably connected together at their ends.
5. A mould for giving shape to butter and other material, comprising a bottom having ledges connected to its under side and extending beyond its edges, and side sections arranged at opposite sides of the bottom and on the extended portions of the ledges and removable from sald bottom and ledges and detachably connected together at the ends.
6. A mould for giving shape to butter and other material, comprising a bottom having ledges connected to its under side and extending beyond its edges, side sections arranged at orposite sides of the bottom and on the extended portions of the ledges and having interlapping tongues at their ends In the outer side of which are proviled opposed grooves, and taper keys removably arranged in the said opposed grooves of the side sections.
7. A mould for giving shape to butter and other material, comprising a bottom having ledges connected to its under side and extending beyond its ledges, right angle side sections arranged at opposite sides of the bottom and on the extended portions of the ledges and having interlapped tongues at their ends in the outer sides of which are provided opposed grooves, taper keys removably arranged in the sald opposed grooves of the side sections, and a false bottom disposed between the side sections and on the bottom.

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8. A mould for giving shape to butter and other material, comprising a bottom, side sections arranged at opposite sides of and removable from the bottom and detachably connected together at their ends, and a removable false bottom disposed between the side sections and on the bottom.

## No. 100,044. Hot Water Radiator.

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Henry Theodore Offterdinger. Washington, Dlstrict of Columbia. U.S.A., 17th July, 1906; 6 years. Filed 16th June, 1906. Receipt No. 136,935.

Claim.-1. In combination with a portable hot water radiator, a heating tube having communication with the fluif passages of the radiator and comprising closely associated relatively broad walls to compel the fluid to pass therethrough in a thin fllm, a burner combined with and surrounding said heating tube at the lower end thereof, and a heat confining jacket associated with the burner and surrounding the heating tube.
2. In combination with a portable hot water radiator, a heating tube having communication with the fluld passages of the radiator and comprising closely associated relatively broad walls to compel the fluid to pass therethrough in a thin film, a burner combined with and surrounding said heating tube at the lower end thereof, and a heat confining jacket surrunding and conforming to the shape of said heating tube.
3. In combination with a portable hot water radiator, a heating tube having with the fluid passages conmunication of the radiator and comprising closely assoclated relatively broad walls to compel the fluid to pass therethrough in a thin fllm, a burner combined with and surrounding sald heating, tube at the lower end thereof, a heat confining jacket associated with the burner and a draft regulator connected with the sald heat confining jacket.
4. In combination with a portable hot water radiator, an heating tube associated therewith and having communication with the fluid passages thereof, a burner surrounding said heating tube and provided with plural means for connection to a source of fuel supply.
5. In combination with a portable hot water radiator, an auxillary heating tube associated therewith and having communication with the fluld passages thereof, a burner surrounding said heating tube and provided with plural means for connection to a source of fuel supply, and a heat confining jacket surrounding sald tube.

## No. 100,045. Fire Pot and Grate. Pot d feu et grille.

Stefan Knapp, Detroit, Michigan, U.S.A., 17th July, 1906; 6 years. Filed 4th June, 1906. Receipt No. 136,541.
Claim.-1. In combination with a stove or furnace provided with a magazine, a fire pot, a cover therefor hinged to the stove casing and magazine, an auxiliary fire pot, a series of bars adapted to rest in supports in the stove casing and auxiliary fire pot, said supports being so arranged that the bars, when in position are below the fire pot and equidistant from each other, a grate below the auxiliary fire pot, said grate being in two parts, hinged to opposite sides of the stove casing, earh part being provided with means whereby the position of each part in relation to the auxlliary fire pot may be regulated substantially as shown and described.
2 . In combination with a stove or furnace provided with a magazinc, a fire pot, a cover therefor hinged to the stove casing, said cover having holes therethrough provided with hinged covers, a shield piece so arranged in relation to sald cover and stove casing as to form an inclosed chamber above the fire pot, an auxiliary fire pot, a serles of bars adapted to
rest in supports with which the stove casing and auxiliary fire pot are provided, said supports being so arranged thai

the bars, when in position, are below the fire pot and equidistant from each other, a grate below the auxiliary fire pot, said grate being in two parts, each of which is provided with a perforated hinge member, a hinge pin of greater length than the width of said perforated member and upon which said member is mounted to slide and to turn, said hinge pin being rigidly secured to the stove casing, each part of the grate being provided with means whereby its position in relation to the auxiliary fire pot may be regulated, substantlally as shown and described.
3. In combination with a stove or furnace provided with a magazine, a fire pot, a cover therefor hinged to the stove casing and magazine, an auxiliary fire pot, a series of bars made in two parts, hinged together and adapted to rest in supports with which the stove casing and auxiliary fire pot are provided, said supports being so arranged that the bars, when in position are below the fire pot and equi-distant from each other, a grate below the auxiliary fire pot, said grate being in two parts each of which is provided with a perforated hinge member, a hinge pin of greater length than the width of said perforated member and upon which said member is mounted to slide and to turn, said hinge pin being rigidly secured to the stove casing, each part of the grate being provided with a lug on its underside and a screw threaded through each side of the stove casing below the grate, adapted to bear against the lugs on said grate, substantially as shown and described.

No. 100,046. Grate. Grille.


FIg.2.


John Elmer Parkinson, Denver, Colorado, U.s.A., 17th June, 1906; 6 years. Filed 16th June, 1906. Receipt No. 136,990.
Claim.-1. The combination in a grate, of a supporting rod, and a series of grate sections each with a hollow boss receiving said rod and with terminal clutches whereby the sections are caused to rock together.
2. The combination in a grate, of a supporting rod, a series of grate sections each with a hollow boss, a sleeve secured to and projecting from one section, and a supporting rod extending through the sleeve and bosses, said sections having terminal clutches.
3. The combination in a grate, of a supporting rod, a series of grate sections each with a hollow boss, a sleeve secured to and projecting from one section, and a supporting rod extending through the sleeve and bosses and provided with a socketed bracket to receive a handle, said sections having terminal clutches.
4. The combination in a grate, of a supporting rod, a series of grate sections with terminal clutches rocking on said rod, a sleeve extending from the front section around said rod, and a bracket having a socket secured to said sleeve.
5. The combination in a grate, of a supportng rod, a series of grate sections with terminal clutches rocking on said rod, a sleeve extending from the front section around said rod. a bracket having a socket secured to said sleeve, and a movable detent arranged to engage shoulders of said bracket.
6. The combination in a grate, of a supporting rod, a series of grate sections with terminal clutches rocking on said rod, a sleeve extending from the front section around said rod, a bracket having a socket secured to said sleeve, and a movable detent arranged to engage shoulders of said bracket and to swing out of position by contact with a handle when in said socket.
7. The combination with the supporting rod, series of grate sections, one having a sleeve, a cross bar through which the sleeve and rod extend, and a locking strip arranged between the front grate section and the cross bar.
8. The combination with a series of grate sections provided with hollow bosses and clutches, of supporting hollow rods extending through the bosses, a sleeve connected to the front section and inclosing said rod, and a cross bar with a bearing for said sleeve.
9. The combination with a grate section, of a sleeve on which said section is connected by casting.
10. The combination with a grate section, of a sleeve on which said section is connected by casing, and a cross bar with a bearing for said sleeve.

No. 100,047. Grate. Grille.


John Elmer Parkinson, Denver, Colorado, U.S.A., 17th July, 1906; 6 years. Filed 16th June, 1906. Receipt No. 136,991 . Claim.-1. The combination in a grate, of a series of grate sections, a series of water tubes supporting said sections to rock in respect to the water tubes, and means for supplying the latter with water, substantially as set forth.
2. The combination in a grate, of a series of grate sections, a series of water tubes connected to form a continuous conduit supporting said sections to rock in respect to the water tubes, and means for supplying the latter with water, substantially as set forth.
3. The combination in a grate, of a series of grate sections, a series of water tubes supporting sald sections to rock in respect to the water tubes, means for supplying the latter with water, and means for rocking each section on its tube, substantially as set forth.
4. The combination in a grate, of a series of grate sections, a series of water tubes supporting said sections to rock in respect to the water tubes, means for supplying the latter with water, means for rocking each grate section on its tube, and means for locking each section in its normal position, substantially as set forth.
5. The combination in a grate, of a series of water tubes, and a grate section supported to rock on each water tube and provided with side bars with lower sharpened ribs, substantially as set forth.
6. The combination in a grate, of a series of water tubes, a grate section supported to rock on each water tube and consisting of a plurality of members, and means for connecting said members and for rocking the same together, substantially as set forth.
7. The combination in a grate, of a series of parallel water tubes, a sleeve turning on each tube, and a grate section connected with said sleeve to rock therewith, substantially as set forth.
8. The combination in a grate, of a series of parallel water tubes, a sleeve turning on each tube, and a grate section
consisting of a plurality of members connected with paid sleeve to rock therewith, substantially as set forth.
9. The combination in a grate, of a series of parallel water tubes, a sleeve turning on each tube, and a grate section connected with said sleeve to rock therewith, the sleeves being cut away at the top to permit the grate sections to rest on the tubes, substantially as set forth.
10. The combination with the water tubes, of sleeves each cut away at the top for part of its length, a grate section to each sleeve, and U-shaped conections engaging the sleeve with ends extending upward through the grate section and provided with threads and nuts thereon, substantially as set forth.
11. The combination with the water tubes, of sleeves each cut away at the top for part of its length, a grate section tc each sleeve having lugs below its upper surface, and: a U-shaped connection, the arms of which are threaded and extend upward through the lugs and carry nuts below the surface of the section, substantially as set forth.
12. The combination in a grate, of the front and back cross bars, sleeves rocking in openings of the front cross bar, water tubes extending through the sleeves and through the cpenings of the back croes bar and connected with each other, and grate sections connected with the sleeves to rock therewith, substantially as set forth.
13. The combination in a grate, of the front and back cross bars, sleeves rocking in openings of the front cross bar, water tubes extending through the sleeves and through the openings of the back cross bar and connected with each other, grate sections connected with the sleeves to rock therewith, and heads on the sleeve shaped to permit the engagement therewith of an operating lever, substantially as set forth.
14. The combination in a grate, of the front and back cross bars, sleeves rocking in openings of the front cross bar, water tubes extending through the sleeves and through the openings of the back cross bar and conneoted with each other, grate sections connected with the sleeves to rock
heads on the sleeve shaped to permit the engzoement therewith of an operating lever, and detents plvoted to swing over and engage the heads when the lever is not in rosition, substantially as set forth.
15. The combination with the water tubes, sleeves and grate sections, of a back bar having an upright flange with notches to receive the tubes, and a detachable retaining etrin extending across sald natches, substantially as set forth.
16. The combination with the front bar having bearings for the hollow sleeves and grate sections connected with caid sleeves, of water plpes extending through the sleeves and of less diameter than the openings of the latter, and means for maintaining the said water pipes in an elevated position within the sleeves, substantially as set forth.
17. The combination with a rocking grate bar, of a socreted head and movable detent adapted to engage said head and supported to move from the head on the introduction of a handle into the socket.
18. The combination with the rocking sections of a grate, of supporting bars, a box-like cross bar through which the supporting bars extend, and heads and detents arranged within the cross bar.

No. 100,048. Garment Eupport. Support de ceitement.
Mary Jane Penn, Batavia, Ohio, U.S.A., 17th July, 1906; 6
years. FHled 22nd June, 1906. Recelpt No. 137,151.
Claim.-1. In a skirt supporter and llfter, a belt, means connected to and located above said belt for supporting a skirt, and lifting cords adapted to be fastened on the belt, guides on the belt and said cords passed through the guides, whereby the skirt may be lifted and secured in lifted position.
2. A supporter and lifter consisting of a belt, skirt supporting means projecting above said belt, a buckle at the rear of the belt having loops, and duplicate cords adapted to be detachably connected to the skirt, sald cord being passed through said loops and provided with rings adapted tc be connected to hooks on the belt.
3. A garment lifter consisting of a support, a buckle connecting the support at the rear having guiding loops thereon, duplicate lifting cords passed through said loops having detachable lifting means for connection with the garment and having rings at their free ends to connect the hooks on the support, whereby the garment may be held in llfted position.
4. A garment lifter consisting of a support, a buckle at the rear having guiding loops, duplicate cords passed through sald loops having means for detachable connection with the garment, said cords differing in length and adapted to be attached to the garment at varying heights, and rings on the free ends of the cords adapted to be connected with hooks on the support, whereby the garment may be held in lifted position.
5. A skirt lifter consisting of a belt, a buckle in the rear thereof provided with loops, duplicate lifting cords at each

side of and a lifting cord in the center of the rear of the belt provided with snap hooks adapted to be connected to a skirt, a majority of said cords passing through the loops on sald buckle, and some of said cords connected at the sides of the belt, sald duplicate cords connected to a single cord at each side of the belt, and means for holding said single cord fast to the belt when said skirt is lifted.
6. A skirt lifter consisting of a belt, a buckle at the rear thereof provided with loops, double rings located at each side of the belt, and hooks between said rings and the front center of the belt, duplicate cords having means for attachment to said hooks and connected to a single ring, cords connected to said ring and passed through said double rings and detachably connected to attaching means on the skirt, and a plurality of said cords passing through the loops on the buckle at the rear of the belt.
7. A skirt lifter consisting of a support, a buckle at the rear of said support provided with loops, double rings located on each side of the belt, and hooks between sald rings and the front center of the support, duplicate cords having attaching eyes for connection with sald hooks and connected to a single ring, cords connected to sald ring and passed through double rings and provided with snap hooks at their ends, a plurality of said cords passed through the loops on the buckle, and rings on the inside of the skirt for sald snap hooks.
8. A skirt lifter consisting of a support adapted for adjustment around the walst of a wearer, a buckle at the rear thereof provided with loops, duplicate cords having eyes for attachment to hooks located at the sides of the belt and connected to a ring as J) at the rear of the support. a second ring located on the cord having a cord $r^{2}$ conected thereto, said cord passing through guiding means on the belt, and a cord as I passed through the loops of the buckle at the rear of the support and fastened to ring $D$, and detachable means at the ends of said cords $I r^{2}$ for connection with the skirt.
9. A skirt lifter and supporter consisting of a belt, a buckle at the rear provided with guiding loops, cords adapted to be detachably connected to a skirt passed through sald loops and having means for fastening to the belt, and elastic metallic plates extending above the belt to support a skirt.
10. A belt, a buckle connecting the belt at the rear anit provided with loops, cords passed through said loops with detachable fastening means at one end, means at the other end of said cords for fastening to the belt, elastic plates extending above the belt to support a garment and having a curved portion extending below the belt for the support thereof.
11. A belt, a buckle connecting the belt and provided with loops, cords passed through said loops with detachable fastening means at one end, adjustable fastening means at the other ends of said cords, and metallic plates connected to said belt having an upwardly projecting tongue and a downwardly projecting flexible portion.
12. The combination with a belt having downward extensions at the rear thereof, of curved metallic pleces in said extension provided with tongues extending above the belt. and slotted plates secured to a garment and adapted to recelve sald tongues whereby the garment may be held aboves the belt to prevent sagging at the rear.
13. The combination with a garment supporter of a belt having downward extensions thereon at the rear forming pockets, curved metallic pleces secured in said pockets having tongues extending above the belt, slotted plates secured to a garment and adapted to recelve sald tongues, hooks on
th belt, and a series of loops on a second garment adapted to receive said hooks.
14. The combination with a belt, of curved metallic picces secured thereto provided with tongues ext•nding above the belt, and slotted plates secured to a garment and adapted to receive said tongues.
15. The combination with a garment supporter consisting of a belt having downward extensions at the rear forming pockets, metallic pieces having curved surfaces in said pockets and provided with tongues at one end, said tongues being elongated, additional tongues sccured to the belt, and a garment having plates secured thereon providel with slots to receive said tongues.
16. A belt having downward extensions, curved metallic pieces in said extensions having elongated upper ends, alditional tongues on said belt, and a garment provided with means having a slot therein for recelving said tongues.

No. 100,049. Range and Stove. Poéle de cuisinc.


James W. Provan, Oshawa. Ontario, Canada, 17th July, 1906; 6 years. Filed 12th June, 1906. Receipt No. 136,812.
Claim.-1. The combination with a range or slove of a ligh warming closet overchanging the top of the stove, and provided with perforations in its bottom and an oulet at its top adapted for connection with a ventilating pipe, substantially as described.
2. The combination with a range or stove of a high warming closet overchanging the top of the stove, and provided with means for admitting fumes and steam from cooking into the closet, and a fine communicating with the closet through which said fumes and steam may find an exit, subtsantially as described.
3. The combination with a range or stove of a high warming closet overchanging the top of the stove, and provided with means for admitting fumes and steam from cooking into the closet, a flue communicating with the closet through which said fumes and steam may find an exit, and a damper controlling sald closet flue, substantially as described.
4. The combination with a range or stove of a high warming closet overchanging the top of the stove, a partition dividing the closet in two, means for admitung fumes and steam from cooking into one part of the closet, and a flue communicating with the same part of the closet through which said fumes and steam may find an exit, substantially as described.

## No. 100,050. Sugar Beet Seeder.

## Semoir pour betteraves.

Frederick Tiemann, Ordway, Colorado. U.S.A., 17th July, 1906; 6 years. Filed 20th June, 1906. Receipt No. 137,094.
Claim.-1. The combination with the frame and its supporting wheels and shaft of a planter, of a plurality of supplemental frames each connected to said shaft to swing independently, each supporting ploughs and seed distributing mechanism, means for operating said mechanisms from said shaft, and independent clutch devices between the shaft and each of said means, substantially as set forth.
2. The combination with the seed box of a planter having a port at the end, of a seed wheel having pockets, means for rotating it to carry said pockets past said port, a closing plate at the opposite side of the wheel having a port, and a conduit leading downward from the latter port, substantially as set forth.
3. The combination with the seed box of a planter having an end piece and port therein of a shaft extending through said end, a seed wheel with pockets secured to said shaft and rotating in contact with the outer face of said end piece, a
plate in contact with the outer face of the wheel having 3 channel, the upper end of which is in position to coincide

with the pockets, a plough and a conduit extending from above the plough to the lower end of said channel, substantially as set forth.
4. In a sced distributcr, a box having a port at one end, a seed wheel with pockets arranged to be brought opposite said port, a plate having a channel with which said pockets may be brought into communication, and a spring arranged adjacent said wheel to spring into each pocket as the latter passes the spring, substantially as set forth.
5. A box for a planter having an end piece with a port therein, a wheel with pockets rotating in contact with the outer face of said end piece, and a plate recessed at the inner face to roceive said wheel and with a channel, the upper end of which is in position to coincide with the said pockets as the whel revolves. substantially as set forth.
6. The combination with the frame of a planter, of a supplemental frame, a seed box carried thereby, seed distributing mechanism at each end of said box, and ploughs carried by said box, each plough on a bar adjustable vertically in said supplemental frame substantially as set forth.
7. The combination with the main frame and driving shaft. of the swinging seed distributing frame, a rock shaft, connections whereby to elevate the rear end of the seed distributing frame, driving mechanism including a clutch device, and connections whereby the clutch device is shifted when the rock shaft is operated to lift the seed distributing frame. substantially as set forth.
8. The combination with the main frame, driving shaft, swinging frame $E$, rock shaft $3:$ connected to the frame $E$, and means for rocking said shaft, of sprocket wheels loose upon the driving shaft, sprocket chains carried by said wheels and extending to pinions on the frames $E$, clutch devices for ronnerting the sprocket wheels to and releasing them from the shaft. and connections whereby the clutch devices are shifted as the rock shaft is turned, substantially as set forth.
No. 100,051. Saw Mill. Ścicric.


William Henry Trout, Milwaukee, Wisconsin, U.S.A., 17th July, 1906; 6 years. Filed 23rd June, 1906. Receipt No. 137,215.
Claim.-1. In saw mill set works the combination with the setting stand provided with a home stop and the stop shaft
journalled in said stand and having a ratchet wheel fixed thereon, of a gauge plate having a notched rim, a stop arm pivotally mounted on the stand concentrically with the ratchet wheel and provided with a locking device for securing it to the ratchet wheel, and a handle movable mounted on the stop arm for operating said locking device and having a projection adapted to engage with a notch in the gauge plate as the locking device is engaged with the ratchet wheel and thereby exactly determine the set for cutting lumber of the desires dimension, substantially as described.
2. In a saw mill set works the combination with the setting stand provided with a home stop and the stop shaft journalled in said stand and having a ratchet wheel fixed thereon, of a stop arm pivoted concentrically with said ratchet wheel and provided with a pawl or toothed block for locking it to said ratchet wheel, and a graduated gauge plate having a notched rim concentric with the ratchet wheel, and a lever pivoted to the stop arm, connected with said pawl or toothed block and provided with a projection adapted to pass through a notch in the gauge plate and hold said arm in a position exactly corresponding therewith while the pawl or toothed block is being carried into engagement with the ratchet wheel, substantially as described.
3. In saw mill set works the combination with the setting stand provided with a home stop and the stop shaft journalled in said stand and having a ratchet wheel fixed thereon, of a stop arm pivoted concentrically with the ratchet wheel and provided with a pawl or toothed block pivotally connected therewith and adapted to lock it to said ratchet wheel, a graduated gauge plate pivoted on said shaft adjacent to said arm and having a notched rim, means for adjusting said gauge plate with relation to the home stop, a graduated dial journalled on said shaft adjacent to the gauge plate and connected by gears with said shaft, and a lever pivoted to the stop arm, connected with said locking pawl or block and provided with a projection adapted to pass through the notches in the gauge plate and to hold the stop arm in corresponding positions while the locking pawl or block is being engaged with the ratchet wheel, substantially as described.
4. In saw mill set works the combination with the setting stand provided with a home stop and the stop shaft journalled in said stand and having a ratchet wheel fixed thereon, of a stop arm pivoted concentrically with the ratchet wheel and provided with a locking device for securing it thereto, a graduated gauge plate pivoted concentrically with said ratchet wheel for determining the point of locking said stop arm to the ratchet wheel, a tooth or arm pivoted on said stand and engaging said gauge plate, a latch connected with sa'd pivoted tooth or arm, and a stationary rack with which said latch engages, substantially as described.
5 . In saw mill set works the combination with the setting stand provided with a home stop, the stop shaft journalled in said stand and having a ratchet wheel fixed thereon, and a pawl pivoted to the stand for preventing backward movement of the ratchet wheel, of a stop arm pivoted concentrically with the ratchet wheel and provided with a locking device for securing it thereto, a gauge plate pivoted on said stop shaft above the ratchet wheel for determining the point of locking said stop arm to the ratchet wheel, a tooth or arm pivoted on the stem of said pawl and engaging with said gauge plate, a latch connected with said tooth or arm, and a stationary rack with which said latch engages, substantially as described.
6. In saw mill set works the combination with the setting stand provided with a home stop and the stop shaft journalled in said stand and having a ratchet wheel fixed thereon, of a stop arm pivoted concentrically with the ratchet wheel and provided with a locking device for securing it thereto, a graduated gauge plate located above and concentric with the ratchet wheel for determining the point of locking said arm to said ratchet wheel, and a graduated dial pivoted upon said shaft and connected therewith by gears, said gauge plate being recessed on its upper side to receive said dial, the graduated face of which is approximately flush with the raised graduated rim of the gauge plate, substantially as described.
7. In saw mill set works the combination with the setting stand provided with a home stop and the stop shaft journalled in said stand and having a ratchet wheel fixed thereon, of a stop arm pivoted concentrically with said ratchet wheel and provided with a locking device for securing it thereto, a graduated gauge plate for determining the point of locking said arm to said ratchet wheel pivoted on said shaft above the ratchet wheel and recessed on the upper side, a dial having an internally toothed depending rim journalled on said shaft above said gauge plate and connected by gears with said shaft, a pawl for preventing recoil of the ratchet wheel when the stop arm engages the home stop, a tooth or arm pivoted on the stem of said pawl and engaging with said gauge plate, a gear support attached at one end to said stand, extending around said tooth or arm between the gauge
plate and dial encircling the stop shaft and carrying the gears which connect the dial with said shaft, a looped frame attached to the stand, passing around the stop shaft above the dial and provided with a bearing for the stem of said pawl and with a curved rack concentric with said stem, and a latch pivoted to the hub of said tooth or arm and provided with a transversely adjustable tooth adapted to engage with said rack, substantially as described.
8. In saw mill set works the combination with the setting stand provided with a home stop and the stop shaft journalled in said stand and having a ratchet wheel fixed thereon, of a stop arm pivoted concentrically with the ratchet wheel and provided with a locking device for securing it thereto, a graduated gauge plate pivoted on said shaft for determining the point of locking said arm to the ratchet wheel, a graduated dial journalled on said shaft adjacent to said gauge plate, a pawl for preventing recoil when said arm strikes the home stop, a frame piece attached to the stand, extending over the dial, and provided with a bearing for the stem of said pawl and with a rack which is concentric with said stem and terminates at one end in an index or pointer adjacent to a circular scale on the dial, a tooth or arm pivoted on the stem of said pawl and engaging with said gauge plate, and a latch connected with said tooth or arm and adapted to engage with said rack, substantially as described.
9. In saw mill set works the combination of the setting stand provided with a home stop, a stop shaft journalled in said stand, a ratchet wheel fixed on said shaft, a stop arm pivoted concentrically with the ratchet wheel and provided with means for locking it thereto, an adjustable gauge plate provided above and concentric with said ratchet wheel for determining the point of locking said arm to said ratchet wheel, a dial journalled on said shaft and connected therewith by gears above the gauge plate, a pawl for preventing recoil of the ratchet wheel when the stop arm strikes the home stop, a gear support extending from the stand between the gauge plate and dial and having a bearing on the stop shaft, a tooth pivoted on the stem of said pawl and engaging with said gauge plate, a frame piece provided with a bearing for the stem of said pawl and with a rack and extending from the stand over the dial to the stop shaft on which it has a bearing, a latch pivoted to the hub of said tooth or arm and adapted to engage with said rack, a spring actuated bolt for holding said pawl in and out of engagement with the ratchet wheel, and a socket for said bolt having a shank by which said gear support and frame piece are secured to the stand, substantially as described.
10. In saw mill set works the combination with a stationary index, of a rotary dial having a scale on which said index shows the distance of the knees from the sawing plane, and a lumber scale adjustable on said dial with relation to the other scale, substantially as described.
11. In saw mill set works the combination with gauge and stop mechanism, of a rotary dial connected with the setting mechanism and provided with a circular scale for determining the distance of the knees from the sawing plane and with an adjustable ring having circular lumber scales concentric with the dial and with the other scale thereon, and a stationary index with which said scales are read, substantially as described.

No. 100,052. Washing Machine. Machine à laver.


Margaret C. Wilkin, Decatur, Illinois, U.S.A., 17th July, 1906; 6 years. Filed 5th June, 1906. Receipt No. 136,583.
Claim.-The combination with the stationary outer vessel 1 , and the cover 2 therefor, of a vertical shaft journalled in the
bottom and in the cover of the outer vessel, an inner revoluble disc carrying vessel secured to said shaft and having a perforated bottom and perforated sides, imperforate radial flanges projecting outwardly from the sides of the inner vessel and disposed parallel with the axis of the shaft, and perforated radial partitions secured to the shaft and to the inner vessel to rotate therewith, whereby compartments are formed in the inner vessel, substantially as specified.

No. 100,053. Railway Rail Joint.
Support de joint de rails de chemin de fer.


Linnaeus Winans, Hood River, Oregon, U.S.A., 17 th July, 1906; 6 years. Filed 15th June, 1906. Receipt No. 136,938.
Claim.-In a device of the character described the combination with two adjacent railway rails and the ties for supporting the same, of a rail supported of a width greater than that of the bases of said rails and having its ends turned down at right angles to provide flanges, said flanges being adapted to engage and lie flush with the outer vertical edges of two adjacent ties, and a strengthening rib or web secured to the underside of that part of the rall joint supporter which bridges the space between the two ties and being tapere: from its center towards its ends.

No. 100,054. Rail Joint. Joint de rails.


Charles K. Frecr, Memphis, Tennesste, U.S.A., 17th July, 1906; 6 years. Filed 2丷天nd June, 1,06t. Receipt No. 137,174.
Claim.-1. A rail joint comprising transverse clamping lugs a rall chair, double wedges on the underside of the rail chair. and a support for the double wedges from the said clamping luss.
2. A rail joint comprising transverse clamping lugs, a rail chair, double wedges on the underside of the rail chair, and links hung on the said clamping lugs and supporting the said double wedges.
3. A rail joint comprising transverse clamping lugs, a rail chair having upturned flanges for receiving the terminals of the said lugs, an upper wedge on the underside of the rail chair, a bottom wedge in contact with the upper wedge, and links supporting the bottom wedge from the said clamping lugs.
4. A rail joint comprising transverse clamping lugs, a rail chair having upturned flanges for receiving the terminals of the said lugs, an upper wedge on the underside of the rail chair, a bottom wedge in contact with the upper wedge, links supporting the bottom wedge from the said clamping lugs, and means connected with the said rail chair for holding the upper wedge against movment.
5. A rail joint comprising transverse clamping lugs, a rail chair having upturned flanges for receiving the terminals of the sald lugs, each of the lugs having a pin engaging an aperture in the corresponding flange, an upper wedge on the underside of the rail chair, a bottom wedge in contact with the upper wedge, and links supporting the bottom wedge from the said clamping lugs.

No. 100,055. Railway Tie. Dormant de chomin de fer.


Charles W. Israel, Paris, Illinols, U.S.A., 17th July, 1906; 6 years. Filed 13th June, 1906. Receipt No. 136,850.
r'laim.-1. A railway tie comprising end sections mutually connected, each section comprising a plastic base, a metallic top plate, a brace for the top plate, and a truss wire conmected with the said plate and passed under the brace and having anchors at its ends, said wire brace and anchors being embedded in the base.
2. A railway tie comprising a plastic base, a top plate sesured upon the base and having perforations therethrough. rail clips, bolts engaged with the rail clips and with said perforations, nuts engaged with the lower enas of the bolts, the plastic base having recesses in its sides in which the nuts are received, and a supporting truss for the top plate embedded in the base.
3. A railway tie comprising end sections mutually connected, each section comprising a plastic base, a metallic top plate, depending webs at the ends of the top plate, a brace for the top plate, and a truss wire engaged through the webs and passed under the brace and having anchors at its ends, said wire, brace and anchors being embedded in the base.
4. A railway tie comprising a plastic base, a top plate secured upon the base and having perforations therethrough, rail clips, bolts engaged with the rail clips and with said perforations, and nuts engaged with the lower enas of the bolts, the plastic base having recesses in its sides in which the nuts are received.

## No. 100,056. Sash Balance for Car Windows. <br> Contre-poids de châssis pour fenêtres de chars.

The St. Louis Car Company, assignee of Karl Schllepmann, St. Charles, assignee of the St. Louis Car Company, St. Louis, both in Missouri, D.S.A., 17th July, 1906; 6 years. Filed 22nd May, 1906. Recelpt No. 136,145.
Claim.-1. In a sash balance for street cars the combination of a balance drum, a balance ribbon connected to said drum, a hanger in which sald drum is rotatably mounted, and trackets in which said hanger is swingingly mounted, substantially as set forth.
2. In a sash balance for street cars the combination of a balance drum. a balance ribbon connected to said drum, a
hanger in which said drum is rotatably mounted, pintles extending from said hanger at its upper ends, and supporting

brackets in which said pintles are loosely fitted. substantially as set forth.

No. 100,057. Mower. Faucheuse.


The International Harvester Company, Chicago, Illinols, assignee of George H. Bartlett, Madison, Wisconsin, all in the U.S.A., 17th July, 1906; 6 years. Filed 7th May, 1906. Receipt No. 135,635.
Claim.-1. A cutting apparatus for mowers comprising in combination reciprocating devices, a series of pairs of guard fingers having intervening spaces, a reciprocating knife cyomprising a series of sections in operatlve relation with'said fingers, the stroke being such and said sections being so arranged relative to said pairs of fingers that their points, when at the end of strokes of said knife in opposite directions, will be approximately coincident with the medial lines o! the intervening spaces between the members of adjacent pairs of guard fingers.
2. $A$ cutting apparatus for mowers comprising in combination reciprocating devices, a series of groups of guard fingers having substantially equal intervening spaces, a rec!procating knife comprising a corresponding series of sectlons in operative relation with sald fingers, means for reciprocating said knife in a manner whereby the point of each section will register with a medial line of a space between two guards of one group of guard fingers at the end of one stroke, and with a medial line of a space between the guards of an adjacent group at the end of the opposite stroke.

## No. 100,058. Process of Recovering Precious Metals.

## Procédé pour obtenir des métaux précieux.

T'he Just Mining and Extraction Company, assignee of John A. Just, all of Syracuse, New York, U.S.A., 17th July,

1906; 6 years. Filed 9th April, 1906. Reccipt No. 134.759.
Claim.-1. The process of extracting precious metals from ores or materials containing said metals, which consists in treating sald ores or materials with nitro-sulphonic acid.
2. The process of extracting a precious metal from ores or cuaterials containing said metal, which consists in treating said ores or materials with nitro-sulphoric acid to obtain the metal in colution and recovering the precious metal from the solution in any suitable known manner.
3. The process of extracting silver and gold from ores or materials containing sald metal, which consists in treating said ores or materials with nitro-sulphoric acid.
4. The process of extracting silver from ores or materials containing sald metal, which consists in treating said ores or materials with nitro-sulphoric acid.

No. 100,059. Flush Hinge. Penture.


Henry Edward Larcombe, assignee of Thomas Franklin Saling, both of North Yokima, Washington, U.S.A., 17th July, 1906; 6 years. Filed 11th April, 1006. Receipt No. 134,855.
6laim.-1. A flush hinge comprising leaves 4, 4, formed with in:turned flanges 8 having cut-away corners 9, a link 5 adapted to fit between said leaves and having stops 11 at its ends, to engage the cut-away corners of said flanges, and pivots connecting said link to the flanges of said leaves, substantially as described.
2. $\Lambda$ flush hinge comprising leaves 4, 4, formed at their ends with inwardly projecting flanges having bevelled correers and upon their inner sides with longitudinally extending recesses, a link 5 disposed between the flanges of sald leaves and having bevelled edges to co-act with the recesses in said leaves, and wedge-shaped stops at its ends to co-act with the bevelled corners of said flanges. and pivot pins passed through said flanges and into said link, substantially as described.

No. 100,060. Gate Hinge. Penture de barrière.


John A. Jones, Mitehell, Montana, U.S.A., 17th July, 1906; 6 years. Filed 8th May, 1906. Recelpt No. 135,688.
Claim.-A gate hinge consisting of a continuous pintle directly attachable to a post and hinge eyrbolts, rotatively mounted on the pintle and attachable to a gate, in condenatt:on with a guide and brace piear, having a collar iljs.': fitting upon the pintle below the lower hinge bolt, and vertically adjustable thereon by means of a set screw, and of st:ch length as to have the free end in contact with the post

No. 100,061. Door Bolt Mechanism.
Mécanisme de verrou de porte.


William B. Morewood, Elizabeth, New Jersey, U.S.A., 17th July, 1906; 6 years. Filed 30th April, 1906. Receipt No. 135,374.
Claim.-1. In a door lock, the combination of a shaft parallel to and extending across the door, said shaft rotatably mounted in bearings which are fixed to the door, a push plate to rotate the shaft extending across the door and carried by outwardly and upwardly extending arms fixed to said shaft, a circular plate rigidly fixed to the end of the shaft, cne or more links pivotally connected to said circular plate outside the axis of the shaft, a bolt pivotally connected with each of said links, and guides on said door for said bolts.
2. In a door lock, the combination of a shaft parallel to and extending across the door, said shaft rotatably mounted in bearings which are fixed to the door, a push plate f.o rotate the shaft extending across the door and carried: by outwardly and upwardly extending arms fixed to said shaft, a circular plate rigidly fixed to the end of the shaft and having its rim extending within the face of the door into a countersunk opening provided therefor, one or more links pivotally connected to said circular plate outside the axis of the shaft, a bolt pivotally connected with each of said links, and guides on said door for said bolts.

No. 100,062. Door Holder. Arrete-porte.


John Becker, Wichita, Kansas, U.S.A., 17th July, 1906; 6 years. Filed 27th March, 1906. Receipt No. 134,332.
Claim.-1. The combination with a door and its frame, of a rock bar secured to one of said parts and held in a projected or spaced position therefrom with its teeth facing said part, and a spring pressed latch mounted upon the other of said parts and pivotally connected thereto and provided with a dog engaging the teeth of the rack bar.
2. The combination with a door and its frame, of a rack bar secured to one of said parts and held out therefrom with its toothed surface facing the part, and a spring pressed latch mounted upon the other of said parts and pivotally connected thereto so as to move in a plane coincident with the plane of movement of the door and provided at its free end with a dog designed to engage with any one of the teeth of the said rack bar.
3. A door securer or holder comprising a rack bar designed to be secured to a door casing or the like, and a pivoted spring pressed latch arm arranged for attachment to a door casing or the like, and a pivoted spring pressed latch arm arranged for attachment to a door, a pivoted finger carried by said arm and provided with a dog designed for engagement with the teeth of the rack bar, and means for holding said finger in such position relative to the arm that the dog will be held out of engagement with the rack bar, as and for the purpose set forth.
4. A door securer or holder, comprising a rack bar designed to be secured to a door casing or the like, a pivoted latch arm arranged for attachment to a door, a rocking finger carried by said pivoted arm and provided with a dog designed for engagement with the teeth of the rack bar, and means for rocking said finger on the arm whereby to disengage the dog from the rack bar.
5. A door securer or holder comprising a rack bar arranged for attachment to a door casing or the like, a pivoted latch arm adapted for attachment to a door, a rocking finger mounted on the free end of said arm and provided with a dog designed for engagement with the rack bar, and a pull cord secured to said finger and arranged to rock the same so as to carry the dog out of engagement with the rack bar.
6. A door securer or holder, comprising a rack bar arranged for attachment to a door casing or the like, a pivoted spring pressed arm adapted for attachment to a tooth, a finger pivotally mounted on said arm, said finger carrying a dog designed for engagement with the rack bar and also provided with a bearing lug designed to bear against and slide over the teeth of the rack bar when the finger is rocked to carry its dog out of engagement with said teeth, and means for rocking said finger.
7. A door securer or holder comprising a rack bar arranged for attachment to a door casing or the like, a pivoted spring pressed arm designed to be attached to a door, a finger pivotally mounted on the end of said arm and provided with a dog adapted for engagement with the teeth of the rack bar and also provided with a bearing lug arranged to bear against the teeth of the rack bar when the finger is rocked, so as to carry the dog out of engagement with said teeth, a stud on said finger, said stud being adapted for engagement with the arm whereby to limit the rocking or relative movement of the finger thereon, and means for rocking said finger.
8. The combination with a door and its frame, of a rack bar secured to the door frame, a pivoted spring arm attached to the door, a finger pivotally mounted on the end of said arm and provided with a dog designed to engage said rack bar, there being provided on the door guides, and a pull cord or cable secured to said finger and passing through the guides on the door and arranged to rock said finger, as and for the purpose set forth.

No. 100,063. Bolt Lock. Serrure à verrou.


Theodor H. Bauer, Middletown, Ohio, U.S.A., 17th July, 1906 6 years. Filed 12th March, 1906. Receipt No. 133,762.
Claim.-1. In mechanism of the class described the combination with a closure, of a bolt slidably mounted thereon, an actauting bar also slidably mounted on the closure in rear of the bolt and having a resess that receives the rear end thereof, the recess having an inclined wall and the said rear end being likewise inclined and movable into and out of the recess, and a link pivotally connected to the bolt in advance of its rear end and to the bar.
2. In mechanism of the class described the combination with a closure, of oppositely movable bolts slidably mounted on the closure, a sliding actuating bar disposed between the bolts in angular relation thereto and having recesses in its opposite edges that receive the rear ends of the bolts, sets of links pivotally connected to the bolts in advance of the portions that are received in the recesses, and a common pivotal device for connecting the links of each set to the bar.
3. In mechanism of the class described the combination with a closure, of a base plate secured thereto, oppositely extending sets of bolts mounted on the base plate, guldes for sald bolts carried by the plate, an actuating bar extending longitudinally of the base and slidable thereon, sald bar extending between the bolts at substantially right angles thereto, guides for retaining the bar to the base, and oppositely extending sets of links, each set having a common pivotal connection with the bar and being furthermore pivotally connected to the bolts, said bolts and operating mechanism therefor being thereby carried by and removable with the base plate in assembled relation.
4. In mechanism of the class described the combination with a closure, of locking bolt therefor, an actuating device for the bolt having a key-receiving socket, and a holding dog movable into and out of the key-receiving socket and engaging the walls of said socket to hold the actuating device against movement.
5. In mechanism of the class described the combination with a closure, of a locking bolt therefor, an actuating bar for the bolt slidably mounted on the closure and having an opening constituting a key-receiving socket, and a spring pressed holding dog mounted on the closure and movable into and out of the key-receiving socket and engaging the walls of said socket to maintain the bar against its sliding movement.
6. In mechanism of the class described the combination with a closure, of a base mounted thereon, bolts slidably mounted on the base, an actuating bar slidably mounted on the base in angular relation to the bolts, said bar having a key-recelving opening in one end, a spring mounted on the base, and a dog pivotally mounted on the base secured to the spring, said dog being movable into the key-receiving opening and engaging the walls thereof to hold the bar against movement when said bar is in a predetermined position and being furthermore moved out of said opening when the key is inserted therein.
7. In mechanism of the class described the combination with a closure, of a base mounted thereon, oppositely extending bolts slidably mounted on the base, an actuating bar located at right angles between the bolts and slidably mounted on the base, said bar having a key-receiving opening in one end, links pivotally connecting the bar and bolts, and a spring pressed dog secured to the rear side of the base and being movable into the opening when the bar is in a predetermined position and engaging the walls of said opening to hold said bar in said predetermined position.
8. In mechanism of the class described the combination with a box or case having opposite side walls provided with spaced recesses, of curved holding plates secured to the opposite walls of the case and having terminals located over the recesses and provided with bolt receiving seats, a closure for the box or case, sllding bolts mounted on the under side of the closure and being movable into the bolt receiving seats, means located between the bolts for moving the same in opposite directions, and a key arranged to be passed through the box or case and engage sald actuating means.

## No. 100,064. Fastener for Keys, Windows, Ditc.

 Attache de fenĉtre, etc.Addison Calvin Fletcher, New York City, New York, U.S.A., 17th July, 1906; 6 years. Filed 30th April, 1906. Recelpt No. 135,390 .
Claim.-1. A fastening device comprising two hooks of substantially duplicate construction and disposed in a common plane, each hook consisting of two connected approximately U-shaped portions the outer terminals of the outer U-shaped portions being directly opposite each other.
2. A fastening device comprising a shank and two hooks of substantlally duplicate construction at one end of the shank, the hooks facing each other and each consisting of two connected approximately $U$-shaped portions disposed at an angle to each other.
3. A fastening device comprising a body provided at one end with means for securing its loose suspension and at the other end with two stiff hooks of duplicate shape facing each other, each hook being adapted for locking engagement with an eye.
4. A fastening device comprising two hooks of substantially duplicate construction facing toward each other, each hook having interiorly thereof a shoulder arranged substantially opposite the bill thereof.
5. A fastening device comprising a body having an opening at one end, whereby it may be connected with a hook or

equivalent device in a loose manner and two stiff hooks at the opposite end of duplicate construction, said hooks facing toward each other, being of different sizes, and each being adapted for locking engagement with an eye.

No. 100,065. Pump. Pompe.


Carl Suczek, Wsetin, near Brünn, Austria, 17th July, 1906; 6 years. Filed 18th April, 1905. Receipt No. 124,394.
Claim.-A pump having an eccentric provided with a ring carrying a wing working in a guide which is mounted within an extension of the pump casing and oscillates as the eccentric rotates, sald eccentric ring, wing and gulde being of the same width as the interior of the pump casing, all substantially as described.

No. 100,066. Method of Destroying Nozious Fumes or Ganes.

## Méthode do détruire les gas perniotous.

Herbert Walker, the Ginsberg Gold Mining Company. Knight, Transvaal, South Africa, 17th July, 1906; 6 years. Filed 10th April, $1906 . \quad$ Receipt No. 134,799.
Claim.-1. A mixture for destroying or neutralizing the noxious or poisonous fumes or gases in blasting operations in mines and the like, consisting of permanganate of potash and an ingredient which serves as a detonator therefor.
2. A mixture for destroying or neutralizing the noxlous or polsonous fumes or gases in blasting operations in mines and the like, consisting of permanganate of potash and chlorate of potash which serves as a detonator therefor.
3. A mixture for destroying or neutralizing the noxious or poisonous fumes or gases in blasting operatious in mines and the like consisting of permanganate of potash and chlorate of potash which serves as a detonator therefor, and sal-ammoniac.
4. A mixture for destroying or neutralizing the noxious or polsonous fumes or gases in blasting operations in mines and the like, consisting of permanganate of potash, chlorate of potash and sal-ammonlac, in the proportions of permanganate of potash ten pounds, chlorate of potash one to two drams, and sal-ammoniac half to one dram, substantially as described.

No. 100,067. Sash Lock. Arrête-croisée.


Franklin M. Coleman, Moultrie, Georgia, U.S.A., 17th July, 1906; 6 years. Filed 14th May, 1906. Recelpt No. 135,916.
Claim.-1. A sash lock comprising a plate, a plurality of bolts carried by the plate and arranged at an angle to each other for engagement with the window frame and one of the window sashes respectively, a flexible connection between said bolts for simultaneously moving the bolts to inoperative position, and means carried by the flexible connection and engaging the plate for locking said bolts in inoperative position.
2. A sash lock comprising a bolt mounted upon and extending through one sash for engagement with the opposite sash, a second bolt mounted upon the same sash and adapted to engage the window frame, and a flexible connection between the bolts for simultaneously moving said bolts to inoperative position.
3. A sash lock comprising a plate provided with a lateral lip, a plurality of bolts mounted on the plate and arranged at an angle to each other for engagement with the adjacent sash and window frame respectively, a flexible connection between the bolts for moving the same to noperative position, and a hook carrled by the flexible connection and adapted to engage the lip for locking said bolts in inoperative position.
4. A sash lock comprising a bolt mounted upon and extending through one sash and engaging the other sash, a bolt mounted upon the same sash at right angles to the first bolt and engaging the window frame, meaus whereby a rotary movement of the frame engaging bolt moves sald bolt to inoperative position and means connecting the two bolts for disengaging both bolts simultaneously.
5. A sash lock comprising a spring actuated bolt mounted upon and extending through one sash and engaging the other sash, a second bolt mounted at right angles to the first bolt and adapted to engage the window frame, a member provided with a cam slot for engagement with the second bolt and so arranged that a rotary movement moves the bolt longitudinally out of engagement, pulleys mounted between the bolts, a cord passing over the pulleys and connecting the bolts whereby a rotary movement of the frame engaging bolt moves the other bolt longitudinally to Inoperative position, means carried by the cord for maintaining the bolts in inoperative position, and means for maintaining the cord.

## No. 100,068. Sash Fastener. Arrête-croiséc.

Joseph Hunt, Miami, Manitoba, Canada, 17th July. 1906; 6 years. Filed 2nd April, 1906. Receipt No. 134,517.
Claim.-1. In a sash fastening device the combination comprising a casing provided with a sleeve, a perforated plate disposed over one end of the sleeve, a rod disposed in the sleeve and projecting through the perforated plate, a plunger secured on the rod, means for locking the rod in a plurality of positions, and a spring disposed around the rod.
2. In a sash fastening device the combination comprising a casing provided with a sleeve, a perforated plate disposed over one end of the sleeve and provided with a fiange adapted to engage the sleeve, a rod disposed in the sleeve and projected through the perforated plate, a plunger secured on the rod, a spring disposed around the rod, and means for locking the rod in a plurality of positions.
3. In a sash fastening device the combination comprising a casing provided with a sleeve, a perforated plate disposed over one end of the sleeve, a rod disposed in the sleeve and projected through the perforated plate, a hook disposed on
one end of the rod, a screw adapted to secure the hook on the rod, a spring disposed around the rod, and means for locking the rod in a plurality of positions.

4. In a sash fastening device the combination comprising a casing provided wtin a sleeve, a perforated plate disposed over one end of the sleeve, a rod disposed on the sleeve and projecting through the perforated plate, a plunger provided with a shank secured on the rod, a spring disposed around the rod, and means for locking the rod in a plurality of positions.
5. In a sash fastening device the combination comprising a casing provided with a sleeve, a perforated plate disposed over one end of the sleeve, a rod disposed in the sleeve and projected through the perforated plate, a plunger secured on the rod and provided with a reduced end, a body of resilient material on the reduced end, pins adapted to maintain the resllient body in position, a spring disposed around the rod, and means for locking the rod in a plurality of positions.
6. In a sash fastening device the combination comprising a casing provided with a sleeve, a perforated plate disposed over one end of the sleeve, a rod disposed in the sleeve and projected through the perforated plate and provided with a slot having lugs projecting therein, a plunger secured on the rod, a sprine disposed around the rod, and a collar disposed on the rod and provided with a lug adapted to enter sald slot and engage said projections.
7. In a device of the character described the combination comprising a window casing having a recess therein, a metallic lining for the recess, a sash movable with relation to the casing and provided with a recess and having an opening thercthrough merging into the recess, a casing disposed in the recess in the sash and provided with a sleeve projecting through said opening, a plate disposed over one end of the recess and provided with an opening, a rod disposed through said opening and extending into said sleeve. a shank formed on a plunger head and secured to the rod, and means for locking the rod in a plurality of positions.

No. 100,069. Sash Weight. Contre-poids de chassis.


Ferdinand Charles Schwadtman, St. Louis, Missouri, U.S.A., 17th July, 1906; 6 years. Filed 6th April. 1906. Regeipt No. 134,667.
Claim.-1. As a new article of manufacture, a weight composed of a core of ground barytes and a bonding agent surrounded by a shell of metal which fills the surface pores of said core, substantially as described.
2. As a new article of manufacture, a weight composed of a shaped core which consists of ground barytes mixed with a bonding agent, and having a fugitive coating of impervious material, and a shell of metal which fills the pores of the core formerly occupied by the impervious coating, substantially as described.

## No. 100,070. Window Sash. Chassis de fenêtre.



Frederick Kling, St. Louis, Missouri, U.S.A., 17th July. 1906; 6 years. Filed 24th April, 1906 . Receipt No. 135,222
Claim.-A window sash anti-rattler comprising a block adapted to be secured to the window frame, a nose on sald block adapted to overlap the stop bead of the frame, said stop bead being yieldingly mounted to said frame, and a flexed spring at the base of the nose adapted to bear with its free end against the adjacent edge of the stop bead and force the latter against the sash, substantially as set forth.

No. 100,071. Window Sash Fastener. Arrête-croisée.


Charles Hoyt Williams, Buffalo, New York, U.S.A., 17th July, 1906; 6 years. Filed 3rd April, 1906. Recelpt No. 134,564.
Claim.-1. The combination in a window sash fastener with a locking plate adapted to be attached to and extend beyond a side bar of the upper sash having a slot and a bolt hole therein and provided with a cam, such slot, bolt hole and cam being in and on that portion of said locking plate which projects beyond said side bar, of a bolt provided with a lug adapted to pass through said bolt hole and slot and sald lug engaging said cam when said bolt is turned, and a keeper for the bolt capable of being attached to the upper rail of the lower sash.
2. The combination in a window sash fastener with a locking plate adapted to be attached to and extend beyond a side bar of the upper sash having a slot and a bolt hole therein and provided with a cam, a casing adapted to be attached to the upper rail of the lower sash and having longitudinal and transverse slots therein, and a bolt operating in said casing and provided with a lug adapted to pass through said bolt hole and said slot in said locking plate and the lug engaging sald cam when sald bolt is turned, the bolt being also provided with a thumb piece arranged to operate in the slots in the casing.
3. A bolt casing for a window sash fastener comprising a longitudinally and transversely slotted barrel and a hood at one end of larger diameter than said barrel, a slot being provided in the vertical wall of said hood and opening into the longitudinal slot in the barrel.
4. A bolt keeper for a window sash fastener consisting of an independent base plate provided with a ribbed guide for the bolt, and a casing adapted to be superimposed on said base plate and comprising a longitudinally and transversely slotted barrel, and a hood at one end of larger diameter than said barrel, a slot being provided in the vertical wall of said hood and opening into the longitudinal slot in the barrel.

No. 100,072. Binder. Lieuse.


Albert Williams, Joliet, Montana, U.S.A., 17th July, 1906; 6 years. Filed 19th April. 1906. Receipt No. 135,063.
Claim.-1. The combination of the binder deck inclined downwardly toward its outer edge, the binding devices and the trip, and the box provided at its upper edge with an inwardly projecting flange secured beneath the binder deck at the lower edge of the latter, the said box being also provided in its upper edge at its inner side with a notch adapted to receive the trip while the bundle or sheaf is being discharged from the binder, substantially as set forth.
2. The combination with the binder deck, the box having an end gate or door, cross braces extending over the top of the box, flanges at the upper inner edge of the box and arranged to underlie the binder deck, means securing the flunges to the deck, the box being notched in its upper edge tu receive the trip, and means for bracing the box from the binder frame, substantially as set forth.

No. 100,073. Grain Elevator. Elíratcur d grain.


Fig. 1.
Fred W. Cooley and George T. Houstain, assignee of onethird interest, both of Minneapolis, Minnesota, U.S.A.. 17th July, 1906; 6 years. Filed 14th April, 1906. Receipt No. 134,922 .
Claim.-1. In a device of the kind described, the combination with a cup equipped elevator belt and co-operating leg. of a pan forming a bottom to said leg, sald pan having an open accumulation chamber or space at one side, of a pit taving an inclined bottom directly secured to one end of sald pan and arranged to deliver grain directly into eaid pan. substantially as described.
2. In a device of the kind described, the combination with an elevator leg. of a pan secured to and forming a bottom to said leg, a wheel at the lower end of said leg, working in said pan, a cup equipped elevator belt working in said leg and running under sald wheel, an open accumulation chamber in one side of said pan, an open pit leading upward from said accumulation chamber, and an in-pit having an inclined bottom directly secured to one end of said pan and arranged ic deliver grain directly into said pan, substantially as described.
3. In a device of the kind described, the combination with $\therefore r$ elevator leg, and a pan secured to the lower portion of said leg and having a bottom thereto, a wheel journalled at the lower portion of said leg and working in said pan, a cup eçupped elevator belt running under said wheel and through said leg. accumulation chambers at the sides of said pan.
intermediate open pits leading upward from said accumulation chambers, and positively disposed end pits having inclined bottoms directly secured to the ends of said pan and arranged to deliver grain directly into said pan, substantially as described.
4. The combination with elevator legs 1, a pulley 3, and a cup equipped elevator belt 2, of a pan or boot 6 below said pulley 3, guard plates 18 embracing the lower side portions of said pulley and forming said pan with accumulation, chambers 20 , grain pits 7 opening into the front and'rear ends of said pan 6, and intermediate pits 16 opening into sald accumulation chambers 20 , substantially as described.
5. The combination with elevator legs 1, a pulley 3, a cup eaulpped elevator belt 2, of a pan 6 below said pulley, the veams 5 secured with respect to said pan and supporting bearings for the shaft of said pulley, the inclined end pits 7 cpening into the front and rear ends of said pan 6 through cpenings 8, the guard plates 18 secured to said beams 5 and embracing the lower side portions of said pulley and forming said pan 6 with upwardly extended accumulation chambers 20 , and the intermediate side pits 16 opening into said accumulation chambers 20 , sald pan 6 affording a boot to the eievator, and a common boot to the said pits 7 and 16 , substantially as described.

## No. 100,074. Elevator Belt Drive.

Mise en mourement de courroie d'élévateurs.


Fred W. Cooley and George T. Houstain, assignee of a twothirds interest, both of Minneapolis, Minnesota, U.S.A., 17th July, 1906; 6 years. Filed 14th April, 1906. Receipt No. 134,930 .
Claim.-1. In a device of the kind described, the combination with a pulley having a peripheral groove, of a driving rape or cable running in the peripheral groove of said pulley, and a belt running over the face of said pulley, said rope or cable and sald belt having independent frictional engagement with said pulley, substantially as described.
2. In a device of the kind described, the combination with a pulley having a $V$-shaped peripheral groove, of a driving rope or cable running in the peripheral groove of said pulley. and a belt running over the face of said pulley and over that portion of sald rope or cable which is within said groove, said rope or cable and said belt having independent frictional engagement with said pulley, substantially as described.
3. The combination with an elevator leg and a pulley mounted therein, said pulley having a peripheral groove, of ar endless driving rope or cable running in the groove of said cable, and a cup equipped belt running over the face of said pulley and over that portion of said rope or cable which is within said groove, said rope or cable and said belt having independent frictional engagement with said pulley, substantially as described.

## No. 100,075. Submarine Sound Signal.

 Signal sous-marin de son.The Submarine Signal Company, assignee of Horace Biglow Gale, all of Boston, and Arthur Joseph Mundy, Newton, both in Masachusetts, U.S.A., 17th July, 1906; 6 years. Filed 26th May, 1906. Receipt No. 136,269.
Claim.-1. In an apparatus for producing sound vibrations in water, by which they are transmitted, the combination of an under water sound producing device, a buoyant supporting body adapted to float upon the surface of the water, an attached tube extending downward below the buoyant support and open at its lower end and a motor element adapted t' be immersed in the water in the tube and to move responsively to relative axial movements of the water therein, said
motor element being operatively connected to said under water sound producing device, substantially as set forth.

2. In a signal buoy, the combination of an under water sound producing device, a motor element operatively connected thereto and adapted to have a reversing movement responsive to the up and down movement of the body of the buoy by the waves, and a tube, open at its lower end, extending downward below the buoy and enclosing the said motor element, substantially as set forth.
3. In an apparatus for producing sound signals in water, by which they are transmitted, the combination of a buoyant stipport adapted to float upon the surface of the water and tc be moved up and down by the waves, an attached tube, open at its lower end, extending downward from the buoyant support and adapted to enclose a mass of water practically unaffected by the wave movement, a motor element adapted to be immersed in the water in the tube and to be act.eddi upon by the inertia of said mass of water, and an under water sound producing device operatively connected to said motor element, substantially as set forth.
4. In an apparatus for producing sound signals in water. by which they are transmitted, the combination of a buoye.nt support adapted to float upon the surface of the water and to be moved up and down by the waves, an attacheid tube, open at its lower end, extending downward below the buoyant support so as to enclose a mass of water comparatively unaffected by the surface movement, a piston movably supported in the tube and adapted to be immersed in the said mass of water and acted upon by the inertia, and an under water sound producing device operatively con ${ }^{L}$ nected to said piston, substantially as set forth.
5. In an apparatus for producing sound signals in water, by which they are transmitted the combination of a buoyant support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube open at its lower end extending axially downward below the buoyant support so as to enclose a mass of water comparatively unaffected by the wave movement. a buoyant piston movably supported in the tube and adapted to be immersed in the sai. mass of water and acted upon by its inertia, and an under water sound producing device operatively connected to saill piston, substantially as set forth.
6. In an apparatus for producing sound vibrations in water, by which they are transmitted the combination of an under water sound producing device, a buoyant body, a tube with its axis extending up and down supported thereby and open to the water at its lower end, means for supporting the said sound producing device upon the tube, and a motor element adapted to be immersed in the water in said tube and to havo a reversing movement responsive to the relative up and down movements of the water therein, operatively connected to said under water sound producing device.
7. In a signal buoy, an attached tube with its axis extending up and down. said tube being open to the water at its lower end, an under water sound producing device, means for supporting the said sound producing device under the buoy comprising an open frame attached to the tube and adapted to permit a relative up and down movement of the column of water therein, and a motor element adapted to have a reversing movement responsive to said up and down movment of the water in the tube and operatively connected to said under water sound producing device, substantially as set forth.
8. In a signal buoy, an atatached tube with its axis extending up and down. said tube being open to the water at its lower end, an under water sound producing device, means for supporting the said sound producing device comprising an open frame, attached to the bottom of the tube and adapted
to permit a relative up and down movement of the column of water therein, and a piston adapted to have a reversing movement responsive to said up and down movement of said column of water in which it is immersed, and operatively connected to said under water sound producing device, substantially as set forth.
9. In an apparatus for producing sound signals in water, by which they are transmitted the combination of a buoyan support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube, open at its lower end, extending axially downward below the buoyant support, so as to enclose a mass of water comparatively unaffected by the wave movement, a motor element adapted to by which they are transmitted, the combination of an under water sound producing device operatively counected to said motor element, and a central oxial guide for said motor element, substantially as set forth.
10. In an apparatus for producing sound signals in water by which they are transmitted the combination of an under water sound producing device, a buoyant body, a tube attached thereto at or near its upper end and extending downwari therefrom so as to reach comparatively still water, an open supporting frame for the operating parts attached to the tube and adapted to permit a relative up and down motion of the water therein, and axial guide for the motor element supported by sald frame, and a motor element operatively connected to said under water sound producing device, and adapted to have a reversing movement upon said axial guide responsive to said up and down motion of the water in the tube.
11. In an apparatus for producing sound signals in water b- which they are transmitted, the combination of a buoyant body. a tube attached thereto extending downward under the. water and open at its lower end. an under water sound producing device within or below said aube, a motor element in the tube operatively connected to said sound producing device, and adapted to move responsively to relative axial movements of the water therein, and an open frame attached to the tube and adapted to support the sound producing de vice at a point blow the said motor element.
12. In an apparatus for producing sound signals in water. by which they are transmitted the combination of a buoyant bodv. a tube attached thereto extending downward under the water and open at its lower end, an under water sound producing device within or below said tube. a motor element in the tube operatively connected to said sound producing device, and adapted to move responsively to relative axial movements of the water therein, an axial guide for the said motor element, and an open frame attached to the tube and supporting the said guide and sound producing device at a point below the said motor element.
13. In an apparatus for producing sound signals in water. by which they are transmitted, the combination of a buoyant supporting body. a tube attached thereto extending downward below the same and open at its lower end. an under water sound producing device within or below said tube. a motor element oneratively connected to said sound producing device and adapted to move respons'vely to rclative axial movements of the water in the tube, an axial guide for the said motor element, and an open irame attached to the tube and supporting the said guide and sound producing device at a point between the latter and the said motor element.
14. In an apparatus for producing sound signals in water. by which they are transmitted, the combination of a buoyant supporting bodv, a tube attached thereto extending axially downward below the same and open at its lower end, an under water sound producing device within or below sald tube, a piston operatively connected to said sound producing device, and adanted to move responsively to relative axial movements of the water in the tube, an axial gnide for the said piston, and an open frame attached to the tube and supportin me the sald guide and sound producing device at a point between the latter and the said piston.
15. In an apparatus for oroducing sound signals in water by which thev are transmitted the enmbination of a buovant support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube open at its lower end extending axlaly downward below the buoyant support and adapted to enclose a mass of water comparatively unaffected by the wave movement. a motor element adapted to be immersed in the water in the tube to be acted upon by the inertia of sald mass of water, an under water sound producing device and means comprising a power storIng mechanism. operatively connecting the motor element with the sald under water sound producing device.
16. In an apparatus for nroducing sound signals in water by which they are transmitted, the combination of a buoyant body. a tube attached thereto extending axlally downward under the same and open at its lower end, an under water sound producing dvice within or below said tube, a piston in the tube. means comprising a power storing mechanism, operatively connecting the pist on with the said under water sound producing device and adapted to move responsively to rela-
tive axial movements of the water in the tube, an axial guide for the said piston, and an open frame or spider attached to the tube supporting the said guide and sound producing device at a point between the latter and the said piston.
17. In an apparatus for producing sound signals in water open at its lower end extending downward from the buyant support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube. open at its lower end, extending downward from the buoyant support and adapted to enclose a mass of water comparatively unaffected by the wave movement, a piston movably supported in the tube and adapted to be immersed in the said mass of water and acted upon by its inertia, an inwardly projecting circumferential ring in the tube at or near the midstroke position of said piston and an under water sound producing device operatively connected to said piston, substan tially as set forth.
18. In a signal buoy the combination of a buoyant support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube open at its lower end extending axlally downward from the said buoyant support so as to inclose a mass of water comparatlvely unaffected by the wave movement, an under-water sound signalling device supported in or below said tube, an atmospheric sound signalling device carried on the buoyant support and means adapted to be acted upon by the inertia of the water in said tube whereby both signalling devices are operated simultaneously, substantially as set forth.
19. In a signal buoy, a whistle, a downward tubular extension of the buoy, an under water sound slgnalling device supported by said tubular extension, and means for operating said whistle and sald under water sound signalling device simultaneously by the relative movements of the buoy and the mass of water enclosed in said tubular extension thereof.
20. In a signal buoy, a buoyant support adapted to float upon the surface of the water, a tube open at its lower end extending downward therefrom, an open frame or spider attached to the said tube and adapted to permit relative axial movement of the column of water therein, an under water sound producing device supported by said open frame, an atmospheric sound producing device mounted on said buoyant support, and means for operating both sound producing devices simultaneously by the relative movement of the buoy and the mass of water enclosed in said tube, substantially as set forth.
21. In a signal buoy, a buyant support adapted to float upon the surface of the water, a tube open at its lower extending downward therefrom, an open frame or spider attached to the sald tube and adapted to permit relative axial movement of the column of water therein, an under water sound producing device supported by sald open frame, an atmospheric sound producing device mounted on said buoyant support, a piston movable supported in the tube, and an anwardly projecting circumferential ring in the tube at or near the midstroke position of sald piston, whereby both said sound producing devices are operable simultaneously by the relative movement of the buoy and the mass of water enclosed in said tube, substantially as set forth.
22. In a signal buoy, a buoyant support adapted to float upon the surface of the water, a tube open at its lower end extending downwardly therefrom, an open frame or spider attached to the sald tube and adapted to permit relativo axial movement of the column of water thereln, an under water sound producing device supported by said open frame, an atmospheric sounu producing device operable by compressed air, mounted on said buoyant support, a piston movably supported in the tube, and an inwardly projecting circumferential ring in the tube at or near the midstroke position of said piston, whereby both said sound producing devices are operable simultaneously by the relative movement of the buoy and the mass of water enclosed in sald tube, substantially as set forth.
23. In a signal buoy, a buoyant support adapted to float upon the surface of the water, a tube open at its lower end extending downward therefrom, an enlarged sectlon at the lower end of said tube, an open frame or spider attached thereto and adapted to permit relative axial movement of the column of water in the tube, an under water sound producing device supported by said open irame, an atmospheric sound producing device operable by compressed air mounted on sald buoyant support, and means for operating both sound producing devices simultaneously by the relative movement of the buoy and the mass of water enclosed in said tube, substantially as set forth.
24. In a signal buoy, a buoyant support adapted to float upon the surface of the water, a tube open at its lower end extending downward therefrom, an under water sound producing device supported on sald tube, an atmospheric sound producing device operable by compressed air mounted on said buoyant support, a piston movably supported in the tube, and an inwardly projecting circumferential ring in the tube at or near the midstroke position of said pistion, where-
by both said sound producing tevices are operable simultaneously by the relative movement of the buoy and the mas of water enclosed in said tube, substantially as set forth.
25. In a signal buoy the combination of an under water sound signalling device, a motor element operatively connected thereto and adapted to have a reversing movement responsive to the up and down movement of the buoy by the waves, a tube below the buoy open at its lower end enclosing the said motor element, and an extension of said tube of smaller diameter connecting the same with the body of the buoy, substantially as set forth.
26. In a signal buoy the combination of a buoyant support adapted to be moved up and down by the waves, an atmospheric sound signalling service operable by compressed air mounted on said buoyant support, a tube extending downward therefrom enclosing a mass of water comparatively unaffected by the wave movement, a compressed air chamber above the water at the top of said tube variable by the relative movement of the buoy and the column of water enclosed in the tube and connected with said atmospheric sound signalling device, the lower section of said tube being of larger diameter, a motor element enclosed in said enlarged section and an under water sound signalling device supported at the bottom of said enlarged section and operatively connected to said motor element.
27. In a signal buoy the combination of a buoyant support adapted to be moved up and down by the waves. an atmospheric sound signalling device operable by compressed air mounted on said buoyant support, a tube extending downward therefrom adapted to enclose a mass of water comparatively unaffected by the wave movement, a compressed alr chamber above the water at the top of said tube variable by the relative movement of the buny and the column of water enclosed in the tube and connerted with said atmospheric sound signalling device, the lower spetion of said tube being of larger diameter, a motor element enclosed in said enlarged section, an axial guide for the said motor element. and an under water sound signalling device supported at the bottom of said enlarged section and operatively connected to said motor element.
28. In a signal buoy the combination of a buoyant support adapted to be moved up and down by the waves, an atmospheric sound signalling device operable by compressed air mounted on said buoyant support, a tube extending downward therefrom enclosing a mass of water comparatively unaffected by the wave movement, a compressed air chamber above the water at the top of said tube variable by the relative movement of the buoy and the column of water enclosed in the tube and connected with said atmospheric sound signalling device, the lower section of said tube being of larger diameter, a motor element enclosed in said enlarged section, an axial guide for the said motor element, a frame or spider attached to said enlarged section adapted to permit axial movement of the water in the tube, and an under water sound producing device supported by said frame, and operatively connected to said motor element.
29. In a signal buoy the combination of a buoyant support adapted to be moved up and down by the waves, an atmospheric sound signalling device operable by compressed air mounted on said buoyant support, a tube extending downward therefrom adapted to enclose a mass of water comparatively unaffected by the wave movement, a compressed air chamber above the water at the top of said tube variable by the relative movement of the buoy and the column of water enclosed in the tube and connected with said atmospheric sound signalling device, the lower section of sain tube deing of larger diameter than the upper, a piston movably supported therein, an inwardly projecting circumferential ring on said enlarged section of tube through which the said piston travels in the operation of the device and an under water sound producing device operatively connected to said piston.
30. In a signal buoy the combination of a buoyant support adapted to be moved up and down by the waves, an atmospheric sound signalling device operable by compressed air mounted on said buoyant support, a tube extending downward therefrom enclosing a mass of water comparatively unaffected by the wave movement, a compressed air chamber above the water at the top of said tube variable by the relative movement of the buoy and the column of water enciosed in the tube and connected with said atmospheric sound signalling device. the lower section of said tube being of larger diameter than the upper, a piston movably supported therein, an axial guide for the said piston, an inwardly projecting circumferential ring on said enlarged section of tube through which the said piston travels in the operation of the device and an under water sound producing device operatively connected to said piston.
31. In a signal buoy the rombination of a buoyant support adapted to he moved "1p and own by the waves, an atmospheric sound signalling device operable by compressed air mounted on said buoyant support, a tube extending downward therefrom adapted to enclose a mass of water comparatively
unaffected by the wave movement, a compressed air chamber above the water at the top of said tube variable by the relative movement of the buoy and the column of water enclosed in the tube and connected with said atmospheric sound signalling device, the lower section of said tube being of larger diameter than the upper, a piston movably supported therein, an axial guide for the said plston, an inwardly projecting circumferential ring on said enlarged section of tube through which the said piston travels in the operation of the device, a frame or spider attached to the tube and adapted to permit relative axial movement of the water therein, and an under water sound producing device supported by said frame and operatively connerted to said piston, substantially as and for the purpose set forth.
32. In a signal buoy the combination of a buoyant support adapted to be moved up and down by the waves, an atmosphoric sound signalling service operable by compressed air mounted on said buoyant support, a tube extending downward therefrom and adapted to enclose a mass of water comparatively unaffected by the wave movement, a compressed air chamber above the water at the top of said tube variable by the relative movement of the buoy and the culumn of water enclosed in the tube and connected with said atmospheric sound signalling device, an open frame or spider attached to the said tube and adapted to permit relative axial movement of the column of water therein, an under water sound producing device supported by said frame, and means for operating both said sound producing devices simultaneously by the relative movement of the buoy and the column of water enclosed in said tube, substantially as set forth.
33. In an apparatus for producing sound signals in water. by which they are transmitted the combination of a buoyant support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube open at its lower end, extending downward from the buoyant support and adapted to enclose a mass of water comparatively unaffected by the wave movement, a piston movably supported in the tube and adapted to be immersed in the said mass of water and acted upon by its inertia, stops for the piston. an inwardly projecting circumferential ring in the tube at or near the midstroke position of said piston and an under water sound producing device operatively connected to said piston, substantially as set forth.
34. In a signal buoy the combination of a buoyant support, a tube open at its lower end extending downward therefrom, a motor element operable by the relative movement of the water in said tube, an under water sound producing device, a frame attached to said tube adapted to support sald sound producing device and to permit axial movement of the water in the tube, and means comprising a power storing mechanism, operatively connecting the said motor element with the said under water sound producing device, substantially as set forth.
35. In a signal buoy the combination with the supporting body of an attached tube below the same, a piston movably supported in the tube, a contracted ring inside the tube through which the piston travels, and an under water sound producing device operatively connected to the piston.
36. In a signal buoy the combination with the supporting body of an attached tube below the sime, a piston movably supported in the tube and operatively connected with the signalling device, stops for the piston and means adapted to return the piston to an intermediate position between said stops, substantially as set forth.
37. In a signal buoy the combination of a tube with its axis extending up and down below the buoy open co the water at its lower end, a piston enclosed in said tube and movable by the relative motion of the water therein, and an under water sound producing device actuated by such movement of the piston, substantially as set forth.
38 . In a signal buoy the combination of a tube below the body thereof open to the water at its lower end, a movable piston enclosed in said tube, a central axial guide for said piston, an open frame connecting said guide and the sides of the tube and adapted to permit a free vertical movement of the water therein, and an under water sound producing device operatively connected with the piston, substantially as set forth.
39. In a signal buoy the combination with the supporting body of a tube extending axially downward therefrom and open to the water at its lower end. a whistle operable by the relative movement of the water in said tube, a piston in the tube movable by the relative motion of the water therein, an under water sound signalling device operatively connected with the piston, stops limiting the stroke of the piston and an enlarged passage for the water past the plston at each end of the stroke, whereby the whistle and under water sound signal are operable conjointly by the relative movement of the water in the tube, without mutual interference, substantially as set forth.
40. In a signal buoy the combination with the supporting body of a tube extending below the same. a piston movably supported in the tube, a bell in or below the tube operatively
connected with the piston, and an open frame adapted to support the bell on the tube and to permit axial movement of the water therein, substantially as set forth.
41. In a signal buoy, the combination with the supporting body of a tube extending below the same, a piston movably supported in the tube, an axial guide for the piston, a bell in or below the tube operatively connected with the piston, and an open frame adapted to support the bell on the tube and to permit axial movement of the water therein, substantially as set forth.
42. In a signal buoy the combination with the supporting body of a tube extending below the same, a plston movably supported in the tube, an axial guide for the piston, a bell in or below the tube operatively connected with the piston, an open frame adapted to support the bell on the tube and to permit axial movement of the water therein, a closed air chamber above the water at the upper end of the tube, and a whistle operatively connected thereto, substantially as set forth.
43. In a signal buoy the combination with the supporting body of an attached tube below the same, a piston movably supported in the tube and operatlvely connected with the signalling device, dash pots to check the motion of the piston at the ends of the stroke, and means adapted to return the piston to a position intermediate the ends of the stroke, substantially as set forth.
44. In a signalling apparatus, a buoy, a tube extending downwardly therefrom open at its lower end, a motor located within said tube and adapted to have a motion with relation thereto, and a sounder having a movable element, and connections between said motor and the movable element of said sounder, as described.
45. In a signalling apparatus, a buoy, a tube extending downwardly therefrom, said tube being open at both ends to the water, a sounder connected with said tube, and a motor located within said tube, and connections between said motor and said sounder whereby said sounder will be operated by the relative movement between it and said motor.
46. In a signalling apparatus, a buoy, a tube extending downwardly therefrom and open at both ends to the water, a sounder connected to said tube, and a motor located within said tube and adapted to operate said sounder, the walls of said buoy approaching each other below the normal water line, whereby the waves engaging the under surface of the buoy in approaching and receding from it, will be effective to magnify the relative movement of the buoy and motor, as described.
47. In a signalling apparatus, a buoy, a tube extending downwardly therefrom and adapted to be entirely submerged in water and open at both ends, a sounder connected to said tube, and a motor located within said tube, and means whereby the movement of the motor within said tube causes the operation of said sounder, as described.

No. 100,076. Phonograph. Phonographc.


Edwin Walker, New York City, New York, U.S.A., 17̈th July 1906; 6 years. Filed 2nd June, 1905. Receipt No. 125,673.
Claim.-1. In a phonograph or simllar machine, a reproducing horn having a stylus attached directly thereto.
2. In a phonograph or similar machine, a reproducing horn closed at one end, and a sty!us connected directly to a vibratory part of said horn.
3. In a phonograph or similar machine, a reproducing horn having a vibratory part and a stylus conected directly to sald vibratory part.
4. A phonograph reproducing device, having a curvilinear vibratory member, a part of said member being composed of a different material from the main body thereof, and a stylus connected with said vibratory part.
5. A phonograph reproducing device, having a vibratory member, a part of said member being composed of a different material from the main body thereof, and a stylus attached directly to said vibratory part.
6. A phonograph sound reproducer, a part of which is a curvilinear surface forming a vibratory diaphragm, and a stylus attached rigidly and directly to said diaphragm.
7. A phonograph horn baving a curvilinear surface which forms a vibratory member, and a stylus projecting directly from the member and adapted to impart vibrations thereto.
8. A phonograph horn having a non-metallic vibratory part or member continuous with the horn and composed of a different material from the main body of the horn, and a stylus adapted to impart vibrations to said part or member.
9. A phonograph horn having a non-metallic stylus at tached directly to a side wall of said horn.
10. A phonograph horn having a non-metallic vibratory part located in the side of the horn, and a non-metallic stylus connected directly to said part.
11. A reproducing horn, a part of said horn being under tension, and a stylus attached directly to sald part under tension.
12. A phonograph reproducing device, the diaphragm of which is a curvilinear surface, and a stylus secured directly to said curvilinear surface.
13. A phonograph reproducing device, the diaphragm of which is a conical surface, and a stylus projecting from said surface and adapted to impart vibrations directly thereto.
14. A phonograph reproducing device consisting of a flexible horn and a stylus for imparting vibrations directly to said horn.
15. A phonograph reproducing device comprising a paper horn, having a stylus connected directly to the same near one end thereof.
16. A phonograph reproducing tlevice comprising a nonmetallic horn, having the edges united along a longitudinal seam or joint, and a stylus secured directly to a part of the horn laterally of the seam or joint.
17. A phonograph reproducing device comprising a nonmetallic horn united detachably at its edges, and a stylus for imparting vibratory movement directly to a part of the horn.
18. A phonograph reproducing device comprising a horn, having a vibratory section in one side thereof, and a stylus for vibrating the section.
19. A phonograph reproducing device comprising a horn, having a vibratory diaphragm made of a different naterial from the body of the horn and extending around the same. and a stylus for vibrating the diaphragm.
20. A phonograph reproducing device having a vibratory curvilinear diaphragm at one end composed of a different material from the main body thereof, and a stylus attached rigidly to the diaphragm.
21. A phonograph reproducer having a vibratory conlcal member made of a different matcrial from the body thereof, and a stylus for imparting vibrations to said member,
22. A sound reproducer composing a horn having a stylus rigid!y attached to the material of said horn and projecting therefrom intermediate its ends.
23. A sound reproducer comprising a horn made of flexible material, and a stylus attached directly to said flexible material and projecting therefrom intermediate of its ends.
24. A phonograph reproducer provided with a plurality of styluses arranged and adapted for use respectively in connection with graphophone and gramophone records.
24. A phonograph reproducer provided with two styluses, one being arranged for use in connection with a praphophone record, and the other with a gramophone record.
26. A phonograph reproducer having a stylus adapted for use on a graphophone record, and also provided with a stylus arranged to operate on a gramophone record, said styluses being in different planes and adapted to be brought, by a change in the position of the reproducer, into co-operative relation to one of the specified types of records.
27. A phonograph reproducer provided with two styluses, said reproducer being rotable whereby one stylus may bo brought into co-operative relation to a graphophone record, and the other into like relation to a gramophone recond.
28. A phonograph reproducer having a member provided with a stylus adapted to co-operate with a graphophone record, and provided also with a stylus adapted to co-operate with a gramophone record.
29. A phonograph reproducor provided with a plurality of styluses. said reproducer being capable of being positioned to place either of said styluses into co-operative relation to a record

## No. 100,077. Phonograph. Phonogrophe.

Fdwin Walker. Erin. Pennsylvania, l'S.A.. 1ïth July, 1906: 6 years. Filed 2nd June. 1905. Receipt No. 125,6ss.
Cluin.-1. A composite sound producer having a horn of flexible material, the cross sectional form of said horn, sub-
stantially throughout its entire length, having a base of greater curvature than its top and a stylus attached to the base of the horn.

2. A composite sound producer hving a flexible horn approximately egg-shaped in cross section throughout its entire length, one end of sald horn being closed, and a stylus attached to the under side of the horn and near the closed end thereof.
3. A composite sound producer having a horn of flexible material, said horn being approximately egg-shaped in cross section for substantially its length, and having one end thereof larger than the other, and a stylus attached to said horn, intermediate the ends thereof.
4. In a composite sound producer a horn, the plane of one of the ends of which is inclined at an angle to the plane of the other end, and a stylus connected with said horn.
5. A horn having one of its ends in a plane inclined at an angle to the longitudinal axis of the horn, and a stylus connected with said horn.
6. A horn having one of its ends in a plane inclined at an angle to the longitudinal axis of the horn, and a closure for said inclined end.
7. A horn having one of its ends in a plane inclined at an angle to the longitudinal axis of the horn, and a flexible c!osure for said inclined end.
8. A horn having one of its ends in a plane inclined at an angle to the longitudinal axis of the horn, and a flexible closure for said inclined end, parts of which closure occupy dif$f \in r e n t$ planes.
9. A composite sound producer having a horn composed of fexible material and one of the ends of which is in a plane inclined to the longitudinal axis of the horn and a stylus. istermediate the ends of the horn.
10. A composite sound producer having a horn composed 0 flexible material, and a plurality of styluses attached to said horn and in substantially the same longitudinal plane.
11. A composite sound producer having a horn composed of flexible material and a plurality of styluses intermediate the ends of the horn and attached thereto, and in substantially the same longitudinal plane.
12. A composite sound producer having a horn composed of flexible material, said horn having a less area in cross section above the horizontal plane of its longitudinal axis than the area below said plane, for substantially the entire $\mathrm{l} \in \mathrm{ng}$ th of the horn, said horn being closed at one end.
13. A composite sound producer having a horn composed oi flexible material, said horn having a less area above the horizontal plane passing through its axis than below said plane, said horn being closed at one end and having a stylus attached to said horn.
14. A composite sound producer comprising a horn, the bcdy of which is made of thin press board, one end of said horn being in a plane inclined at an angle to a horizontal Flane through the axis of the horn, and a stylus attached to the horn near said inclined end.
15. A sound producer provided with a plurality of styluses in substantially the same plane.
16. A sound reproducer adapted for endwise movement, and provided with a plurality of styluses in substantially the same plane.
17. A sound reproducer composed of flexible material and provided with a plurality of styluses, the latter being att:iched to said flexible material.
18. A flexible sound reproducer having a plurality of styluse located at different points longitudinally of the reproducer.
19. A comprosite sound producer consisting of a flexible horn having a plurality of styluses located in different positions intermediate its ends.
20. A composite sound producer comprising a flexible horn, having a plurality of styluses located at different positions longitudinally of the horn.
21. A composite sound producer comprising a horn composed of flexible material and having a less area above the horizontal plane passing through its axis than below said plane, the material of the horn being lapped at the upper tdge thereof.
22. A composite sound producer comprising a horn compased of flexible material and having a less area above the horizontal plane passing through its axis than below said plane, the sides of the horn being arched in cross section from the upper edge to the base thereof.

No. 100,078. Gramophone. Gramophone.


Horace Sheble, Philadelphia, Pennsylvania, and Ellsworth Adam Hawthorne, Springfield, Massachusetts, all in the U.S.A., 17th July, 1906; 6 years. Filed 23rd May. 1906. Receipt No. 136,185.
Claim.-1. A horn supporting crane for talking machines. having a vertical post, a bracket projecting from said post below the projecting portion of the crane and in a reverse direction therefrom, sald bracket being provided with means for securing it to the motor box of the machine at a point above the bottom of the same, and a supporting foot projecting outwardly from the post below said bracket and having a bearing upon the same support as that upon which the motor is mounted.
2. A horn supporting crane for talking machines, having a vertical post, a bracket projecting from said post below the projecting portion of the crane and in a reverse direction therefrom. sald bracket being provided with means for securing it to the motor box of the machine at a point above the bottom of the same, and a supporting foot projecting both outwardly and inwardly from the post below sald bracket, the outwardly projecting portion of the foot bearing upon the same support as that upon which the motor box is mounted, and the inwardly projecting portion of the foot bearing upon the side of the motor box above the bottom of the same.
3. A horn supporting crane for talking machines, having a vertical post, and a support therefor comprising a foot bearing upon the side of the motor box of the machine and projecting outwardly therofrom, and a bracket also bearing upon the outer side of said motor box and supported upon the foot, said bracket having a projecting element secured to the upper portion of the motor box, substantially as specified.
4. A horn supporting crane for talking machines having a projecting post and a support therefor comprising a foot bearing upon the side of the motor box of the machine and projecting outwardly therefrom, and a bracket supported by and vertically adjustable on said foot, said bracket also bearing upon the outer side of the motor box and deing provided with a projecting element secured to the upper portion of the box, substantially as specified.
5. A horn supporting crane for talking machines having a vertical post and a support therefor comprising an outwardly projecting foot, a bracket supported thereon and bearing against the outer side of the motor box of the machine, and a clamp jaw mounted on said bracket, substantially as specinied.
6. A horn supporting crane for talking machines having a vertical post, and a support therefor comprising an out-
wardly projecting foot, a bracket supported thereon and bearing against the outer side of the motor box of the machine and a clamp jaw adjustably mounted on said bracket, substantially as specifled.
7. A horn supporting crane for talking machines having a vertical post, and a support therefor comprising an outwardly projecting foot, a bracket vertically adjustable thereon and bearing against the outer side of the motor box of the machine, and a clamp jaw mounted on said bracket, substantially as speciffed.
8. A horn supporting crane for talking machines having a vertical post and a support therefor comprising an outwardly projecting foot, a bracket vertically adjustable thereon and bearing against the outer side of the motor box of the machine, and a clamp jaw adjustably mounted on said bracket. substantlally as specified.
9. A horn supporting crane for talking machines having a vertical post and a support therefor comprising a foot projecting outwardly from the side of the motor box of the machine and having a socket thereon, a tubular guide for the post vertically adjustable in said socket, and having a bracket which bears upon the side of the motor box, and means for securing said bracket to the upper portion of the box, substantially as specified.
10. A horn supporting crane for talking machines having a vertical post and a support therefor comprising a foot projecting outwardly from the side of the motor box of the machine and having a socket thereon, a tubular gujde for the post vertically adjustable in said post, and having a bracket post vertically adjustable in said socket and having a bracket which bears upon the side of the motor box, and a clamp jaw on said bracket having a portion projecting into the box, substantially as specified.
11. A horn supporting crane for talking machines having a vertical post, and a support therefor comprising a foot projecting outwardly from the side of the motor box of the machine and having a socket thereon, a tubular guide for the post adjustably mounted in sald socket, and having a bracket bearing on the side of the motor box, a plate slidably mounted on sald bracket and having a clamp jaw projecting into the box and a yoke embracing the tubular guiae, and a clamp screw carried by said yoke and bearing upon said tubular guide, substantially as specified.
12. In a horn support for sound reproducing machines, a support or holder, means on sald support or holder for carrying a horn supporting post, a supporting hook at the upper end of said support or holder adapted to be brought in frictional and separable holding engagement with the upper end of a panel of the sound reproducing machines, and a lower foot -lece connected with means for carrying a horn supporting post, substantially as and for the purposes set forth.
150. 100,079. Switch Signal. Signal d'aiguille.


John C. Wigman, Green Bay, Wisconsin, U.S.A., 17th July, 1906; 6 years. Filed 30th May, 1906. Receipt No. 136,405.
Claim.-1. A circuit closer for switch signals comprising in combination with the switch point, a bar secured to said switch point, a lever mounted to oscillate in a horizontal plane and positioned to be struck by said bar, electrical connections with sald lever and a contact post in the path of the oscillation of said lever, and means to normally hold said lever out of contact with said post, substantially as shown and described.
2. A circuit closer for switch signals comprising in combination with the switch point, a bar secured to sald switch polnt, a lever mounted to oscillate in a horizontal plane and be struck by sald bar, a contact post arranged in the path of said lever, a suitable signal, electrical connections between
said signal and the lever and contact post, and an expansible coll spring to normally hold said lever out of contact with sald contact post, substantially as shown and described.
3. A circuit closer for switch signals comprising in combination with the switch point, a bar secured to said switch point, a base suitable mounted adjacent to the switch, a lever mounted on said base and adapted to oscillate in a horizontal plane, the end of said bar adapted to strike said lever, a set screws mounted in said posts, a suitable signal and batteey for energizing said signal, the lever in circuit with the battery and one of the contact posts with the signal, and a coil spring to hold the lever out of engagement with the set screw in the last-named contact post, substantially as shown and described.

No. 100,080. Electric Signal. Signal électrique.


Charles C. Blake, Brookline, Massachusetts, U.S.A., 17th July, 1906; 6 years. Filed 7th May, 1906. Receipt No. 135,649.
Claim.-1. A selective signal system consisting of a transmitting station having a series of pendulums adapted to send electric impulses of different periodicy over a line wire when connected thereto, a series of way stations each provided with a pendulum device adapted to respond to the vibrating of one only of said transmitting pendulums, an electric lamp signal and a semaphore arm which become operative when the unison of vibrations is estabished between the transmitter and recelver.
2. A selective signal system consisting of a transmitting station having a series of independent pendulums adapted to send electric impulses of different pertodicy over a llne wire when connected thereto, earh pendulum normally locked in a retracted position and adapted to be unlocked and connected directly to the line wire and when unlocked to operate a circult closing device and send characteristic impulses to line, a series of way stations each provided with a pendulum device arranged to respond to the vibrations of one ony of the transmitting pendulums having a signal lamp in a normally open circuit and a semaphore arm locked to safety position, with means when sald pendulum device becomes responsive to said characteristic impulses, to close the lamp circuit and unlock the semaphore arm.
3. A selector signal system consisting of a transmitting station having a series of independent pendulums adapted to send electric impulses of different periodicy over a line wire when connected thereto, each pendulum normally locked in a retracted position and adapted to be unlocked and connected directly to the line wore, and when unlocked to operate a circuit closing device and send characteristic impulses to line, a local and second sircuit closing device with means for actuating the same and for maintaining the pendulum vibrations a series of way stations each provided with a pendulum device arranged to respond to the vibrations of one only of tife transmitting pendulums having a signal lamp in a normally open circuit and a semaphore arm locked to safety position with means when said pendulum device becomes responsive to said characteristic impulses to close said lamp circuit, and unlock the semaphore arm.
4. A selective signal system consisting of a transmitting station having a series of independent pendulums adapted to send electric impulses of different periodicy over a line wire when connected thereto, each pendulum normally locked in a retracted position and adapted to be unlocked and connected directly to the line wire, and when unlocked adapted to operate a circult closing device and send characteristic impulses to line, a series of way stations each provided with an elec-tro-magnetic device arranged to respond to the vibrations of one only of the transmitting pendulums having a signal lamp in a normally open circult, and a semaphore arm locked to safety position with means, when said electro-magnetle de-

Vice becomes responsive to said characteristic impulses, to close the lamp circuit and unlock the semaphore arm, and ground the electro-magnet of the device at the selected station
5. A selective signal system consisting of a transmitting station having a series of independent pendulums adapted to send electric impulses of different periodicy over a line wire when connected thereto, each pendulum normally locked in a retracted position and adapted to be unlocked and connected directly to the line wire and when unlocked to operate a circuit closing device and send characteristic impulses to line, a local and second circuit closing device with means for intermittently actuating the same and for maintaining the pendulum vibrations, a series of way stations each provided with an electro-magnetic pendulum device arranged to respond to the vibrations of one only of the transmitting pendulums, having a signal lamp in a normally open circult and a semaphore arm locked to safety position, with means when said pendulum device becomes responsive to said characteristic impulses to close the lamp circuit, unlock the semaphore arm, and ground the electro-magnet of the device, at the selected station.
6. A selective signal system consisting of a transmitting station having a series of independent pendulum devices adapted to send electric impulses of different periodicy over a line wire when connected thereto and means for maintaining the said impulses at a uniform rate of vibration, a series of way stations each provided with an electro-magnet penduum device arranged to respond to the vibrations of one only of the transmitting pendulums, a lamp in a normally open grounded circuit from a trolley wire, a, semaphore arm locked to safety position, and means to close the lamp circuit, unlock the semaphore arm, and ground the electro-magnet of the selected device.
7. A selective signal system consisting of a transmitting station having a series of independent pendulum devices adadapted to send electric impulses of different periodicy over a line wire when connected thereto, means for maintaining the impulses at a unlform rate of vibration, the pendulum of each device being held in a retracted position and provided with a releasing mechanism arranged to be operative when connected to the line wire a series of way stations each provided with an electro-magnetic pendulum device arranged to respond to the vibrations of one only of the transmitting pendulums, the magnets of each device being included in the line circuit, a source of current a lamp in an open circuit to ground from the source of current, a semaphore arm locked to safety position, with means to close the lamp circuit, unlock the semaphore arm and ground the magnet of the selected device.
8. A selective signal system consisting of a transmitting station having a series of independent pendulum devices adapted to send electric impulses of different periodicy over a line wire when connected thereto, means for maintaining the impulses at a uniform rate of vibration, the pendulum of each device being held in a retracted position and provided with releasing mechanism arranged to be operative when connected to the line wire, a series of way stations each provided with an electro-magnet pendulum device arranged to respond to the vibrations of one only of the transmitting pendulums, the magnets of each device in the line circuit, a source of current, a normal lamp in an open circuit to ground from the source of current, a second lamp in a branch circuit which means for automatically including the latter lamp in the said open circuit and for intermittently shunting the same, a semaphore arm locked to safety position with means to close the lamp circult, unlock the semaphore arm and ground the magnet at the selected device.
9. A selective device consisting of a base part upon which rests a frame part, having concave and convex portions fitting into each other secured by a bolt and nut, thte base part provided with means for attachment to a support or foundation, the frame part provided with a shaft carrying a semaphore arm and a sam, a locking device, circuit switches, an electro-magnet, its combined armature and adjustable spring lever, a pendulum with latching means for engaging with and operating a circuit closer, the locking device and the said circuit g witches.
10. A selective sigaal system consisting of a transmitting station having a series of independent pendulum devices adapted to send characteristicc electric Impulses over a line wire, each penduluin normally held in a retracted position by a locking device, and having latching mechanism independently operating two circult closers whereby said impulses are sent to line when a pendulum device is connected therewith and unlocked, and a local magnet is energized to cause the pendulum to maintain its maximum rate of vibration, a line wire normally disconnocted at the transmitting station, extending to a series of way stations each provided with an electro-magnetic device arranged to respond to the vibrations of one only of the transmitting pendulums pro-
vided with a magnet its armature combined by an elestic connection with a lever for vibrating the receiving pendulum provided with latching means, a lamp in an open and grounded circuit from a source of current, a semaphore arm held to safety position by a locking device, with means to close the lamp circuit, unlock the semaphore arm and ground the magnet at the selected device.
11. The combination with a circuit closer having a depending pawl, of a pendulum in the form of a lever of the first order provided with a catch on its short arm, and an adjustable weight upon its long arm, means for vibrating the pendulum consisting of an electro-magnet, an armature therefor with a lever attached thereto whose lower end bears upon the long arm of the pendulum.
12. The combination with a circuit closer having a dependIng pawl, of a pendulum in the form of a lever of the first order provided with a catch on its short arm, and an adjustable weight upon its long arm, means for vibrating the pendulum consisting of an electro-magnet, an armature therefor with a lever in eleastic connection therewith whose lower end bears upon the long arm of the pendulum.
13. Means for closing an electric circuit, consisting of a pendulum provided with a bevelled catch, a pivoted lever whose free end is adapted to bear upon a circult closer and to carry a suspended pawl or latch, an electro-magnet, its armature with a lever attached thereto whose lower end bears upon the pendulum.
14. Means for closing an electric circuit consisting of a pendulum provided with a bevelled catch, a pivoted lever whose free end is adapted to bear upon a circuit closer and to carry a suspended pawl or latch, an electro-magnet, its armature with a lever in elastic connection therewith whose lower end bears upon the pendulum rod.
15. A double closing device consisting of a pendulum provided with two bevelled catches, two levers from which are suspended a pawl or latch, an electro-magnet, its armature and a lever attached thereto whose lower end bears upon the pendulum rod.
16. A locking and releasing device for signals, composed of a semaphore arm upon a shaft secured to a frame with a cam having a pin or spline, a long lever pivoted to the frame, a short lever pivoted to the center of sald long lever having an abutment or projection and a rod attached to its free end, a latch pivoted to the free end of the long lever whose free end is adapted to rest upon the abutmont with a slot in the heel of the latch to embrace the said spline.
17. A pendulum locking and releasing device, consisting of a frame, a rod provided with a hole at its upper end out of center with a hole in the frame, its lower end connected to a lever pivoted to a support, sald lever provided with notches to engage the end of the pendulum rod, with a plug adapted to enter said holes and raise said rod.
18. A selective signal system consisting of a transmitting station provided with a plurality of independent and normally detached means for transmitting electric impulses of different periodicy over a normally open line wire, a series of way stations each provided with a pendulum device adapted to respond to one of said transmitted periodicities only, and a semaphore arm which becomes operative when the unison of frequencies is established between the transmitter and recelver.
19. A selective signal system consisting of a transmitting station having a series of independent pendulums adapted to send electric impulses of different periodicity over a line wire when connected thereto, each pendulum normally locked in a retracted position and adapted to be unlocked and connected to the line wire, and when unlocked to operate a circuit closing device and send characteristic impulses to line, a series of way stations each provided with a pendulum device arranged to respond to the vibrations of one onlp of the transmitting pendulums, having a normally locked signal adapted to be displayed when said pendulum device becomes responsive to its characteristic impulses.
20. Means for closing an electric circuit responsive to characteristic impulses, consisting of an electro-magnet, a pendulum provided with a lifting catch adapted to be vibrated by the armature of said magnet and a circuit closing device having a suspended pawl in the path of said catch, whereby when said pendulum becomes responsive to said impulses its catch will engage with the pawl and operate the circuit closing device.
21. A selective signal system consisting of a transmitting station provided with means for transmitting electric impulses of different periodicy over a line wire, a serles of way stations each provided with a pendulum device consisting of an electro-magnet, a pendulum provided with a lifting catch adapted to be vibrated by the armature of said magnet, and a circuit closing device having a suspended pawl in the path of the catch, whereby when said pendulum becomes responsive to said impulses its catch will engage with the pawl and operate the circuit closing device.
22. Means for closing an electric circuit responsive to characteristic impulses, consisting of an electro-magnet, a pendulum provided with a lifting catch adapted to be vibrated by the armature of said magnet, a circuit closing device having a suspended pawl in the path of said catch, and a semaphore arm, whereby when said pendulum becomes responsive to said impulses its catch will engage with the pawl, operate the circuit closing device, and display the semaphore arm.

No. 100,081. Fecentic. Excentrique.


Francis Marcus Berger, Basin, Montana, U.8.A., 17th July, 1906; 6 years. Filed 21st March 1906. Receipt No. 134,139.
Claim.-1. An interchangeable throw device, consisting of a two-part disc having an eccentrically arranged transverse opening therethrough, and openings extending from aforesaid transverse opening, to near the outer edge of the disc, substantially as described.
2. As an article of manufacture, a bushing or throw device, consisting of a disc having an eccentrically arranged transverse opening therethrough, and openings extending into the body of the bushing or disc from aforesald transverse opening, to near its outer edge, whereby to facilitate converting the disc into two separate parts, substantially as described.
3. The combination in an eccentric, of a hub having a transversely disposed flange at one end, a bushing on the hub consisting of a disc having a transverse opening therethrough, and openings extending from aforesaid opening, Into the body portion of the disc to near its outer edge, and the disc divided into two parts, a two-part strap encircling the disc, a plate whereby to confine the two-part disc in place, and bolts extending through the hub flange, disc and confining plate, substantially as described
4. The combination in an eccentric, of a hub having a fiange at one end, a two-part throw device on the hub, the throw device consisting of a body portion having an eccentrically arranged transverse opening therethrough, and openings extending outwardly from aforesaid opening, a securing plate having a lateral flange adapted to overlie the adjacent side of the throw device, a strap arranged encircling the throw device, and securing bolts extended through the hub flange, throw device and securing plate, substantially as described.

## No. 100,082. Double Tree. Palonnier.

Benjamin Clinton Crowley, Idaho Falls, Idaho, U.S.A., 17th July, 1906; 6 years. Filed 9th April, 1906. Receipt No. 134,783.
Claim.-1. A doubletree provided with draft attachments at opposite ends arranged to shift automatically to compensate for difference of draft
2. In combination, a doubletree, draft attachments at opposite end portions of the doubletree arranged to move to automatically compensate for difference of draft, and means connecting said draft attachments to effect simultaneous movement thereof.
3. In combination, a doubletree, a hitch pivotally connected thereto, and draft attachments at opposite ends of the doubletree connected to the hitch at a distance from the pivotal connection of said hitch with the doubletree, whereby the draft attachments will automatically and simultaneously move to compensate for difference of draft.
4. In combination, a doubletree, a hitch pivoted thereto, draft attachments at opposite ends of the doubletree and longitudinally movable with reference thereto, and a rod connecting said draft attachments to each other and to the said hitch.
5. In combination, a doubletree, draft attachments at opposite ends of the doubletree and movable longitudinally

thereof, a hitch pivoted to the doubletree, and a rod pivotally connected at its ends to the draft attachments and deflected intermediate of its ends and pivotally connected at a middle point to said hitch.
6. A hollow doubletree, slides located within opposite end portions thereof and provided with means for coupling the draft thereto, a hitch pivoted to the doubletree, and a rod connecting the slides to said hitch to effect simultaneous movement thereof.
7. A hollow doubletree having the terminal portions of its enclosing sides bent and overlapped and secured, slides ar ranged within opposite end portions of the doubletree and provided with draft coupling means, a pivoted hitch, and a rod connecting the slides to the hitch.

No. 100,083. Flue Block. Bloc de tuyaux.


Frank Jordan, Ashland, Oregon, U.S.A., 17th July, 1906; 6 years. Filed 4th June, 1906. Receipt No. 136,531.
Claim.-1. A flue block comprising the plastic block having an intrior channel and offsets or recesses from said channel, and a sheet metal pipe having portions embedded in the said block and thereby secured to the block, the said sheet metal pipe constituting the wall of the interior channel of the block and forming the inner walls closing the said recesses, substantially as described
2. A flue block comprising the plastic block having an interior channel and offsets or recesses from said channel, and a rectangular sheet metal pipe having corners embedded in said block and thereby secured to the block, the said pipe constituting the wall of the interior channel of the block, and forming the inner walls closing the said recesses, substantially as described
3. A flue block comprising the plastic block having a rectangular interior channel and offsets or recesses from said channel, and a rectanguar sheet metal pipe having its corners embedded in said block between the said recesses and thereby secured to the block, the said pipe constituting the wall of the interior channel of the block and forming the inner walls closing the said recesses, substantially as described.
4. A flue block comprising the plastic block having an interior channel and offsets or recesses from said channel, and a sheet metal pipe having portions embedded in said block
and thereby secured to the block, the said pipe constiftuting the wall of the said interior channel of the block and forming the inner walls closing the said recesses, the upper end of the pipe projecting beyond the block, and the lower end of the pipe being constructed and arranged to engage the pipe of the block next below whereby the pipes of succeeding blocks may be connected, substantially as described.

No. 100,084. Whistle. Siflet.


Albert Franklin Kuhl, Vanwert, Ohio, U.S.A., 17th July, 1906; 6 years. Filed 20th February, 1906. Receipt No. 133,080.
Claim.-1. In an alarm, a whistle baving a sounding chamber the upper end of which is normally open, means for forcIng a continuous current of fiuld through said chamber, a valve pivoted to the whistle, means for normally holding the valve in elevated position, and means for forcing the valve in engagement with the open end of the sounding chamber for diverting the current of fluid to thereby sound the alarm.
2. In an alarm, a whistle having a sounding chamber, a fan casing, a fan revolubly mounted in said casing and provided with radial dished blades for forcing a continuous current of air through the sounding chamber without affecting the whistle, a pipe connecting the fan casing and whistle, and a pivoted spring actuated valve for diverting the current of air to thereby permit the sounding of the whistle.
3. A whistle formed of a plurality of telescopic sections the upper one of which is open at the top to permit the continuous passage of a current of air withoul affecting the whistle, and a spring actuated valve pivoted to the upper telescopic section for closing the opening in the top thereof to thereby permit the sounding of the whistle.
4. In an alarm the combination with a car and its motor, of a fan driven by the motor, a fan casing having detachable slde walls provided with centrally disposed air inlet openings, pivoted dampers for controlling the admission of air to the fan casing, and inclined deflector mounted in said casing. an air conducting pipe comminicating with the interior of the fan casing, a whistle tube having oppositely disposed blowing orifices carried by the opposite end of the pipe, a sleeve or collar mounted on the whistle tube, a bracket secured to the collar, a valve pivoted to said bracket, and a spring interposed between the collar and the valve for holding the latter normally out of engagement with the whistle tube.

## No. 100,085. Assay Fnrnace. Fourneau d'essai.

Amos M. Macnuffee, Chloride, Arizona. U.S.A., 17th July, 1906;
6 years. Filed 8th May, 1906. Receipt No. 135,679.
Claim.-1. A muffle for an assay furnace, said muffle having a separate bottom adapted to be detached from the muffle and removed through an opening in the furnace whereby sald mutfle is adapted for both melting and cupeling operations.
2. An assay furnace having a muffie chamber and means for admitting heat thereto, and a muffle fitting the chamber and

having a bottom which is detachable and readily separable from the balance of the muffle whereby the muffe is adapted for both melting and cupeling operations.
3. In an assay furnace the combination with a furnace casine or shell having a muffle chamber and means for admitting flame thereto, of a muffe fitting said chamber and having its bottom open, and a normally disconnected readily separable bottom fitting the opening in the bottom of the mume and formine a removable closure therefor.
4. An assay furnace comprising a base and ends and a body portion forming a muffle chamber, one of sald ends having a projection on its inner face inclosing an air space, a muffe in said chamber having an opening in its back end to connect said air space with the interior of the muffle, said muffe havhaving a normally loose, readily separable bottom thereby adapting the muffle for both melting and cupeling operations, means for admitting flame to the muffle, and means whereby the spent products are allowed to escape from the furnace.
5. An assay furnace having a base and ends and a connecting shell, said shell including an inner lining composed of heat resisting material and forming a muffle chamber, a heat resisting lagging surrounding the lining and an exterior metallic jacket, said base having a longitudiual open fue or channel into which heat is admitted and delivered directly into the muffe chamber, and a removable muffe having a normally disconnected and readily separable bottom whereby the muffle is adapted for both melting and cupeling operations.
6. An assay furnace comprising a base and ends and an arch-shaped body portion, sald body portion having a fire clay lining, an exterior metallic jacket, and an asbestos lagging between the lining and jacket, a muffle in the body portion and separated from said lining to form a passage for the escape of heat products, said muffle having a bottom which is normally disconnected and readily separable from the main portion whereby the muffie is adapted for both melting and cupling operations, means for admitting flame to the furnace, and means for admitting fresh accretions of air to the mufle chamber.
7. An assay furnace comprising a base and ends and a shell or casing forming a muffie chamber, a muffe in said chamber and sunnorted above the floor of the base, sald muffe having a false bottom which is normally disconnected and readily separable to permit the muffle to be used for melting and cupeling operations, and open top flue in the base below the muffle, and a door for closing the open front end of the muffie, sald door having a portion of reduced diameter to project into the open end of the muffle and form a tight closure therewith, and said projecting portion serving to admit fresh air beneath the lower edge of the door when said door is only partially removed.

No. 100,086. Hook for Plough Ohaing.
Crochet pour chaînes de charrues.


John Henry Robèrts, Waipiata, New Zealand, 17th July, 1906; 6 years. Filed 20th April, 1906. Receipt No. 135,097.
Claim.-A hook having an eye portion, a nut at one end thereof, a bill portion having a straight shank sliding in said nut, a crosshead at inner end of said shank, and a projecting tongue on sald nut adapted to engage with the point of the bill portion when the hook is under strain.

No. 100,087. Singletree. Palonnier.


John Heury Roberts, Waipiata, New Zealand, U.S.A., 17th July, 1906; 6 years. Filed 20th April, 1906. Recelpt No. 135,096.
Claim.-1. A pair of brackets pivotally joined end to end and adapted to recelve a swingletree and draw bar respectively, substantially as and for the purposes set forth.
2. A pair of brackets pivotally joined end to end, and adapted to receive a swingletree and a draw bar respectively, and a collar on one bracket to keep the ends apart, substantially as and for the purposes set forth.
3. A pair of brackets pivotally joined end to end and apapted to receive a swingletree and draw bar respectively and a curved guard at the inner end of each bracket, substantially as and for the purposes set forth.
4. A pair of brackets pivotally joined end to end and adapted to receive a swingletree and a draw bar respectively, a collar on one bracket to keep the ends apart, and a curved guard at the inner end of each bracket. substantially as and for the purposes set forth.

No. 100,088. Vehicle. Véhicule.

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George Seator Stevenson, Dundee, New Zealand, U.S.A., 17th July, 1906; 6 years. Filed 20th April, 1906. Receipt No. 135,098.
Claim.-In a vehicle having an axle pivoted thereto, a transverse bar connected to the axle in front thereof there being a series of keyhole slots in the bar adapted to receive a draft cable attached to the vehicle near the pivotal point. substantially as and for the purposes set forth.

No. 100,089. Ear Drum. Tambour d'oreille.


Michael David Tugendhaft, Hamilton, Ontario, Canada, 17th July, 1906; 6 years. Filed 28th May, 1906. Receipt No. 136,317.
Claim.-1. In an ear drum an elongated tube attached to the outward end of the largest cell of the drum, for the purpose specified.
2. In an ear drum. an elongated outward tube formed integral with the largest cell of the drum, for the purpose specified.
3. In an ear drum the combination of three different sizes of the drum and an elongated tube formed integral with the drum, for the purpose specified.

No. 100,090. Gate. Barrièrc.
Clayton Millard Richardson, Toronto, Ontario, Canada, assignee of Peter C. Forrester, Tacoma. Washington, U.S.A., 17th July, 1906; 6 years. Filed 9th March, 1906. Receipt No. 133,689.
Claim.-1. The combination with a gate post, of a hinge plate, link connections between said plate and the post, a weighted lever mounted to swing on the post, a yoke pivoted to said lever between its free end and fulcrum, a gate having a pintle stile extending through said hinge plate and yoke, a bearing for the lower end of the pintle stile, and means for swinging said lever.
2. The combination with a gate post, of a band secured to the post, a hinge plate, link connections between said band

and plate at opposite sides of the post, a weighted lever mounted to swing on the post above the hinge plate, a yoke pivoted to said lever between its free end and fulcrum, a gate having a pintle stile, the upper end of which above the gate extends loosely through said hinge plate and the yoke, and a bearing on the gate post receiving the lower end of the pintle stile.
3. The combination with a gate post and a gate, of a hinge plate through which the gate stile loosely passes, links plvoted to the hinge plate and having swinging connection with the gate post, a weighted lever mounted to swing on the gate post, and a yoke pivoted to the lever and through which the gate stile loosely passes.

No. 100,091. Electro-Magnotic Signal.
Signal électro-magnétique.


Frank Oliver Sutton Chapman, Brantford, Ontario, Canada, assignee of Alfred Julius Stecker, Detrnit, Michigan, U.S.A., 17th July, 1906; 6 years. Filed 31st January, 1906. Receipt No. 132,455.
Claim.-1. In-a rallway signalling system the combination of a ratchet wheel, a signalling device actuated by said wheel, an electro-magnet having its armature arranged to actuate said wheel, an additional electro-magnet having its armature arranged to hold said wheel from retraction, an electric circuit connected with said magnets, and means actuated by the movement of the wheel to open said circuit and thereby cut out one of sald magnets.
2. In a railway signalling system the combination of a ratchet wheel, a signalling device actuated by said wheel, an electro-magnet having its armature arranged to actuate said wheel, an additional electro-magnet having its armature arranged to hold said wheel fro mretraction, an electric circuit connected with said magnets, a switch interposed in said circuit, and means actuated by the advancement of the wheel to open sald switch and thereby cut out one of said magnets.
3. In a railway signalling system the combination of a ratchet wheel, a signalling device actuated by said wheel, an electro-magnet, a lever carrying the armature of the magnet, a pawl carried by sald lever to actuate sald wheel, an additional electro-magnet, a lever carrying the armature of the additional magnet, a retaining pawl carried by the lastnamed lever, an electric circuit with said magnets, and means actuated by the advancement of said wheel to open said circuit and thereby cut out one of said magnets.
4. In a railway signalling system the combination of a ratchet wheel, a signalling device actuated by sald wheel, an electro-magnet, a lever carrying the armature of the magnet, a pawl carried by said lever to actuate said wheel, an additional electro-magnet, a lever carrying the armature of the additional magnet, a retaining pawl carried by the lastnamed lever, an electric circuit connected with said magnets, means actuated by the advancement of sald wheel to open said circuit and thereby cut out one of said maenets, and means to adjust the movements of sald lever.
5. In a rallway signalling system the combination of a ratchet wheel, a signalling device actuated by said wheel, an electro-magnet, a lever carrying the armature of the magnet, a pawl carrled by said lever to actuate said wheel, an additional electro-magnet, a lever carrying the armature of the additional magnet, a retaining pawl carried by the lastnamed lever, an electric circuit connected with said magnets, actuated by the advancement of said wheel to open said circult and thereby cut out one of said magnets, and means to adjust the movement of the pawl of the first-named magnet.
6. In a rallway signalling system the combination of a ratchet wheel, a signalling device actuated by said wheel, an electro-magnet having its armature arranged to actuate said wheel, an additional electro-magnet having its armature arranged to hold said wheel from retraction, an electric circuit connected with said magnets, and a lever to open sald circult through one of said magnets, said wheel provided with means to trip sald lever.
7. In a railway signalling system the combination of a ratchet wheel, a signalling device actuated by said wheel, an electro-magnet having its armature arranged to actuate sald wheel, an additional electro-magnet having its armature arranged to hold the wheel from retraction, an electric circuit connected with said magnets and means actuated by the movement of the wheel to open said crcuit and thereby cut out one of said magnets, and means to retract the ratchet wheel when the other of said magnets is out of the electric circuit.
8. In a railway signalling system tbe combination of a ratchet wheel, a rotatable shaft rotated by said wheel, a signalling device carried by said shaft, an operating electromagnet having its armature arranged to advance said wheel, an additional electro-magnet having its armature arranged to hold said wheel from retraction, an electric circuit connected with said magnets, and means actuated by the movement of said wheel to open the circuit through the operating magnet.
9. In a railway signalling system, the combination of a ratchet wheel, a signalling device actuated by said wheel, a rotatable shaft rotated by said wheel, a signalling device carried by said shaft, an electro-magnet having its armature arranged to actuate said wheel, an additional electro-magnet havings its armature arranged to hold said wheel from retraction, an electric circuit connected with said magnets. means actuated by the movement of sald wheel to open said circuit through one of said magnets, a lighting device, and means carried by said shaft to disclose a danger signal by said light when the said signal is moved in the position of danger.
10. In a rallway signalling system, the combination of a ratchet wheel, a signalling device actuated by said wheel, an operating electro-magnet having an armature provided with a driving pawl, an additional electro-magnet having an armature provided with a retaining pawl, an electric circuit connected with said magnet, a switch in said circuit, means actuated by the advancement of said wheel to open said switch and thereby cut out the operating magnet, and means to return the ratched wheel to normal position when both magnets are cut out.
11. In a railway signalling system, the combination of a ratchet wheel, a signalling device actuated by sald wheel, an operating electro-magnet having an armature provided with a driving pawl, an additional electro-magnet having an armature provided with a retaining pawl, an electric circuit
connected with said magnets, a switch in said circuit, means actuated by the advancement of sald wheel to open said switch and thereby cut out the operating magnet, means to return the ratchet wheel to normal position when both rachets are cut out, and means to hold the current on the corresponding magnet until the armature carrying the driving pawl has nearly completed its stroke and then to release sald armature.
12. In a railway signalling system the combination of a registering instrument, a track instrument, an electric circuit connected with said instrument, and signalling mechanism electrically connected with the registering instrument, sald machine comprising a ratchet wheel, a signalling device actuated by said wheel, an electro-magnet having its armature arranged to actuate said wheel, an additional electromagnet having its armature arrxnged to hold the wheel from retraction, an electric circuit connected with said magnets, and means actuated by the movement of the wheel to open sald circuit and thereby cut out one of said magnets.
13. In a railway signalling system the combination of registering mechanisms, located at desired distances, the one from the other, an electric circuit connected with each of said mechanism to be controlled by a track instrument, and a signalling mechanism electrically connected with each of the registering mechanisms, each of said mechanisms comprising a ratchet-wheel, a signalling device actuated by said wheel, an electro-magnet having its armature arranged to actuate said wheel, an additional electro-magnet having its armature arranged to hold said wheel from retraction, an electric circult connected with said magnets, and means actuated by the movement of the wheel to open said circuit and thereby cut out one of said magnets.
14. In a rallway signalling system the combination of two electro-magnets, an electric circuit connected with said magnets, a switch interposed in said circuit to govern said circuit, signalling mechanism actuated by one of said magnets and held by the other of said magnets and means to cut out one of said magnets to permit the signalling mechanism to be restored to normal position.

No. 100,092. Railway System. Systime de chemin de fer.


William H. Dammond, Detroit, Michigan, U.S.A., 17th July 1906; 6 years. Filed 13th July, 1905. Receipt No. 126,862.
Claim.-1. In a safety system for railroads, suitable track circults, electro-mechanical means mounted in the locomotive or car, said means operated by the track circuits and being capable of controlling the locomotive or car on any block, by which it may be stopped, slowed down, or operated at full speed as warranted by the condition of the track ahead, substantially as described.
2. In a safety system for rallroads, suitable track circuits, electro-mechanical means in the locomotive or car. said means operated by the track circuits and being capable of
signalling the engineer, three distinct instructions for each block, substantially as described.
3. In a safety system for rallroads, suitable track circuits, electro-mechanical means in the locomotive or car operated by the track circuits, said means being capable of signalling the engineer on any block to stop, to slow down, or to go ahead at full speed, as justified by the track condition ahead, substantially as described.
4. In a safety system for railroads, a track containing insulated sections, a locomotive or car thereon carrying insulated contacts adapted to travel on the track rails, electric circuits on the locomotive or car containing the sections of the rails and uninsulated portions of the locomotive or car and alternately completed and broken by the insulated contacts, electro-magnetic means on the locomotive or car for producing definite results thereon and controlled by the circuits on said locomotive or car and alternately completed and broken by the contacts, track sections and uninsulated portions of the locomotive or car, substantially as described.
5. In a safety system for rallroads, a track containing insulated sections, a locomotive or car thereon carrying insulated contacts, partial electric circuits on the locomotive or car alternately completed and broken by the contacts and including track sections and uninsulated portions of the locomotive or car for producing definite results thereon and controlled by the circuits aternately made and broken by the contacts, partial circuits supplied by a source of electricity extraneous to the locomotive or car and including portions of track on each side of the track said circuits being completed by the contacts and uninsulated portions of the locomotive or car to independent means thereon for controlling the circuit supplying the electro-magnetic means for producing definate results thereon, partial circuits adapted to be completed by short circuits between uninsulated track sections in advance of the locomotive or car for the purpose of shunting current from the extraneous electric source away from the circuits through the contacts and independent controlling means on the locomotive or car, substantially as described.
6. In a safety system for railroads a track containing insulated sections, a locomotive or car thereon carrying insulated contacts adapted to travel on the track rails, elec-tro-magnetic means for producing on the locomotive or car definite and distinct results corresponding to the conditions clear, caution and danger of predetermined portions of the track rails determining which results shall at definite times duced when current from sald electro-magnetic means ceases, circuits from an electric source on the locomotive or car and including the insulated contacts controlling the current to the electro-magnetic means for producing the clear, danger and caution results thereon, and electrical means on the track and extending between insulated sections of the track rails determining which results shall at definite times be produced on the locomotive or car, substantially as described.
7. In a cafety system for rallroads, a track divided on one rail by insulated sections into blooks the opposite rail of which is made electrically continuous between blocks, mo signalling point on each rail in each block and insulated from the portions of the rall adjacent thereto, a source of electricity in each block connected to the track ralls on opposite sides thereof and to insulated signalling sections ex'traneous to the block containing said electrical source in such manner that apparatus completing any two of the partial circuits thus established shall be supplied by independent circuits from said electrical source, a locomotive or car on the track carrying an insulated contact through which while touching an insulated signalling point current from the track circuit may be delivered to a circuit on the locomotive or car, and including uninsulated portions of the locomotive or car, means on the car for producing certain results thereon when a contact while touching a signalling section recelves from the electrical source extraneous to the locomotive or car and different results when said contac, t: while touching said signalling points fails to receive current from said electrical source, substantially as described.
8. In a safety system for railroads, a locomotive or car, a source of electricity thereon, a awithching device for causing the electric source alternately to supply current to e:ther or both of two cincuits for producing certain results on the locomotive or car and to open circuit said electric source, electro-magnetic means on the locomotive or car supplied from an electrical source thereon for controlling sald switching device, electro-magnetic means on sald locomotive or car for diverting the current from said electrical source to one or both of the circuits for producing said results, insulated contacts on the locomotive or car and in the circuits controlling said switching and diverting device by which said circuits may be completed through ralls of the track and uninsulated portions of the locomotive or car, sub. stantially as described.
9. In a safety system for railroads, a diverting device on a locomotive or car by which current from an electrical source thereon may be supplied to either or both of two devices for producing results corresponding to the conditions clear and caution ahead, electro-magnetic means for controlling said diverting device in such a manner that when said controlling means is energized it will cause the diverting device to send current to the devices for producing the results corresponding to clear ahead and when said controlling menas is deenergized it will cause the diverting means to send current to the devices for producing the results corresponding to caution ahead, a switching device in said controlling circuit that when circuit to said controlling means is once more opened at any other point, will itself open and thus prevent subsequent closing of said circuit at said other point from again completing the circuit to said controlling means, elec-tro-magnetic means on the locomotive or car supplied with current thereon which, when energized, will close said switching device in said controlling means and thus close said open circuit at said switch, electro-magnetic means on said locomotive or car adapted to receive current from an electrical source extraneous to the said locomotive or car which, when energized, will close circuits through said devices for controlling said diverting device when the circuit by way of said diverting switch is open at any other point end will cause said diverting device to remain closed until said other open circuit shall have become closed, substantially as described.

No. 100,093. Railway Signal Pulley.
Poulie pour signaux de chemin de fer.


Hiram Lomas, 6 River View, New Ferry, Chester, England, 17th July, 1906; 6 years. Filed 27th February, 1906. Recelpt No. 133,386.
Claim.-1. In a device of the character described, a housing, a plurality of rotatably mounted pulleys in the housing, adapted to form roller bearings for a flexible member, a slipporting member, a bracket secured to the supporting member and pivotally connected with the housing, and means for limiting the movement of the housing.
2. In a device of the character described, the combination comprising a supporting member a frame hinged to the supporting member, pulleys carried by the frame, and means for securing the free end of the frame to the supporting member.
3. In a device of the character lescribed, the combination comprising a post, a frame pivotally connected with the post, anti-friction pulleys rotatably disposed in the frame, a flexible member disposed between the opposing faces of the rulleys. and a removable pin adapted to form an axis for one of the pulleys.
4. In a device of the character described, the combination comprising a supporting member a bracket fixed on the supporting member, a frame hinged to the bracket, pulleys rotatably mounted in the frame, one of which is removable,
and securing means disposed through the frame and the removable pulley.
5. In a device of the character described, the combination comprising a supporting member, a frame pivotally conrected to the supporting member, pulleys rotatably disposed if the frame, a flexible member disposed between the opposing faces of the pulleys, and a removable pin disposed through one of the pulleys and provided with a head fitting into a recess provided in the supponting member and adapted to hold the pin against rotation, and a nut on the pin.
6. In a device of the character described, the combination comprising a supporting member, a housing pivotally secured to the supporting member, and pulleys rotatably disposed in the housing in alignment and having their peripheries oppositely disposed to each other.

No. 100,094. Fireproof Window.
Fenêtre à l'épreuve du feu.


Daniel Bradford Bodger, Winchester, and Arthur Campbell Bodger, Newton, both in Massachusetts, U.S.A., 17th July, 1906; 6 years. Filed 9th April, 1906. Receipt No. 134,770.
Claim.-1. In a fireproof window, a sheet metal sash having a cross rail composed of two strips having the edges of one overlapped and folded together with the edges of the other, the strips being separated from each other at their intermediate portions and indented longitudinally to form pane receiving grooves.
2. In a fireproof window, a sheet metal sash having a cross rail composed of two strips having the edges of one overlapped and folded together with the edges of the other, the strips being separated from each other at their intermediate portions and indented longitudinally to form pane receiving grooves and an internal stiffening member extended across said rail between the edges of said strips.
3. A cross rail for a fireproof window sash consisting of two strips of sheet metal arranged with the edges of one adjacent those of the other and interlocked and their intermediate portions separated, each of said strips being bent to provide grooves for recelving the window panes, and a lengitudinal stiffening web located within the rail extending across the same and in engagement with the interlocked edges of said strips.
4. A fireproof window sash having exterior ralls, a hollow cross rail, and connecting members held at their ends in the exterior rails and extending into and through said cross rail.
5. In a fireproof window, a sheet metal frame having a sash guide provided with an openingo a rigid plate extending across such opening and secured to the frame, and a pulley frame located in the opening and fastened to said plate.
6. In a fireproof window frame, a sheet metal side rall, a rigid metal plate secured to a wall of the side rail on the interior of the rail, the said wall and plate having registering openings, webs formed on said plate extending across the ends of said openings, and a pulley irame located in the openings carrying a pulley projected into the interior of the rail and comprising in part a face plate secured at its ends to said webs, and covering said openings.
7. In a fireproof window frame, a sheet metal side rail, a rigid metal plate secured to a wall of the side rail on the interior of the rail, the said wall and plate having registering openings, webs formed on said plate extending across the ends of said openings, a pulley frame comprising a face plate and laterally extending pulley supporting wings located in said openings, the face plate being secured at its ends to said webs and covering the openings and the pulley supporting wings extending through the openings into the interior of the side rail, and a pulley pivoted to said wings.
8. A fireproof window sash having exterior rails of sheet metal with indented portions forming pane-receiving grooves, a hollow cross rail, strips located within the cross rail and extending longitudinally thereof, projections extending from said strips into the interior of the adjacent exterior rail and bent over on their ends to form hooks, and a cross plece extending transversely of sald exterior rail in engagement with the indented portion thereof and engaged by said hooks.
9. A fireproof window sash having exterior rails of sheet metal with indented portions forming pane-receiving grooves, a hollow cross rail, transverse tie members located in the exterior rails engaging the indented portions, a strip located within the cross rail and extending across and longitudinally thereof, and projections extending from the ends of the strip into the interior of the exterior rails adjacent the ends of the cross rail, on opposite sides of the indented portions of the exterior rails, and connected with the transverse tie members.
10. A fireproof window sash having exterlor rails of sheet metal with indented portions forming pane-receiving grooves, a hollow cross rail, transverse tie members located in the exterior rails extending across the same in engagement with the indented portions thereof, and a plurality of strips extending longitudinally of the cross rail in the interior thereof and having projecting portions extending into the interior of the exterior rails on opposite sides of the tie members, the ends of sald projecting portions being bent around the outer edges of the tie members.
11. In a window, a sash having a tubular side rail formed with an external channel on the side toward the adjacent rail of the window frame, a sash supporting cord or chain located In sald channel, and a hanger having a portiou located in the channel engaged with the cord or chain and detachably connected to the sash rall.
12. In a window, a sash having a tubular side rail formed with an external channel on the side toward the adjacent rail of the window frame, a sash supporting cord or chain located in said channel, and a hanger having an eye located in the channel engaged with the cord or chain and a holding portion extending into the interior of and detachably engaged with the sash rail.
13. In a window, a sash having a tubular side rail and provided with an elongated slot in the portion adjacent the window frame, and a hanger having an eye adapted to be engaged with a sash supporting weight chain or cord and havinc also an offset portion and a lateral retaining bar adapted to extend through the sash rail and engage the same in the interior thereof.

No. 100,095. Wire Fence. Clôture de fll de fer.


Frank S. Frost. Charlottetown, Prince Edward Island, Canada, 17th July, 1906; 6 years. Filed 22nd February. 1906. Receipt No. 133,172.
Claim.-1. A fence comprising straight longitudinal wires, corrugated stay wires and binding means passed three times around the stay wires to the longitudinal wires.

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2. A fence comprising straight longitudinal wires, corrugated stay wires having their upper ends provider with round loops, and binding means wound on the longitudinal wires and crossed three times over the stay wires.
3. A fence comprising longitudinal wires, stay wires and binding wires crossed thrice around one side of the stay wires and having their opposite ends bent around the longitudinal wires on opposite sides of the stay wires.

No. 100,096. Vessel Cover and Shaker.
Couvercle et appareil à secousse pour valsseaux.


Hugh Paton, Montreal, Quebec, Canada, 17th July, 1906; 6 years. Filed 8th January, 1906. Receipt No. 181,632.
Claim.-1. A cover for shaking purposes adapted to be held upon the rim of a vessel by the presence of the index finger while the vessel is held in the hand and consisting of a flexible disc, a carrier containing such disc and constructed to, when borne upon by the finger, force the central portion of the said disc into the vessel while the disc rests upon the rim, substantially as described and for the purpose set forth.
2. A cover adapted to rest upon the rim of a vessel and consisting of a carrier having a convexed interior and a flexible disc supported in such carrier, substantially as described and for the purpose set forth.
3. A cover adapted to rest upon the rim of a vessel and comprising a carrier of circular box-like form with one end open, the closed end of such carrier having the central portion of its interior convexed, an elastic disc within the carrier, a series of legs secured to the interior of the parimetical wall of the carrier, and a series of feet upon such legs, substantially as described and for the purpose set forth.
4. A disc for the purpose set forth consisting of two layers of cork each faced on one side with an asceptic waterproof fabric and an adhesive film attaching the said faced layers together, substantially as described and for the purpose set forth.
5. A cover adapted to rest upon the rim of a vessel and consisting of a carrier having a convexed interior and a flexible disc supported in such carrler and consisting of two layers of cork with an aseptic film of adhesive substance between them, substantially as described and for the purpose set forth.
6. A cover adapted to rest upon the rim of a vessel and consisting of a carrier having a convexed interior and a flexible disc supported in such carrier, and consisting of two layers of cork each faced on one side with an aseptic waterproof fabric and an adhesive film attaching the said faced layers together, substantially as described and for the purpose set forth.
7 A cover adapted to rest upon the rim of a vessel and comprising a carrier of circular box-like form with one enis open, the closed end of such carrier having the central por-
tion of its interior convexed, an elastic disc within the carrier, a series of legs secured to the interior of the perimetrical wall of the carrier, and a series of feet upon such legs, one of such feet being secured to its leg by a screw thread connection, substantially as described and for the purpose set forth.

No. 100,097. Metallic Thimble or Tube. Tube ou dé métallique.


James Pratt, Woodstock, Ontario, Canada, 17th July, 1906; 6 years. Filed 18th April, 1906. Receipt No. 135,011.
Claim.-1. In a fence post or other article composed of plastic material. a metallic thimble or tube firmly imbedded in said material and a removable wooden plug inserted in sald thimble or tube, substantially as described
2. In a fence post or other article composed of plastic material which is eventually hardened, a metallic thimble or tube firmly imbedded in said post or other article, a removable wooden plug inserted in said thimble or tube, a staple, nail, or spike driven into said plug capable of securing a fence or other article or substance thereto, substantially as set forth in the specifications herein.

## No. 100,098. Threading Die. Filière.

The Standard Screw Company, assignee of Walter Beverly Pearson, all of Detroit, Michigan, U.S.A., 17th July, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,030.
Olaim.-1. In a threading die the combination of a dle body provided with guides or ways, die chasers fitted to and movable along said guides or ways towards and from the axis of the die body, a head movable towards and from said die body, arms pivoted on sald head which engage said die chasers to lock them in operative position when said head is moved in one direction and are withdrawn to release said die chasers when said head is moved in the other direction, means to secure said locking arms against pivotal movement and means for advancing and retracting said die chasers comprising engaging parts on said die, chasers and on said locking arms comprising cam surfaces on one thereof.
2. In a threading die the combination of a die body provided with guides or ways, die chasers fitted to and movable along said guides or ways towards and from the axis of the die body, a head movable towards and from said die body, arms pivoted on said head which engage said die chasers to lock them in operative position when said head is moved in one direction and are withdrawn to release the said dip chasers when said head is moved in one direction and are withdrawn to release the said die chasers when said head is moved in the other direction, means for adjustably limiting the outward movement of sald arms and means for supporting said arms against inward pivotal movement.
3. In a threading die the combination of a die body provided with guides or ways, die chasers fitted to and movable

along said guldes or ways towards and from the axis of the die body, a head movable towards and from said die body, arms on sald head which engage sald die chasers to lock them in operative position when said head is moved in one direction and are withdrawn to release said die chasers when said head is moved in the other direction, and a casing supported concentric with said die body which extends over said locking arms, said locking arms and casing being provided with engaging surfaces to provide a rigid support or backing for said arms.
4. In a threading die the combination of a die body provided with guides or ways, die chasers fitted to and movable along said guides or ways towards and from the axis of the die body, a head movable towards and from sald die body, arms on said head which engage said die chasers to lock them in operative position when said head is moved in one direction and are withdrawn to release said die chasers when said head is moved in the other direction, and a casing adjustably secured concentric with the die body which extends over said locking arms, said locking arms and casing belng provided with engaging surfaces comprising inclined or bevelled surfaces on said locking arms.
5. In a threading die the combination of a die body provided with guides or ways, die chasers fitted to and movable along said guides or ways towards and from the axis of the body, a head movable towards and from said die body, arms on said head which engage said die chasers to lock them in operative position when said head is moved in one direction and are withdrawn to release said die chasers when said head is moved in the other direction, and a casing on sald head which extends over said locking arms, said locking arms and casing being provided with engaging surfaces to provide a rigid support or backing for said arms.
6. In a threading die the combination of a die body provided with guides or ways, die chasers fitted to and movable along said guides or ways towards and from the axis of the die body, a head movable towards and from said die body, arms pivoted on said heads which engage sald die chasers to lock them in operative position when said head is moved in one direction and are withdrawn to release said die chasers when said head is moved in the other direction, means to secure said arms against inward pivotal movement and a casing adjustably secured to sald head which extends over said locking arms, said casing and arms being provided with engaging surfaces comprising inclined or bevelled surfaces on said locking arms.
7. In a threading die the combination of a die body provided with guides or ways, die chasers fitted to and movable along said guldes or ways towards and from the axis of the die body, a head movable towards and from said die body. arms pivoted on sald head which engage said die chasers to lock them in operative position when said head is moved in one direction and are withdrawn to release sald die chasers when said head is moved in the other direction, means to secure said arms against inward pivotal movement, a casing adjustably secured to said head which extends over said locking arms, said casing and arms being provided with engaging surfaces comprising inclined or bevelled surfaces on said locking arms, and springs applied to said locking arms for maintaining the bearing surfaces therof in engagement with their co-operating surfaces on said casing.
8. In a threading die the combination of a die body pror vided with guides or ways, die chasers fitted to and movable along said guides or ways towards and from the axis of the die body, a head movable towards and from said die body. arms on said head which engage said die chasers to lock them in operative position when said head is moved in one
direction and are withdrawn to release sald die chasers when sald head is moved in the other direction, and a casing on sald head which extends over said locking arms, said locking arms and casing being provided with engaging surfaces to provide a riild support or backing for sald arms and said casing being provided also with a bearing slidably fitted to a cylindrical bearing on the die body.
9. In a threading die the combination of a dle body provided with guides or ways, die chasers fitted to and movable along said guldes or ways towards and from the axis of the die body, a head movable towards and from said die body. arms pivoted on said head which engage said die chasers to lock them in operative position when said head is moved in one direction and are withdrawn to release said die chasers when sald head is moved in the other direction, means to secure said arms against inward pivotal movement. and a casing adjustably secured to said head which extends over said locking arms, said locking arms and casing being provided with engaging surfaces comprising inclined or bevelled surfaces on said arms to provide an adjustable rigid supnort for said locking arms. and said casing being also provided with a bearing slidably fitted to a cylindrical bearing on the die body.
10. In a threading die the comblnation of a die body provided with guldes or ways, die chasers fitted to and movable along sald guldes or ways towards and from the axis of the die body, a head movahle towards and from said die body. arms on said head which engage sald die chasers to lock them in operative position when said head is moved in one direction and are withdrawn to release said die chasers when said head is moved in the other direction. a casing supported concentric with said die body which extends over sald lockIng arms, sald locking arms and casing belng provided with engaging surfaces to provide a rigid sunoprt or backing for said arms and means for advancing and retracting sald die chasers consisting of co-operating parts on said die chasers and on sald head.
11. In a threading die, the combination of a die body provided with guldes or ways, die chasers fltted to and movable along sald guides or ways towards and from the axis of the die body, a head movable towards and from said die body, arms on said head which engage said die chasers to lock them in operative position when said head is moved in one direction and are withdrawn to release said die chasers when sal head is moved in the other direction, a casingers on salit head which extends over said locking arms, said locking arms and casing being provided with engaging surfaces to provide a rigid support or backing for sald locking arms and means for advancing and retracting sald die chasers comprising engaging parts on said die chasers and on sald locking arms comprising suitable cam surfaces on one thereof.
12. In a theading die the combination of a die body provided with guides or ways, die chasers fitted to and moving along sald guides or ways towards and from the axis of the die body, a head movable towards and from said die body arms pivoted on sald head which engage sald die chasers to lock them in operative position when said head is moved In one direction and are withdrawn to release said die chasers when said head is moved in the other direction, stops which limit the inward nivotal movement of said arms, a casing adjustably secured to said head which extends over said locking arms, sald locking arms and casing being provided with engaging surfaces comprising inclined or bevelled surfaces on said arms for adjustably limiting the out ward pivotal movement of said locking arms and means for advancing and retracting said die chasers comprising engaging parts on said die chasers and on said locking arms comprising suitable cam surfaces on one thereof.
13. In a threading die the combination of a die body, provided with guldes or ways, die chasers fitted to and movable along sald guides or ways towards and from the axis of the body, a head movable towards and from said body, arms pivoted on said head which engage said die chasers to look them in operative position when said head is moved in one direction and are withdrawn to release said die chasers when sald head is moved in the other direction, stops which limit the inward plvotal movement of said arms, a casing threader to sald head which extends over said locking arms, sain locking arms and casing being provided with engaging surfaces comprising inclined or bevelled surfaces on said arms for adjustably limiting the outward pivotal movement of said locking arms and means for advancing and retracting sald die chasers comprising engaging parts on said die chasers and on said locking arms comprising suitable cam surfaces on one thereof.
14. In a threading die the combination of a die body provided with holes or openings, a block of less thickness than the width of said holes or openings removably secured to a side of each of said openings, die rhasers slidably fitted to the spaces between said blocks and the opposite sides of said holes or openings and movable therein towards and from the axis of the dic body, engaging tongues and grooves
on said die chasers and removable blocks, means for advancing and retracting said die chasers and means for securing sald die chasers in operative position.
15. In a threading die the combination of a die body proFided with holes or openings, a block of less thickness than the width of said holes or openings inserted against a slde of each of sald holes or openings, clamping screws threaded into said die body, the heads of which are fitted to counterbores formed partly in sald blocks and partly in the die body shoulders on which engage corresponding shoulders on said blocks, die chasers slidably fitted to the space between said blocks and the opposite sides of said holes or openings and movable therein towards and from the axis of the die body, engaging tongues and grooves on said die chasers and removable blocks, means for advancing and retracting said die chasers and means for securing said die chasers in operative position.
16. In a threading die the combination of a die bodv provided with guides or ways, and a rearward axial bore, die chasers fitted to and movable along sald guides or ways towards and from the axis of said die body, a ring fitted to the axial bore in said die body which projects into the path of travel of rigid portions of sald die chasers, means to advance and retract sald die chasers and means to secure said chasers in operative position.
17. In a threading die the combination of an arbour, a die body and a head itted to and longitudinally movable on said arbour, means to secure said die body against rotation on said arbour, a stop which limits th emovement of said die body and head lengthwise of sald arbour. ylelding connection between sald die body and head whereby said head is maintained normally at one. limit of its movement relatively to sald die body, guldes or ways on said die body, die chasers fitted to and movable along said guides or ways towards and from the axis of said die body. rigidly supported arms on said head which engage said die chasers to lock them in operative position when sald head is moved in one direction and are withdrawn to release said die chasers when sald head is moved in the other direction, and means for advancing and retracting said die chasers comprising engaging parts on sald dle chasers and on sald locking arms comprising suitable cam surfaces on one thereof.
18. In a threading die the combination of an arbour, a die body, a head fitted to and longitudinally movable on sald arbour, a collar on said arbour between sald die body and sleeve, pins secured in sald die body which are fitted to and longltudinally movable in holes of osenings in said collar. rods secured to said pins, springs inserted between shoulders on sald rods and the bottom of recesses formed in said head whereby sald springs will maintain sald head normally at one limit of its movement relatively to said die body, guides or ways on said die body, die chasers fitted to and movable along said guides or ways towards and from the axis of said dle body. rigidly supported arms of sald head which engage said die chasers to lock them in operative position when said head is moved in one direction and are withdrawn to release sald die chasers when said head is moved in the other direction, and means for advancing and retracting said die chasers comprising engaging parts on said die chasers and on said locking arms comprising suitable cam surfaces on one thereof.
19. The combination of an arbour, a threading die comprising connected sections fitted to and movable longitudinally for said arbour, a flange on said arbour between the sections of sald die, and means for securing said die againgt rotation relatively to said arbour.

## No. 100,099. Pasteurising Apparatus.

 Apparcil d pasteuriser.Niels Frederick Nissen, Gentofte, and Frederick C. L. Sodemann, Lyngby. both in Denmark, 17 th July, 1906; 6 years. Flled 9th April, 1906. Receipt No. 134,743.
Claim.-1. An apparatus for pasteurizing substances enclosed in bottles or other receptacles, and of the kind where the bottles remain at rest, while the water or other heat conveying medium circulates, and comprising a number of communicating chambers, means for heating each chamber separately and independently of the circulation, and means for utilizing the water level variations produced, in the apparatus, when inserting the bottles therein or extracting them therefrom, to effect the desired circulation through all the chambers, substantially as described and for the purpose set forth.
2. An apparatus for pasteurizing substances enclosed in bottles or other receptacles, and of the kind where the bot ties remain at rest while the water, or other heat conveying medium circulates and comprising a number of communicating chambers, means for heating each chamber separately and independently of the circulation, ineans for preventing back flow of the medium, and means fer producing a difference in water level of two adjacent chambers, thus effecting.
as back flow is prevented, a circulation of the medium through all the chambers and in the desired direction.

3. An apparatus for pasteurizing substances enclosed in bottles or other receptacles, and of the kind where the bottles remain at rest while the water or other heat conveying medium circulates, and comprising a number of communicating chambers, means for heating each chamber separately and independently of the circulation, means for preventing back flow of the medium and means for supplying water to any one of the chambers and for discharging a corresponding amount of water from the adjacent chamber on the opposite side of the gate, for the purpose of producing the desired circulation through all the chambers.
4. An apparatus for pasteurizing substances enclosed in bottles or other receptacles and of the kind where the bottles remain at rest, while the water or other heat conveying medium circulates, and comprising a number of communicating chambers, means for heating each chamber separately and independently of the circulation, means for preventing back flow of the medium, and a pump serving to transfer the water from one chamber into the adjacent one for the purpose of producing the difference in water level of these two chambers necessary to effect the desired circulation through all the chambers, these two chambers being temporarily or permanently disconnected.

No. 100,100. Hermetic Sealing Apparatus.
Appareil à sceller hermétiqucment.


William Albert Lorenz and William Heary fonlss, co-inventors, both of Hartford, Connecticut, U.S.A., 17th June, 1906; 6 years. Filed 28th April, 1906. Receipt No. 135,350.
Claim.-1. In a jar sealing apparatus the combination of a jar chamber, a plurality of jar carrying slides and a table provided with guideways for the slides, and mounted to carry the slides transversely, whereby they are successively carried
into horizontal alignment with the jar chamber to permit them to be transferred horizontally from the table to the chamber.
2. In a jar sealing apparatus. the combination of a jar chamber, a plurality of jar carrying slides and a turntable provided with a guldeway for each of the slides, the turntable being pivoted at one side of the center of the pathway of the sald slides, whereby the slides may be brought successively into horizontal alignment with the jar chamber.
3. In a jar sealing apparatus the combination of a jar chamber, a plurality of jar carrying slides, a turntable provided with a guide for each sllde, and a pivotal support for the turntable located between the guldeways, and at one side of the center line of the jar chamber whereby the slides are by rotation of the table carried successively into horizontal alignment with the jar chamber.
4. In jar sealing apparatus the combination of a jar chamber, a pair of jar carrying slides, a turntable for supporting one of the slides in alignment with the jar chamber, and supporting the other slide in position to be brought into similar alignment by swinging the turntable, means for locking the turntable when either slide is in allgnment with the jar chamber, and stops for stopping the movement of the slldes when they are drawn out of the jar chamber.
5. In jar sealing apparatus the combination of a jar chamber, a door for hermetically sealing the jar chmber, far carrying slide. guideways for supporting and guiding the slide through the doorway into the jar chamber, jar holding trays supported by the slide, and substitutable filling pleces resting upon the bottom of the slide, and supporting the trays to ralse the tops of jars of different heights to a predetermined level.
6. In jar sealing apparatus the combination of a jar chamher. a pair of jar rarrving slides, rollers on which the slides rest, and a turntable for carrying the rollers and supporting one of the slides in alignment with the jar chamber while supporting the other slide in position to be brought into similar alignment by swinging the turntable.
7. In jar sealing apparatus the combination of a jar chamber, a pair of jar carrying slides, a turntable for supporting one of the slides in allgnment with the jar chamber and for supporting the other slide in position to be brought into similar alignment bv swinging the turntable, and side guides on the turntable to keep the moving slides in alignment with the jar chamber.
8. In jar sealing apparatus the combination of a jar chamher. a door carriage, a door suspended from the carriage and snrings to yieldingly hold the door away from the jar chamber.
9. In far sealing apparatus the combination of a jar chamber. a door carriage. a door suspended from the carriage. springs tending to hold the top of the door out of contact with the jar chamber, and a guide rail parallel to the path of the door to confine the bottom.
10. In jar sealing apparatus. door mechanism therefor having in combination a door for hermetically closing the jar sealing chamber, togele mechanism acting upon different portinns of the door. and a floating supoort for the toggle mechanism for substantially equalizing its pressure upon the different portions of the door.
11. In jar sealing apparatus the combination of a jar chamber, a door. clamping devices operating on different portions of the door, and means including an equalizing toggle device for distributing the clamping pressure on the different portions of the door.
12. In jar sealing apparatus, door mechanism therefor having in combination a door for hermetically closing the jar sealing chamber of the apparatus. togele mechanism acting in different directions upon different portions of the door, and a floatine support for the togele mechapism, located between the opposing portions thereof. for distributing the pressure of the toggle mechanism with substantial equality upon the different portions of the door.
13. In jar sealing apparatus, door mechanism therefor having in combination a door for hermetically closing the jar sealing chamber of the apparatus, togale devices acting in opposite directions from a common center, upon different portions of the door, and a floating support for the toggle device mounted to yield substantially in the line of the opposing pressures to substantially equalize them.
14. In jar sealing apparatus the combination of a far chamber. a door carriage, a door supported by the carriage, and means including a toggle joint device for clamping the door against the jar chamber.
15. In far sealing apparatus, the combination of a jar chamber, a door carriage, a door supported by the carriage. and means iocluding an adjustable toggle jolnt device for clamping the door against the jar chamber.
16. In far sealing apparatus, the combination of jar chamber, a door carriage, a door supported by the carriage. and means including two toggle foint devices acting from a common center for clamping the door against the jar chamber.
17. In far sealing apparatus, the combination of a jar chamber, a door carriage, a door supported by the carriage, and means including two toggle joint devices acting from a pivotally supported common center for clamping the door against the Jar chamber.
18. In jar sealing apparatus, the combination of a jar chamber, a door carriage, a door supported by the carriage, means including two toggle joint devices acting from a common center for clamping the door against the jar chamber, and means for supporting the said center for equalizing movement.
19. In far sealling apparatus, the combination of a jar chamber, a door carriage, a door supported by the carriage. dogs engaging the door, and means for moving the dogs to clamp the door against the jar chamber.
20. In jar sealing apparatus, the combination of a jar chamber, a door carriage, a door supported by the carriage, cogs engaging with the door, and a toggle joint device for moving the dogs to clamp the door against the jar chamber.
21. In far sealing apparatus, the combination of a jar chamber, a door carriage, a door for the jar chamber supported by the carriage, dogs engaging with the door, and two toggle joint devices which act on the dogs from a common center to clamp the door against the jar chamber.
22. In far sealing apparatus, the combination of a jar chamber, a door carriage, a door supparted by the carriage, dogs engaing with the door, two toggle joint devices which act on the dogs from a common center to clamp the door against the jar chamber, and means for supporting the common center for equalizing movement.
23. In jar sealing apparatus, the combination of a jar chamber, a door carriage, a door supported by the carriage, dogs engaging with the door, and two toggle joint devices which act on the dogs from a pivotally supported common center, to clamp the door against the far chamber.
24. In jar sealing apparatus, the combination of a jar chamber, a door carriage, a door supported by the carriage, dogs engaging with the door, two toggle joint devices which act on the dogs from a common center to clamp the door against the jar chamber, and a lever for operating the toggle joint devices.
25. In jar sealing apparatus, the combination of a jar chamber, a door carrlage, a door supported by the carriage, dogs engaging with the door, two toggle joint devices which act on the dogs from a common center to clamp the doo'f against the jar chamber, and counterbalancing means for the weight of the toggle joint devices.
26. In far sealing apparatus, the combination of a jar chamber, a door carriage, a door for the jar chamber supported by the carrlage, dogs engaging with the door, two toggle joint devices which act on the dogs from a common center to clamp the door against the jar chamber. and ad. justing means for the toggle joint devices and their connected parts.
27. In Jar sealing apparatus, the combination of a jar chamber. a door carriage, a door supported by the carriage. two toggle joint devices and connections acting on the dogs from a comon center, and means for varying the length of the connegtions.
28. In jar sealing apparatus, the combination of a jar chamber and a sealing carriage removably contained within the jar chamber, comprising a base and a presser chamber provided with a plurality of independently movable pressers operated by atmospheric pressure.
29. In jar sealing apparatus, the combination of a jar chamber, a plurality of independently movable jar pressers. a carriage removably contained within the jar chamber, and having the jar pressers attached thereto, and fluid pressure actuated means for operating the pressers.
30. In jar sealing apparatus, the combination of a jar chamber, a plurality of independently movable jar pressers. a carriage removably contained within the jar chamber and having the far pressers attached thereto, and an inclined cap levelling surface adjacent to the pressers, to level the individual caps as they are moved toward the pressers.
31. In far sealing apparatus, the combination of a jar chamber and a sealing carriage removably contained within the far chamber, and comprising a base and a presser chamber having attached thereto independently movable far pressers operated by atmospheric pressure, and a cap levelling device located near the front of the presser chamber to level the caps as they are moved toward the pressers.
32. In jar sealing apparatus, the combination of a jar chamber, a sealing carriage removably contained within the jar chamber, and comprising a base and a presser chamber provided with a plurality of independently movable jar pressers operated by atmospheric pressure, and means for connecting the presser chamber to exhausting apparatus.
33. In vacuum sealing apparatus, a valve having an ex haust port 255 . an atmospheric port 258 , and two chamber ports 256 and 257 , said valve being provided with means for closing the exhaust port and the atmosphere port Indepen-
dently of each other, and for connecting the two chamber ports either with the exhaust port or with the atmosphere port.
34. In vacuum sealing apparatus, a valve having an exhaust port 255, an atmosphere port 258, and two chamber ports 256 and 257, said valve being provided with means for closing the ehaust port and the atmosphere port independently of each other and for connecting the two chamber ports either with the exhaust port or with the atmosphere port, said means being adapted also to connect the chamber port 256 either with the exhaust port or with the atmosphere port while keeping the other chamber port 257 closed.
35. In vacuum sealing apparatus, the combination with a valve having an exhaust port, an atmosphere port and two chamber ports, of means for bringing the ports into proper coincidence and means for arresting the operating movements at predetermined positions.
36. In vacuum sealing apparatus, the combination with a valve having an exhaust port, an atmosphere port and two ckamber ports, of means for bringing the ports into proper coincidence, and means for limiting the valve operating movement in both directions and for arresting it at predetermined intermediate positions.
37. In jar sealing apparatus, the combination of a jar chamber, a presser chamber, a valve, a passage connecting the valve to the jar chamber, a passage connecting the valve to the presser chamber, a passage connecting the valve to an exhausting apparatus, a passage connecting the valve to the atmosphere, and means for operating the valve to close the exhaust passage and the atmosphere passage independently of each other and to connect the two chamber passages either with the exhaust passage or with the atmosphere passage.
38. In jar sealing apparatus, the combination of a jar chamber, a presser chamber, a valve, a passage connecting the valve to the jar chamber, a passage connecting the valve to the presser chamber, a passage connecting the valve to an exhausting apparatus, a passage connecting the valve to the atmosphere, means for operating the valve to close the exhaust passage and the atmosphere passage independently of each other and to connect the two chamber passages either with the exhaust passage or with the atmosphere passage, sald means being adapted also to connect the presser chamber passage either with the exhaust passage or with the atmosphere passage while keeping the jar chamber passage closed.
39. In a jar sealing apparatus the combination of a jar chamber, a presser chamber, a valve, a passage connecting the valve to the jar chamber, a passage connecting the valve to the presser chamber, a passage connecting the valve to an exhausting apparatus, a passage connecting the valve to the atmosphere, means for operating the valve to bring the passages into proper coincidence, and means for arresting the valve operating movement at predetermined positions.
40. In jar sealing apparatus the combination of a jar chamber, a presser chamber, a valve, a passage connecting the valve to the jar chamber, a passage connecting the valve to the presser chamber, a passage connecting the valve to an exhausting apparatus, a passage connecting the valve to the atmosphere, means for operating the valve to bring the passages into proper coincidence, and means for limiting the valve operating movement in both directions and for arresting it at predetermined intermediate positions.
41. In jar scaling apparatus the combination of a jar chamber, a presser chamber, a passage for connecting with air exhausting apparatus, a valve comprising a plug and casing. a lever to oscllate the plug, a latch connected with the lever, and a peripherally shouldered plate to co-operate with the latch in limiting the oscillation of the plug in both directions and to arrest the movement of the plug at predetermined intermediate points.
42. In vacuum sealing apparatus the combination of a jar chamber, a presser chamber, passages connecting with means for exhausting both chambers, means for readmitting air first to the presser chamber and subsequently to the jar chamber.
43. In a vacuum sealing apparatus the combination of a jar chamber, a presser chamber, a valve controlled connection between the two members, passages connecting with means for exhausting the two chambers, means for operating the valve to readmit air first to the presser chamber and subsequently to the jar chamber.
44. In jar sealing apparatus, door mechanism therefor, havIng in combination a door carriage mounted to travel in the general direction of the plane of the door, a door mounted on the carriage for movement toward and from the plane of the door seat, and a guide rall for holding the door away from the plane of its seat during the movements of the carriage.
45. In jar sealing apparatus, door mechanism therefor having in combination a door carriage mounted to travel in the general direction of the plane of the door, a door mounted on the carriage for movement toward and from the plane of
the door seat, and a guiding rail for holding the door away from the plane of its seat during the travel of the carriage, the guiding engagement between the rail and the door being discontinued when the door stands opposite its seat.
46. In jar sealing apparatus, door mechanism therefor havIng in combination a door carriage mounted to travel in the general direction of the plane of the door, a door mounted on the carriage for movement toward and from the plane of its seat, a dog for moving the door toward and from its seat, and a rail for guiding the door to hold its sealing face in a plane away from the plane of its seat, during the travel of the carriage.
47. In jar sealing apparatus, door mechanism therefor having in combination a door carriage mounted to travel in the general direction of the plane of the door, a door suspended on the carriage for swinging movement toward and from the plane of its sealing seat, dogs for moving the door toward and from its sealing seat, and a guide rall engaging with the door during its travel with the carriage to hold the sealing face of the door at one side of or away from the plane of the sealing seat.
48. In jar handling devices, the combination of a jar tray, open at its lateral sides, and a detachable locator consisting of a sheet metal plate, provided with apertures for locating and maintaining a plurality of jars in predetermined positions on the tray, the plate being also provided with means for reversibly registering it upon the tray and maintaining the jars in their same predetermined positions upon the tray in both of the positions of the locator.
49. In jar handling devices the combination of a jar tray, comprising a flat bottom portion provided with standards rising from opposite sides of the bottom, a handle appurtenant to each of said standards, a detachable locator provided with openings for locating a series of jars in a predeterminel position in the tray, the ends of the locator being provided with means for registering with the said standards, with portions of said locator adjacent to the said handles, whereby the tray and its locator are arranged in manipulative relation to the hand of the operator.
50. In jar handling devices the combination of a jar tray, comprising a flat bottom portion having upwardly projecting standards at its opposite sides. leaving the other opposite lateral sides open, and a detachable locator provided with openings for locating a series of jars in a predetermined position in the tray, and having its ends provided with means for supporting and registering the locator upon the standards.
51. In jar handling devices the combination of a reversible tray, comprising a flat bottom having standards extending upwardly from its opposite sides, leaving the tray open on its other opopsite sides, and a detachable locator provided with openings for registering a serles of jars in symmetrical relation on the tray, the locator being provided with means for reversibly registering it upon the said standards.
52. A leveller for a plurality of flaring or shouldered jar caps, provided with a plurality of openings for engaging the cap rims, whereby the leveller is supported.
53. A leveller for a plurality of flaring or shouldered far caps, comprising a plate having a plurality of openings for engaging the cap rims, whereby the leveller is supported.
54. In jar handling devices the combination with a jar, of a jar having a flaring or shouldered rim, and a leveller resting upon the said flaring or shouldered portion of the rim.
55. In jar handling devices the combination with a plurality of jars each having a removable cad with a flaring or shouldered rim, of a cap leveller provided with openings, the edges of which rest upon the said rim.
56. In jar sealing apparatus, means for bringing the loose caps to an approximately general level, comprising a plate supported by the caps at a level below the general level of the tops of the caps, the plate being provided with apertures through which the tops of the caps protrude.
57. In jar sealing apparatus, means for levelling and pressing down a plurality of loose caps comprising cap pressers, a plate supported by the rims of the caps, and provided with apertures through which the tops of the caps project to a level above that of the general level of the plate, for independent engagement with cap pressers.
58. In jar sealing apparatus the combination with means for supporting a plurality of jars having their caps loosely placed thereon, of independent cap pressers, means for bringing the loose caps to an approximately general level, comprising a plate having a plurality of apertures through which the caps protrude for engagement with the pressers, the plate being supported by the margins of its said apertures, resting upon the rims of the respective caps.

No. 100,101. Machine for Making Expanded Motal. Machine pour faire du métal dilate.

Fig. 1


Oscar Bradford, Chicago, Illinois, U.S.A., 17th July 1906: 6 years. Filed 13th June 1906. Receipt No. 136,846.
Claim.-1. The combination in a metal expanding machine, of moving devices adapted to engage and hold the edges of the shcet, With an expanding device consisting of an incline over which the central portion of the sheet is carried by the edge-holding devices, substantially as specified.
2. The combination in a metal expanding machine, of sheet fecding devices adapted to engage and hold the edges of the sheet, and an expanding device constructed and arranged to force the center of the sheet from the plane of the feeding devices, substantially as specifled.
3. The combination in a metal expanding machine of sheet fecding devices adapted to engage and hold the edges of the sheet, and a stationary incline constructed and arranged to force the center of the sheet from the plane of the edges and thus to open its slits, substantially as specified.
4. The combination in a metal expanding machine of sheet feeding devices adapted to hold the edges of the sheet, and a stationary expanding device located between the sheet feeding devices and constructed and arranged to force the center of the sheet away from the plane of the feeding devices, substantially as specified.
5. The combination in a metal expanding machine, of horizontally moving sheet feeding devices adapted to engage and hold the edges of the sheets, and an expanding device constructed and arranged to force the center of the sheet away from the plane of the feeding device, substantially as specifled.
6. The combination in a metal expanding machine, of means adapted to hold the edges of the moving sheet in a fixed plane, and means for displacing or forcing the middle portion of the sheet away from that plane, subtantially as specifled.
7. The combination in' a metal expanding machine of a support for the middle portion of the sheet, and sheet feeding devices adapted to take hold of the edges of the sheet and draw it over, and away from the plane of said support, substantially as specifled.
8. The combination in a metal expanding machine of a support for the center of the shect and sheet feeding devices adapted to take hold of the edges of the sheet, said feeding devices arranged to move in a plane diverging from the plane of the support, substantially as specified.
9. The combination in a metal expanding machine of a support for the center of the sheet and sheet feeding devices adapted to take hold of the edges of the sheet, said sheet feeding devices arranged to move in a plane diverging in a vertical direction from the plane of the support, substantially as specifled.
10. The combination in a metal expanding machine of a stationary support for the center of the sheet provided with
devices for relieving the friction, and sheet feeding devices adapted to take hold of the edges of the sheet, said feeding devices arranged to move in a plane diverging from the plane of the support, substantlally as specified.
11. The combination in a metal expanding machine of a stationary support of less width than the sheet and over which it may be fed, and feeding devices adapted to take hold of the edges of the sheet and force it over said support, but moving in a plane diverging from the plane of the support, substantially as specified.
12. In a machine for expanding slitted metal sheets, feeding mechanism for gripping the sheet at its marginal portions and a support for the center of the sheet, the plane of the feeding mechanism and the plane of the support gradually separating in a direction at right angles to the plane of the sheet, substantially as specified.

No. 100,102. Mackine for Expanding Sheet Metal. Machine pour dilater le métal en feuille.


Oscar Bradford, Chicago, Illinois, U.S.A., 17th July 1906; 6 years. Filed 13th June, 1906. Recelpt No. 136,847.
Claim.-1. The combination with a machine for expanding slitted sheet metal, of continuously driven controlling rolls receiving the sheet from the expanding machine and acting to hold it in position so that its edges cannot get free of the feeding devices of the expanding machine before the expansion is fully completed.
2. The combination with a machine for expanding slitted sheet metal, of continuously driven controlling rolls adapted to receive the sheet as it passes from the expanding machine and to control its position therein.
3. The combination with a machine for expanding slitted sheet metal, of continuously driven rolls adapted to receive the sheet from the expanding machine and acting both to control its position in the expanding machine and also to level the sheet.
4. The combination with a machine for expanding slitted sheet metal consisting of continuously driven controlling rolls arranged in an inclined position and driven at a speed unlform with the speed of the sheet at the time it leaves the expanding machine.

## No. 100,103. Machine for Mannfacturing Metal.

 Machine pour la fabrication du métal.Lewis E. Curtis, Chicago, Illinois, U.S.A., 17th July 1906; 6 years. Filed 13th June 1906. Recelpt No. 136,845.
Claim.-1. In a machine for expanding slitted sheets, the combination of two discs mounted to rotate in diverging
planes, and provided on their peripheries with means to engage the edges of the sheets.

2. In a machine for expanding slitted sheets, the combination of two discs mounted to rotate in planes diverging from the point at which the sheets are received, and provided with means to engage the edges of the sheets, and guards for holding the edges down on the discs.
3. In a machine for expanding slitted sheets, the combination of two discs mounted to rotate in planes diverging from the point at which the sheets are recelved, and provided with hooks to engage the edges of the sheets.
4. In a machine for expanding slitted sheets, the combination of two rotating discs mounted upon shafts arranged at an angle to each other, so that their peripheries at one point are near together ald diverge from that point, said discs being provided with means for holding the edges of the sheets, subtantially as specified.
5. The machine for expanding slitted sheet metal having in combination two discs mounted to rotate in the same direction but in diverging planes, and provided on their peripheries with means whereby they engage both edges of the sheet.
6. The machine for expanding slitted sheet metal having rotating diverging expanders provided with peripheral means for engaging the edges of the sheets, guards for holding the edges on the expanders, and a roller bearing on the sheet where it enters under the guards.
7. The machine for expanding slitted sheet metal having rotating diverging expanders provided with peripheral means for engaging the edges of the sheets, guards for holding the edges on the expanders, a roller bearing on the sheet where it enters under the guards, and rollers for lifting the sheet from the expanders.

No. 100,104. Dental Engine. Machine dentaire.


William C. K. Buchanan, Kansas Clty, Missouri, U.S.A., 17th July, 1906; 6 years. Filed 5th Aprll, 1906. Receipt No. 134,633.
Claim.-1. In a device of the class described a shank provided with threaded portions separated by a smooth bearing surface and clamping members carried by said threaded portions.
2. In a device of the class described a shank provided with exterior threaded portions separated by a smooth bearing surface and clamping members and carricd by said threaded portions.
3. In a device of the class described the combination of a shank having a pair of exterior clamp bearing portions sep-
arated by a disc bearing portion, and suitable disc and clamp members.
4. In a device of the class described the combination of a clamp bearing portion, an adjacent disc bearing portion of less diameter than said clamp bearing portion and a second clamp bearing portion of less diameter than and extending from said disc bearing portion, and suitable clamp and disc members carried by said shank.

No. 100,105. Astigmatic Cabinet. Cabinet astigmatique.


George Ewing Holmes, Newark, New York, U.S.A., 17th July, 1906; 6 years. Filed 11th April, 1906. Recelpt No. 134,860.
Claim.-1. An astigmatic cabinet having an opening in its front side, a scale on its front side, an arbour in the cabinet, a face disc having a tubular axle revoluble on the arbour, and a pinion on said tubular axle, the said face disc being further provided with radial openings and with a pointer, the latter co-acting with the scale on the front side of the cabi-: net, an astigmatic disc in rear of the face disc and having a tubular axle revoluhle on that of the face disc and provided with a pinion, vertically movable racks mounted and guided in the cabinet and engaging the respective pinions, and operating cords for the respective racks to co-act with the racks and pinions to independently turn the said dics to any desired angle, substantially as described.
2. An astigmatic cabinet having an opening in its front side, and a scale, and further provided with a removable back, a face disc, an astigmatic disc, supports therefor, and means to independently turn them to any desired angle, said discs. supports and turning means being mounted on and carried by the removable back of the cabinet, substantially as described.

No. 100,106. Holder for Nuraing Bottles. Porte-bouteilles de nourrices.


Alfred Harold Oberg, Sheridan, Wyoming, U.S.A., 17th July, 1906; 6 years. Filed 6th April, 1906. Receipt No. 134,690. Claim.-1. A holder for nursing bottles constructed of one piece of wire comprising legs, semi-circular loops between the legs, open at the top and a connecting member for the legs at one side of the holder.
2. A holder for nursing bottles constructed of one piece of wire bent upon itself to form a horizontal side member, legs at each end of the side member, each of said legs being formed with two members, semi-circular loops formed from the wire. constituting the inner members of said legs, and single legs formed irom the wire at the opposite side of the loop, the single legs having their legs rounded off and all of the cornors of the device being rounded, as described.

## No. 100,107. Process of Rendering Lithopone more

 Stable Against Light.Procédé pour rendre le lithopone plus stable d l'épreuve de la lumicre.
Wilhelm Ostwald, Leipzig, Germany, 17th July, 1906; 6 years. Filed 2nd April, 1906. Receipt No. 134,511.
Claim.-1. The process of rendering lithopone more stable against light, which consists in adding salts of non-acid reaction, precipitating zinc compounds from the solutions of zinc salts to lithopone.
2. The process of rendering lithopone more stable against light, which consists in adding salts of non-acid reaction, precipitating zinc compounds from the solutions of zinc salts to lithopone and lixiviating the added salts.
3. The process of rendering lithopone more stable against light. which consists in adding phosphates of alkalies to lithopone.

No. 100,108. Railway Tamp. Lampe.


Hiram Lucas Piper, Montreal, Quebec, Canada, 17th July, 1906; 6 years. Filed 31st March, 1906. Receipt No. 134,478. Claim.-1. A combined classification and marker railway lamp having a pair of colourless lenses and a permanently ccloured lens, and means for at times colouring the colourless lenses, substantially as described.
2. A combined classification and marker railway lamp comprising a supporting member having a plurality of coloured glasses mounted rigidly thereon, a shell encircling the coloured glasses and rotalably mounted upon the base, a plurality of lenses carried by the shell, and an illuminating device within such shell, substantially as described.
3. A combined classification and marker railway lamp comprising a base, a bracket horizontally rotatably supporting such base, means detachably retaining the base in different angular positions relatively to the bracket, a member carried by the base, coloured glasses carried by such member, a shell encircling such member and mounted rotacably upon the base, means detachably retaining the shell in different angular positions relatively to the base, a plurallty of lenses carried by the shell, and illuminating means within the shell, substantially as described.
4. A combined classification and marker railway lamp comprising a base, a bracket horizontally rotatably supporting such base, means detachably retaining the base in different angular positions relatively to the bracket, a curved member secured rigidly upon the base concentrically thereto and near its periphery, a pair of coloured glasses carried by such member, a shell encircling such member concentrically and mounted rotatably upon the base, means detachably retaining the shell in different angular positions relatively to the base. a pair of colourless lenses and a permanently coloured lens, ali of such lenses being carried by the shell, and Illuminating means within the shell, substantlally as described.
5. In a combined classification and marker railway lamp. the combination of a base consisting of two members secured together and presenting a horizontal annular recess, a shell, a horizontal annular interiorly projecting fiange at the lower end of such shell and contained revolubly in the said recess, a plurality of colourless lenses mounted in the perimeter of such shell, illuminating means within the shell, a device mounted rigidly upon the base between the shell and illuminating means and having coloured glasses mounted therein, means locking the shell in different positions to which it may be revolved relatively to the base, substantially as described.
6. In a combined railway lamp the combination with the shell and lens rings having lenses secured to their outer
ends, of means securing the inner ends of such rings to the edges of openings in the shell, such means consisting of flanges formed upon the said inner ends of the rings, and circumferential beads formed upon the perimeters of such rings, for the purpose set forth.
7. In a rallway lamp the combination with a base, a shell revolubly mounted thereon, of a bracket upon the interior of the shell, an oil reservoir mounted in such bracket, a burner mounted in the reservoir and a wick operating spindle carried by the burner and projecting through a hole in the shell, substantially as described.

No. 100,109. Inhaler. Inhalatenr.


David L. Sprague, Clear Lake, Iowa, U.S.A., 17th July 1906; 6 years. Filed 30th March 1906. Recelpt No. 134,456 .
Claim.-In a device of the character described the combination with a heater and a chimney supported thereby, said chlmney having an annular flange at one end, of a hood, legs extending therefrom and bearing upon the flange, an air receiver mounted within the hood and extending there above, an inlet tube extending through the chimney into the receiver, an outlet tube extending from the receiver above the hood, a removable cap upon the receiver and means upon the cap for indicating the temperature thereof and of the contents of the receiver.

No. 100,110. Toilet Article. Article de toilette.


Frederick Albert Steele, New Rochelle, New York, U.S.A., 17th July, 1906; 6 years. Filed 3rd April, 1906. Received No. 134,584.
Claim.-1. A toilet article for treating diseases of the anus, comprising two paper backing sheets connected to each other by an integral tongue, a mass of dry absorbent medicated material engaged with each backing sheet, and a woven fabric covering for each mass of absorbent material, said coverings having their edges secured respectively to the backing sheets to hold the absorbent material in place whereby the pad may be moistened to render the medicant active.
2. A tollet article for treating diseases of the anus comprising two paper backing sheets connected by a narrow integral tongue and adapted to fold the one over the other, a mass of absorbent medicated material located on the upper side of each backing sheet and a woven fabric covering for each mass of absorbent material, said coverings having their edges secured to the upper surfaces of the respective backing sheets to hold the absorbent material in place.
3. A new article of manufacture for treating diseases of the anus, comprising a backing or body of sheet material, a mass of medicated absorbent material lying against one side of the backing or body, and a thin woven fabric covering for said absorbent material, said covering having its edges secured to the backing sheet, to hold in place the absorbent material, whereby upon moistening the absorbent material and covering, the medicament will be allowed to act through the covering, and the backing or body sheet will serve to retain the form of the article and permit manipulation thereof.

No. 100,111. Gas Lamp Burner. Bec de lampe d gaf.


Erlch H. O. Werwath, Linden, near Hanover, Germany, 17th July 1906 ; 6 years. Filed 6th April 1906. Receipt No. 134,661.
Claim.-1. Arrangement for regulating the combustion in incandescent gas lamp burners by means of slldes for the supply of the combustion air, in which both the outside air conducted Into the lower opening of the chimney as also the mixture air entering the burner tube are regulated by means of a mutual regulating device, substantially as and for the purpose described.
2. Arrangement for regulating the combustion in incandescent gas lamp burners by means of slides for the supply of the combustion air, in which both the outside air conducted into the lower opening of the chimney as also the mixture air entering the burner tube are regulated by means of a mutual regulating device, said mutual regulating device for the two air supply tubes being made in form of two rotary slides combined to one body turning around the Bunsen burner tube, substantially as and for the purpose described.
3. Arrangement for regulating the combustion in incandescent gas lamp burners by means of slides for the supply of the combustion air, in which both the outside air conducted into the lower opening of the chimney as also the mixture air entering the burner tube are regulated by means of a mutal regulating device, said mutual regulating device for the two air supply tubes being made in form of two rotary slides combined to one body turning around the Bunsen burner tube, the said combined regulating device for the two air supplies being mechanically connected with the gas cock in such a manner that it correctly adjusts the suitable supply of combustion air both for the inside as for the outside air passage according to the position of said gas cock, substantially as and for the purpose described.

No. 100,112. Brake. Frein.
The Simplex Railway Appliance Company of Canada, Montreal, Quebec, Canada, assignee of Carl Edward Bauer Hammond, Indiana, U.S.A., 17th July, 1906; 6 years. Flled 20th June 1906. Receipt No. 137,076.
Claim.-1. A two-plece fulcrum for a flanged brake beam comprising similar malleable members with the faces of the
depending ends oblique to the axis of the beam, and their upper ends shaped to embrace the flange of the brake beam

and extending diagonally of the web of the beam in opposite directions.
2. A two-plece fulcrum for a flanged brake beam comprising similar malleable members with the depending ends secured together and formed with a lever axis oblique to the axis of the beam, and having their upper ends shaped to embrace the flange of the brake beam and extending diagonally of the web of the beam in opposite directions.
3. A two-piece fulcrum for a flanged brake beam comprising flat forged steel bars with their depending ends provided with a lever fulcrum at an acute angle to the axis of the beam and their upper ends shaped to embrace the flange of the brake bream and extending diagonally of the web of the beam in opposite directions.
4. A two-piece fulcrum for a flanged brake beam comprising flat malleable members with the faces of the depending ends oblique to the axls of the beam and their upper ends shaped to embrace the flange of the brake beam and extending diagonally of the web of the beam in opposite directions.

No. 100,113. Brake. Fircin.


The Simplex Railway Appliance Company of Canada, Montreal, Quebec, Canada, assignee of Carl Edward Bauer, Hammond, Indiana, U.S.A., 17 th July, 1906; 6 years. Filed 20th June, 1906. Receipt No. 137,077.
Claim.-1. A cast brake beam fulcrum for flanged beams comprising two flat pieces oppositely placed with their depending portions at an angle to the web of the beam, and fitted to encircle the beam flange and bear against the web of the beam, and each provided opposite the deam edge and at the edge of the fulcrum which least encircles such beam flange with a tapering edge turned at an obtuse angle to the flat portion of the fulcrum.
2. A brake beam culcrumed for flanged beams, comprising two flat pieces oppositely placed with their depending portions at an angle to the web of the beam, and fitted to encircle the beam flange and bear against the web of the beam, and each provided opposite the beam edge and at the edge of the fulcrum which least encircles such beam flange with a
turned up edge at an obtuse angle to the flat portion of the iulcrum, which edge portion is highest at the point of curvature and tapered down to the center of the depending portion of the fulcrum.
3. A cast brake beam fulcrum for flanged beams comprising two flat pieces oppositely placed with their depending portions at an angle to the web of the beam and fitted to encircle the beam flange and bear against the web of the beam and each having a stiffening annulus for the pivot hole, and each provided with a tapering edge turned at an angle to the flat portion of the fulcrum and engaging at the lower end the sald annulus.

No. 100,114. Grain Cleaner. Nettoyeur d grain.


The Economy Grain Cleaner Company, assignee of Joseph Wilhelm, Moosejaw, Saskatchewan, Canada, 17th July, 1906; 6 years. Filed 28th November, 1905. Receipt No. 130,488.
Claim.-1. In apparatus of the class described the combination of a rotary bolt, a hopper discharging into its upper end, and a shield held within the bolt in front of the mouth of the hopper, substantially as described.
2. In apparatus of the class described the combination of a rotary bolt, a hopper discharging into its upper end, and a shield secured to and depending from the mouth of the hopper, and adapted to prevent grain from falling out of the end of the bolt, substantially as described.
3. In apparatus of the class described the combination of a rotary bolt, a hopper discharging into its upper end, a shield secured to and depending from the mouth of the hopper, and adapted to prevent grain from falling out of the end of the bolt, and an inwardly extending rim or flange on the bolt adapted to retain the shield in place, substantially as described.
4. In apparatus of the class described the combination of a rotary bolt, a trough in which said bolt is journalled, and an endless screw conveyer in the bottom of the trough, substantially as described.
5. In apparatus of the class described the combination of a rotary bolt provided with a screening surface of different mesh at different parts of its length, a trough in which said bolt is journalled. an endless conveyer in said trough, and discharge outlets in the trough for the screenings from each section of the bolt, substantially as described.
6. In apparatus of the class described a rotary bolt decreasing in diameter from its inlet to its discharge end, and provided with a screening surface of different mesh at different parts of its lefgth, substantially as described.

No. 100,115. Acetylene Gas Generator. Générateur de gaz à acétylène.


The Old Colony Light Company, assignee of Albert Forbs Chase, all of Boston, Massachusetts, U.S.A., 17th July, 1906; 6 years. Filed 9th April, 1906. Recelpt No. 134,756.
Claim.-1. An acetylene gas apparatus comprising a closed water receptacle, means for supplying water thereto, a generator, connections between the receptacle and generator, a gas receiver, connections between said recelver and generator, and a connection between said gas receiver and the top of the water receptacle, said connection being independent ol the water supply connection, whereby when the receptacle is being flled with water, gas in said receptacle will be forced toward the receiver without escaping to the atmosphere.
2. An acetylene gas apparatus comprising a tank, a plurality of independent generators situated therein, a water receptacle containing a plurality of compartments, each compartment being separately connected to one of the generators, a gas receiver and connections between each of the generators and gas receiver and between sald receiver and all the compartments of the water receptacle.

## No. 100,116. Window Shade and Oloth Painting Machine.

## Abat-jour de fenêtre et machine à peinturer la toile.

George H. Hees, Son and Company, Toronto, Ontario, Canada, assignee of William Rathbun Hees, New York City, New York, U.S.A., 17th July, 1906; 6 years. Filed 10th April, 1905. Recelpt No. 124,110.

Claim.-1. In a window shade and cloth painting machine the combination with the laterally moving endless brushes carried on suitable wheels and sultably driven and adjustable to and from each other, of two sets of endless chains provided with longitudinally arranged brushes, sprocket wheels carrying the chains, the spindles for the sprocket wheels, the journal bearings carrying the same and means for adjusting each set of endless chains on each side of the cloth parallelly to and from each other, as and for the purpose specified.
2. In a window shade and cloth painting machine the combination with the laterally moving endless brushes carried on suitable wheels and suitably driven and adjustable to and from each other, of two sets of endless chains provided with longitudinally arranged brushes, sprocket wheels carrying the chains, the spindles for the sprocket wheels, the journal bearings carrying the same, and screw spindles provided with right and left hand threads where they extend through the bearings for the spindles on each side of the cloth and means for turning the screw spindles, as and for the purpose specified.
3. In a window shade and cloth painting machine, the combination with the laterally moving endless brushes carried on suitable wheels and suitably driven and adjustable to and from each other, of two sets of endless chains provided with lcngitudinally arranged brushes, sprocket wheels carrying
the chains, the spindles for the sprocket wheels, the journal bearings carrying the same, and screw spindles provided with

right and left hand threads where they extend through the bearings for the spindles on each side of the cloth, and bevel p!nions on the end of the screw spindles, a longitudinal spindle provided with evel pinions meshing with the aforeeaid spindles and a hand wheel on such spindle, as and for the purpose epecifled
4. The combination with the laterally moving endless brushes carried on suitable wheels and sultably driven and adjuetable to and from each other, of two sets of endless chains provided with longitudinally arranged brushes, sprocret wheels carrying the chains, the spindles for the sprocket wheels, the journal bearings carrying the same, means for adjusting each set of endless chains on each side of the clath parallelly to and from each other, pressure bars deslgned to come in contact with the endless chains, suitable bearings supporting the same, and means for adjusting such pressure bars parallelly to and from each other, as and for the purpose opecified.
5. The combination with the laterally moving endless brushes carried on suitable wheels and suitably driven and adjustable to and from each other, of two sets of endless chains provided with longitudinally arranged brushes, sprocket wheels carrying the chains, the spindles for the sprocket wheels, the journal bearings carrying the same, means for adjusting each set of endless chains on each side of the cloth parallelly to and from each other, pressure bars designed to ccme in contact with the endless chains, sultable bearings supporting the same, screw spindles extending through the bearings and having right and left hand threads on opposite sides where they extend through the bearings and means for turning such spindles, as and for the purpose specified.
6. The combination with the laterally moving endless brushes carried on sultable wheels and sultably driven and adjustable to and from each other, of two sets of endless chains provided with longitudinally arranged brushes, sprocket wheels carrying the chains, the spindles for the sprocket wheels, the journal bearings carrying the same, means for adjusting each set of endles chains on each side of the cloth parallelly to and from each other, pressure bars designed to come in contact with the endless chains, suitable bearings supporting the same, screw spindles extending through the bearings and having right and left hand threads on opposite sides where they extend through the bearings, bevel pinions on the ends of the screw spindles, spindles suitably journalled on the frame and provided with bevel plalons meshing with the aforesald pinions and a hand wheel for turning such longitudinal spindles, as and for the purpose specilled.
7. The combination with the laterally movable endless brushes located on each side of the path of the cloth, of the vertically movable brushes located at each side of the cloth and means for adjusting the same parallelly to and from each other, as and for the purpose specified.
8. The combination with the laterally movable endless brushes located on each side of the path of the cloth, of the vertically movable brushes located at each side of the cloth, .the endless chains supporting the brushes, and means for adjusting the same parallelly to and from each other, as and for the purpose specified.
9. In a machine of the class described, two pairs of endless chains vertically disposed and carried by eprocket wheels fournalled in suitable bearings, and brushes longltudinally arranged and connecting each pair, a set of two fairs being located on each side of the path of the cloth and deriving movement, as and for the purpose specified.

No. 100,117. Box. Boîte.


The American Paper Box Company, assignee of William A. Jack, all of Grand Rapids, Michigan, U.S.A., 17 th July, 1906; 6 years. Filed 20th January, 1905. Receipt No. 121,762.
Claim.-1. In a folding box the combination with the bottom, of side pieces creased obliquely to indicate the place of folding, hinged flaps at the upper edge of the side pieces, also creased to fold with the said pieces, and end pieces adapted to fold inwardly and over the side pieces, sald flaps when the box is unfolded assuming substantially a position at right angles to the side pleces for the purpose of bracing and strengthening the side pieces.
2. In a folding box the combination of a bottom made substantially in one piece, side pieces $A$ and $B$ hinged thereto end provided with ablique creases, flaps hinged to the upper edges of the side pieces and adapted to fold with the side pieces, and end pleces hinged to the bottom plece and adapted to fold over the side pieces, substantially as described.
3. In combination with the bottom E provided with hinged extensions $K K$, the end pieces $F$ and $G$ secured to said hinged extensions, the side pieces $A$ and $B$ provided with creases $H$ and hinged extensions $J$, said hinged extensions $J$ being secured to the respective end pieces, and flaps $C$ and $D$ hinged to the upper edge of the side pieces and provided with creases and adapted to fold inwardly upon the side pieces, and when the box is opened to assume a position to brace and strengthen the said side pleces, substantially as described.

## No. 100,118. Machine for Printing and Iseuing Tickets.

## Machine d imprimer et émettre des billets.

Chester Benton Weeks, Paris, France, assignee of Ruffin North, 5 Wells Street, Oxford Street, London. England, 17th July, 1906; 6 years. Filed 17th December, 1904. Recelpt No. 120,830 .
Claim.-1. In a tlcket printing, issuing and recording machine, a segmental carrier wherein the printing type are
mounted, a roller for effecting the printing, and means for moving the roller against the printing type, substantially as herein described.

2. In a ticket printing, issuing and recording machine, a segmental carrier wherein the printing type are mounted, a roller for effecting the printing, two pivotally mounted arms formed with cam grooves for the reception of the spindle of the printing roller, and means for vibrating said arms, the cam grooves serving to move the printing roller towards or away from the type when the pivotally mounted arms are vibrated.
3. In a ticket printing, issuing and recording machine furnished with a paper strip on which the ticket is printed, the combination with means for feeding forward the paper strip of a pivotally mounted cutter and means for operating said cutter to sever or partially sever each ticket.
4. In a ticket printing, issuing and recording machine, a counter, a reciprocally mounted slide in connection with said counter, and a lever in engagement with said slide and mounted upon the spindle of the printing device.
5. In a ticket printing. issuing and recording machine, a counter for recording the total number of tickets issued, a series of counters for independently recording the number of differently priced tickets issued, a slide reciprocally mounted in permanent engagement with the first-mentioned counter, a second slide adjustably mounted on the first slide and formed with projections for independently engaging the counters pertaining to the differently priced tickets, a fare sftting device, and means connecting said fare setting device to the second slide whereby the latter is brought into engagement with the counter corresponding to the fare set.
6. In a ticket printing, issuing and recording machine, the combination with a series of counters for recording the number of differently priced tickets issued and a slide indeyendently engaging said counters of a spindle whereon the fare printing type are mounted, a cam mounted on said spindle, and a pivotally mounted arm engaging said cam and the slide for operating the counters, the cam sarving to move said slide into engagement with each counter independently as the type setting spindle is rotated.
7. In a ticket printing, issuing and recording machine, the combination of two parallel station printing rollers freely mounted on spindles adapted to slide in the rollers, a toothed wheel secured to each of the said spindles, a fare printing roller arranged between the two station printing rollers, and means for engaging each station printing roller separately with the fare printing roller.
8. In a ticket printing, issuing and rocording machine, a pair of feed rollers in pressing contact for feeding forward the paper after having been printed, one of sald rollers being
mounted in stationary bearings and the other roller in an eccentrically mounted rotatable bearing whereby the one feed roller may be moved out of contact with the other feed roller to permit of the free withdrawal of the paper.
9. In a ticket printing, issuing and recording machine, the herein described means for adfusting the printing type, said means compriaing a hollow shaft whereon the type rollers and freely mounted, a longitudinal slot in said shaft, a spindle passing through the shaft and furnished with a feather or projection, slots formed in the type rollers and adapted to be engaged by the sald feather, and means for rotating the hollow shaft.
10. In a ticket printing, issuing and recording machine, the herein described means for indicating the position of the type in the machine, same comprising a hollow shaft whereon are mounted the type rollers, a longitudinal slot in said shaft, Indicator rollers freely mounted on said shaft, a spindle passing through the hollow shaft, two projections on the spindle one of which engages slots formed in the type rollers whilst the other engages slots formed in the indicator rollers, and means for rotating the hollow shaft.

No. 100,119. Game. Jeu.


Emil Heinrich Bock, Hamburg, Germany, 17th July, 1906; 6 years. Filed 12th February, 1906. Receipt No. 132,834.
Claim.-1. An apparatus for playing a game of skill comprising in combination a box having a glass front, a wall in sald box dividing the same into two compartments and havng a hole, and a pivoted sickle-shaped lever in the front compartment having a handle extending outside the box. said lever being intended to be operated by the player in such a way that a rolling object such as a coin placed on the lever is at will ejected through the above-mentioned hole in the above-mentioned wall, substantially as described.
2. An appartus for playing a game of skill comprising in combination a box having a glass front, a wall in sald box dividing the same into two compartments and having a hole, a pivoted sickle-shaped grooved lever in the front compartment having a bandle extending outside the box, losing and winning passages in the back compartment of the box and means adapted when the box is tilted to prevent an object after passing through the above-mentioned hole from entering the winning passage, said lever being intended to be operated by the player in such a way that a rolling object such as a coin placed on the lever is at will ejected through the above-mentioned hole in the above-mentioned wall into the winning passage, substantially as described.
150. 100,120. Perforator. Perforatcur.

Henry Upton, Gananoque, Ontario, Canada, 17th July, 1906; 6 years. Filed 28th June, 1905. Recelpt No. 126,447.
Claim.-1. A paper perforator comprising a punch, a member projecting laterally from such punch, a lever fulcrumed a short distance from one end opon a stationary part of the perforator and adapted to at times have its short end project beneath and in lifting relation to the laterally projecting member, and at other times have its short end project
beneath and in lifting relation to the laterally projecting member, and at other times have its long end ride upon and

in bearing relation to the said member for the purpose set forth.
2. A9 perforator comprising a pair of punches, a bar connecting such punches rigidly together, means whereby the punches are guided, means independent of the said bar and rigidly supporting a fulcrum bar adjacent to the guiding means, and a lever fulcrumed a short distance from one end upon the fulcrum bar, and adapted to at times have its short end project beneath and bear upwardly upon the first-mentioned bar and at other times, have its long end ride the said bar, for the purpose set forth.
3. A perforator consisting of a bed plate having a pair of holes therein, a pair of punches consisting of round bars equa in cross section to the diameter of the holes in the bed plate and each having one end diametrically concaved, a bar connecting such punches rigidly together, means whereby the punches are guided, and means rigidly supporting a fulcrum bar adjacent to the guiding means, and a $\mathbf{U}$-lever fulcrumed a short distance from its ends upon the fulcrum bar and adapted to at times have its short end project beneath and bear upwardly upon the first-mentioned bar and at other times have its long end ride the said bar, substantially as described and for the purpose set forth.
4. A perforator consisting of a base having u pair of openings therethrough, a bed plate secured to the top of such base and having a pair of perforations in line with the openings in the base, a pair of guiding brackets mounted rigidly upon the bed plate, a pair of punches having concave lower ends, and gulded in the gulding brackets, a bar rigidly connecting the punches together, a $\mathbf{C}$-lever fulcrumed a short distance from the ends of its legs to the pair of brackets, and adapted to at times havie its short end project beneath and bear upwardly upon the first-mentioned bar end at other times have its long end ride the said bar, a plate pivoted to the underside of the base and adapted to extend across and close the lower end of the openings therein, substantlally as described and for the purpose set forth.

## No. 100,121. Bnilding Method. <br> Méthode de construction.

E. Beaumont Jarvis, Toronto, Ontario, Canada, 17th July, 1906; 6 years. Filed 2nd May, 1906. Receipt No. 135,471.
Claim.-1. In building construction a member having a metal socket plece secured thereto having a socket formed in one side, in combination with a beam having a metal shoe secured to one end, and provided with a metal tongue adapted to engage the socket, substantially as described.
2. In bullding construction a member having a metal socket piece secured thereto having a socket formed in one side. comprising a slot and a recess wider than the slot, in combination with a beam having a metal shoe secured to one end, and provided with a headed metal tongue adapted to engage the socket, substantially as described.
3.. In building construction a member having a metal socket piece secured thereto having a socket formed in one side in

combination with a reinforced concrete beam provided with a metal shoe secured to one end and engaged with the reinforcement, and a tongue adapted to engage the socket, substantially as described.
4. In building construction a member provided with a socket in combination with a reinforced concrete beam provided with a metal shoe secured to one end and engaged with the reinforcement and adapted to engage the socket, substantially as described.
5. In building construction a reinforced concrete girder having embedded therein two connected socket pieces one at each side of the girder, and provided with sockets, combined with stringers of reinforced concrete, each provided with a shoe adapted to engage one of the sockets, substantially as described.
6. In building construction, a column, a metal cap therefor provided at one side with a plurality of sockets, a girder, a metal shoe connected to one end of the girder, and a plurality of tongues each adapted to engage one of the sockets, substantially as described.
7. In building construction a member having a metal socket piece secured thereto having a socket formed in one side comprising a slot and a recess wider than the slot, in combination with a beam having a metal shoe secured to one end and provided with a headed metal tongue adapted to loosely engage the socket, and a grouting of cement filled into the interstices, substantially as described.
S. In building construction, concrete members provided with metal connecting pieces projecting beyond the ends of the members and forming the sole connection between them, substantially as described.
9. In building construction a reinforced concrete beam provided with a metal shoe secured to one end and connected with the reinforcement, substantiallv as described.
10. In building construction a concrete column. a metal cap secured thereto. beams connected to the cap, if flange at the upper side of the metal cap, an upper concrete column and a metal heel piece at the lower end of the column provided with a flange by means of which it may be secured to the flange of the cap, substantially as described.
11. In building construction a concrete column having a metal cap fitted thereon, a metal reinforcement projecting from the column within the cap, and a fllling of concrete locking the cap to the reinforcement, substantially as described.
12. In building construction two adjacent concrete floor beams each having a floor slab formed integral therewith, the meeting edges of the slabs being rabbeted together, substantially as described.
13. In building construction two adjacent concrete fioor beams each having a floor slab formed integral therewith, the meeting edges of the slabs being rabbetted together and provided with a vertically engaging tongue and groove connection, substantially as described.

No. 100,122. Acetylene Gas Generator. Générateur d gas à acétylèno.


Charles William Beck, New York Clity, New York, U.S.A. 17th July, 1906; 6 years. Filed 4th May, 1906. Receipt No. 135,565 .
Claim.-1. In a generator for producing acetylene gas, the ccmbination of a liquid receptacle provided with a duct for delivering the liquid therefrom, means for controlling the flow of liquid through said duct, a plurallty of carblde seceptacles, and means for moving said receptacles relatively to the duct whereby the outlet of the latter is caused to transverse the carbide receptacles and said receptacles are brought successively into communication with said outlet.
2. In a generator for producing acetylene gas the combination of a liquid receptacle of a liquid receptacle provided with an outlet passage, a carbide receptacle provided with a plurality of compartments and automatic means controlled by reaction of the gas producing ingredients, for rotating one of said receptacles relative to the other whereby said different compartments of the carbide receptacle are sucessively brought into immediate communication with the liquid outlet.
3. In a generator for producing acetylene gas, the combination of a liquid receptacle provided with an outlet passage, a rotary carbide receptacle provided with a plurality of cotmpartments to be successively brought into communication with the outlet passage and means for rotating said receptacle.
4. In a generator for producing acetylene gas, the combination of a liquid receptacle provided with an outlet passage, a rotary carbide receptacle provided with a plurality of compartments adapted to be successively brought into communication with the outlet passage and means for rotating said receptacle automatically, controlled by the pressure of gas generated.
5. In a generator for producing acetylene gas the combination of a liquid receptacle provided with an outlet duct, a generator with which said duct communicates, a carbide receptacle provided with a plurality of compartments revolubly mounted within said generator, a spring arranged to rotate said carbide receptacle, a gas cylinder arranged to communicate with the gas space of the generator, a piston working in sald cylinder, an escapement arranged to control the movement of the carbide receptacle and operative connections between said escapement and said piston whereby the carbide receptacle will be automatically rotated by change of pressure acting upon said piston.
6. In a generator for producing acetylene gas the combination of a liquid receptacle provided with an outlet duct. a generator with the upper part of which said duct communicates, a circular carbide receptacle provided with a plurality of compartments revolubly mounted within sald generator so as to rotate upon a vertical axis located at one side of the
outlet of said duct, a spring arranged to rotate said carbide receptacle, a gas cylinder arranged concentrically with the axis of rotation of the carbide receptacle and comunicating with the gas space of the generator, a piston working in said cylinder, a spring arranged to act upon said piston in opposition to the gas pressure, an outlet passage affording communication with the end of the cylinder opposite that subject to the internal gas pressure, an escapement rod extending axially through the carbide receptacle and connected with said piston, two series of oppositely directed ratchet notches upon said carbide receptacle and ratchet pawl arms upon said escapement rod adapted to co-operate with said ratchets to form an escapement.
7. In a generator for producing acetylene gas the combination with a carbide receptacle provided with a plurality of open topped carbide compartments, of a cover plate supported adjacent to the open parts of said carbide receptacles and provided with an inlet aperture adapted to admit liquid at one place only.
8. The combination with a generator for producing acetylene gas and the like, of an inverted funnel-shaped inlet for the admission of slaking fluid and a porus wick wedged at one end within sald inlet so as to form a previous closure for the latter, adapted to convey the fluid to the carbide gradually.
9. In a generator for producing acetylene gas the combination of a chamber within which the gas is generated, a liquid receptacle, a rotary carbide holder comprising a plurality of normally closed separate carbide chambers adapted to be successively brought into communication with the generating chamber and a shifting mechanism automatically controlled by the gas generated for effecting the conflux of gas producing materials.
10. In combination in an acetylene gas lamp, the water receptacle, a valve controlling the flow of water therefrom and the carbide receptacle below the water receptacle and adapted to receive the water therefrom, said carbide receptacle comprising a rotary part contalning compartments and adapted to be brought in succession below the water discharge opening, the other compartments being entirely shut off therefrom, substantially as described.
11. In a generator for producing acetylene gas the combination of a chamber within which the gas is generated, a liquid holder, a carbide holder, and means for bringing the contents of sald carbide holder into position for the reception of liquid to generate gas, said means consisting of an independent motor mechanism, a controller therefor, said controller being operated by the pressure of the gas generated.
12. In a generator for producing acetylene gas the combination of a chamber within which the gas is generated, a liquid receptacle, a rotary carbide holder comprising a plurality of separate carbide chambers adapted to be successively brought into communication with the liquid supply, and a shlfting mechanism automatically controlled by the gas generated for rotating the carbide holder.
13. The combination to form a portable generator for producing acetylene gas, of a liquid holder, a carbide holder, means for mechanically conveying one of said gas producing elements to bring them into generating contact, a spring motor for actuating said means, and means controlled by the pressure of the gas generated for controlling said spring motor.
14. In a generator for producing acetylene gas the combination of a chamber within which the gas is generated, a liquid receptacle, a carbide holder consisting of a set of compartments adapted to be precharged and to be successively brought into contact with the liquid supply and means for shifting the carbide holder.
15. In a generator for producing acetylene gas the combination of a liquid receptacle provided with an outlet passage, a carbide holder formed with imperforate carblue holding walls and open at one point, and an escapement automatically controlled by the pressure of gas generated for moving one of said parts relatively to the other whereby different portions of the carbide are successively subjected to the action of the liquid.
16. In a generator for producing acetylene gas the combination of a chamber within which the gas is generated, a liquid receptacle and a rotary carbide holder formed with imperforate carbide holding walls, said carbide holder being open at one point and adapted by its rotatinn to bring successive portions of the carbide into communication with the liquid supply.
17. In a generator for producing acetylene gas the combination of a chamber within which the gas is generated, a liquid receptacle, a rotary carblde holder formed with walls adapted to hold slaked and unslaked carbide and adapted to bring successive portions of the carbide into communication with the liquid supply, and a shifting mechanlsm automatically controlled by the gas generated for rotating the carbide holder.
18. In a generator for producing acetylene gas the combination of a chamber within which the gas is generated, a liquid receptacle, a movable carblde holder formed with walls adapted to hold slaked and unslaked carbide and adapted to bring successive portions of the carbide into communication with the liquid, and means automatically controlled by the gas generated for moving the carbide holder.
19. In an acetylene generator the combination of a liquid holder, a carbide holder formed with imperforate walls adapted to hold slaked or unslacked carbide and open at one side, and a motor mechanism automatically controlled by the pressure of the gas generated for moving the carbide holder whereby different portions of the carbide are sucessively subjetel to the action of the liquid.
20. In an acetylene generator the combination of a carblde holder, formed with imperforate carbide holding walls, and a liquid chamber one of said parts being rotatable with respect to the other, and each of said parts being provided with a single opening through which one element is moved to the cther element to generate gas, whereby successive portions ot carbide may be subjected to the action of the liquid.
21. In an acetylene generator the combination of a carbide holder formed with imperforate carbide holding walls, and a liquid chamber sald parts being arranged one above the other and the upper one being provided with a single discharge through which one element is moved by gravity to the other to generate gas, one of said parts being rotatable with respect to the other to cause the discharged element to enter the lower receptacle on different vertical planes whereby successive portions of the carbide may be subjected to the action of the liquid.
22. In an acetylene generator the combination of a carbide holder formed with imperforate carbide retaining walls,. and a liquid chamber, said parts being provided with a single opening through which one element is moved to the other to generate gas, mechanism for rotating one of said parts, and means actuated by gas pressure for controlling said mechanism whereby successive portions of carbide will be subjected to the action of the liquid.
23. In a generator for producing acetylene gas the combination of a chamber within which the gas is genorated, a liquid receptacle and a movable carbide holder formed with imperforate carbide holding walls, said carbide holder belng open at one point and adapted by its movement to bring successive portions of the carbide into communication with the liquid supply.
24. An acetylene gas generator comprising two integral parts or sections detachably connected together one above the other, one of said parts constituting a carbide holder and the other a water holder, a movable diaphragm in one of said parts, a dry gas tight connection being formed between said diaphragm and the part contalning it, said movable diaphragm being subject on one side to gas pressure, a device acting on said diaphragm agalnst gas pressure, mechanism within the part containing the movable diaphragm and connected to and operated thereby for successively bringing carbide into conflux with water to generate gas in response to changes in gas pressure.
25. An acetylene gas generator comprising two integral parts or sections detachably connected together one above the other, one of said parts constituting a water holder and the other a carbide holder, a movable diaphragm in the carbide holder above the carbide, a dry gas tight connection being formed between said movable diaphragm and the part containing it, said movable diaphragm belng subject on its lower side to gas pressure, mechanism connected to the movable dlaphragm and operated thereby and within the carbide holder for successively bringing carbide into conflux with water to generate gas in response to changes in gas pressure.
26. In an acetylene generator the combination of a liquid receptacle, a carbide holder comprised of a plurality of independent compartments, and means for rotating one of said parts to bring the compartments in succession in communlcation with the liquid receptacle, and means actuated by the gas generated to control the rotating means.
27. In an acetylence generator the combination of a liquid receptacle, a carbide holder comprised of a plurality of independent compartments one of sald parts being above the other and the upper part being provided with a discharge opening through which one element is moved by gravity to the part below to generate gas, means for rotating one of said parts to bring the gas generating elements together and mechanism actuated by the gas pressure to control the rotating means, whereby the contents of the compartment will be in succession subjected to the action of the liquid.
28. In an acetylene gas generator the combination of a liquid holder, a series of carbide compartments adapted to contain charges of carbide, a motor for moving the carbide holder and successively bringing together the charges of carbide and the liquid, and means actuated by gas pressure to control said motor.
29. In an acetylene gas generator the combination of a liquid holder, a series of carbide compartments adapted to contain charges of carbide, a motor for moving the carbide compartments horizontally and successively bringing together the charges of carbide and the liquid, and means controlled by gas pressure to control said motor.
30. An acetylene gas generator comprising a liquid holder, an endless carbide conveyer having a series of independent compartments for transferring successive portions of the carbide horizontally, means for operating said conveyer, and means operated by the pressure of the gas generated for controlling said conveyer.
31. An acetylene gas generator comprising a source of liquid supply and a carbide conveyer, means controlled by gas pressure for moving the conveyer to transfer the carbide laterally to the liquid supply.
32. In a generator for producing acetylene gas the combination of a liquid holder, a carbide conveyer to move the carbide laterally, an independent motor mechanism for moving sald conveyer, and means operated by gas pressure for controlling the motor.
33. In a generator for producing acetylene gas the combination of a liquid holder, an endless carbide conveyer, one of said parts being above the other, means to pormit the contents of the upper part to drop into the lower part, a motor connected to and adapted to move the conveyer horizontally, whereby successive portions of the carbide will be subjected to th action of the liquid, and means actuated by gas pressure to control the motor.
34. In a generator for producing acetylene gas the combination of a liquid holder, a carbide conveyer, one of said parts being above the other, means to permit the contents of the upper part to drop into the lower part, a motor connected to and adapted to move the conveyer horizontally whereby successive portions of the carbide will be subjected to the action of the liquid, and means actuated by gas pressure to control the conveyer.
35. In a generator for producing acetylene gas the combination of a liquid holder, an endless carbide holder having a series of compartments adapted to receive carbide, one of said holders being above the other, means whereby the contents of the upper holder may pass into the lower holder at a determined point to generate gas, and an independent motor for moving the endless carbide holder horizontally whereby the carbide in successive compartments of the carbide holder will be subjected to the action of the liquid.
36. In a generator for producing acetylene gas the combination of a liquid holder and endless carblde holder having a series of compartments adapted to receive carbide, one of sald holders being above the other, means whereby the contents of the upper holder may pass into the lower holder at a determined point to generate gas, and an independent motor for moving the endless carbide holder horizontally whereby the carbide in successive compartments of the carbide holder will be subjected to the action of the liquid, and means actuated by gas pressure for controlling the motor.
37. The combination to for a generator for producing acetylene gas, of a liquid holder, a carbide bolder, one of said holders being above the other, means for moving one of said parts to mechanically convey one of said gas producing elements laterally to bring them into generating contact whereby successive portions of the carbide may be subjected to the action of the liquid.
38. In an acetylene gas generator the combination of a liquid receptacle, a carbide holder provided with a plurality of independent compartments, and means for rotating one of said parts horizontally to bring the compartments in succession in communication with the liquid receptacle.
39. In an acetylene gas generator the combination of a liquid holder, a carbide holder formed with a plurality of independent compartments, one of said parts being above the other and the upper part being provided with a discharge opening through which one element is moved to the other to generate gas, and means for moving one of said parts horizontally to bring the gas generating elements together.
40. An acetylene gas generator comprising a liquid receptacle, and a horizontally rotatable carbide holder formed with imperforate carbide holding walls and adapted to bring successive portions of the carbide to the liquid supply.
41. In an acetylene gas generator the combination of a liquid holder formed of an outer casing and an inner horizentally rotatable carbide receptacle formed with independent carbide compartments, said carbide receptacle being smaller than the outer casing whereby a cooling space is formed between the two casings, and a water supply.
42. In an acetylene gas generator the combination of a carbide holder formed of an outer casing and an inner horizontally rotatable receptacle formed with independent carbide compartments, and a water supply.
43. In a generator for producing acetylene gas the combination of a liquid receptacle and a horizontal rotary carblde holder formed with imperforate carbide holding walls
and adapted by its rotation to bring successive portions of carbide into communication with the liquid supply.
44. An acetylene generator comprising two integral parts or sections detachably connected together, one of said parts constituting a carbide holder and the other a water holder, a movable diaphragm in one of said parts, a dry gas tight connection being formed between said diaphragm and the part containing it, said diaphragm being subject on one side to the pressure of the gas generated and to the action of a device operating against said gas pressure, and mechanism operatively connected to said movable diaphragm for successively bringing carbide into confiux with the liquid to generate gas.
45. An acetylene gas generator comprising two integral parts or sections detachably connected together one above the other, one of said parts constituting a water holder and the other a carbide holder, a movable diaphragm in the carbide holder above the carbide, a dry gas tight connection belng formed between said movable diaphragm and the part containing it, said movable diaphragm being subject on its lower side to gas pressure, mechanism connected to the movable diaphragm and operated thereby and within the carbide holder for successively bringing carbide into conflux with water to generate gas in response to changes in gas pressure, a burner carried by the carblde holder above the movable diaphragm, a passage being provided to connect sald burner with the gas space below the diaphram and a fller interposed in the path of the gas from said gas space to the burner.

No. 100,123. Method of Cutting Metal Artioles.
Mithode de couper les objets en métal.


Felix Jottrand, Uccles, near Brussels, Belgium, 17th July,
1906; 6 years. Filed 3rd October 1905. Receipt' No. 128,919.
Claim.-1. The hereinbefore described method of cutting plates, pipes and other metal articles consisting in heating the object to be cut and directing upon the heated part an oxydizing jet.
2. The hereinbefore described method of cutting plates, pipes and other metal articles consisting in heating the object to be cut along the line of section and directing upon said line an oxydizing jet.
3. The hereinbefore described method of cutting plates, pipes and other metal articles consisting in heating the object to be cut along the line of section and directing upon said line an oxydizing jet a distance from the heating medium.
4. The hereinbefore described method of cutting plates, pipes and other metal articles consisting in directing upon the object to be cut a suitable heating jet and an independent oxydizing jet.
5. The hereinbefore described method of cutting plates, pipes and other metal articles consisting in directing a suitable heating jet upon the object to be cut along the life ot section and an independent oxydizing jet.
6. The hereinbefore described method of cutting plates, pipes and other metal articles consisting in directing a suitable heating jet upon the object to be cut, along the line of section and an independent oxydizing jet at a distance from the heating jet.
7. The hereinbefore described method of cutting plates, pipes and other metal articles consisting in directing a heating jet upon the object to be cut, upon the line of section and an independent oxydizing at a distance from the heating jet and displacing both jets along the line of section.
8. The hereinbefore described method of cutting plates, pipes and other metal articles consisting in directing a heating jet upon the object to be cut, along the line of seclion so as to raise the metal to a temperature enabling oxidation without fusion of the metal and in directing simultaneously upon the heated part of the object a jet of oxygen under pressure.
9. The hereinbefore described method of cutting plates, pipes and other metal articles consisting in directing a heating jet upon the object to be cut, along the line of seclion so as to raise the metal to a temperature, enabling oxidation without fusion of the metal, in directing simultaneously a jet of oxygen under pressure upon the heated part of the object and in displacing simultaneously both jets along the line of section.
10. The hereinbefore described method of cutting plates, pipes and other metal articles consisting in directing a heating jet upon the object to be cut, along the line of secton so as to raise the metal to a temperature enabling oxidation without fusion of the metal, in directing simultrneously a jet of oxygen under pressure at a distance of the trneously a jet of oxygen under pressure of the object and in displacing simultaneously both jets along the line of section.

No. 100,124. Mould for Sewers, Conduits, Etc.
Moule pour égouts, conduits, etc.


Jacob Benjamin Blew, Pittsburg, Pennsylvania, U.S.A., 17th July, 1906; 6 years. Filed 10th February, 1906. Receipt No. 132,784.
Claim.-1. A mould and centerer of the character stated having a plurality of brackets secured to the interior therecf, screw rods extending inwardly from said brackets, bolts connecting said rods and brackets and a buckle engaging said rods, said brackets having eyes and said rods having bifurcations with perforations therein, said bolts entering said eyes and perforations.
2. In combination a tubular mould comprising parti-tubular sections of flexible material having adjacent their edges longitudinal stiffening brackets, and rigid adjusting means extending transversely of the mould and engaging opposite brackets whereby the edges may be sprung in and out.
3. In combination a tubular mould comprising parti-tubular sections of flexible material having adjacent their edges longitudinal stiffening brackets, and turnbuckles extending transversely of the mould and engaging opposite brackets whereby the edges may be sprung in and out.
4. In combination a tubular mould comprising parti-tubular sections of flexible material having adjacent their edges longitudinally extending angle irons, and rigid adjusting means extending transversely of the mould and engaging opposite angle irons whereby the edges may be sprung in and out.
5. In combination a tubular mould comprising parti-tubular sections of flexible material, angle irons secured to the edge of one section and one leg overlapping the edges of the other section, and rigid adjusting means extending transversely of the mould and secured adjacent the edges of the sections whereby the edges may be sprung in and out.
6. In combination an exterior mould member comprising opposing parti-tubular sections spaced apart at the top, and means connecting the two parts whereby they are held in their relative positions and a space for the introduction of material is provided.
7. In combination an exterior semi-cylindrical mould member comprising opposing parti-tubular sections spaced apart at the top, and means conecting the two parts whereby they are held in their relative positions and a space for the introduction of material is provided.
8. In combination an exterior mould section comprising a parti-tubular member, projecting blocks $Q$ for steadying the ends of side braces, and means whereby the mould section may be supported.

No. 100,125. Gas Mixer. Mćlangeur de gaz.


Marcus Scott, Jacksonville, Florida, U.S.A., 17th July, 1906;
6 years. Filed 23rd April, 1906. Receipt No. 135,159.
Claim.-1. A mixing chamber having a branch connected with a source of gas supply, a branch connected with a source of air supply, a branch connected with a service pipe, said gas and air supply pipes being extended into the mixing chamber past each other and past the branch connected with the service pipe, the several supply pipes and the service pipe being provided with independent regulating valves, and the gas supply pipe and the service pipe being provided with check valves intermediate the regulating valves and the mixing chamber.
2. A mixing chamber having a branch connected with a plurality of independent sources of gas supply, a branch connetted with a source of air supply, and a branch connected with a service pipe, the gas and air supply pipes being extended into the mixing chamber past each other and past the inner end of the branch connected with the service pipe, the sources of gas supply having independent valves controlling their connection with the mixing chamber.
3. A mixing chamber, sources of supply of gas and of atmosphere air connected with said mixing chamber by means or pipes having regulating valves, said pipes being extended into the mixing chamber past each other, a valved service pipe extending from the mixing chamber, at a point intermediate the inner ends of the gas and air pipes, a check valve in the service pipe intermediate the regulating valve and the mixing chamber, and a foraminous diaphragm in the pipe adjacent to the check valve.

## No. 100,126. Linotype. Linotype.

William Hermann Scharf, Montreal, Quebec, Canada, 17th July, 1906; 6 years. Filed 8th September, 1906. Receipt No. $128,297$.
claim.-1. In a linotype machine, the combination with the keys, of matrix releasing mechanism operated directly through the keys, said mechanism including escapements and means for prolonging the action of the escapements after the releasing has taken place.
2. In a linotype machine, the combination with a key, of mechanism for releasing a matrix, said mechanism including a spring so arranged that. the movement of the key is transwitted through it to effect the releasing.
3. In a linotype machine, the combination with a key, of mechanism for releasing a matrix, said mechanism including a spring interposed between two members thereof so that the movement of one member is transmitted through the spring to the other member.
4. In a linotype machine, the combination with a key, of mechanism for releasing a matrix, said mechanism including
an escapement pawl and a spring so arranged that the movement of the key is transmitted through it to the pawl.

5. In a linotype machine, the combination with a key, of mechanism for releasing a matrix, said mechanism including an oscillating escapement pawl, means to oscillate the pawl, and means to arrest momentarily its return movement.
6. In a linotype machine, the combination with escapement pawls for the matrices, of an actuating rod for each escapement pawl, and a spring operatively connected with each actuating rod and so arranged that the movement of said rod is effected through its corresponding spring.
7. In a linotype machine, the combination with the keys und with escapement pawls for the matrices, of an actuating rod for each pawl, a key rod for each actuating rod, and a yielding connection between each key rod and its corresponding key.
8. In a linotype machine the combination with the keys an 1 with escapement pawls for the matrices, of an actuating rod for each pawl, a key rod for each actuating rod, a lever pivoted upon each key rod, and a spring for each actuating rod connecting one end of the corresponding lever with said rod, the other end of the lever being adapted to be engaged by the corresponding key.
9. In a linotype machine the combination with the keys and with oscillating escapement pawls for the matrices, of a pivoted actuating rod for each pawl, a key rod for each actuating rod, a link connection between each key rod and a fixed part of the machine, and a link connection between each key rod and the corresponding actuating rod.
10. In a linotype machine the combination with the keys and oscillating pawls for the matrices, of a pivoted actuating rod for each pawl, a key rod for each actuating rod, a connection between each key rod and the corresponding actuating rod whereby the key rod may move the actuating rod on its pivot to actuate the corresponding pawl, and means to arrest momentarily the return movement of each pawl.
11. In a linotype machine the combination with the keys. magazine and oscillating escapement pawls for releasing the matrices in the magazine, of actuating rods for the pawls, said rods being pivoted to oscillate upon a fixed portion of the machine and engaging the pawls at one end while the other ends of the rods are operatively connected with the keys.
12. In a linotype machine the combination with the keys and with escapement pawls for the matrices, of actuating rods, and operative connections between the rods and keys, the actuating rods and pawls having the one projection and the other grooves in which the projections operate, and said pawls and rods being mounted so as to be separable from each other in the direction in which the projections extend.
13. In a linotype machine the combination with the Keys and with escapement pawls for the matrices, of actuating rods pivoted to oscillate and formed with projections to engage the pawls, sald pawls being removable from the machine and being mounted so that the direction of their removal as
they are disengaged from the projections is substantially the direction in which the projections extend so that the separation of the pawls and rods does not require the unfastening of any connections between them.
14. In a linotype machine the combination with the keys and with escapement pawls for the matrices, of actuating rods freely engaging the pawls, a bar upon which said rods are pivoted, arms movable upon a flzed part of the frame upon which the bar is secured, means to clamp said arms in the desired position, and operative connections between the rods and keys.
15. In a linotype machine the combination with the keys and with escapement pawls for the matrices of actuating rods engaging the pawls, a slotted plate to guide the rods and longitudinally adjustable upon a fixed part of the machine, to align said rods with the pawls, and operative connections between the rods and keys.

No. 100,127. Apparatus for Destreying Weeds and Rabbita.
Appareil pour détruire les mauvaises herbes, etc.


Benjamin Locking, Tennyson Street, Napier, Hawkes Bay. New Zealand, 17th July, 1906; 6 years. Filed 17th March, 1905. Receipt No. 123,455.

Claim.-1. In a device of the character described the combination comprising a combustion chamber, means for cooling the combustion chamber, means for forcing air through the combustion chamber, and an outlet tube connected with the interior of the combustion chamber.
2. In a device of the character described the combination comprising a combustion chamber, means for forcing air through the combustion chamber, and an outlet tube connecting with the interior of the combustion chamber.
3. In a device of the character described the combination comprising a combustion chamber, a casing disposed arourd the combustion chamber and adapted to receive a body of cooling matter, means for forcing air through tne combustion chamber, and an air outlet tube connecting with the interior of the combustion chamber.
4. In a device of the character described the combination comprising a combustion chamber, a fan operatively connected with the combustion chamber. means for operating the fan, and an air outlet tube connecting with the interior of the combustion chamber.
5. In a device of the character described the combination comprising a combustion chamber, an alr inlet pipe connecting with the interlor of the combustion chamber, a fan casing connected with the inlet pipe, a fan in the casing, a shaft projecting into the casing and adapted to support the fan, means for rotating the shaft, and an outlet tube connecting means for rotating the shaft, and an outlet
with the interior of the combustion chamber
6. In a device of the character described the combination comprising a combustion chamber, means for forcing air through the combustion chamber, and an outlet tube connecting with the interior of the combustion chamber, and a wire shield on the free end of the outlet tube.
7. In a device of the character described the combination comprising a combustion chamber having a charging tube, a removable closure for the charging tube, means for forcing air through the combustion chamber, and an outlet tube connecting with the interior of the combustion chamber.
8. In a device of the character described the combination comprising a wheeled frame, a combustion chamber od the frame. an air outlet pipe connected with the interior of the combustion chamber, a fan casing on the frame, a tubular member connecting the fan casing and the combustion chamber, a fan within the casing, a fan supporting shaft project-

Ing from the casing, a pulley on the fan shaft, a driving wheel on the frame, and a belt connecting the driving wheel and the pulley.
9. In a device of the character described the combination comprising a wheelbarrow, a combustion chamber carried by the wheel barrow, an air outlet tube connecting with the interior of the combustion chamber, a fan carried by the wheelbarrow and operatively connected with the interior of the combustion chamber, and means carried by the wheelbarrow for operating the fan.

No. 100,128. Apparatme for Pastenrising Milk, Etc. Appareil pour pasteuriser le lait, etc.


Pierre Marie Maze, Paris, France, 17th July 1906; 6 years. Filed 30th May 1905. Receipt No. 125,610.
Résumé.-Un appareil pour pasteurlser et stériliser les liquides, consistant en une capacite dans laquelle se degagent a la pression atmospherique ou non, des vapeurs saturantes d'un liquide convenable qui chauffent le liquide a traiter, lequel traverse, après son echauffement, un recuperateur dans lequel il cede sa chaleur au liquide a traiter, avant de s'ecouler dans un réfrigerant d'ou il est recuelli, les vapeurs alcooliques ou autres passant dans un condenseur ou elles se liquefient pour etre utilisees à nouveau, ce condenseur communiquant avec un apparell de sareté permettant les rentrees d'air provenant d'un dessicateur et pouvant cependant maintenir la vapeur a la pression atmospherique, le tout substantiellement ainsi qu'il a été décrit.

No. 100,129. Nnt Lock. Arrête-écrou.
L. E. L. Themke, Joseph Dittrich, both of Strathcona, and Franz Scheibal, Edmonton, all in Alberta, Canada, each an assignee of a fourth interest, 17th July, 1906; 6 years. Filed 20th June, 1906. Receipt No. 137,101.
Claim.-1. In a device of the character described, a socket member provided with lugs on one side, and recesses on its opposite side, and a washer disposed on the socket member and provided with lips adapted to engage in the recesses and provided with a flange.
2. In a device of the character described, a socket member provided with lugs on one surface and provided with downwardly extending recesses on its opposite side, and a locking washer disposed thereon and provided with lips adapted to engage said recesses and provided with a flange.
3. In a device of the character described the combination comprising a headed bolt having a spline on its body, a washer provided with engaging lugs and provided with an opening through which said spline is adapted to pass, a
socket member disposed on the bolt and provided with engaging lugs, a locking washer disposed on the bolt, means

for locking the washer to the socket member, and a nut disposed on the bolt and adapted to rotate the locking washer before it is engaged with the socket member.
4. In a device of the character described, a bolt, a socket on the bolt provided with recesses, a washer disposed on the bolt adjacent the socket and provided with lips, and upwardly projecting lugs, and a nut on the bolt provided with recesses adapted to receive the lugs.

No. 100,130. Switch. Aiguille.

L. E. L. Themke, and Joseph Dittrich, both of Strathcona, and Frank Scheibal, Edmonton, all in Alberta, Canada, each an assignee of a fourth interest, 17th July, 1906; 6 years. Filed 23rd June, 1906. Receipt No. 137,192.
Claim.-1. In a switch operating device, a base provided with bearings, shafts disposed in the bearings, gears on the shafts in mesh with each other, means normally maintaining the shafts in one position, means for rocking the shafts in one position, means for rocking the shafts to another position, a switch rod and means for connecting the rod to one of the gears.
2. In a switch operating device, a pair of rockable shafts, gears eccentrically keyed on the shafts and in mesh with each other, means normally maintaining the shafts in one position, means for rocking the shafts to another position. a switch rod, and means for connecting the rod to one of the gears.
3. In a switch operating device, a pair of rockable shafts. gears eccentrically keyed on the shafts and in mesh with each other, resillent means normally maintaining the shafts
in one position, means for rocking the shafts to another position, a switch rod, and means for connecting the rod to one of the gears.
4. In a switth operating device, a pair of rockable shafts, gears secured on the shafts and disposed in mesh with each other, a gear on one of the shafts, means for partly rotating the gear, means for rocking the shaits to another position, a switch rod, and means for connecting the rod to one of sald gears.
5. In a switch operating device, a pair of rockably supported shafts, gears disposed, on one of the ends of said shafts and in mesh with each other, a gear disposed centrally of one of the shafts, a rack in mesh with the latter gear, means normally maintaining the rack in one position, means for rocking the shafts to another position, a switch rod, and means for connecting the rod to one of the gears.
6. In a switch operating device, a pair of rockably supported shafts, gears secured to the ends of said shafts and disposed in mesh with each other. a gear secured centrally of one of the shafts, a rack in mesh with the gear, a rod connected to the rack, a casing secured adjacent the end of the rod, a coil spring in the casing. a head on the rod adapted to compress the spring, a bushing carrled by the casing in which bushing the rod is slidably disposed, means for rocking the shafts to overcome the tension of the spring, a switch rod, and means for connecting the rod to one of the gears.
7. In a switch operating device, a pair of rockably supported shafts, gears secured to the ends of said shafts and disposed in mesh with each other. means adapted to normally maintain the shafts in one position. a lever secured on one of the shafts, a switch rod, and means for connecting the rod to one of the gears.
8. In a switch operating device, a pair of rockably supported shafts. means secured to the shafts and disposed in mesh with each other. means normally maintaining the shafts in one position, means for automatically locking the shafts in said position. means for rocking the shafts to another position when unlocked, a switch rod, and means adapted to connest the rod to one of the gears.
9. In a switch operating device, a pair of rockably supported shafts, gears set eccentrically on the ends of said shafts and dispnsed in mesh with each other, means normally maintaining the shafts in one position, a lever secured to one of the shafts and provided with a lug having a slot therein, a spring lock secured adjacent the lever and adapted to engage In the slot. a switch rod, and means for connecting the rod to one of the gears.
10. In a switch operating device, a pair of rockably supported shafts, gears secured on the shafts and disposed in mesh with each other, means normally maintaining the shafts in one position, means for rocking the shafts to another position, a pin carried by one of the gears, a switch rod connected to the pin, and means for securing the pin to the gear.
11. In a switch operating device, a pair or rockably supported shafts, gears eccentrically set on the ends of said shafts and disposed in mesh with each other, one of which gears is provided with an eccentrically arranged slot having teeth on its wall, means normally maintaining the shafts in one position, means for rocking the shafts to another positlon, a pin disposed through the slot in the gear, a rod connected to the pin, discs on the pin provided with teeth, a nut on the pin adapted to force sald teeth into engagement with the teeth on the wall of the slot, and a switch rod secured to the plo.
12. In a switch operating device, a pair of rockably supported shafts, intermeshing gears on the shafts, resilient means for rocking the shafts to one position, means for overcoming the tension of the resilient means and for rocking the shafts to another position, and means for balancing the tension of the resilient means when the shafts are rocked to the second position.
13. In a switch operating device, a pair of rockably supported shafts, intermeshing gears secured on the shafts, resillent means for rocking the shafts to one position, means for overcoming the tension of the resilient means and for rocking the shafts into another position, a grooved wheel on one of the shafts, a band on the wheel, an eccentric on the other shaft, an ececntric strap on the ececntric, and means for connecting the band with the eccentric strap.
14. In a switch operating device the comblnation comprising a pair of rockably supported shafts, intermeshing gears on the ends of the shafts, resilient means for rocking the shafts to one position, a lever secured to one of the shafts, a weight on the lever, and means for balancing the tension of the resilient means, when the shafts are rocked by the lever.
15. In a switch operating device, a pair of rockably supported shafts, interreshing gears secured on the shafts, resilient means for rocking the shafts to one position, a lever keyed to one of the shafts, a spring pressed plunger in the
path of movement of the lever, and means for balancing the tension of the resilient means when the shafts are rocked by the lever.
16. In a switch operating device, a pair of rockably supported shafts, intermeshing gears secured on the shafts, a switch rod connected with one of the gears, a gear disposed centrally of one of the shafts, a movable rack disposed in mesh with the latter gear, manually operated means for moving the rack in one direction, resilient means for moving the rack in an opposite direction, and an indicating member operated by movement of the rack.
17. In a switch operating device a pair of rockably supported shafts, intermeshing gears secured on the shafts, a switch rod connected with one of the gears, a gear disposed centrally of one of the shafts, a movable rack disposed in mesh with the latter gear, manually operated means for moving the rack in one direction, resilient means for moving the rack in an opposite direction, a vertical shaft disposed adjacent the rack, a gear on the vertical shaft in mesh with the rack, and an indicating member on the vertical shaft.
No. 100,131. Saddle Tree. Bois de selle.


Fraser u. Lockhart, assignee of George John Theobald, both of Boston, Massachusetts, U.S.A., 24th July 1906; 6 years; Filed 3rd July, 1906. Receipt No. 137,473.
Claim.-1. A saddle tree having side arms forming between them a space for the back band, a turret bridge connecting said side arms, laterally extending flanges extending from said arms and terminating at said bridge, and rests 10 for the skirt extending laterally from the side arms beyond the turret bridge, sald rests being situated on a lower plane than the flange.
2. A saddle tree, side arms forming a space between them for the back strap, a turret bridge connecting said side arms, flanges extending laterally from the upper edges of sald side arms and terminating at the turret bridge, skirt rests 10 extending laterally from the arms beyond the turret bridge, said skirt rests being on a lower plane than the flanges, a skirt supported by said skirt rest and having flanges underlying said flanges, and a box through which the back strap secured to said skirt rests.
3. In a saddle tree, two side arms, a turret bridge connecting said side arms, skirt rests extending laterally from the side arms adjacent to the turret bridge, a skirt supported by said skirt rests, and a box adjacent the bridge and secured to said rests.
4. In a saddle tree, two side arms connected by a turret bridge, a back strap passing under the turret bridge and a box through which said strap passes, said box being situated adjacent to the turret bridge whereby a short jockey is sufficient to cover the exposed parts of the saddletree.

No. 100,132. Nat Lock. Arrêté-écrou.
The Universal Nut Lock Company, assignee of William Ghigliere, both of Stockton, California, U.S.A., 24 th July, 1906; 6 years. Filed 11th June, 1906. Receipt No. 136,764. Claim.-1. The combination with a bolt of a nut mounted thereon, teeth upon the inner face of said nut, a washer mounted upon the bolt and secured stationary in respect
thereto, a spring forming a component part of such washer and adapted to engage with the said teeth on the inner face of said washer, as set forth.

2. A nut lock comprising the combination with a bolt of a washer attached stationary thereto, sald washer having a spring as a component part thereof, a nut mounted on said bolt a threaded neck to said nut having teeth at its foot and a shoulder, such teeth adapted to engage with the spring of the washer, and an auxiliary nut mounted upon the threaded portion of the nut and adapted to move axially independent thereof and bear against the entire washer.
3. The combination of a bolt, a nut mounted thereon, a washer secured stationary on said bolt, and provided with a spring formed component therewith, teeth upon the inner face of tre nut, sald spring adapted to engage with said teeth, and means movably mounted on the nut for throwing said spring out of engagement with said teeth, substantially as set forth.
4. The combination of a bolt, a nut mounted thereon having teeth on its inner face, a means for engagement with sald teeth and means mounted movably on the nut and adapted to move inwardly and throw said first-named means out of engagement with the said teeth.
5. The combination of a bolt, a nut mounted on said bolt, and provided with teeth on its inner face, a spring member carried by the said bolt and adapted to engage the teeth of said nut, as and for the purpose set forth.

## No. 100,133. Dish Washing Machine.

Machine d laver la vaisselle.
George W. Powers, Sherman W. Price and Carl W. Swanson. each an assignee of a third interest of Oscar Kitchell and Carl W. Swanson, all of Chicago, Illinoss, U.S.A., 24th July, 1906; 6 years. Filed 28th June, 1906. Receipt No. 137,384.
Claim.-1. In a dish washing machine the combination with a casing providing a disc space and a water space at a lower level than the dish space, of a rotatable blade wheel withlia the casing and without the disc space, disposed with its side toward the dish space, and arranged to throw water into the dish space.
2. In a dish washing machine a casing providing a dish space and a water well, a blade wheel having an open side, disposed within the casing with its open side coward the dish space, sald wheel being arranged to dip into the water well and adapted to throw water from the well into the dish space.
3. In a machine of the character described, a casing providing a dish space and a water space, a shaft extending throughout the casing and blade wheels on said shaft at opposite ends of the casing, each arranged to throw water from the water space into the dish space.
4. In a machine of the character described, a casing providing a dish space and a water space therebelow, a blade whecl within the casing arranged transversely of the casing
with its side toward the dish space, said wheel extending into and out of the water space, and said wheel being arranged

when rotated to throw water from the well upward and inward Into the dish space.
5. In a machine of the class described, a casing providing a dish space and a water space, and a blade wheel arranged transversely of the casing with its side toward the dish space, extending into and without the water space and provided with a part closing its side away from the dish space and a series of blades each comprising portions at different radial distances from the center of the wheel, disposed in substantial parallellsm, but out of alignment, and a curved portion connecting said substantlally parallel portions.
6. In a machine of the class described, a casing providing a dish space and a water space, a blade wheel within the casing arranged transversely thereof, to prevent its side toward the dish space, and extending into and without the water space, sald wheel having its largest diameter on the side adjacent the dish space, and decreasing in diameter toward its other side, and being closed throughout its smaller side and periphery, and said wheel being further provided with blades each comprising substantially parallel non-aligning portions extending in a generally radial direction, ana curved portions connecting said non-allgning straight portions.
7. In a machine of the character described, a casing providing a dish space and a water space, conironting blade wheels each disposed with its side toward the dish space and arranced to throw water from the water space into the dish space and means for s!multaneously driving said blade wheels.
8. In a machine of the character described, a casing providing a dish space and a water space, oppositely disposed blade wheels without the dish space, arranged to present their sides toward the dish space and adapted to throw water from the water space into the dish space, a shaft common to said wheels and means for rotating the shaft.
9. In a machine of the character described, a casing, a falso bottom in said casing providing wells at opposite ends thereof, whecls at opposite ends of the casing arranged transverscly thereof each to present its side toward the center of the casing, each of said wheels being arranged to dip into the well at its end of the casing and adapted to throw water from sald well into the space intermediate the wheels, and means in sald space intermedlate the wheels for supporting dishes above the level of the water well.
10. In a machine of the character described, a casing, a shaft extending through sald casing, wheels mounted upon oppositc ends of sald shaft and disposed to throw water from the bottom of the casing into the space betwoen said wheel, and means for supporting dishes in the space between said wheels above the bottom of the casing comprising a bottom member having an elevated portion adapted to straddle the wheel driving shaft.
11. In a machine of the character described, a casing providing a dish space, wheels within the casing for throwing water from the bottom of said casing into said dish space. and means for supplying a water spray to the interior of said casing independent of and in addition to said wheels.
12. In a machine of the class described the combination with a casing of wheels arranged therein, adapted to throw water from the bottom of the casing upon the dishes, and $s$ sprayer 36, arranged at the top of the casing and adapted to be connected with an extrancous source of water supply.
13 In a machine of the class described, the casing 11, the whecls 27 and the top 33 provided with the splash ribs 34 , substantially as described.
14. In a machine of the class described, a casing provided at its end with recesses 12 opening into the interior of the casing, wheels disposed in said recesses with their sides con-
fronting each other, means for driving wheels simultaneously and means for supporting said dishes between the wheels above the level of the water into which sald wneels dip, substantially as described.

No. 100,134. Guard for Street Car Windows. Garde-fenttre de chars de rue.


The St. Louis Car Company, assignee of Hubert Witte, all of St. Louis, Missouri, U.S.A., 24th July, 1906; 6 years. Filed 19th June, 1908. Receipt No. 137,052.
Claim. -The combination with the window posts, of brackets secured to the outer faces of the window posts, a window guard comprising a series of uprights having their lower ends hinged to said brackets. longitudinal rods mounted in said uprights and extending over a series of windows and means for securing the upper ends of the uprights to the outer faces of the window posts, said means being releasable to permit of the uprights and the rods being swung outwardly from the window posts, substantially as set forth.

Fo. 100,135. Cement Railway Tie and Fastener. Dormant et attache en ciment pour chemins de fer.


Fig. $z$


Figa
F!g. 7


100133

Herbert Elmer Percival, Houston. Texas, and Brewer W.
Key Woodwark, Oklahoma, assignee of a half interest,
24th July, 1906; 6 years. Filed 29th June, 1906. Receipt No. 137,388 .
Claim. -1. A cement tie of the character specifled having a kroad head, the respective ends of the tie made to present a
relatively broad bearing base, and between the ends of the tie the body sides thereof inclining from the very head of the tic and converged to form a base presenting a narrow cutting surface or edge.
2. A cement tie of the character specined, having a broad Lead, inwardily inclined sides for the body varying in the amount of their inclination from the ends of the tie formed with a relatively broad bearing base towards the center thereof by the inclined body sides between the ends converged to form a base presenting a narrow cutting surface or edge.
3. A cement tie of the character specified having relatively broad bearing end bases, and along the middle of the tie the sides of the body thereof inclined inward and converging to form a base presenting a narrow cutting surface of edge.
4. A tie of the character specified having a reinforcement ccnsisting of a plurality of rigid metal bars inserted in the head of the tie, a reinforcing bar inserted in the base of the tie, and rods or wires connecting said bars.
5. A tie of the character specified having a plurality pof rigid metal bars inserted longitudinally in its head, a like bar in its base, and means connecting said bars, whereby they cannot be bent towards or from one another.
6. A tie of the character specified having a reinforcement consisting of bars $D, D^{1}, D^{2}$, inserted longitudinally in the head of the tie, a reinforcing bar $D^{2}$ in the base, likewisei longitudinally arranged, and sets of rods or wires connecting said bars and disposed at periodical distances along the same.
7. A tie of the character specified having a reinforcement consisting of a series of bars set into the head of the tie, a bar set into the base thereof, and a serles of individual rods or wires connecting said bars, each making such connection with the bars which it connects as to be adjustable along the same.
8. A tie of the character specified having a reinforcement consisting of a plurality of rigid metal bars inserted in the head ofthe cle, a reinforcing bar inserted in the base of the tie, rods or wires connecting sald bars, and a screen of woven wire wound around the same, substantially as described.
9. In combination with a cement railroad tie having a recess cut in the top thereof, a cushion fitting within said recess, a rail resting on said cushion and fitting into a slot cut therein. which slot is cut so deep that the upper surface thereof will be on a line with the upper surface of said cushion and a spike alongside the flange of sald rall fastening down through said cushion into said tle, the head of which spike is adapted to engage partly with the flange of said rail on the inside and the zurface of said cushion on the outside, whereby it may be supported by said cushion so as to be held in permanent engagement with the flange of said rall.
10. A fastening for securing a rall to a cement tie cons:sting in a hard, metallic filling set into a hole formed in the cement tie, and a rail holding member embedded therein.
11. A fastening for securing a rail to a cement tie consisting in a hard, metallic flling set into a hole formed in the cement tie, and a rail holding member embedded therein. which member is adapted to be turned in or out.
12. A fastening for securing a rail to a cement tie consisting in a hard, metallic fllling set into a hole formed in the cement tie, said meta!lic filling comprising hard particles of matter, the interstices between which are filled with a softer metal, and a rail holding member embedded in said filling.
13. The process of making a fastening between a rail and a cement tie consisting in placing in a hole formed in the $c \in m e n t ~ t i e, ~ a ~ r a i l ~ h o l d i n g ~ m e m b e r, t h e n ~ p o u r i n g ~ i n t o ~ s a i d ~$ hole around sald member a hard metallic fllling.
14. The process of making a fastening between a rail and a cement tie consisting in placing in a hole formed in the tie, a rail holding member, than placing hard particles of matter within the hole arocind said member and then pouring in a softer, metallic filling.

## No. 100,136. Railway Switch.

## Aiguille de chemin de fer.

Linza M. Dawson, Hugh L. Marshall, Eduard H. Allison and William C. Ivins, all of Stronghurst, assignee of Louis Robert Parsons, Raritan, both in Illinols, U.S.A., 24th July, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,276.
Claim.-1. The combination with a main track and a siding, of a movable switch point, means for moving said point, and a Y-shaped lever for actuating sald means, the arms of said lever having bevelled outer faces and vertical inner' faces.
2. The combination with a main track and a siding, of a movable switch point, means for moving said point, a rotary
element for actuating said point, a $X$-shaped lever, guides, a bar slidable in said guides, and links pivoted to the ends of said bar and to said lever and said rotary element.

3. The combination with a main track and a siding, of a novable switch point, means for moving eaid point, a rotary element for actuating said means, guides, a sliding bar in gaid guides, links pivotally connecting the inner ends of said bars to said rotary element, Y-ehaped levers having their arms formed with bevelled outer faces and vertical inner faces, and links pivotally connecting said levers to the outer ends of said bars, substantially as deecribed.
4. The combination with a main track and a siding, of a movable switch point, a switch stand, a trip device mounted adjacent to the track, means for causing said trip device, said switch point and switch stand to operate simultaneously, and means for permitting said switch point and said switch stand to operate independent of said trip device.
5. The combination with a main track and a siding of a movable switch point, a switch stand. a trip device mounted adjacent to the track, independently movable elements connected respectively to said trip device. said switch point and switch stand, and means for locking said elements together.
6. The combination with a main track and a siding, of a movable switch point, a switch stand, a trip device mounted adjacent to the track, independently movable elements conrected respectively to said trip device, said switch point and switch stand, and a lateh for detachably connecting said elements to cause them to move together.
7. The combination with a main track aud a siding, of a movable switch point, a switch stand, a trip device mounted adjacent to the track, superposed rotary discs or elements, cne being connected to said trip device and the other to said switch point and said switch stand, and means for connecting said discs or elements to cause them to move together.
8. The combination with a main track and a siding. of a movable switch point, a switch stand, a trip device mounted adjacent to the track, superposed rotary discs or elements, one being connected to said trip device and the other to said switch point and said switch stand, and a latch or lever pivoted upon one of said discs and adapted to enter a seat it: the other to lock them together, substantially as described.
9. The combination with a main track and a siding, of a movable switch point, a switch stand, a trip device mounted adjacent to the track. superposed rotary discs or elements, one being connected to said trip device and the other to said ewitch point and said switch stand, a locking means for secciring said discs together, and means for retaining said means in its locked position.

## No. 100,137. Rallway Rail Joint.

Joint de rails de chemins de fer.
Flaviem Bombadier, Valcourt, Quebec, Canada, 24th July, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,144.
Claim.-1. A rail joint comprising a rail having a thickened shoulder with its end cut away to leave vertical inwardly converging faces and to leave a projecting tongue having a plurality of locking lugs on its opposite sides, and a second rail having a thickened shoulder with a central slot provided with recesses in the wall therof, to receive said locking lugs, and sald second rall having inwardly converging faces adapted to bear on the inwardly converging faces of the first rall.
2. A rail joint comprising a rail having a thickened shoulder with its end cut away to leave vertical inwardly

converging faces ant to leave a profecting tongue having a plurality of rectangular locking lugs on its opposite sldes, and a second rail having a thickened shoulder with a central slot provided with rectangular recesses in the wall thereof to receive said locking lugs, and said second rail having inwardly converging faces atapted to bear on the inwardly converging faces adapted to bear on the inwardly converging faces of the first rall.
3. A rall joint comprising a rail having a thickened shoulder with its end cut away to leave vertical inwardly converging faces and to leave a projecting tongue having a plurality of rectangular locking lugs on its opposite sides, and a second rall having a thickened shoulder with a central slot provided with rectangular recesses of greater dimenslons than the locking lugs in the wall thereof to receive said locking lugs, and said second rall having inwardly converging faces adapted to bear on the inwardly converging faces of the first rail.
4. A rall joint comprising a rall having a thickened shoulder with its end cut away to leave vertical inwardly converging faces and to leave a projectlng tongue having a plurality of locking lugs on its opposite sides and having its base cut out to leave a lip, and a second rall having a thickened shoulder with a central slot provided with recesses in the wall thereof to receive said locking lugs, and said second rail having inwardly converging faces adapted to bear on the inwardly converging faces of the first rail, and said second rail having two cut out portions, the surfaces of which are disposed respectively on the base and the top of the first rall.
5. A rall joint comprising a rail having a projecting tongue provided with laterally projecting vertical locking lugs, and a second rail having its end bifurcated and provided with recesses to receive the locking lugs.
6. A rall joint comprising a rall having a projecting tongue formed with a plurality of locking lugs on each side, and a second rail provided with a bifurcated end having recesses therein, each of said recesses being of greater dimensions than the lug disposed thereln.
7. A rail joint comprising a rail having a thickened shoulder and having a projecting tongue formed with a plurality of locking lugs on each side, and a second rail provided with a bifurcated end having recesses therein, each recess being of greater dimensions than the lug disposed therein, and said second rail being provided with shoulders on each side of its bifurcated end.

## No. 100,138. Rail Joint. Joint de rails.

Charles E. Christian, Oma Bradford and John William Cruse, each an assignee of a fourth interest, all of Oak Hill, West Virginia, U.S.A., 24th July, 1906; 6 years. Filed 30th June, 1906. Receipt No. 137.433.
Claim.-A rall joint comprising two members, one of said members having an integral basal splice tongue co-extensive In width with the base thereof and formed with a transversely convexed upper face, and the other member a bacal recess to receive said tongue, said recess being substantially co-extensive in length and width with said tongue and formed
with a curved wall to rest upon the curved face of the tongue, the latter named member also being provided with thickened

attaching fianges overlying the sides of the tongue and formed with spike notches.

No. 100,139. Elevated Railway. Chemin de fer aérien.


Charles Thompson Harvey, Toronto, Ontario, Canada, 24th July, 1906; 6 years. Filed 29th May, 1306. Receipt No. 136,384.
Claim.-1. A system of constructing elevated rallways, principaily of wood, consisting of transverse bases of moulded reinforced concrete containing sockets for posts, timber bents consisting of a pair of posts socketed in said bases and of cap beams and cross braces, metallic saddles secured upon said caps, built-up plank girders set in said saddles, flanged plate ties bolted through the flanges to said girders at intervals, flooring supported on the bottom flanges of said ties and flanged footed rails supported upon and overlapping the upper edges of the girders and secured in place, substantially as set forth.
2. A system of constructing elevated railways, principally of wood, consisting of moulded reinforced concrete foundations placed transversely to the line to form the bases of the bents and containing sockets for the posts, bents of timber consisting of posts, cap beams and cross braces. the posts socketed into the bases, longitudinal cross braces between pairs of bents at intervals, saddles secured to the caps adapted to receive the girders, built-up wooden girders placed In said saddles, flanged plate ties bolted to the girders at
intervals, flooring carried on the bottom flanges of said ties, flange footed rails carried on the upper edge of the girders and secured thereto and conduits carried by the webs of the ties, substantially as set forth.
3. A system of constructing elevated railways principally of wood consisting of moulded reinforced concrete foundations placed transversely to the line to form the bases of the bents and contalning sockets for the posts, bents of timber consisting of posts, cap beams and cross braces, the posts socketed into the bases, longltudinal cross braces between pairs of bents at intervals, saddles secured to the caps adapted to receive the girders, bullt-up wooden girders placed in said saddles, flanged plate ties bolted to the girders at intervals, flange footed rails carried on the upper edge of the girders and secured thereto, a series of brackets, bolted to the girders near the upper edge and an electrical conductor carried on said brackets, substantially as set forth.
4. In an elevated rallway the combination of a series of transverse foundations consisting of moulded and reinforced concrete bases, a bent of timber on each foundation, longitudinal cross braces between pairs of bents at intervals, built-up timber girders supported on the caps of the bents, flanged plate tles connecting said girders at intervals, flanged footed rails secured to the girders, flooring carried on the bottom flanges of the ties, conduits carried in the webs of the ties and an electrical conductor carried on brackets secured to the girder, substantially as set forth.
5. In an elevated railway the combination with a timber cap beam and a wooden girder set on edge, a metallic saddle bedded upon and checked into said cap and provided with a pair of flanges forming a groove for the reception of the girder bottom, substantially as set forth.
6. In an elevated railway the combingtion with a round timber cap beam and a wooden girder set on edge, a metallic saddle having a concaved seat fitting the shape of the cap timber and checked into a recess therein and a pair of flanges forming the longitudinal groove for the reception of the girder bottom, substantially as set forth.
7. In an elevated rallway the combination with a moulded reinforced concrete base formed with conical sockets and bevelled offset faces, timber posts having conical tenons fiting said sockets and being round at the upper part, a round cap beam joined to said posts by receiving the offset round tenons of the round upper parts of the posts, brackets having concaved backs secured to the posts in the cap angles and a pair of cross braces footing on the bevelled offsets of the base and into the said brackets at the upper end, substantially as set forth.
8. In an elevated railway the combination with a round timber post and cap beam connected at a right angle, or nearly so, of a metallic bracket having its back concaved to fit against post and cap and adapted to be secured to said post and having its face recessed to receive the shaped end of a brace, substantially as set forth.
9. In a mounlded concrete foundation for an elevated railway the combination of a block having tapering sides and be-velled-off tops of reinforcing bars embedded longitudinally and transversely and having enlargements extending laterally and upwardly with bevelled offsets to recelve the ends of the timber braces and formed with a central tapering socket for the reception of the timber post, substantially as set forth.
10. The combination of a moulded reinforced concrete block having enlargements containing conical sockets, timber posts having tenons received and fitting in said sockets, a cap beam connected to the top of said posts by bore holes sunk therein and receiving the offset round tenons of the round upper part of the posts, brackets secured to the posts in the inner angles of the posts and cap and cross braces received in said brackets at the top and setting upon the bevelled offsets of the concrete base, substantially as set forth.
11. In a girder for an elevated railway the combination of a series of planks connected edge to edge, said edges being grooved and tongued and a series of dowels in said edges having their ends split and wedges inserted which are driven in as the joint closes up, substantially as set forth.
12. The combination with a pair of wooden girders set on edge, a series of flanged plate ties connecting said girders transversely, a filling strip between each end flange and girder, a vertical continuous plate washer on the outside of said girders and bolts passing through the flanges of the ties, flling strips, girders and washer plates, substantially as set forth.
13. The combination with a pair of wooden girders set on edge, of a series of flanged plate ties bolted to said girders at intervals and a rall on each girder having a flauged foot overlapping the edges of said girders and screws securing said rail to said girders, substantialy as set forth.
14. The combination with a pair of wooden girders set on edge, of a series of flanged plate ties bolted to said girders at intervals, a rall secured to the top of each girder and flooring carrled on the bottom flanges of the ties, substantially as set forth.
15. The combination with a pair of wooden girders set on edge, of a series of flanged plate ties bolted to said girders at intervals, a rail secured to the top of each girder and a conduit carried by the web of said ties, substantially as set forth.
16. The combination with a wooden girder set on edge, of a rail secured to the top thereof, a series of brackets secured to the upper part of said girder and an electric conductor carried by said brackets, substantially as set forth.
17. The combination with a wooden girder set on edge, a metallic sheet covering overlapping the top and bottom edges of said covered girder, subtsantially as set forth.
No. 100,140. Railway. Ohemin de fer.


Stephen E. Jackman, New York City, New York, U.S.A., 24th
July, 1906; 6 years. Filed 30th June, 1906. Receipt No. 137,452.
Claim.-1. A railway having a continuous track consisting of an up-track, a home stretch leading back to the foot of the said up-track and an intermediate track section conrecting the upper end of the up-track with the beginning point of the home stretch, the sald intermediate track section having a loop portion and a figure 8 portion, of which one connects with the up-track and the other connects with the home stretch.
2. A railway having a continuous track consisting of an up-track, a home stretch leading back to the foot of the said up-track, and an intermediate track section connecting the upper end of the up-track with the beginning point of the home stretch, the sald intermediate track section having a loop portion and a figure 8 portion, of which the loop portion crnnects with the up-track and leads to the said figure 8 portion, and the latter connects with the said home stretch.
3. A rallway having a continuous track consisting of an up-track, a home stretch leading back to the foot of the said up-track, and an intermediate track section connecting the :ipper end of the up-track with the beginning point of the home stretch, the said intermediate track section having a loop portion and a figure 8 portion, of which one connects with the up-track and the other connects with the home stretch, and end loops of the loop portion and the end loops of the figure 8 portion being arranged one above the other.
4. A rallway having a contlnuous track consisting of an up-track, a home stretch leading back to the foot of the said up-track, and an intermediate track section connecting the upper end of the up-track with the beginning point of the home stretch, the said intermediate track section having a loop portion and a figure 8 portion, of which one connects with the up-track and the other connects with the home stretch, and the middle members of the figure 8 portion crossing each other in different horizontal planes.

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No. 100,141. Rallway 8witch 8tand.
Plateforme d'aiguille de chemin de fer.


Edward Lawrence Morgan, Little Rock, Arkansas, U.S.A., 24th July, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,228.
Claim.-1. In a switch stand, the combination with the supporting frame, of a member for operating the switch points, an operating lever for said member, means for locking the lever in the positions to which the switch may be thrown, a signalling device, and means for operating the latter automatically and independently of the operating lever when the switch is fully thrown.
2. In a switch stand, the combination with the supporting frame, of a member for operating the switch points, a plvoted operating lever for said member, means for locking said pivoted lever in the positions to which the switch may be thrown, a signalling device, and means for operating the latter automatically when the pivoted lever is in position to be locked and to hold the signalling device in an operative position during the movement of the switch operating member from one position to another.
3. In a switch stand, the combination with a supporting frame and signalling device, of a movable member for operating the switch points and provided with recesses in the under side thereof, and a pivoted member counterbalanced so as to operate the signalling device and so that one end thereof will engage the under side of the aforesaid member and enter the recesses therein.
4. In a switch stand, the combination with the supporting frame having notches therein, a disc for operating the switch points lotatable on said frame and provided with a slot, a lever pivoted in said slot and adapted to engage the notches in the supporting frame, a pivoted member one end o! which is adapted to engage the disc and enter the slot therein, and a signalling device connected to said pivoted member.
5. In a switch stand, the combination with the supporting frame having notches therein, a disc for operating the switch points rotatable on said frame and provided with a slot, a lever pivoted in said slot and adapted to engage the rotches in the supporting frame, a member pivoted beneath the rotatable disc with one end engaging the under side thereof and having a portion adapted to enter the slot therein, and a signalling device connected to the pivoted member.
6. In a switch stand, the combination with the supporting frame having notches therein, a disc for operating the switch points rotatable on said frame and provided with a slot and a recess at different points, a lever pivoted in the slot, a member pivoted beneath the disc so that one end of the former will engage the under side of the latter and enter the slot and recess therein, and a signalling device connected to the pivoted member.
7. In a switch stand, the combination with the supporting frame having notches therein, a disc rotatably mounted on the frame and adapted to operate the switch points, said disc having a slot and a recess at different points, a lever pivoted

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in the slot and adapted to engage the notches in the supporting frame, a yoke plvoted under the disc so that one end thereof will engage the under side of the disc and enter the slot and notch therein, said end of the yoke belng adapted to be engaged by the lever when the latter is swung upon its pivot, and a signalling device connected to the yoke.
8. In a switch stand, the combination with the platform having notches therein, a disc rotatable on the platform and adapted to operate the switch points, sald aisc having a slot therein, a lever pivoted in the slot and adapted to engage the notches in the platform, a yoke pivoted under the dise and having a portion adapted to enter the slot in the disc in the path of the movement of the pivoted lever, a lug on said lever adapted to engage the yoke, and a pivoted signal blade or semaphore connected to the yoke and operated thereby.
9. In a switch stand, the combination with the supporting frame comprising a platform and an upright or post, said platform having notches therein, a disc rotatably mounted on the platform for operating the switch points and having a slot therein, a lever pivoted in said slot and adapted to engage the notches in the platform, a yoke pivoted under the platform with one end thereof bearing against the under side of the disc and adapted to enter the slot therein, a reflecting medium on the upright, a signal arm pivoted on the upright and connected to the yoke, and a shutter on the signal arm adapted to screen the reflecting medium, substantially as herein shown and described.

No. 100,142. Clamps for Rails. Crampe pour rails.


Issac N. Spald, Tippecanœ City, Ohio, U.S.A., 24th July, 1906; 6 years. Filed 25th June, 1906. Recelpt No. 137,237.
Claim.-1. In a clamping device for connecting and bracing rails the combination of the inner sectional brace provided with a groove, and holes or cylindrical depressions, and adapted to receive a flange of the rails, the outer sectional brace provided with a tongue, and pins or prongs and adapted to receive a flange of the rails, all substantially in the manner and for the purposes described.
2. The combination in a clamp for bracing and connecting track rail sections, of an inner sectional brace formed with a slot to recelve the flange of the rails, and having its base or underside provided with holes or cylindrical depressions, an outer sectional brace formed with a slot to receive the flange of the rails, a tongue adapted to fit in the groove in said inner sectional brace, pins or prongs adapted after passing through the bolt eyes in the rails, to rest securely in the holes or cylinderical depressions in said intersections, all substantially as described.
3. In a clamp for bracing and connecting track rall sections the combination with the rails of the track, of the inner sectional brace formed with a slot and having holes or cylindrical depressions in its inner face or wali and a groove across the base, the outer sectional brace formed with a slot and having prongs or pins projecting from its inner face or wall, and a tongue projecting from the base, all substantially in the manner and for the purposes described.

## No. 100,143. Street Car Fender.

Défense de chars de rue.


Vasilie Vladutz, Homestead. Pennsylvania, U.S.A., 24th July, 1906; 6 years. Filed 25th June, 1906. Recetpt No. 137,234.
Claim.-1. A car fender embodying a plurality of arc-shaped arms, said arms being pivotally mounted in adjacent pairs, bearing for the several adjacent pairs secured to the body of the car, means for retaining said arms against movement and adapted to be engaged by an obstacle in the progress of the car to release said arms, rearward extensions carried upon the ends of said arms. and means adapted to engage said extensions to force said arms to swing inwardly upon their pivot when released.
2. A car fender embodying a plurality of arms disposed in horizontal tiers and pivotally mounted, bearings in which said arms are pivotal secured to the body of the car, rearward extensions carried by said arm, means for engaging said extensions and causing said arms to swing inwardly upon their pivots, and means adapted to be engaged by an obstacle for holding said arms against inward movement.
3. A car fender embodying horizontally disposed tiers of gripping arms pivotally mounted in pairs bearings for said arms secured to the body of the car. a second series of arms plvotally mounted spring controlled arms located upon the adiacent ends of said first-named arms, brackets in which said second-named series are mounted, rearward extensions carried by said first-named series, an expansive spiral spring interposed between said extensions and adapted to force sald arms together, means for retaining first-named series of arms from movement under the influence of said spring, said retaining means being released from engagement with saij arms by contact with an obstacle, means for forcing sald last-named series of arms to swing together upon their pivots and means for holding said last-named arms from movement. said holding means being adapted to be released from locking engagement therewith by contact with an obstacle.
4. A car fender embodying in combination with a series of plvotall ymounted spring controlled arms located upon the front of the car and means for normally maintaining the same against movement, a second series of arms depending from the floor of the car, and pivotally mounted in bearings provided therefor, means for causing the arms of said second serles to swing together upon their pivots, and means for locking said arms against inward movement, said locking means being obstacle operated and embodying a pivotally mounted depending arm having connection at its pivotal end with sliding bolts adapted to normally enter Into locking engagement with said first-named arms.

## No. 100,144. Car Coupler. Attelage de chars.

William August Engel, Split Rock, Wisconsin, U.S.A.. 24th July, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,250.
Chaim.-In a car coupler the combination with a bollow drawhead, of a knuckle 3 pivoted to swing horizontally therein, a locking finger 7 formed on said knuckle, said finger having in its inner end a recess 5, and an inclined wall 6, a lock-
ing dog 12 plvotally mounted on a horizontally axis in sald drawhead, and a crank shaft 9 connected to said locking dog

to move the same to an unlocked position, substantially as described.

No. 100,145. Rallway Car. Char de chemin de fer.


Hanford L. Kerr, Kansas City, Kansas, U.S.A., 24th July, 1906; 6 years. Filed 29th June, 1906. Recelpt No. 137,406.
Chaim.-1. In a device of the character described, a car body having an air opening in the end thereof, a $V$-shaped central air shaft taking alr from the opening and discharging it in the upper part of the car, an air fan located at the discharge end thereof. side air shafts also taking alr from the opening and discharging beneath the discharge of the central air shaft, a pair of fans for facilitating the passage of air through the side shafts and means connected with the car axle for driving the several fans, substantially as described.
2. In a device of the character described, a car body, water troughs located between the carrying beams thereof, sliding perforated covers for the water troughs, sald car body having an opening in its end, a central air shaft taking air from the opening and discharging it near the top of the car, side air shafts also taking air from the opening and discharging it below the discharge of the central air shaft, fans located in the several air shafts, a shaft sultably journalled, means for driving the fans from the shaft, a pump operated by the shaft and adapted to take water from the troughs and spray it across the air shafts, and gutters to carry off water from the sprays and return it to the troughs, substantially as described.
3. In a device of the character described, a car body having an air opening in the end thereof, a V-shaped central air shaft taking air from the opening and discharging it in the upper part of the car, an air fan located at the discharge end thereof, side air shafts also taking air from the opening and discharging beneath the discharge of the central air shaft, and a pair of fans for facilltating the passage of air through the side air shafts.
4. In a device of the character described, a car body, water troughs located between the carying beams thereof and open to the interlor of the car, said car body having an opening in its end, a central air shaft taking air from the opening and discharging it near the top of the car, side air shafts also taking air from the opening and discharging it below the discharge of the central air shaft, fans located in the several air shafts, a pump adapted to take water from the troughs and spray it across the air shafts, and gutters in the air shafts to return the water to the troughs.

No. 100,146. Ditching Plough. Charrue d fossoyer.


John Frantisek Mikolasek, Vodnany, South Dakota, U.S.A., 24th July. 1906; 6 years. Filed 26th June, 1906. Receipt No. 137,311.
Claim.-A ditching plough comprising a beam, a yoke vertically adjustable at the front end of the beam, a roller mounted in said yoke, and an arm pivotally connected to the yoke and also plvotally connected to the beam, an upwardly and rearwardly inclined trough suspended from the beam and having a lateral extension at the rear end, a cutting blade on the front end of the trough, a yoke depending from the beam. and a shoe attached to said depending yoke.

No. 100,147. Plough Colter. Coutre de charruc.
John P. Abernathy and James W. Heitt, co-inventors, both of Jonesboro, Arkansas, U.S.A., 24th July, 1906; 6 years. Filed 25th June, 1906. Recelpt No. 137,230.
Claim.-1. A device of the character described comprising a spring locking bar or member for insertion into the colter shank receiving mortise, and a dog or lever member eccentrically connected or pivoted to said bar and effective to obtain a binding or clamping action upon said colter shank. 2. A device of the character described comprising a spring
locking bar or member having an angular lower end terminal, with its opposite end terminating in an eye, and a dog

or lever member having a lateral blfurcated terminal receiving said eye, and a clenched pivot bolt or rivet for effecting connection between said bar member and sald dog or lever member.
3. In a plough the combination of a colter shank with the carrying beam therefor having a mortise receiving said shank, means for securing in place and effecting the adjustment of said shank in said mortise, and a locking contrivance for said colter shank comprising a resillent bar or member insertlble in said mortise, and a dag or lever member having an eccentric or cam connection with the latter, and effective for securing a binding or clamping action thereof upon said colter shank.

No. 100,148. Hay Fork. Fourche d foin.


Anton Anderson and Wilford Palmer, co-inventors, both of Grantsville, Utah, U.S.A., 24th July, 1906; 6 years. Filed 29th June, 1906. Receipt No. 137,395.
Olaim.-A fork comprising a head, a handle connected to said head, tynes engaged through the head, eyes carried by the head, a bale engaged in the sald eyes on the head and having an eye formed in its free end for the attachment of a hoisting cable, a link including arms at one of its ends, said arms having their ends pivotally connected to the opposite Inner sides of said bale near the upper end of the latter, the other end of sald link being curved laterally, a second link having apertured lugs formed on each of its ends, the curved end of the first-named llak being pivoted between the lugs of the ends of the last-named link, the other end of said lastnamed link being pivoted to the said handle, a pin carried by said first-named link and extending from each side thereof to engage the lugs of the last-named link, and a drop line connection formed on the pivot of the two links.

No. 100,149. Forseshoe Caulk.
Crampon de fer à cheval.


William B. Cole and Frank H. Thornley, both of Rhinebeck, New York, U.S.A., 24th July, 1906; 6 years. Flled 26th June, 1906. Recelpt No. 137,306.
Claim.-1. A horseshoe having detachable toe caulks in combination with a coupling device having recesses in its ends to engage the opposing ends of the toe caulks and prevent the latter from turning, substantially as described.
2. A to caulk comprising a body having substantially parallel sides, outwardly extending base flanges, strengthening webs in the angles between the sides and base flanges, a recess between the sides, and a blade in said recess, substantially as described.
3. A horseshoe having toe caulks provided with base flanges, in combination with a coupling device bearing on the base flanges of the caulks and having recesses in its ends to receive the opposite end portions of the caulks, said coupling device preventing the caulks from turning, substantially as described.

## No. 100,150. Mail Bag Crane.

Grue pour sacs de malle.
James Cole, Superior, Wisconsin, U.S.A., 24th July, 1906; 6
years. Filed 25th June, 1906. Receipt No. 137,268.
Olaim.-1. A mail bag crane comprising a post, bag holding arms projecting laterally therefrom, means for automatically withdrawing said arms when the bag is disengaged therefrom, and means for reversing the direction in which said arms project, whereby they may be alternatively used in connection with trains travelling on adjacent tracks.
2. In a mail bag crane, a base, a vertical post revolubly secured in said base, a foot on sald post arranged within a chamber in said base, and a supporting member for said foot having a bearing of llmited area therefor, and an adjacent incline for rotating said post when disengaged from said bearing.
3. In a mail bag crane the combination of a chambered base, a vertical post revolubly secured in said base, a foot for sald post within the chamber in the base and having a narrow under face, and a support for said foot within a limited flattened area at their upper ends for supporting the narrow under face of said foot, whereby the descent of said foot when disengaged from said flattened area will cause a partial rotation of the post.
4. A mall bag crane comprising a revoluble post, a foot at the lower end thereof, a support for said foot having an inclined face for causing a partial rotation of the foot and post, a base in which said post is journalled, a lever pivotally connected to said post, and an annular flange on said base forming a fulcrum for said lever in different points of rotary adjustment about the axls of said post.
5. A mall bag crane comprising the base $B$, the vertical post journalled therein, the foot $C$ at the lower end of sald

post, and the co-operating cam supporting member $D$, the annular flange $h$ at the upper end of said base and the lever G pivoted to said post and fulcrumed upon said flange, substantially as and for the purpose set forth.

No. 100,151. Hoist and Conveyer.
Ascenseur et transport


Christopher C. Dolan, Gultport, Mississippi, U.S.A., 24th July, 1906; 6 years. Filed 30th June, 1906. Recelpt No. 137,429.
Claim.-1. In a device of the class described, a load receiving device comprising a pair of relatively movable sections, a guide, a member slidably mounted upon the guide and operatively connected with the sections, a head slidably engaged with the guide, a movable latehing member for conrecting the head with the slidable member, a track or way, a carriage movable thereon and a holsting cable operatively connecting the load receiving device with the carriage, sald cable being adapted for actuating the lateh to release the cablable member from the head.
2. In a device of the class described, a load recelving device including a pair of relatively movable sections, a guide, a cross piece slidably engaged therewith and operatively connected with the sections, a head slidable on the gulde and operatively connected with the sections for moving the
latter to closed position, a movable latch adapted for concecting the head and cross piece, a track or way, a carriage movable thereon, and a flexible hoisting element or cable operatively connecting the load receiving device with the carriage, said cable being adapted for actuating the latch to release the cross plece and permit movement of the sections tc. open position.
3. In a device of the class described, a load receiving device including a pair of relatively movable sections, a guide, a member slidably engaged with the guide, and operatively connected with the sections for moving the latter to open position, a head slidably engaged with the guide and operatively connected with the sections for moving the same to closed position, a movable latch member connecting the head and slidable member, and a flexible hoisting element operatively engaged with the load recelving device and adapted for actuating the latch to release said slidable member.
4. In a device of the class described, a load receiving device including a pair of relatively movable sections, a guide, a member slidably engaged with the guide and operatively connected with the sections for moving the same to open pasition, a head slidably engaged with the guide and operatively connected with the sections for moving the same to closed position, a movable latching member adapted for connecting the slldable member and head, a fiexible hoisting element operatively engaged with the load receiving device, and a tripping member carried by sald element and adapted to contact with and move the latch to releasing position.
5. In a device of the class described, a head, a load receiving device operatively connected therewith and movable to dumping position, a guide pulley journalled in the head, a movable latch member carried by the head, a flexible operating element arranged to travel on the guide pulley and provided with a latch operating member, an element connected with the load receiving device and adapted for engagement by the latching member to hold the device in non-dumping position, said latch being operable by the latch operating member for engagement by the latching member to hold the device in non-dumping position, said latch being cperable by the latch operating member for releasing the element and springs acting on the latch to maintain the same normally in engaging position.

No. 100,152. Saddle. Selle.


Patrick H. Fontalne, Bethel Hill, North Carolina, U.S.A., 24th July, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,229.
Claim.-1. The combination with a caddle having a loop and a girth, of an attachment connected to the girth and having a loop slidably mounted within the loop of the saddle, and a stirrup strap connected to one end of and supported by the loop of the attachment.
2. The combination with a saddle having a loop extending therefrom, and a girth, of an attachment connected to the girth and having a loop engaging and slidably mounted within the loop of the saddle, a stirrup strap connected to and supported by the end of the loop of the attachment, dand. means for holding said strap in position at the end of the loop.
3. The combination with a saddle having a loop extending therefrom and a girth supported upon the saddle, of a stirrup strap, a strap connected to the girth and having a loop engaging and slldably mounted upon the loop of the saddle, a keeper within the loop of the strap and a link interposed hetween sald keeper and the end of its loop, said link engaging the stirrup strap.
4. An attachment of the character described, comprising a girth strap having a loop at one end, a keeper positioned within the limit of the edges of cald strap and within the
looped portion, and a link mounted within one end of the looped portion of said strap.
5. An attachment for saddles, comprising a strap provided with a looped portion at one end thereof, a keeper secured within the looped portion, and stirrup supporting means assembled with the looped portion of said strap and normizilly engaging the keeper within the same.
6. The combination with a saddle provided with a depending member, and a girth, of an adjustable member provided with a loop portion positioned upon said depending member and connected to sald girth, and looped means positioned within the looped portion of said adjustable member and being capable of movement for causing adjustment of said adjustable member.
7. The combination with a saddle, and a girth, of an adjustable member supported by said saddle and connected to said girth, said member provided with means for limiting the girth against downward movement, and a stirrup supported by the upper end of said member.
8. The combination with a saddle provided with a depending member, and a girth, of a slidable strap supported upon said depending member and connected at its lower end to said girth. and a stirrup strap secured to the upper end of said slidable strap and capable of moving said strap upon the depending portion of the saddle for adjusting said girth.
9. The combination with a saddle and a girth, of an adjustable member carried by said saddle and connected to said girth, said member provided with a loop formed upon its upper end, a stirrup strap provided with looped means carried by said member, the looped means of said stirrup strap engaging the looped means of said member.
10. The combination with a saddle and a girth, of an adjustable member positioned upon said saddle and connected to said girth, a keeper. said member inclosing said keeper, and stirrup supporting means positioned upon said member and capable of engaging said keeper, said stirrup supporting means being capable of causing adjustment of sald member and girth.

No. 100,153. Water Feater. Chauffeur d'cau.

Fig. 1


Joseph Foster, New York City, New York, U.S.A., 24th July. 1906; 6 years. Filed 18th June, 1906. Rece1pt No. 137,014.
Claim.-1. In a system the combination of two valves, means for closing the said valves and a means for interlocking the said closing means when the valves ure closed and when they are opened.
2. In a system the combination of two valres. means for closing the said valves and a means for interlocking the said (losing mrans when the sadid valves are closed and for preventing the opening of one of the said valves.
3. In a system the combination of two valves, means for closing the said valves and a means for interlocking the said closing means when the valves are closed and for preventing the opening of one of said valves until the otner of the said valves is opened.
4. In a system the combination of a plurality of valves, means for closing the said valves and a means for interlocking the said closing means when the said valves are closed and for preventing the opening of one of said valves until another of the sald valves is opened.
5. In a system the combination of a plurality of valves. means for closing the said valves and a means for interlocking the said closing means when the said valves are closed and for preventing the opening of one of the said valves until another of the said valves is opened and to prevent the closing of one of the said valves until another of the said valves is closed.
6. In a system the combination of two valves, means for closing the said valves and a means for interlocking the sail closing means when the valves are closed and when the valves are opened and for preventing the opening of one of the said valves until another of the said valves is opened and for preventing the closing of the first valve opened untll after the second valve opened is closed.
7. In a system the combination of two valves, each valve having a plug adapted to be pressed against the valve seat, means for closing the said valve, means for interlocking the said closing means when the said plugs are forced against the said seat.
8. In a system the combination of a plurality of valves. each of said valves having a plug and a valve seat, the said plugs adapted to be forced against the sald valve seats, a means for closing the said valves, a means for interlocking the said closing means and a means for adfusting the said closing means so that the valves will be interlocked when the said valves are closed.
9. In a system the combination of a plurallty of valves, each valve consisting of a valve chamber, a valve seat and a valve plug located in the said chamber, stenus connected to the said valve plugs, a dise having radiating teeth connected t1) each of the said stems, handles adjustably connected to the said discs, a part connected to one of the said handles having a curved portion, a flange connected to another of the said handles, the said flange adapted to register with the said curved portion.
10. In a valve the combination of a plug having a slot, a stem having a head and a neck adapted to be inserted in the said slot of the said plug and adapted to be turned within the said slot.
11. In a water heater a circular mixing chamber having oppositely arranged inlet and outlet, a deflecting plate parallel to the wall of said mixing chamber opposite said inlet, curved guiding plates extending outward from the wall of said mixing chamber on either side of said outlet, said guiding plates extending around the ends of said deflecting plate to cause impingement of water against said deflecting plate, an injector connected with the inlet of said mixing chamber and provided with a heating nozzle in line with said inlet to discharge water against sald deflecting plate, a curved water passage communicating with said heating nozzle, and adjustable interlocking water and heating valves controlling the supply of fluids to said injector.
12. In a water heater, a circular mixing chamber having diametrically arranged inlet and outlet, a deflecting plate concentric with the wall of sald mixing chamber opposite said inlet, curved guiding plates extending outward from the wall of said mixing chamber on either side of the outlet of the same, said guiding plates extending around the ends of said deflecting plate to cause impingement of the water against said deflecting plate, an injector connected with the inlet of said mixing chamber and adjustable interlocking valves to govern the admission of water and heating fluid to said injector.
13. In a water heater a circular mixing chamber having diametrically arranged inlet and outlet, there being a concentric deflecting plate in said mixing chamber opposite said inlet and curved guiding plates extending from the wall of said mixing chamber around the ends of said deflecting plate, a water valve and a heating valve connected to said mixing chamber and an adjustable interlocking water handle and heating handle to govern said valves.
14. In a water heater a circular mixing chamber having a concentric deflecting plate opposite the inlet of said chamber and guiding plate extending out from the wall of said mixing chamber around the ends of said deflecting plate to cause eddifs in the space between said guiding plates, the outlet of said mixing chamber being situated between said guiding plates and an injector connected with the inlet of said mixing chamber and provided with a heating nozzle in line with said inlet.
15. In a water heater a mixing chamber, an injector in line with the inlet of said mixing chamber and an adjustable in-
terlocking apparatus for the admission of fluids to said injector in varying proportions.
16. In a water heater a circular mixing chamber having diametrically arranged inlet and outlet, a deflecting plate concentric with the wall of said mixing chamber opposite said inlet, curved gulding plates extending outward from the wall of said mixing chamber on either side of the outlet of the same, said guiding plates extending around the ends of said deflecting plate to cause impingement of water against said deffecting plate and an injector connected with the inlet of said mixing chamber the heating nozzle of said injector being in line with the said inlet, and an adjustable valve.
17. In a water heater a mixing chamber provided with an inlet and an outlet, an injector connected with the inlet of said mixing chamber and provided with a heating nozzle in line with said inlet, valves having adjustable handles to control the supply of fluids to said injector, an incurved deflecting plate opposite the inlet of said mixing chamber against which the fluld from sald injector impinges, and guiding plates extending around the ends of said deflecting plate to sause eddies in the space between the said guiding plates to thoroughly mix the fluid issuing from the outlet of said mixing chamber.
18. In a water heater a mixing chamber having an inlet and outlet, an injector connected to said inlet and having a heating nozzle in line with the same, an incurved deffecting plate opposite to the inlet in said mixing chamber against which fluid from said injector impinges and guiding plates extending around the ends of said deflecting plate to thoroughly mix the fluid issuing from the outlet of said mixing chamber, and an adjustable valve.
19. In a water heater a mixing chamber having an inlet, a curved deflecting plate opposite said inlet and guiding plates co-operating with said deflecting plate to produce eddies in said mixing chamber, an injector connected to said inlet and having a steam nozzle in line with the same to cause hot water to impinge upon said deflecting plate, and adjustable interlocking valves to control the supply of steam and water to said injector.
20. In interlocking valves for a water heater, valve stems having valve plugs secured thereto and co-acting with seats to control the admission of fluids to said heater, a heating handle and a water handle secured to said stems, said water handle formed with a circular adjustable cam and said heating handle being provided with an adjustable stop to engage said cam, a projection on said water handle to prevent the excessive operation of the same and extensions and grips on said handles.
21. In interlocking valves for a water heater, valve stems to operate valve plugs to control the admission of fluids to said water heater, a water handle and a heating handle secured to said stems, an adjustable cam on said water handle and an adjustable stop on said heating handle to engage sald cam.
22. In interlocking valves for a water heater, an injector, valve stems provided with valve plugs to govern the admission of fluids to said injector, an adjustable water handle and an adjustable handle for controlling the supply of heat provided with interlocking members secured to said stems, means to limit the extent of movement of said handles and a drain pipe connected to said injector.
23. In interlocking valves for a water heater, valve stems having valve plugs mounted thereon to control the admis. sion of flulas to said water heater, an adjustable water handle and an adjustable heating handle having interlocking members secured to said stems and means to limit the movement of said handles.
24. In interlocking valves for a water heater, valve stems, valves actuated therevy to govern the admission of fluids to said heater, an adjustable water handle and an adjustable heating hande secured to said stems and interlocking members on said handles to govern the movement of the same.
25. In interlocking valves for a water heater, valve stems to operate valves to govern the admission of fluids to said heater, and adjustable interlocking members secured to said stems to govern the movement of the same and adapted to lock one of the stems when closed and to lock the other of the stems when opened.

## No. 100,154. Snow Melting Apparatus.

## Appareil à fondre la neige.

Louis T. Frigon and Andre C. Rousselle, assignee of a half interest, both of Montreal, Quebec, Canada. 24th July, 1906; 6 years. Filed 3rd July 1906. Receipt No. 137,488.
('laim.-1. In a snow melting apparatus, the combination comprising a snow receiving receptacle, means for subjecting snow to the direct action of a flame, means for subjecting snow to the indirect action of a flame, and means for conducting the melted snow from the receptacle.
2. In a snow meling apparatus the combination comprising a frame, closures hinged on the sides of the frame,
hinged closures for a portion of the top of the frame, removable closures for the remainder of the top of the frame,

solld closures for the remainder of the top of the frame, hinged closures for the remainder of the ends of the frame, means for subjecting snow within the apparatus to the direct and the indirect accion of flame, and means for conducting melted snow from the frame.
3. In a snow melting apparatus the combination comprising a receptacle, a grate in the receptacle, burners above and below the grate, troughs disposed adjacent the edges of the grate and projecting from the receptacle, and means for permitting the insertion of a nozzle adjacent the ends of the troughs.
4. In a snow melting apparatus the combination comprising a receptacle, a segmental grate having a flange and provided with vertical openings and with horizontal openings in the flange, burners disposed above and below the grate, troughs disposed adjacent the edges of the grate and projecting from the receptacle, and means for permitting the insertion of a nozzle adjacent the ends of the troughs.
5. In a snow melting apparatus the combination comprising a receptacle, a removably supported grate in the receptacle, burners above and below the grate, troughs removably supported adjacent the edges of the grate and projecting from the receptacle, and means for permitting the insertion of a nozzle adjacent the ends of the troughs.
6. In a snow melting apparatus the combination comprising a receptacle, a grate supported within the receptacle, burners above and below the grate, troughs disposed adjacent the edges of the grate and projecting from the receptacle, means for permitting the insertion of a nozzle adjacent the ends of the troughs, and inwardly and downwardly inclined snow deflector plates extending to the grate.
7. In a snow melting apparatus the combination comprising a receptacle, a grate in the receptacle, burners above and below the grate, funnel shaped flame deflectors around the burners, troughs disposed adjacent the edges of the grate and projecting from the receptacle, and means for permitting the insertion of a nozzle adjacent the ends of the troughs.
8. In a snow melting apparatus, the combination comprising a receptacle, a grate in the receptacle, burners above and below the grate, longitudinally disposed troughs, inclined from one end to the other of the receptacle and arranged adjacent the edges of the grate and projecting from the receptacle, anu means for permitting the insertion of a nozzle adjacent the ends of the troughs.
9. In a snow melting apparatus the combination comprising a receptacle, supporting straps having curved arms disposed in the receptacle, a grate removably disposed on the supporting straps, burners above and below the grate, troughs removably disposed in the arms and around and adjacent the edges of the grate, and projecting from tho receptacle, and means for permitting the insertion of a nozzle adjacent the ends of the troughs.
10. In a snow melting apparatus the combination comprising a receptacle, a removable grate disposed within the receptacle, snow deflector plates extending to the grate, inclined troughs arranged adjacent the edges of the grate, said receptacle being provided with openings adjacent the upper ends of the troughs, hinged closures for the openings. burners above and below the grate, and a downwardly arched heat deflector plate disposed above the grate.
11. In a snow melting apparatus the combination comprising a receptacle, a downwardly arched heat deflector plate carried in the receptacle, a segmental grate disposed below the deffector plate and provided with a flange and
having drainage openings in the flange and in the grate, a plurality of hydro-carbon burners above the grate, a plurality of hydro-carbon burners below the grate, oil and compressed air supply pipes connected to the burners, and water conducting members disposed adjacent the edges of the grate beneath the openings therein and extending outside of the receptacle.

No. 100,155. Frying Pan. Poćlon.


Peter A. Hanegraaf, Rossville, Illinols, U.S.A., 24th July, 1906; 6 years. Filed 28th June, 1906. Recelpt No. 137,370.
Claim.-1. In a device of the class described the combination with the pin, of the cover therefor hinged thereto and adapted to be turned back to support a dripping tray, means for holding the dripping tray in position on the turned back cover, and means for permitting the drippings to flow back from the cover into the pan.
2. In a device of the class described the combination with the pan, of the cover therefor hinged thereto, means for holding the cover open and in an inclined position relative to the pan and in position to receive a dripping tray, means for holding the dripping tray thereon, and means for permitting the drippings to flow from the cover over the edge of and into the pan.
3. In a device of the class described the combination with a pan, of the cover therefor hinged thereto and provided with the interior flange, and means for holding the cover open and in an inclined position, said flange being provided with an opening adapted to allow the drippings to flow from the cover over the edge of and into the pan.
4. In a device of the class described the combination with the pan, of the cover therefor hinged thereto and provided with an interior flange, means for holding the cover open and in an inclined position relative to the pan, an extension on the cover adjacent an opening provided in the flange, and an offset in the side of the pan to permit of the cover turning, all substantially as and for the purpose described.

No. 100,156. Overhead Tramway. Tramuay aérien.


William Heffron, Cincinnati, Ohio, U.S.A., 24th July, 1906; 6 years. Filed 26th June, 1906. Receipt No. 137,330.
Claim.-1. A portable overhead tramway comprising a set of uprights, diverging from their upper ends, members or
bars for connecting the upper ends of the oppositely placed
uprights, two horizontally disposed members or tracks suspended from said connecting members, one of said members or tracks being circuitous or endless, travellers adapted to move along said tracks or members, and means for controlling the operation of the same, substantially as shown and for the purposes described.
2. A portable overhead tramway comprising a set of uprights diverging from their upper ends, members or bars secured to the upper ends of the uprights, the member on the one upright adapted to overlap the member on the oppositely placed upright, two horizontally disposed members or tracks adjacent each other, means for securing the connecting members or bars at their upper ends of the uprights and for suspending the tracks, one of sald tracks being circuitous or endless, a rack secured to the other track, travellers adapted to ride along on said tracks, and means for controlling the operation of the same, substantially as shown and for the purposes described.
3. A portable overhead tramway comprising a set of uprights, members or bars connected at their upper ends of the uprights, the member or bar on the one upright adapted to overlap the member or bar on the oppositely placed uprights, transverse brace rods for connecting the lower ends of the oppositely disposed uprights, longitudinal members for connecting the lower ends of the adjacent uprights, horizontally disposed member or tracks adjacent each other, one of said members or tracks being circuitous or endless, and the other track provided with a rack, travellers adapted to ride along on said tracks, the traveller on the one track provided with a pawl or dog normally held in mesh with the rack on the track, and means for controlling the operation of said traveller, substantially as shown and for the purposes described.
4. A portable overhead tramway comprising a set of uprights diverging from their upper ends, members or bars connected to the upper ends of the uprights and transversely disposed, two horizontally disposed members or tracks suspended from the transversely nisposed members at their upper ends of the uprights, one of said tracks being circuitous or endless, the other track provided with teeth rack on its under side, a hoist block or traveller adapted to ride along on said track, said hoist block or traveller provided with a pawl or dog normally held in mesh with the rack, and means for controlling the operation of said traveller or hoist block from one end of the tramway, substantially as shown and for the purposes described.
5. A portable overhead tramway comprising a set of uprights, transversely disposed members or bars for connecting the upper ends of the oppositely placed uprights, transverse connecting rods or bars whereby the lower ends of the uprights are braced, longitudinally disposed members for connecting the lower ends of the adjacent uprights, two horizontally disposed tracks suspended from the transversely disposed members or bars at their upper ends of the uprights, one of said tracks provided with teeth or rack on its under side, the other track being circuitous or endless and extending about the outside of the uprights, brackets secured to the uprights and having connection with the part of the circuitous track to the outside of the uprights, a holst block or traveller adapted to ride along said track with the rack, said hoist block provided with a pawl or dog normally held in mesh with the rack on said track, and means for controlling the operation of the hoist block from one end of the tramway, substantially as shown and for the purposes described.
6. A portable overhead tramway comprising a set of uprights diverging from their upper ends at which the oppositely placed uprights are connected, two horizontally disposed members or tracks suspended between the uprights, one of sald tracks being circuitous or endless and extending around about the outside of said uprights, a holst block or traveller adapted to move along on said tracks, means intermediate of said hoist block and its track whereby it is normally held from movement in one direction, and means connecting with said hoist block or traveller, whereby its operation is controlled from one end of the tramway, substantially as shown and for the purposes described.

No. 100,157. Egg Crate. Manue pour les arufs.
Andrew D. Imrie, Andover, South Dakota, U.S.A., 24th July,
1906; 6 years. Filed 26th June, 1906. Receipt No. 137,308.
Claim.-A collapsible crate comprising a bottom inside hinged to sald minor member of said bottom, ends each comprising a major and minor member hinged together, the major member of one end being hinged to the satd side at one of its ends and the minor member of the other end being hinged to the said side at the other of its ends, a second side hinged to the major member of the first-named end, a lid comprising a minor section hinged to the last-named side and a major member hinged to the minor section, the said
major member of the bottom being adapted to lle with one of its faces against one of the faces of one of the major por-

tions of one of the ends and a portion of one of the faces of one of the sides.

No. 100,158. Form for Trousers.
Tendeurs de pantalons.


Alice Jones, Dehesa, California, U.S.A., 24th July, 1906; 6 years. Filed 23rd June, 1906. Receipt No. 137,188.
Claim.-A trouser form having substantially the outline of a pair of trousers and adapted to be inserted in the leg thereof, said form comprising a body piece, a hip plece and a bottom plece, said hip plece and bottom piece having a flexible connection with said body piece whereby they may be folded thereupon.

No. 100,159. Nut Lock. Arêtr-ćrrou.


Henry Leonard Jinks. Crowell, Texas, U.S.A., 24th July, 1906; 6 years. Filed 26th June, 1906. Recelpt No. 137.310.
Clnim.-1. A nut lock comprising a nut, a bolt, sald bolt being provided with a transverse groove having inclined walls connected with a longitudinal groove, a locking pin adapted to flt into said grooves and having a flexible end adapted to lock said nut, substantially as described. 7-20
2. A nut lock comprising a nut, a bolt having a longitudinal groove, and a transverse groove, said transverse groove being provided with inclined walls, a locking pin adapted to fit into said grooves, and engaging one of sald inclined walls whereby said pin will be firmly locked to the bolt, and means for locking said nut, substantially as described.
3. A nut lock comprising a nut, a bolt having a longitudinal groove terminating at its inner end in a transverse proove, said transverse groove terminating in recesses, a locking pin having a resilient crosshead, said crosshead being provided with a pair of projections engaging recesses on opposite sides of said bolt, substantially as and for the purpose described.
4. A nut lock comprising a nut, a bolt having a longitudinal groove terminating in a transverse groove, sald transverse groove having inclined walls, an approximately $T$ shaped locking pin adapted to fit into said grooves, substantially as described.

No. 100,160. Nut Lock. Arréte-écrou.


Jerome Landry and Thomas O'Brien, co-inventors, both of Newcastle, New Brunswick, Canada, 24th July, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,272.
Claim.-1. In a device of the character described, a bolt, a uut disposed on the bolt, and a split washer disposed on the bolt having its ends projecting beyond the medial plane of its body.
2. In a device of the character described, a bolt, a nut disposed on the bolt and provided with a recess therein, and a split washer disposed on the bolt and provided with a lug disposed in said recess and having its ends projecting beyond the medial plane of its body.
3. In a device of the character described, a bolt, a nut disposed on the bolt and provided with a recess extending from cne of its exterior faces, and a split washer disposed on the bolt and provided with a lug on one of its sides adapted to engage in said recess and having its ends projecting beyond the medial plane of its body.
4. In a device of the character described, a bolt, a nut disposed on the bolt, and a split washer disposed on the bolt, adapted to engage with the nut, and formed of flexible material, the ends of which project beyond the medial plane of its body.

## No. 100,161. Process of Obtaining Copper. <br> Procédé pour obtenir du cuivre.

Lucien Jumau, Parih, France, 24th July, 1906; 6 years. Filed 10th April, 1906. Recelpt No. 134,805.
Claim.-1. A process for obtaining pure copper trom a solution of copper, which consists in treating the solution with sulphurous acid or a sulphite, separating the cuprous sulphite thus obtained, treating it with an acid that cannot form a cuprous salt, collecting the metallic copper thus precipitated and melting or compressing this preclpitated copper into the form of ingots.
2. A process for obtaining pure copper from a solution of copper, which consists in treating the solution with sulphurous acid or a sulphite, separating the cuprous sulphite thus obtalned, treating it with an acid that cannot form a cuprous salt, collecting the metallic copper thus precipitated, comfressing the precipitated copper into a form suitable to constitute anodes and subjecting these anodes to electrolysis in an electrolytic refining bath.
3. In a process for obtaining pure copper wherein the copper is precipitated from a solution, a process of refining this precipitate electrolytically which consists in compressing
the precipitated copper to a form suitable to constitute anodes, and subjecting these anodes to electrolysis in an electrolytic refining bath.
4. A process for obtaining pure copper from a solution of copper, which consists in treating the solution with sulphurous acid or a sulphite, separating the precipitate of cuprous sulphite thus obtained, treating part of he precipitate with an acid which cannot form a cuprous salt, compressing into the form of plates on a suitable conducting support the cuprous sulphite, mixed or not with the precipitated copper, and subjecting these plates as anodes to electrolysis in an electrolytic refining bath.

No. 100,162. Desulphurizing Process.
Procédé à désulphuriser.


Miranda Malzac, Paris, France, 24th July, 1906; 6 years. Filed 26th July, 1904. Receipt No. 117,233.
Claim.-1. The herein described process of treating supphurous ores of metals by the combined action of ammonia gas, water and air at the ordinary pressure, with consecutive extraction of the metals, soluble in ammonia by the action of an ammoniacal solution at atmospheric pressure.
2. The herein described process of treating sulphurous ores of metals which consists in the consecutive hydration and dissolution of the metals by the combined action of ammonia gas and water at the ordinary pressure.
3. The herein described process of treating sulphurous ores of metals which consists in moistening the same with ammonia, treating the damp mass with air and lixiviating the mass.
4. The herein described process of treating finely pulverized sulphurous ores of metals, which consists in molstening the same with ammonia, treating the damp mass with air, and lixiviating the mass.
5. The herein described process of treating sulphurous ore 3 of metals, which consists in moistening the same with ammonia, treating the damp mass with air, and lixiviating the mass with ammoniacal solution.
6. The herein described process of treating sulphurous ores of metals, which consists in moistening the same with ammonia, treating the damp mass with alr, lixiviating the mass, precipitating the metals, and collecting and drying the precipitates.
7. The herein described process of treating sulphurous ores of metals, which consists in moistening the same with ammonia, treating the damp mass with air and lixiviating the mass, precipitating the metals, collecting and drying the precinitates and treating the mass with hydro-sulphuric acid.
8. The herein described process of treating sulphurous ores of metals, which consists in moistening the same with ammonia, treating the damp mass with air and lixiviating the mass and recuperating the ammonia.
9. The herein described process of treating sulphurous ores of metals, which consists in moistening the same with ammonia, treating the damp mass with air, lixiviating the mass and recuperating the ammonia by heat.
10. The herein described process of treating sulphurous ores of metals. which consists in moistening the same with ammonia, treating the damp mass with air, lixiviating the mass and recuperating the ammonia by heat and a vacuum.

## No. 100,163. Spavin Medicine.

## Médecine pour éparvin.

Edward Kidby Mahon, Peterborough, Ontario, Canada, 24th
July, 1906; 6 years. Filed 15th May, 1906. Receipt No. 135,954.
Claim.- 1 . The herein described composition of iodine, potassium iodide, water, liquor antimony chloride, glycerine, oll red cedar, alcohol, substantially as described and for the purpose specified.
2. The herein described composition of the matter for curing and removing spavins from the legs of horses consisting of lodine 4 parts, potassium lodide 2 parts, water 1 part, liquor antimony chloride 6 parts, glycerine 5 parts, oll red cedar 12 part, alcohol 15 parts.

No. 100,164. Churn Dasher. Batte de baratte.


James R. Merrell, Chelsea, Indian Territory, U.S.A., 24th July, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137.241. Claim.-1. A churn dasher comprising two reversely rotatable dasher members, each dasher member having a propeller wheel made up of a hub and two radial blades and substantially parallel side bars rising from the outer ends of the blades with their upper ends converged, the parallel portions of the side bars being set obliquely at corresponding angles to radil and convolute in form, the side bars of one dasher member being disposed reversely to those of the other dasher member, a hub connecting the upper ends of the side bars of each dasher member, and a tle bar connecting the lower ends of the hubs, the distance between the hubs being less than the width of either dasher member, and said members being set at substantially right angles to one another, whereby the opposite side bars of the dasher members work successively in the space between the axis of the members.
2. A churn dasher comprising a pair of radial propeller blades, side members rising from the ends of the propeller blades in substantial parallelism with their upper ends converged, said side members being set obliquely at corresponding angles to radii and convolute in form, and a journal connecting the upper ends of the side members of the dasher.

## No. 100,165. Wheel. Roue.

David Alexander Moore, Kalamazoo, Michigan, U.S.A., 24th July, 1306; 6 years. Filed 27th June, 1906. Receipt No. 137,338.
Claim.-1. A wheel formed from plate or sheet metal and comprising a web portion and a rim portion integrally connected with the web portion and having tread and flange portions each of which is of greater thickness than the body of said rim portion.
2. A wheel having a rim portion formed from sheet or plate metal having an integral flange produced along one of


Its sides and having at said flange an integral tread portion of greater thickness than the body of said rim portion.
3. A wheel formed from plate or sheet metal and comprising a web portion, a rim integrally connected with the web portion and a flange produced at one side of the rim, said flange and the adjacent portion of the wheel rim being of greater thickness than the body of the rim portion.
4. A wheel comprising a hub, a web portion formed from plate or sheet metal and having at its central part means of attachment to one end of the hub, the outer part of sald web portion being flared towards the opposite end of the hub, a rim portion also formed from plate or sheet metal and integrally connected with the outer part of the web portion at one side but at other points out of contact with said web portion and having at its opposite side a flange and adjacent to said flange a tread portion of greater thickness than the body of the rim portion.

No. 100,166. Bag Handler. Appareil d manier les sacs.


Horace Sanborn and Ellet Sanborn, Portland, Maine, U.S.A., 24th July, 1906; 6 years. Filed 23rd June, 1906. Receipt No. 137,213.
Claim.-1. In a bag handler, a base plate provided with a sultable handle, the upper surface of stid base plate being provided with a multiplicity of fine teeth and held in position on said base plate in any suitable manner.
2. In a bag handler, a base plate having a handle attached thereto, the upper surface of said base plate being convex, a multiplicity of fine teeth on sald base plate and means for holding said teeth in position.
3. In a bag handler, a base plate provided with a suitable handle, the upper surface of sald base plate belng convex, a multiplicity of fine teeth removably attached to sald base plate and a suitable frame removably attached to said base for holding sald teeth in position.

No. 100,167. Harvester. Moissonneuse.
Fritz Wilhelm Schmidt, New Holstein, Wisconsin, U.S.A., 24th July, 1906; 6 years. Filed 30th May, 1906. Recelpt No. 136,412.
Claim.-1. A reaping machine comprising a vertically adjustable platform, cam controlled rakes supported by the
platform, and a cutting apparatus in floating connection with the latter, in combination with an attachment comprising an

apron in hinge connection with the floating cutting apparatus, and arranged at its free end to rest upon the reaper platform, and a series of reciprocatlve forks carried by the platiorm and disposed above the apron, whereby the material cut is delivered to the aforesaid rakes.
2. A reaping machine comprising a platform, cam controlled rakes, and a floating cutting apparatus in combination with an attachment comprising an apron in hinge connection with the cutting apparatus and arranged at its free end to rest upon the platform, a guard in hinge connection with the outer end of said cutting apparatus and reaper platform, a series of reciprocative forks disposed above the apron and the aforesald cutting apparatus, and driving means for the forks.

No. 100,168. Rack for 8toves. Ratelier pour poêles.


Joshua Terry, Draper, Utah. U.S.A., 24th July, 1906; 6 years. Flled 23th June, 1906. Recelpt No. 137,368.
Claim.-1. A rack attachment for stoves comprising plates depending members carried by the plates and having hooks at their lower ends adapted for engagement beneath the edge portion of a stove top, members slidably mounted upon the first-named members above the hooks and adapted for movement into and out of position to rest against a stove top with whlch the hooks are engaged to hold the latter against dis-

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engagement from the stove top, means for holding the second-named members in operative position, and article recelving devices carried by the plates.
2. In a rack attachment for stoves the combination of two supporting members each consisting of a plate and a plurallty of hooked members arranged at an angle to the plate, each hooked member being constructed and arranged for interlocking engagement with the rim of a stove and to bear upon the upper surface of said rim, and means for mutually connecting the supporting members and for holding said members against displacement when interlocked with the rim of a stove on opposite sides of a stove.

## No. 100,169. Preparation of Pyritic Ore Contain-

 ing Precious Metal.Préparation de mincrais pyitique contenant des métaux précieur.
The I. R. Refractory Ore Syndicate. assignee of William Blackmore and Alfred Howard, all of London, England, 24th July, 1906; 6 years. Filed 29th March, 1906. Receipt No. 134,401.
Claim.-1. A process for the treatment of pyritic ores fo: the recovery of valuable metals contained therein, consisting, of the roasting of the pulverized ore at a tomperature of about $800^{\circ}$ Fahrenhelt in the presence of an oxidizing agent consisting of air and steam so as to convert the sulphide of iron into normal or basis sulphate, of the leaching of the ore in acid liquors to dissolve the iron sulphate and of the separation of the solution from the solid residue containing the valuable metals, substantially as described.
2. In a process for the treatment of pyritic ores for the recovery of valuable metals contained therein consisting of the roasting of the pulverized ore at a temperature of about $800^{\circ}$ F. In the prosence of an oxidizing agent cousisting of air and steam so as to convert the silphite of irun into normal or basic sulphate, of the leaching of the ore in acid liquors to dissolve the iron sulphate and of the separation of the solution from the solid residue containing the valuable metals, the collection of the sulphurous gases evclved by the roasting treatment and their absorption by water to be used as the acid liquors in the process of solution of the iron sulphate, substantially as described.
3. A process for the treatment of pyritic ores containing cobalt, copper or nickel consisting of the roasting of the pulverized ore at a temperature of about $800^{\circ} \mathrm{F}$. in the presence of an oxidizing agent consisting of air and steam so as to convert the iron, copper, cobalt or nickel into sulphates, the leaching of those sulphates in liquors containing sulphuric acid and the treatment of the said liquors by precipitants to recover the metals therefrom, substantially as described.

No. 100,170. Loader. Chargeur.

D. Maurice Hartsaugh, James McCabe and Frank Crane, each an assignee of a third interest, all of Minneapolis Minnesota, U.S.A., 24th July, 1906; 6 years. Filed 7th May, 1906. Recelpt No. 135,642.

Claim.-1. In a device of the class described, a frame having carrying wheels, a receptacle supported upon the frame, a hingedly supported fork, arms pivoted upon the frame, pulleys on said arms, pulleys connected with the carrying wheels,
bands connecting the pulleys, means for manipulating the pulley carrying arms to tighten the bands, and flexible members connecting the bands with the fork.
2. In a device of the class described, a frame having carrying wheels, a receptacle supported upon the irame, a shaft journalled upon the frame, a fork connected with said shaft. and means for transmitting motion from the currying wheels to the fork to tilt the latter from a load receiving to a load discharging position.
3. In a device of the class described, a frame having carrying wheels, a receptacle supported upon the frame, a hingedly supported fork, arms pivoted upon the frame, pulleys upon said arms, pulleys upon the carrying wheels, bands connecting the pulleys, flexible members connecting the bands with the fork, adjusting levers, links connecting said levers with the pulley carrying arms, and means for retaining the levers at various adjustments.
4. A tubular axle carrying wheels journalled upon the axle, a flexible member guided through the latter, und draft members attached to the ends of the flexible member.
5. A tubular axle having guide members near its outer extremities carrying wheels upon sald axle, a flexible member extending through the axle and guide over the guide members, and draft members connected with the ends of the flexible member.
6. A tubular axle a frame connected therewith, a tiltable box supported thereon carrying wheels upon the axle, a fork hingedly connected with the frame, means for transmitting motion from the carrying wheels to the fork to tilt the latter from a load recelving to a load discharging position, a flexible member extending through the tubular axle and draft members connected with the ends of tho flexible member.
7. In a device of the class described, an axle having carrying wheels, a frame connected with the axle and having steering wheels, a tilting box hingedly connected with the frame, arms pivoted upon the sides of the box and carrying an end gate, brackets extending rearwardly from the sides of the frame, and links connecting said brackets with the side edges of the end gate.

## No. 100,171. Reaper and Binder.

Moissonncuse at liense.


George Devey Farmer, Ancaster, Ontario, Canada, 24th July, 1906; 6 ycars. Filed 11th April, 1906. Receipt No. 134, 840. Claim.-1. In a reaper and binder machine, a frame, vertical shafts mounted on the frame, sprockets on the shafts, eudless belts one above the other connecting the sprockets, cutting knives on the frame, vertical rods connecting the belts, cranks on the rods. rollers on the cranks adapted to follow a predetermined course and bent or curved fingers on the rods and extending over, said knives.
2. In a reaper and binder a frame, vertical shafts mounted thereon, sprockets on the shafts, endless belts on the sprockets, vertical rods connecting the belts, cranks or arm3 on the rods, rollers on the opposite ends of the cranks, a predetermined track for the rollers, a shield on the frame, grain knives on the frame, fingers on the rods and extending through the shield and over the knives.
3. In a reaper and binder a frame, vertical shafts mounted on the frame, sprockets on the shafts, belts on the sprockets, vertical rods connecting the belts, cranks on the rods, rollers on the cranks, a predetermined track for the rollers, grain cutting knives on the frame, a shield on the frame and in rear of the knives, and one end circling rearward, curved fingers extending from the rods, slots in the shield for the fingers, stops in the shield to reverse the operativeness of the sets of fingers in succession, and means in the track to adjust the sets of fingers in succession to operative position.
4. In a reaper and binder, a frame, vertical shafts mounted thereon, wheels on the shafts, belts on the wheels, vertical rods connecting the belts, cranks on the rods, rollers on the
cranks, sets of fingers extending horizontally from the rods, a track for the rollers, means to reverse the course of the sets of fingers in consecutive order, and means to reinstate said fingers.
5. In a reaper and binder, a irame, vertical shafts mounted thereon. wheels on the shafts, belts on the wheels, vertical rods connecting the belts, a track on the irame, means on the rods to traverse the track, fingers extending from the rods, means to reverse the course of the fingers on each conscutive rod, and means to reinstate the fingers.
6 In a reaper and binder a frame, vertical shafts mounted thereon, wheels on the shafts, belts on the wheels, vertical rods connecting the belts, a track on the frame, means on the rods to traverse the track. fingers extending from the rods, means to reverse the course of the fingers on each consecutive rod, and means to reinstate the fingers, and means to rotate binding mechanism.

## No. 100,172. Carbide Manufacture.

## Fabrication de carbure.

Herman Lewis Hartenstein, Constantine, Michigan, U.S.A., 24th July, 1906; 6 years. Filed 26th April, 1906. Recelpt No. 135.291 .
Claim.-In the manufacture of carbide, the method which consists in fusing lime and carbon containing elements to reduce the same to molten condition, and finally running off the molten mass into thin shects to chill the same.

No. 100,173. Carbureter. Carburatetr.


Stephen P. Sanders, Cupertino, California, U.S.A., 24th July, 1906; 6 years. Filed 26th June, 1906. Receipt No. 137,309.
Claim.-1. A carbureting machine having in combination iwo water contalning tanks, a bell in each tank, a receptacle submerged in one of said tanks and containing a llquid hydrocarbon, two tubes fixed to the bottom of the other tank and rising above the water level thereof, one of sald tubes containing an absorbent flling, means connecting the hydrocarbon receptacle of the one tank with one of the tubes of the other tank, an air supply connecting with the lube containing the flling, a pivotally mounted bucket suspended from the bell and operatable in the tube which receives the hydro-carbon from the receptacle, a pipe connection between the two tubes, and means whereby on the raising of the bell the bucket is elevated to deliver its charge of hydro-carbon into the pipe connection for saturating the filling of the other tube said bell in its descent forcing the carbureted air out of said filled tube, and means conducting the carbureted air to the bell of the other tank.
2. In a gas machine the combination of a water containing tank, a bell therein. a carbureter comprising a tube fixed in the tank and provided with an absorbent flling, said tube cpening into the top of the bell, a second tube in said tank and means for delivering hydro-carbon to sald second tube, a transverse connection between the two tubes, and means including a pivotally suspended bucket operatable in the hydro-carbon and connected with the bell. for delivering predetermined quantities of liquid from the second tube into the first tube above the filling thereof.
3. In a gas machine, the combination of a source of liquid hydro-carbon supply, a gas receiver, a tank to contain water, a bell in said tank a carburcter in the tank and discharging irto the bell, said carbureter comprising a tube submerged in the tank and containing an absorbent filling, said tube having its upper end open, means for delivering predetermined quantities of liquid from said source of supply into the carbureter, said delivery means including a pivotally suspended bucket operatable in the hydro-carbon and connected with the bell, means whereby on the lifting of the
bell a charge of air is drawn thereinto and through the carbureter, and connections between the interior of the bell and said receiver and through the carbureter whereby on the falling of the bell the air previously drawn thereinto is made to pass again through the carbureter.
4. A carbureting machine having in combination two water tanks placed side by side, a receiver for liquid hydro-carbon submerged in one of said tanks, two open-ended tubes fixed in the other tank and substantially submerged therein, and extending above the water level thereof, one of said tubes containing a flling of absorbent material, and the other tube coninecting with and adapted to hold liquid hydro-carbon, a bell for each tank, a tiltable bucket operatable in the liquid holding tube and connected to move with the bell of that tank, a pipe forming a transverse connection between the two tubes and into which pipe the bucket emptles its charge at intervals, means for vapourizing the liquid delivered to the tube containing the fllling, and means for delivering the carbureted air to the bell of the other tank.
5. In a gas machine, the combination of a carbureter having an absorbent filling, a carbureted alr receiver, connections between the carbureter and receiver, means for delivering a predetermined quantity of liquid into sald carbureter, said means including a tubular hydro-carbon receiver being ovoidal in cross section and a tubular bucket closed at one end and open at the other end and operable therein to make periodic delivery of hydro-carbon to the carbureter, and means for inducing a current of air through said carbureter in one diroction and for returning the same through the carbureter in an opposite direction to the receiver.
6. In a gas machine, the combination of a water tank, a bell therein, a carbureter in the tank and opening into the top of the bell, a gas receiver connected with the carbureter, an oil well in the tank, means for delivering liquid Into said well, means operated by the bell to discharge the quantity ot liquid from the well into the carbureter, said last-named means including a pipe connecting the oll well with the carbureter. a suspended bucket operatable in the oil well and tiltable to discharge into said connecting pipe, and means connecting the bucket with the bell, connections between the carbureter and a source of air supply, means for lifting the bell to induce a current of air through the carbureter and means to permit the bell to fall to expel the alr so induced through the carbureter.
7. In a gas machine, a carbureter, a gas receiver connected therewith, an oll well connected with a source of supply, connections between the well and carbureter above the normal level of the liquid in the well, means for alternately creating suction and compression in the carbureter, and means operated by said suction and compresion means for delivering a predetermined quantity of liquid from sald well into the carbureter, said last-named means Including a bucket connected to move with the bell and operatable in the oll well, said bucket being tiltably mounted wheroby it automatically discharges into the connection between said well and carbureter.
8. In gas machine construction, the combination of a tank, a bell therein, a carbureter, a recelver connected with the carbureter, means to reciprocate the bell, an oll well conrected with the carbureter and means to deliver a predetermined quantity of liquid into said carbureter, said well being of greater diameter in one direction than in the other and said means for delivering liquid from said well into the carbureter including an clongated bucket supported intermediate $o$ : its ends and suspended from the bell. and trip means in the path of the bucket to effect its discharge.

## No. 100,174. Tidal Motor. Moteur de vague.

George Whitman, Round Hill, Nova Scotia, Canada, 24th July,
1906; 6 years. Filed 12th April, 1906. Recelpt No. 134,869.
Claim.-1. In a tidal motor the combination with a pler head having a plurality of sluices at varying depths therethrough, of a plurality of water wheels suitably journalled and in the path of the water flowing through said sluices, shafts extending from said water whecls and rotated thereby, reservoirs arranged at different levels in proximity to said pier head, turbine wheels operated by the discharge from said reservoirs, a pump operated by one of sald water wheels and pumping water to the high level reservolr, and a main shaft rotated by said wheels and turbines, as and for the purpose specified.
2. In a tidal motor the comblation with the pierhead having a plurality of sluices at varying depths extending laterally therethrough, of a plurallty of water wheels sultably journalled and in the path of the water flowing through said sluices. shafts extending vertically through the platform of said heavl and rotated by said water wheels, a bigh level reservoir, a reservoir having its walls reach a helght slightly below the high tide level, a basin adjoining sald plerhead
and into which said sluices empty, turbines operated by the water force discharge from sa:d reservoirs respectively, a

pump operated by the lowermost of said water wheels and pumping water to the high level reservoir, and a main shaft rotated by said wheels and turbines, as and for the purpose specified.
3. In a tidal motor the combination with the pierhead having a plurality of slices at varying depths. of a plurality of water wheels sultably journalled and in the path of the water flowing through said sluices, shafts extending from said water wheels and rotated thereby, a high level reservoir feeding a suitable headrace. a turbine suitably journalled and in the path between said headrace and its tailrace, a reservoir having its walls reach a height slightly below high tide level and feeding a headrace, a turbine suitably journalled and in the path betwern said headrace and its tailrace, a basin adjoining said pierhead and into which said sluices empty on the inflow of the tide. a pump operated by the lowermost water wheel and pumping water to the high level reservoir, and a main shaft operatively connected to the water wheels and to the turbines, as and for the purpose specifled.
4. In a device of the class described in combination, a high level reservoir feeding a headrace, a lower level reservoir feeding a headrace and fed by the flow of water at high tide over its walls, a pierhead having sluices therethrough arranged at varying depths, a solid bed within its walls, and a platform thereabove, a basin adjoining the side of said pierhead and into which said sluices empty on the inflow of the tide, water wheels supported over said solid bed and suitably journalled and in the path of the water flowing through said sluices. shafts extending from said water wheels and rotated thereby, turbines suitably journalled between said headraces and their tailraces. a main shaft journalled in suitable bearings supported from said pierbead, and transmitting connections between said shafts from said water wheels and said turbines to the main shaft, as and for the purpose specified.
5. In a device of the class described in combination, a pierhead suitably enclosed by walls or bulwarks and having a platform thereover, and sluices through said walls at varying depths, a basin adjoining one side wall of said pierhead into which said sluices empty on the inflow of the tide bearings in said platform and sluice walls, shafts journalled in said bearings and extending above said platform, water wheels mounted on said shafts and arranged in the path of the water flowing through said sluices and rotating said shafts, reservoirs at different levels feeding suitable headraces, turbines suitably journalled and arranged between said headraces, and their tailraces, transmitting devices connecting said turbines and said main shaft and said water wheel shaft and said main shaft. and a pump driven by one of said water wheels and pumping water to the high level reservoir, as and for the purpose specified.
6. In a devlec of the class described in combination a pierhead having side and end walls and a platiorm closing in said walls from above, and slices through said side walls. a basin adjoining one of said side walls into which said sluices head having side and end walls, and a platform elosing in said platform and the sluice walls, shafts jurnalled in said bearings and extending above the platform. water wheels mounted on said shafts towards their lower ends in the path of the water flowing hrough said sluices and rotating said shafts, gear wheels mounted at the top of said shafts, a high level resproir feming a headrace and a lower level roservoir feeding a headrace, beariugs supported from said platform betwern said headraces and their tailraces, turbines mounted on and rotating sald shafts and arranged in the path of the llow of water belween said headraces and said tailraces.
gear wheels secured on said shafts, a main shaft journalled in bearings supported from said platiorm, gear wheels mounted on said main shaft, shafts suitably journalled and having gear wheels mounted at each of the ends thereof coacting with the gear wheels at the ends of the turbine and water wheel shafts. and the gear wheels on the main shaft, a suitable clutch mechanism securing said gears to the shaft, and a pump driven by one of said water wheels and pumping water to the high level reservoir, as and for the purpose specifled.

No. 100,175. Construction of Subaqueous Tunnels. Construction de tunnels sous l'eau.

Fig. 1


William John Wilgus, New York City, New York, and Howard Adams Carson, Malden, Massachusetts, U.S.A., 24th July, 1906; 6 years. Filed 8th May, 1906. Receipt No. 135,703.
Claim.-1. The herein described method of constructing subaqueous tunnels. the same consisting in locating an outer shell or mould at the bottom of the water on a suitable foundation, making the same substantially watertight, removing the water therefrom, and finally forming the tunnel walls proper within said shell or mould.
2. The herein described method of constructing subaqueous tunnels, the same consisting in locating an outer shell or mould on a suitable foundation at the water bottom, removing the water therefrom and preventing its return by the aid of compressed air. and then forming the tunnel walls prope: within said shell or mould.
3. The herein described method of constructing subaqueous tunnels, the same consisting in locating an outer shell or mould on a suitable foundation at the water bottom, removing the water therefrom and preventing its return by the aid of compressed air. then rendering the interior surface of said shell or mould waterproof, and finally forming the tunnel walls proper within said shell in contact with said waterproof surface.
4. The herein described method of constructing subaqueous tunnels, the same consisting in locating an outer shell or mould on a suitable foundation at the water bottom. remoring the water therefrom and preventing its return by the aid of compressed air, and finally forming of concrete the tunnel walls proper within said shell.
5. The herein described method of constructing subaqueons tunnels, the same consisting in locating an outer shell or mould on a suitable foundation at the water bottom, making said shell or mould more or less watertight, removing the water therefrom and preventing its return by the aid of compressed air, coating the inner surface of said shell with a waterproofing material, and finally forming the tunnel walls proper of concrete in contact with said coating.
6. The herein described method of constructing subaqueous tunnels, the same consisting in first locating an outer shell or mould on a suitable support at the water bottom but allowing a space between said bottom and the under surface of said shell or mould, fllling said space with foundation material, removing the water from said shell or mould and preventing its return by the aid of compressed air, and then forming the tunnel walls proper within said shell or mould.
7. The herein described method of constructing subaqueous tunnels. the same consisting in locating a series of outer shell sections on suitable foundations at the water bottom. temporarily preventing the passage of water from one to another of said sections, removing the water from successive sections and preventing its return by the aid of compressed air , and then forming the tunnel walls proper in the successivo sections.
8. The herein described method of constructing subaqueous tunnels. the same consisting in first locating an outer shell or mould on suitable slightly elevated supports at the water bottom. constructing a foundatinn between said shell and water botom. removing the water from said shell, coating the interior of said shell with a waterproofing material, and
then forming of concrete the tunnel walls proper within said shell.
9. The herein described method of constructing subaqueous tunnels, the same consisting in first locating a series of saddles along the water bottom in the line of the proposed tunnel, placing a series of longitudinal sections of outer shells on said saddles; making the joints between adjacent ends of the sections subtantially water tight by wrapping flexible material thereabout, and covering with concrete or grout, surrounding the shells with foundation and filling material, removing the water from said outer shells, and finally forming the tunnel walls proper within said shells.
10. The herein described method of constructing subaqueous tunnels, the same consisting in first locating a series of saddles along the water botton in the line of the proposed tunnel, placing a series of longitudinal sections of outer shells on said saddles, making the joints between adjacent ends of the sections substantially water tight by wrapping flexible material thereabout and covering with concrete or grout, surrounding the shells with foundation and filling material, removing the water from said outer shells and preventing its return by the aid of compressed air, and finally forming the tunnel walls proper within said shells.

No. 100,176. Mould. Moule.


Erastus H. Van Natta, assignee of Lewis M. Pratt, both of Belleville, Kansas, U.S.A., 24th July 1906; 6 years. Filed 26th May, 1906. Receipt No. 136,271.
Claim.-1. In a moulding machine the combination with a mould, of a reciprocatory head against which the plunger detachably bears, an actuating hand lever fulcrumed beneath the head and having an angularly disposed link member rigidly carried thereby, another link member pivoted at one end to the said angularly disposed link member and pivoted at its other end to the head, and independently manually operated means engaging the plunger to move the same away from the head.
2. In a moulding machine the combination with a mould, of a reciprocatory plunger movable therein, a reciprocatory head detachably bearing against the plunger, toggle lever mechanism pivotally connected to the head for moving the same and thereby the plunger, a rod interposed between the head and plunger and bearing against the latter to carry the same away from the head, said rod being detachable from the head, and a lever having a link connection with the rod.
3. In a moulding machine the combination with a table having a mould therein, of means mounted on the table for feeding material to the mould, a reciprocatory plunger movable in the mould, a reciprocatory head against which the plunger detachably bears, an actuating hand lever fulcrumed beneath the head and having an angularly disposed link. member rigidly carried at its inner end, the outer end of said lever projecting beyond the table, another link member pivoted at one end to said angularly disposed link member and pivoted at its other end to the head, another manually actuated lever fulcrumed bencath the table and projecting beyond the same, and means connected to the inner end of the latter lever and associated with the plunger for moving the same away from the head.
4. In a moulding machine the combination with a mould, of a reciprocatory pressing and ejecting plunger movable therein, spaced guldes located beneath the mould, one of said guides having a slot, a reciprocatory head slidably
mounted on the guides and detachably engaging the plunger, toggle links pivoted to each other and to the head for reciprocating the same, a lever having a fixed connection with the lower set of links for moving the same, a reciprocatory device passing through the slot of the guide and engaging the plunger to carry the same away from the head, and a lever having a link connection with said device.

No. 100,177. Apparatus for Recovering Precious Metals.
Appareil pour obtenir des métaux précieus.


The Garvin Cyanide Extracton Company, assignee of Edward J. Garvin, all of Portland, Oregon, U.S.A., 24th July, 1906; 6 years. Filed 24th January, 1906. Receipt No. 132,212.
Claim.-1. In an apparatus of the class described, the combination with a main tank for receiving the pulverized ore and solvent, of a separate tank, including means for separating the material, attached to the main tank near its top, and an amalgamating tank including means for amalgamating the material suspended above the main tank, a hopper or funnal suspended within the main tank, and a spreading cone on the bottom of the main tank, and means for causing a continuous circulation of the materials and solution through said tanks.
2. In an apparatus of the class described, the combination with a main tank and a precipitating tank into which the main tank discharges and an amalgamating tank which discharges into the main tank, and means for causing a continuous circulation of fluids through said tanks, of a funnal shaped hopper suspended within the main tank and discharging within the main tank and discharging at a point below the outlet to the main tank, substantially as shown and described.
3. In an apparatus of the class described, the combination with a main and a precipitating tank into which the main tank discharges and an amalgamating tank which discharges into the main tank, and means for causing a continuous circulation of fluids through said tanks, of a funnel-shaped hopper suspended within the main tank and discharging at a point below the outlet to the main tank, and a coneshaped spreader supportable in the bottom of the main tank directly under the suspended funnel, substantially as shown and described.
4. In an apparatus of the class described, the combination with a main tank and a precipitating tank into which the main tank discharges, and an amalgamating tank which discharges into the main tank and means for causing a contlnuous circulation of fluids through said tanks, of a concshaped spreader supportable on the bottom of the tank, substantially as shown and described.
5. In an apparatus of the class deseribed. a tank having a conical bottom and a central disiharge from said bottom, and an outlet near the fop of said tank, a funnel-shaped hopper suspended within the tank and discharging at a point below the upper discharge aperture of the tank, substantially as shown and described.
6. In an apparatus of the class described, a tank having a conical bottom and a rentral discharge from said bottom, and an outlet near the top of said tank, a funnel-shaped hopper suspended within the tank and discharging at a point below the upper discharge aporture of the tank, and a cone-shaped spreader supported on the conical bottom of the tank within the same, substantially as shown and described.
7. In an apparatus of the elass described a tank having a conical bottom and a central discharge from said bottom,
and an outlet near the top of said tank, a funnel-shaped hopper suspended within the tank and discharging at a point below the upper discharge aperture of the tank, a cone shaped spreader supported on the conical bottom of the tank within the same, and directly under the discharge spout of the funnel-shaped hopper, substantially as shown and described.
8. In an apparatus of the class described the combination with a main tank and a supplemental tank discharging into the main tank, of a separating tank into which the main tank discharges, said separating tank comprising a rectangular casing, a pair of shafts spaced apart and rotatably mounted; in the casing, sprocket wheels carried by said shafts, endless chains taking over said sprocket wheels, a plurality of metallic strips connecting said endless chains, means for turning said shafts on their axis, a pair of anode plates projected downwardly into said casing with their lower edges above the bottom thereof, a supplemental anode plate projected upward from the bottom of said casing with its upper edges below the upper edge of the casing, a mercury pocket at the bottom of said casing into which the endless chains and the metallic strips are adapted to dip, an outlet for said casing, and means for causing a continuous circulation of fluids through all of said tanks, substantially as shown and described.
9. In an apparatus of the class described, a tank or receptacle, said tank or receptacle having a concaved bottom, a rotatable shaft mounted within said receptacle near the bottom, a similar shaft mounted in said receptacle near the top, sprocket wheels carried by said shafts, endless chains passing over said sprocket wheels, and a plurality of metallic strips carried by said endless chains, said concaved bottom adapted to hold an amalgamating substance, said strips adapted to be passed through said amalgamating substance, and means for rotating said shafts to carry said strips through said amalgamating substance, substantially as shown and described.
10. In an apparatus of the class described, a tank or receptacle, said tank or receptacle having a concaved bottom, a rotatable shaft mounted within said receptacle near the bottom, a similar shaft mounted in said receptacle near the top, sprocket wheels carried by said shafts, endless chains passing over said sprocket wheels, and a plurality of metallic strips carried by said endless chains, said concaved bottom adapted to hold an amalgamating substance, said strips adapted to be passed through said amalgamating substance, means for rotating said shafts to carry said strips through said amalgamating substance, a pair of anode plates held within said receptacle and spaced from the bottom thereof, a supplemental anode plate held within said receptacle with its upper edge below the upper edge of the flrst-mentioned anode plates and its lower edge engaging the bottom of the receptacle, substantially as shown and described.

No. 100,178. Press. Presse.


John Albert White, Denver, Colorado, assignee of George Patchett White, Wallace, Idaho, U.S.A., 24th July, 1906; 6 years. Filed 19th May, 1906. Receipt No. 136,075.
Claim.-1. A press comprising a pair of sliding heads, a sliding presser head mounted between said sliding heads. means for drawing one of said sliding heads and the said presser head together.
2. A press comprising a pair of reciprocating heads, a reciprocatirg presser head mounted between said first-mentioned heads, means for drawing one of said first-mentioned heads and the said presser head together.
3. A press comprising a pair of horizontally reciprocating hears, a pressure rod connecting said reciprocating heads, a horizontally reciprocating presser head mounted between said first-mentioned heads, means for drawing one of said first-mentioned heads and the said presser head together.
4. A press composed of a pair of heads, a reciprocating presser head mounted between said heads, means for forcing said presser head toward one of said first-mentioned heads.
5. A rress comprising a pair of heads, a moable presser head mounted between said heads, and means for reciprocating said presser head.
6. A press comprising a pair of heads slidably mounted on a frame, pressure rods connecting said heads, a presser head slidably mounted between said heads, a mould box pivoted to said frame between one of said heads and the said presser head, means for drawing one of said heads and said presser head toward each other adapted to compress material placed in said mould box.
7. A press comprising a pair of heads, a reciprocating presser head between said heads, toggles pivoted to said reciprocating heads and to one of said first-mentioned heads, a compound presser crank adapted to impart a movement to said toggles.
8. A press comprising a pair of heads, a movable presser head mounted between them, a toggle connecting said movable presser head with one of the first-mentioned heads, crossheads, connected with said toggle, and a toggle for operating said crossheads.
9. A press comprising a pair of heads, a movable presser head mounted between them, a toggle conecting said movable presser head with one of the first-mentioned neads, a crosshead connected with said toggle, a toggle for operating said crosshead, a crank shaft having presser cranks, the said presser cranks pivoted to the last-mentioned toggle, and means for oscillating the said crank shaft.
10. A press comprising slidably mounted heads, pressure rods connecting said heads, a presser head slidably mounted between said first-mentioned heads, a set of toggles adapted to provide means for actuating said heads and said presser head, and means for actuating said toggles.
11. A press comprising a pair of heads slidably mounted on suitable guide bars secured to a frame, pressure rods connecting said heads, a presser head also mounted on said guide bars between said heads, toggle mechanism pivotally attached to said presser head and to one of said first-mentioned heads, and means for operating said toggle mechanism.
12. A press comprising a pair of heads mounted in a horizontally slidable manner on suitable guide bars, pressure rods connecting said heeads, a presser head mounted in a reciprocating manner on said guide bars between said heads, toggle arms pivoted to one of said first-mentioned heads and to said reciprocating head, crossheads to which the opposite ends of the toggle arms are pivoted, guides ior said crossheads, a crosshead shaft attached to said crossheads, connecting arms pivoted to said crosshead shaft, presser cranks secured to a crank shaft and to said connecting arms, and means for imparting an oscillating movement to said crank shaft.
13. A press of the character described comprising a pair of sliding heads mounted on a frame, pressure rods connecting said heads, a sliding presser head mounted between said sliding heads, means for drawing one of said sliding heads and the said presser head toward each other.
14. In a press, a pair of heads slidably mounted on a frame, pressure rods connecting said heads, a pressure head mounted between said heads, a mould box placed between said presser head and one of said slidable heads adapted to be supported on the said frame, toggles connecting said presser head with one of said sliding heads, a crank shaft operating in bearings secured to the frame, presser cranks secured to said crank shaft, a starting crank shaft operating in eyes provided in said presser cranks, starting cranks secured to said starting crank shaft, connecting bars pivoted to said starting cranks and to the shaft to which said toggles are connected, and means for imparting an oscillating movement to said crank shaft.
15. A press comprising a suitable frame, heads slidably mounted on said frame, adjustable pressure rods connecting said heads, a presser head slidably mounted on said frame between said first-mentioned heads, means for drawing one of said sliding heads and said presser head toward each other, a mould mounted on said frame between one of said sliding heads and said presser head, a lowering stand adapted to receive the moulded product as it comes from the mould, said lowering stand comprising vertical guide rods, a frame mounted in a vertically reciprocating manner on said guide rods, and means for actuating said frame, an angle device adapted to provide means for turning the moulded product from the position it occupies when it comes from the mould. said angle device comprising angle bars and cross tie rods recesses provided in said angle bars at the angles thereof adapted to engage the tie rods of the frame of the lowering stand.
16. The combination in a moulding machine of a frame, 1cngitudinal guide bars attached to the sides thereof, reciprocating heads mounted on said guide bars, pressure rods connecting said heads, a reciprocating presser head also mounted on said guide bars between said first-mentioned
heads, divers toggles pivoted to one of said reciprocating heads and to said presser head, vertical cross head guldes secured to said guide bars, crossheads operating therein and having said toggles pivoted thereto, a crosshead shaft connecting said crossheads, a chank shaft operating in bearings secured to the base of said frame, presser cranks secured to said crank shaft, a starting crank shaft operating in eyes provided in said presser cranks, starting cranks secured to said starting crank shaft, connecting bars pivoted to said starting cranks and to said crosshead shaft, means Yor imparting an oscillating movement to said starting shaft adapted to start the toggles in their movement and to draw one of said reciprocating heads and said presser head toward each other, and means for imparting an oscillating movement to said crank shaft adapted to fully operate sald toggles and draw the last-mentioned reciprocating head and said presser head nearer together.
17. The combination in a moulding machine of a frame suitable presser mechanism mounted on said frame, a mould box mounted in a revoluble manner between said presser mechanism, a pallet adapted to be clamped upon the top of said mould box over the material to be moulded, means for holding said mould box in the desired position, and a lowering stand adapted to receive the moulded product as it comes from the mould box and to provide means for removing it a sufficient distance to allow the mould box to be revolved
18. The combination in a moulding machine of a frame, longitudinal guide bars secured thereto extending beyond the front leg or supporting frame thereof, heads mounted in a slidable manner on said guide bars, pressure rods connecting said heads, an adjustable hand wheel operating sprockets adapted to adjust one of said heads which is attached: to said pressure rods, a presser head adapted to reciprocate upon said guide bars between said first-mentioned heads. suitable means for actuating said heads adapted to draw one of said first-mentioned head's and said presser head toward each other, a mauld box mounted on said guide bars, a pallet placed over the top of said mould box, clamping devices adapted to hold said pallet in a fixed position, means for manipulating said clamping devices, recesses provided in the ends of said mould box, a plunger pin adapted to operate in said recesses manipulated by a spring, a lever providing means for releasing said plunger pin from said recesses, a lowering stand to receive the moulded product as it comes from the mould box, and an angle device comprising angle bars and tie rods adapted to facllitate the removal of the pallet from beneath the moulded article, substantially as described.
19. The combination in a moulding machine of a frame, a mould mounted thereon, means for inverting the mould, and a lowering stand having a platform adapted to be moved under the mould and to receive the moulded article therefrom.
150. 100,179. Spark Arrester. Arrête-étincelles.


William Charles John Hall and Murray Kennedy, assignec of a half interest, both of Quebec, Quebec, Canada, 24th July, 1906; 6 years. Filed 25th May, 1906. Recelpt No. 136,204.
Claim.-1. The combination with a locomotive smoke stack, or a spark arresting hood formed of wire mesh supported a short distance above the top of the stack and separated therefrom by an open space, and a cinder basket carrled by the stack adapted to recelve the sparks or cinders imping-
ing upon and falling from the hood, substantially as des cribed.
2. A spark arrester comprising a wire mesh hood supported a short distance above the stack, and a wire mesh basket of greater circumferential measurement than the hood and encircling and carried by the stack with its upper edge on a level with the top thereof, substantially as described and for the purpose set forth..
3. A spark arrester comprising a wire mesh hood of inverted saucer form, means displaceably supporting said hood a short distance above the stack, and a wire mesh basket of greater circumferential measurement than the hood and encircling and carricd by the stack with its upper edge on a level with the top thereof, substantially as described and for the purpose set forth.
4. A spark arrester comprising a wire mesh hood of inverted saucer form, a strap supporting said hood a short distance above the stack, bolts securing such strap to the stack and a wire mesh basket of greater circumferential measurement than the hood and encircling and carried by the stack with its upper edge on a level with the top thereof, substantially as described and for the purpose set forth.
5. A spark arrester comprising a wire mesh hood of inverted saucer form, a strap supporting said hood a short dis tance above the stack, bolts securing such strap to the stack and a wire mesh basket of greater circumferential measurement than the hood and encircling the stack with its upper edge on a level with the top thereof and a clamp displaceably securing the basket in place, substantially as described and for the purpose set forth.
6. A spark arrester comprising a collapsible wire mesh hood supported a short distance above the stack, and a displacement wire mesh basket of greater circumferential measurement than the hod and encircling and carried by the stack with its upper edge on a level with the top thereof, substantially as described and for the purpose set forth.
7. The combination with a locomotive smoke stack, of a spark arresting hood, mounted so as to be movable to a fosition above but allowing an open space between it and the stack, or movable to one side of the stack, with means for retaining the hood in its operative position, substantially as described and for the purpose set forth.
8. The combination with a locomotive smoke stack, of a spark arresting hood, and a cinder receiving basket, the hood being mounted so as to be movable to a position above but allowing an open space between it and the stack, or movable to one side of the stack, and the basket being slidable up and down the stack, with means for retaining both hood and basket in their operative positions, substantially as described and for the purpose set forth.
9. The combination with a locomotive smoke stack, of a spark arrester in the form of a hood of wire mesh extending completely across the top of the stack and means for supporting same a short distance above such stack so as to leave an open space between stack and hood, substantially as described.

## No. 100,180. Nodules of Metalliferous Material. Nodules de maticres métallifères.

The National Metallurgic Company, Jersey City, New Jersey, assignee of Tom Cobb King, New York City, New York. U.S.A., 24th July, 1906; 6 years. Filed 27 th April, 1906. No. 135,325 .
Claim.-As a new article of manufacture, a permanently anhydrous and porous nodule, adapted for the subsequent reduction of its contained metallic oxides, made from finely divided natural or artificially prepared metalliferous materials, concentrates or by-products, in which the metals exist in the form of oxides, cohered by partial fusion, and uncontaminated by any added foreign deleterious substance, or any binder materially reducing the per centum of metallic constituents in the original finely divided material nodulized.

## No. 100,181. Desulphurising Method.

Méthode de désulphuriser.
The Natíonal Metallurgic Company, Jersey City, New Jersey, assignce of Tom Cobb King, New York City, New York, U.S.A., 24th July, 1906; 6 years. Filed 27th April, 1906. Receipt No. 135,326 .
Claim.-The herein described method or process of treating finely divided substances containing iron compounds, which consists in subjecting such compounds, when moistened sumcient to mass the same to heat varying or ranging from degrees or temperatures sufficient to desulphurize, to degrees or temperatures sufficient to agglomerate or sinter, and imparting thereto during the application of sadd heat a rotary progressive movement in any suitable manner, whereby the sald material is converted into numerous nodules or lumps.

No. 100,182. Electric Arc Furnace.
Fournaise ćlectrique à arc.


La Socitété Anonyme de Métallurgie Electro-Thermique Paris, assignee of Antoine Henri Imbert, 75 Avenue de la Republique, Grand Montrouge, France, 24th July, 1906 6 years. Filed 27th June, 1905. Receipt No. 126,416.
Claim.-1. An electric furnace exclusively heated by radiation comprising one inclined charging flue, a fusing chamber closed at the back by a wall, and one electric arc situate near the entrance of the charging flue to the fusing chamber, the electrodes entering the fusing chamber through opposite walls, substantially as specified.
2. An electric furnace exclusively heated by radiation comprising one inclined charging flue, narrowing as it rises, a fusing chamber, one electric arc with electrodes entering the fusing chamber through opposite walls about half way up the fusing chamber, and a tapping hole for the meial in the back wall of the fusing chamber, substantially as specified.
3. An electric furnace comprising one inclined charging flue, narrowing as it rises, a charging table, a fusing chamber closed at the back by a wall, a double arch enclosing an air space over the fusing chamber and charging flue one electric arc with electrides passing through the side walls of the fusing chamber, and cold water coolers about the holes, a tapping hole in the back wall of the fusing chamber, an auxilliary tapping hole for the slag in the side wall of the fusing chamber, and a passage for carrying off the gases to the chimney, substantially as specifled.

No. 100,183. Sill and Lintel Machine.
Moule pour seuils et linteaux.


Frank A. Borst, South Bend, Indiana, U.S.A., 24th July, 1906 6 years. Filed 9th June, 1906. Receipt No. 136,735.
Claim.-1. In a concrete moulding machine the combination of a frame, a top for the same and a knockdown mould comprising a rear side plate adjustably secured to the top, a front side plate hinged to the top, end plates hinged to the front side plate, and a bottom plate carried by the end plates.
2. In a concrete moulding machine the combination of a frame, a top for the same, a mould comprising a rear side plate adjustably secured to the top, a front side plate hinged to the front of the top, end plates hinged to the ends of the front side plate, and a bottom carried by the end plates, and means for securing the parts together.
3. In a concrete moulding machine the combination of a frame, a mould mounted on said frame comprising a iront
plate hinged to the frame, a back plate secured to the frame and adjustable with reference to the front plate, end plates and a bottom plate carried by the end plates.
4. In a concrete moulding machine the combination of a frame. a top for the same and a knockdown mould comprising a rear side plate, a front side plate hinged to the top, end plates and a bottom plate carried by the end plates.
5. In a concrete moulding machine the combination of a frame and a mould mounted on said frame comprising a front plate hinged to the frame, a back plate secured to the frame and adjustable with reference to the front plate, end plates, a removable bottom plate mounted on the end plates and means to adjust the position of the bottom plate.
6. In a concrete moulding machine the combination of a irame and a mould mounted on said frame comprising a front plate hinged to the frame, a back plate secured to the frame. end plates hinged to the front plate and a removable bottom plate and means adjustably secured to the ind plates for carrying said bottom plate
7. In a concrete moulding machine the combination of $a$ frame, a mould mounted thereon, projecting side bars connected to said frame, a shaft mounted in the forward ends of the side bars, and carrier bars pivoted to the frame at their rear ends and adjustably supported at the front ends by said shaft, said mould in part adapted to be turned to discharge the moulded article onto the carrier bars.
8. In a concrete moulding machine the combination of a frame, a mould mounted thereon, projecting side bars connected to said frame. a shaft mounted in the forward ends of the side bars, carrier bars pivoted to the frame at their rear ends and adjustably supported at the front ends by said shaft. said mould in part adapted to be turned to discharge the moulded article onto the carrier bars, and means connected to said shaft and adapted to move the moulded articles forward.
9. In a concrete moulding machine the combination of a frame having a main and a forwardly projecting portion, a shaft journalled in said forwardly projecting portion, a hinged mould mounted on said portion and adapted to be swung forward to discharge the moulded article onto the forwardly projecting portion, and means connected to said shaft for conveying article forward.
10. In a concrete moulding machine the combination of upright legs, a top connecting the same, a hinged mould mounted on said top, said mould adanted to be swung forward to discharge the moulded article onto the side bars connected to said legs, a shaft mounted in the forward ends of the side bars, and means connected to said shaft and carried by said side bars for conveying the article forward.
11. In a concrete moulding machine the combination of an upright frame, a hinged mould mounted thereon, projecting side frames connected to said upright frame, a shaft mounted therein, and vertically movable bars pivoted at one end on the frame and supported at the other end by said shaft and adapted to receive the moulded article from the mould when the same is turned to discharging position, and lower the article onto the side frames.
12. In a concrete moulding machine, the combination of an upright frame, a mould mounted on the same comprising a stationary back plate, and front, end and bottom plates adapted to be swung to carry the moulded articles to discharging position, said end plates provided with means to secure the gallet to the mould, forwardly extending frames connected to the main frames, a shaft carried by said forwardly extending frames, cams carried by said shaft, carrier bars mounted on pins on said upright frame and resting on said cams and adapted to receive the moulded articles from said mould and lower the same onto the forwardly extending frames, and means connected to said shaft for conveying said moulded article forward.

## No. 100,184. Corn Shock Binder.

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Licuse à blé-d'inde.
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John C. Crosin, Philadelphia, Pensylvania, U.S.A., 24th July $1906 ; 6$ years. Fiied 13th June, 1906. Receipt No. 136,856.
Claim.-1. In combination, a casing open at both ends, one of its faces having a portion removed and having a perforation in its opposite face, a sheave within the casing. a flexible connection engaging the casing at one end and secured at its opposite end to a pin adapted to pass througla the perforation of the casing, said flexible connection passing around the sheaver within the casing, and means carried by the casing for engaging and holding the connection against displacement.
2. In combination a casing having both ends open, said casing having a notch in one end of its top, and having the opposite end portion of the top removed, said casing having an aperture or opening in the bottom, sain aperture being near the end of the casing having a top portion removed, a sheave within the casing near the end having the notch' in its top, a hook at the opposite end of the casing, a connec-
tion engaging the hook and passing exteriorly of the casing and entering the casing at the opposite end, passing around

the sheave and extending to the exterior of the casing, a pin secured to the end of said conncction, said pin being adapted to pass through the aperture of the casing, and a cleat carried by the top of the casing.
3. In combination a casing open at both ends, one of its faces having a portion removed and having a perforation in its opposite face, a sheave within the casing, a flexible connection engaging the casing at one end and secured at its opposite end to a pin adapted to pass through the perforations of the casing, said flexible connection passing around the sheave within the casing.
4. In combination a casing open at both ends, one of its faces having a portion removed and having a perforation in its opposite face, a sheave within the casing, a flexible connection engaging the casing at one end and secured at its opposite end to a pin adapted to pass through the perforation in the casing, said flexible connection passing around the sheave within the casing, sald casing having a notch in one of its faces to receive the connection.

## No. 100,185. Carbide Manufacture.

 Fabrication de carbure.Herman Lewis Hartenstein, Constantine, Michigan, U.S.A., 24th July, 1906; 6 years. Filed 26th April, 1906. Receipt No. 135,290 .
Cloim.-1. In the manufacture of carbide the method which consists in first fusing lime and carbon containing elements to reduce the same to liquid or fluid condition, and finally supnlying carbonaceous material to the mass in a molten condition, to complete the conversion of metaliic elements or particles of the mass.
2. In the flanufacture of carblde the method which consists in first fusing lime containing material with only a small percentage of carbon, to reduce the same to liquid or fluid state, and them applying carbonaceous material to the molten mass while in fluid or liquid condition to complete the conversion.
2. In the manufacture of carbide the method which consists in first fusing lime containing material in the presence of only a small amount of carbon, to reduce the same to liquid or fluid state, then beating a mould or other receptacle, and applying thereto carbon in a finely divided state, and finally delivering the molten mass while still in a liquid or fluid condition into such mould, whereby the finely divided carbon completes the conversion of any unconverted metallic particles of the mass.

## No. 100,186. Carbide Manufacture.

## Fabrication de carbure.

Herman Lewis Hartensteln, Constantinc, Michigan, U.S.A., 24th July, 1906; 6 years. Filed 26th April, 1906. Receipt No. 135,292 .
Claim.-1. In the production of carbide, the method which consists in applying to the interior surface of a suitable mould a material impervious to water, and then flowing the molten carbide in fluid state directly from the furnace into such mould, whereby the carbide is uniformly coated and impregnated superficially with the said material while fluld and in a state of incandescence, as and for the purpose set forth.
2. In the production of carbide, the method which consists In applying to the interior surface of a suitable mould a preparation of tar. and then flowing the molten carbide in fluid state directly from the furnace into such mould, whereby the carbide is uniformly coated and superficially impregnated wth the tar while fluid and in a state of incandescence, as and for the purpose set forth.
3. In the production of carbide, the method which consists ir. applying to the interior surface of a suitable mould a preparation of tar, then heating such mould and finally flowing the molten carbide in fluid state directly from the furnace into such heated mould, whereby the carbide is uniformly coated and superficially impregnated with the tar while in a state of incandescence, as and for the purpose set forth.
4. It the production of carbide. the method which consists in applying to the interior surface of a suitable mould a combined plastic and pulverulent material impervious to water, and finally flowing the molten carbide in fluid state from the furnace directly into such mould, whereby the carbide is uniformly coated superficially impregnated with the said material while fluid and in a state of incandescence, as and for the purpose set forth.
5. In the production of carbide, the method which consists in applying to the interior surface of a suitable mould a preparaton of tar and pulverulent material, and finally flowing the molten carbide in fluid state from the furnace directly into such mould, whereby the carbide is uniformly coated and superficially impregnated with the tar while fluld and In a state of incandescence, as and for the purpose set forth.
6. In the production of carbide, the method which consists is applying to the interior surface of a suitable mould a preparation of tar and carbonaccous material, and then flowing the molten carbide in fluid state from the furnace directly into such mould, whereby the carblde is uniformly coated and superficially impregnated with the tar while fluid and in a state of incandescence, as and for the purpose set forth.
7. The method which consists in coating the interior surfaces of moulds with tar mixed with coke in a finally divided condition, then heating such moulds and finally delivering carbide in melted and fluid condition into the heated mould, whereby a protecting coating is applied to the surface of the carbide, as and for the purpose set forth.

## No. 100,187. Mould for Cement Blocks. <br> Moule pour blocs de ciment.



John Millin, Toronto, Ontario, Canada, 24th July, 1906; 6 years. Filed 15th June, 1906. Recelpt No. 136,932.
Claim.-1. In a cement block machine, the combination with a table having a central opening therethrough, of a plurality o: folding members hinged at the edges of said opening and forming the sides of a mould, a vertically slldable frame carrying a platform below said opening, and means for raising and lowering said frame, as and for the purpose specifled.
2. In a cement block machine, the combination with a trble having a central opening therethrough, of a plurality of folding members hinged at the edges of said opening and forming the sides of a mould, a vertically movable platform helow said opening, means from said movable platform for engaging and swinging the said folding members, and means tor raising and lowering said movable platform, as and for the purpose specified.
3. In a cement block machine, the combination with a table having a central opening therethrough, of a pair of fulding side plates and a pair of folding end plates forming the sldes of a mould and hinged at the edges of said opening, a vertically movable platlorm below the said opening, a plurality of angular uprights secured to sald movable platform and extending upwardly beyond the said table and engaging the edges of the folding side and end plates at each corner of the mould, means for securing the upper ends of said uprights in their relative positions, and means for raising and lowering said movable platform and opening and closing said mould, as and for the purpose specified.
4. In a cement block machine, the combination with a table having a central opening therethrough, of a pair of colding side plates and a pair of folding end plates forming the sides of a mould and hinged at the edges of said opening, a vertically movable platform below the said opening, a clurality of angular uprights secured to said movable platform and extending upwardly beyond the said table and having outwardly flaring tops and engaging the ends of the side and end plates at each corner of the mould, tie rods adjustably secured to said uprights and holding them in their relative positions, a core removably secured to said movable platform, means for securing said core to said platform, means for releasing said core, a mould board or palette surrounding said core and forming a bottom to said mould, means for raising and lowering said movable platform and withdrawing said core and releasing the sides of said mould, and means for swinging the sides of said mould outwardly, as and for the purpose specified.
5. In a cement block machine, the combination with a table having a central opening therethrough, of a pair of folding side plates and a pair of folding end plates forming the sides of a mould hinged at the edges of said opening, a vertically movable platform below the said opening, a plurality of angular uprights secured to said movable platform and extending upwardly beyond the said table and having outwardly flaring tops and engaging the ends of the side and cnd plates at each corner of the mould, tie rods adjustably secured to said uprights and holding them in their relative positions, a core removably secured to said movable platform having prejecting lugs from the base thereof, a bracket secured to said movable platform and engaging one of said lugs, a spring latch secured to said movable platform for engaging the other of said lugs, means for releasing said lstch, a mould board or palette surrounding said core and forming a bottom to said mould, means for raising and lowcring said movable platform and withdrawing said core from said mould and releasing the sides of said mould, and means for swinging the sides of said mould outwardly, as and for the purpose specified.
6. In a cement block machine, the combination with a table having a central opening therethrough, of a pair of folding side plates and a pair of folding end plates forming the sides of a mould hinged at the cdges of said opening. a vertically movable platform below the said opening, a vertically movable platform below the said opening, a plurality of angular uprights secured to said movable platform and extending upwardly beyond the aforesaid table and having outwardly flaring tops and engaging the ends of the side and end plates at each corner of the mould, tie rods adjustably secured to said uprights and holding them in their relative positions, a core removably secured to said movable platform having projecting lugs from the base thereof, a bracket secured to said movable platform and engaging one of said lugs, a spindle journalled in brackets secured to said movable platform having a handle secured to the outer end thereof, a spring latch fixedly secured to said spindle and engaging the other of the lugs on the base of said core, a mould koard or palette surrounding said core and forming a bottom to said mould, means for raising and lowering said movable platform and withdrawing said core from said mould and releasing the sides of said mould, and means for swinging the sides of said mould outwardly. as and for the purpose specifled.
7. In a cement block machine, the combination with a table having a rectangular central opening theretbrough and cpenings to the outside of said central opening. of hinge brackets secured to said table at the edges of said central opening, folding side and end plates hinged to said hinge brackets and forming a mould. a vertically movable platform supported beneath the said opening, angular uprights secured to said movable platform and extending upwardly through the openings in the said table and engaging the said side and end plates at the corners of the mould and having outwardly flaring upper ends, adjustable rods connecting the upper ends of said uprights and holding them in their relative positions, a core removably secured to said movable platform. a mould board or palette surrounding said core and forming a bottom to said mould, a shelf secured to the frame of the aforesaid table below the said movable platfirm, journal bearings on said shelf, a rock shaft journalled in said bearings, a gear segment fixedly secured to said rock shaft, a gear rack secured to the said movable platform and meshing with said segment, means for rocking said rock shaft, and means for holding said movable platform in different positions, as and for the purpose specified.
8. In a cement block machine, the combination with a table having a rectangular central opening therethrough and epenings to the outside of said central opening, of hinge brarkets sccured to said table at the edges of said central opening, folding side and end plates binged to said hinge

Ibrackets and forming a mould, a vertically movable platform supported below the said table, a plurality of angular uprights secured to said movable table and extending upwardly through the openings in the aforesaid table and engaging the said side and end plates at the corners of the mould and having outwardly flaring upper ends, adjustable rods connecting the upper ends of said uprights and holding them ir their relative positions, a core removably secured to said movable platform, a mould board or palette surrounding said core and forming a bottom to said mould, a shelf secured to the frame of the aforesaid table below the sald movable platform, journal bearings on said shelf, a rock shaft journalled in said bearings, a gear segment flxedly secured to said rock shaft, a gear rack secured to the said movabla platform and meshing with said segment, a quadrant secured ts the frame of the said table, and a lever secured to said rock shaft having a spring catch engaging the teeth of said quadrant, as and for the purpose specified.
9. In a cement block machine the combination with a table having a rectangular central opening therethrough and openings to the outside of faid central opening, of hinge brackets secured to said table at the edge of said central opening, folding side and end plates hingedly supported on said hinge brackets and forming a mould, a vertically movable platform supported bencath said opening, angular uprights secured to said movable table and extending upwardly through the openings in the aforesaid table and engaging the said side and end plates at the corner of the mould and having outwardly flaring upper ends, adjustable rods connecting the upper ends of said uprights and holding them in their relative positions, a core removably secured to said movable platform, a mould board palette surrounding said core and forming a bottom to said mould, a shelf secured to the frame of the aforesaid table below the said movable platform, means supported on said shelf for raising and lowering said movable platform, a plate supported from said shelf and removably secured to one of said end plates of the mould, means for adjusting the height of said plate, a hopper slidably arranged on said plate and adapted to surround the top of said mould, as and for the purpose specified.
10. In a cement block machine the combination with a table having a rectangular central opening therethrough and openings to the outside of said central opening, of hinge brackets secured to said table at the edges of said central opening. folding side and end plates hingedly suported on said hinge brackets and forming a mould, a vertically movable platform supported below the aforesaid table, angular uprights secured to said movable platform and extending upwardly through the openings in the aforesaid table and engaging the said side and end plates at the corners of the mould and having outwardly flaring upper ends, adjustable rods connecting the upper ends of said uprights and holding them in their relative positions, a core removably secured to said movable platform, a mould board or palette surrounding said core and forming a bottom to said mould, a shelf secured to the frame of the aforesaid table below the said movable platform. means supported on said shelf for raising and lowering said movable platform, a plate flexibly secured at one end to one of the end plates of the mould, an adjustable arm pivotally secured to the under side of said plate and an arm fixedly secured to said shelf and supporting said adjustable arm, and a hopper slidably arranged on said plate and adapted to surround the top of said mould, as and for the purpose specifled.
11. In a cemept block machine the combination with a table having a central opening therethrough, of side and end plates hinged at the edges of said opening and forming a mould, one of said side plates having projections from the back thereof forming jaws, a lever having arms pivotally secured in said jaws and recesses in said arms intermediate of their length, a plate having projections from the back thereof and pivoted in the recesses in said arms and a plurality of $V$ shaped grooves in the face thereof, a plurality of blocks having suitable faces and V-shaped projections on the back thereof to engage the grooves in the said plate, a vertically movable platform beneath the opening in the said table, a plurality of angular guides secured to said movable platform and extending upwardly above the aforesaid table and engaging the said side and end plates, a plurality removably secured to said movable platform having a plurality of vertical cross plates extending upwardly therefrom, a mould board or palette supported below said side and end plates and forming a bottom to said mould and having a plurality of cross slots therethrough to register with the said vertical cross plates, and means for raising and lowering said movable platform, as and for the purpose specified.
12. In a device of the class described, a table having a central opening therethrough, wings hinged at the edges of said opening, and means rising through said opening for completing the mould in readiness for the materlal, as and for the purpose specified.

No. 100,188. Mould. Moule.


Elmo H. Reed, Wichita, Kansas, U.S.A., 24th July, 1906; 6 years. Filed 28th May, 1906. Recelpt No. 136,331.
Claim.-1. In a block moulding machine the combination with a fixed frame, of a core, a mould having sides and a bottom plate, the bottom plate and one of the sides being tiltable together and away from the remaining side, means for adjusting the tlltable bottom and side laterally relative to said core, means for laterally adjusting the remaining side relative to said core, end plates for the mould, and means for adjusting sald end plates toward and from said core, whereby the relative position of the core to the walls of the mould may be maintained in moulding blocks of different sizes.
2. In a block moulding machine the combination with a fixed frame, a mould having a tilting side and bottom plate, a relatively fixed side, a sliding core adapted to pass through an aperture in the non-tiltable side wall and to extend to the opposite side, means for shifting sald core toward and from said tiltable side wall, means for adjusting the tiltable bottom and side laterally relative to said core, means for adjusting the remaining side wall laterally relative to said core, end plates for the mould, and means for adjusting said plates toward and from said core, whereby the relative positlon of the core to the walls of the mould may be maintained in blocks of different sizes.
3. In a device of the class described, a mould box having an apertured side wall and insertable members adapted to enter said apertures, supporting rods for said members at opposite ends of the machine, a bar carrying said members and slidably mounted upon said rods, a rock shaft and operating handle, a slotted arm carried by sald rock shaft to engage a member carried by said bar. an outwardly swinging bottom and side wall to said mould, a rock shaft for said swinging walls, an operating handle carried by said rock shaft, means for adjusting sald side walls toward and from each other, and insertable slotted moulding walls extending above said side and end walls of the mould.
4. In a device of the class described, a mould box comprising slde walls adjustable toward and from each other, insertable moulding walls extending above the top of said side walls and there provided with a series of slots, division plates connected together and disposed in said slots, and a vertically adjustable follow board disposed in said mould.
5. In a device of the class described, a mould box comprisIng side walls adjustable toward and from each other, insertable moulding walls extending above the top of said side walls and there provided with a series of slots, division plates connected together and disposed in said slots, a vertically adjustable follow board disposed in sald mould, a depending stem from said follow board, a rock shaft provided with an arm, a pivoted link extending between sald arm and stem and an operating lever carried by said rock shaft.
6. In a device of the class described, a mould box comprising side walls adjustable toward and from each other, insertable moulding walls extending above the top of said side walls and there provided with a serles of slots, division
plates connected together and disposed in said slots, a vertically adjustable follow board disposed in said mould, a depending stem from said follow board, a rock shaft provided with an arm, a pivoted link extending between said arm and stem, an operating lever carried by said rock shaft, a telescoping rod extending within sald stem, and an adjustable set collar carried by the rod for retaining the stem in adjusted position.
7. In a device of the class described, a mould box comprising side walls adjustable toward and from each other, insertable moulding walls extending above the top of sald side walls and there provided with a series of slots, division plates connected together and disposed in said slots, a vertically adjustable follow board disposed in said mould, a depending stem from said follow board, a rock shaft provided with an arm, a pivoted link extending between sald arm and stem, an operating lever carried by said rock shaft, a latch carried by said operating lever and engaging projections extending from the end of the machine to co-operate with sald lever.
8. In a device of the class described, a mould box comprising opposite end walls, a rock shaft extending at one side thereof, a bottom and side walls pivotally mounted upon said rock shaft, bearings for said rock shaft provided with upwardly extending standards, supporting rods beyond the ends of the box and mounted in said standards, an insertable member carried by said rods, and an oppositic side wall of the mould box.
9. In a device of the class described, a mould box comprisIng opposite end walls, a rock shaft extending at one side thereof, a bottom and side walls pivotally mounted upon said rock shaft, bearings for said rock shaft provided with upwardly extending standards, supporting rods beyond the ends of the box and mounted in said standards, an opposite side wall of the box having apertures through which sald rods extend, and a carrier bar slldably mounted upon said rods and carrying insertable members adapted to pass within the mould box.

## No. 100,189. Apparatus for Sorting Chips.

Appareil à tricr les copeauce.


Howard Powers, Lincoln, and The Jolbert Construction Company. Berlin, both in New Hampshire, U.S.A., assignee of four-fifths of the interest. 24th July, 1906; 18 years. Filed 9th June, 1906. Receipt No. 136,724.
Claim.-1. An apparatus for separating chips comprising a receptacle for a body of water and a series of jet plpes arranged near the water level but above the level of the same and having their orifices all faced in one direction for progressively feeding the chips along the surface of the water.
2. An apparatus for separating chips comprising a receptacle for a moving body of water, made deep at one end to retain the heavy sinkable pieces and having a shallow spillway at the other end. and jet pipes arranged above the level of the spill-way and having their orifices all faced in one direction for producing a current along the surface.
3. An apparatus for separating chips comprising a tank, a spill-way at the upper level of the tank, a water supply pip: having a plurally of branches with valves, one of sald branches serving to supply the tank for maintaining the spillway, and the other branches having jet pipes arranged above the level of the spill-way and having their orifices all faced in one direction to maintain a surface current toward th. spill-way.
4. An apparatus for separating chips comprising a tank, a spill way at the upper level of the tank inclining downwardly and outwardly, a water supply pipe having jet pipes located above the level of the spili-way for maintaining a surface current toward the spill-way, and one or more jet pipes located on the spill way to keep it from clogging.

No. 100,190. Mail Cap Plate.
Fruille pour tites de clous.

$0^{2}$

F. W. Bird and Son, assignte of George Russell Wyman, all of East Walpole. Massachusetts. C'S.A., 24th July, 1906; 6 years. Filed esth June, 1906 . Receipt No. 137.280.
rlaim.-A nail cap plate formed of sheet metal having a rectangular plain marginal bearing surface and a rectangular raised center of less diameter than the marginal portion, the corners of said center forming strengthening ribs.

No. 100,191. Tile. T'uile.


The American Loktile Company, assignce of Alfred Du Montier, both of Washington, District of Columbia, U.S.A., 24th July, 1906; 6 years. Filed 8th June, 1906. Receipt No $136,693$.
Claim.-1. As an improved article of manufacture, a tile provided with a projection at one edge. said projection being bent upon itself and provided with cement receiving spaces. and at the opposite edge with a lip of less width than said projection whereby the cement is received in said spaces between the outer edge of the projection and the lip enclosed by said projection.
2. As an improved article of manufacturc, a tile formed with a bent over portion at one edge with openings, in sai. 1 bent over portion and a lip at the opposite edge, the said bent over portion being of a greater width than the said lip whereby the said openings extend over and beyond the lip of an adjacent tile when engaged in the space between the bent over portion and the body of the tile.
3. A till formed with a projection at one edge with cement receiving spaces and at the opposite edge with an offset lip, of less width than said projection, the said projection beinc bent upon itself with the said spaces adabted to extend over and beyond the lip of the adjacent tile to receive cement in said spaces between the outer edge of the projection and th. li* enclosed thereby.
4. As an improved article of manufacture a tile formed at one edge with a projection bent upon itself and the bent over portion provided with cement recoiving spaces and with a space to receive a lip on an adjacent tile, the said spaces bring of greater width than the said lip and the latter formed with means for interlocking with its adjoining tile
5. Tiles formed upon their adjaront edges with a slide lock joint, one member of the said lock joint having cement rebeiving spaces extending beyond the other member to receive the cement and allow the latter to contact with the other member of said lock joint.
f. As an improved article of manufacture, a tile forme 1 unon one side with a bent over projection having cement receiving spaces and a space for the reception of a lip on an
adjacent tile, said spaces being of greater width than an overlapping said lip, and at one end with a bent over projection with openings and at the opposite end with a lip which latter is offset.
7. A tile having at one edge a bent-over portion with cement receiving spaces and a space to receive a lip on an adjacent tile, and at the other edge with an offset lip, said lip being of less width than the bent over portion whereby when engaged with another tile the cement will enter said spaces beyond the lip and bind the same in place.
8. A tile formed at one edge with a bent-over portion having openings to receive the cement and with a space to recrive a lip on an adjacent tile, and at the opposite edge formed with a lip of less width than the bent-over portion and having bendable tongue.
9. A tile formed at one edge with a bent-over portion having spaces to receive the cement and openings to receiv tongues on the edge of the adjacent tile, and at the opposite edge formed with an offset lip of less width than the bent over portion and having bendable tongues aaapted to enter said openings.
10. Tiles interlocked with each other and formed with slide lock joints with one member narrower than the other and with bonding spaces overlapping the sald narrower portion for the reception of the cement whereby the cement may encage the tongue portion of the lock.
11. A tile formed with a bent-over portion of a slide lock joint of greater width than the co-operating portion of the joint and with spaces through said portion to serve as clings for the cement upon the co-operating portion of the joint and means for the reception of means on an adjacent tile to lock the two together before laying in a wall.

No. 100,192. Tire. Pnew.


The Salisbury Tire Company, and Oliver D. Salisbury, both of Owosso, Michigan, U.S.A., 24th July, 1906; 6 years. Filed 23rd April, 1906. Recept No. 135,156.
Claim.-1. A tire comprising an inner tube, an outer casing of leather inclosing said inner tube upon the sides and adjacent the tread and having outwardly turner edges, 'a base band connceting and having its edges secured to said out turned edges, and means for securing said edges rigidly to the rim of a wheel.
2. A tire comprising an inner tube, an outer casing of lather inclosing said inner tube upon the sides and adjacent the tread and having outwardly turned edges, a base band connocting and having its edges secured to said out turned edges and means for securing sald edges rigidly to the rim of a wheel.
3. A tire comprising a casing with outwardly turned edges, a base band connecting and having its edges secured to said out turned edges, a rigid binding strip disposed upon said cut turned edges and provided with openings registering with openings in the edges of the casing and the base band and adapted to permit the passage therethrough, of bolts to secure the tire to the rim of a wheel and means for inflating the casing.
4. A tire comprising an inner tube, a flexible outer casing inclosing said inner tube upon the sides and adjacent the tread and having outwardly turned edges, a filling material interposed between the tube and the casing, a base band connecting and having its edges secured to the out-turned edges and a rigid binding strip disposed upon said out-turned edges and provided with openings registering with openings in the edg's of the casing and the base band and adapted to promit the passage therethrough of bolts to secure the tire to the rim of a wheel.
5. A tire comprising an inner tube, a leather outer casing inclosing said inner tube upon the sides and adjacent the tread and having outwardly turned edges, a fabric interposed between the filling and the casing, a strengthening strip of leather with bevelled edges interposed brtween the fabric and the casing and adjacent the tread, a base band of leather connecting and having its edges secured to the outturned edges of the casing, a rigid binding strip disposed upon the out-turned edges and provided with openings registering with openings in the edges of the casing and base band and adapted to permit de passage therethrough of bolts to secure the tin to the rim of a wheel and a tread strip of leather removably secured to and without the casing.

No. 100,193. Tire. Pucu.


William J. Storrs, assignee of William A. Field, both of Chicago, Illinols, U.S.A., 24th July, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,i10.
Claim.-1. In a wheel the combination with a felloe having in its periphery an annular groove, of a tire in the outer portion of said groove, a loosely mounted rim within said groove for supporting said tire, a series of segmental plates or blocks within said groove and beneath said rim, springs for elastically supporting said segmental blocks, radially disposed studs projecting inwardly from the inner face of said rim and through openings in said felloe, coil springs upon the free ends of said studs, and adjusting devices upon said studs.
2. In a wheel the combination with a felloe having in its periphery an annular groove, of a tire in the outer portion of said groove, a loosely mounted rim within said groove for supporting said tire, a series of segmental plates or blocks within said groove and beneath said rim, springs for ciastically supporting said segmental blocks, means for varying the tension of said springs, radially disposed studs projectIng inwardly from the inner face of said rim and through slots in said felloe, nuts upon the threaded ends of said studs, coil springs upon said studs between said nuts and zaid felloe, and means for centering said studs in said slots and holding them in a radial position.
3. In a wheel the combination with a felloe having in its periphery an annular groove, of a tire in the outer portion or said groove, a loosely mounted rim within said groove for supporting said tire, a series of segmental plates or blocks within said grooves and beneath said rim, springs for elastically supporting sald segmental blorks. m.ans for varying the tension of said springs, radially disposed studs projectIng inwardly from the inner face of said rim and through slots in said felloe, nuts upon the threaded ends of said studs, coil springs upon said studs between said nuts and said felloe, pins slidable in recesses in said felloe and disposed upon opposite sides of said studs, hads upon said pins and engaged with sald studs, and coil springs surrounding said pins and confined between their heads and shoulders in said recesses, substantially as described.
4. In a wheel the combination with a felloe having in its periphery an annular groove and a series of radially disposed slots, of a tire in the outer gortion of said groove, a rim in said groove for supporting said tire, a series of studs projecting inwardly from the inner face of said rim and through the slots in said felloe, adjusting nuts upon the threaded ends of said studs, coll springs upon said studs between said nuts and said felloe, and coil springs adjustad upon opposite sides of said studs for centering the latter in their slots and maintaining them in radial position, substantially as described.

No. 100,194. Pneumatic Tire. Pneu pneumatique.

('harlas R. Twichell and James M. Brennan, assignee of a half interest, both of Los Angeles, California, U.S.A., 24th July. 1906; 6 years. Filed 30th April, 1906. Receipt No. 135,401.
Claim.-1. The combination with a wheel rim having opposite edge flanges, of a tire casing of substantially uniform thickness and having two sories of hooks secured thereto al or near its edges, cach of said hooks having an inner secured portion and an outer flange engaging portion, which latter is spaced away from the casing so as to accommodate and interlock with the rim flanges, the connecting portions between said inner and outer portions of the hooks being designed to contact with the edges of the rim as the casing is expanded.
2. The combination with a wheel rim having opposite edge flanges, of a tire casing having two series of hooks secured thereto near the edges thereof, one series being located a greater distance from one edge of the casing than the other series is in respect to the other edge, sald former edge constituting a flap, and all of said hooks being spaced away from the casing so as to accommodate and interlock with said edge tlanges, and means for preventing the casing from creeping on the rim.
3. The combination with a wheel rim having opposite flanges formed with edge recesses. of tire casing having two series of hooks secured thereto near the edges thereof, one stries being located a greater distance from one edge of the casing than the other series is in respect to the other edgo, said former edge constituting a flap. and all of said hooks being spaced away from the casing, and of width subctantially equal to that of said recesses, the interlocking of the hooks with the recessed edges of the wheel rim preventing the casing from creeping on the latter.
4. The combination with a wheel rim having opposite flanges formed with spaced apart edge recesses, of a casing o: substantially uniform thiekness from edge to edge, and two serias of hooks secured to the casing near its edges, one series being located a greater distance from one edge of the casing than the other series is in respect to the other odge, said former edge constituting a flap, said hooks being designed to enter said recesses of the rim flanges, the interlocking of the hooks with the lattor preventing the easing from creeping on the rim.

## No. 100,195. Rubber Tire Guard.

Garle pour pucu de caoutchoue.
The Slama Tire Protector Company, assigner of Lewis Slama. all of Humboldt, Nebraska. U.S.A.. 2tth July, 1906; if years.. Filed 25th May, 1:4nt. Receipt No. 136.234.
Cluim. 1. A rubber tire guard compristing a network of attornating cruciform links and ring like links and means for securing the guard to a tire.
2. A rubber tirc guard comprising a network of alternating - ruciform and ring-like links the arms or members of th. cluciform links being extended through the ring-like links and folded upon themsclios
8. A rubber tire guard comprising a notwork of alternating rruciform and ring-like links, the arms or members of th. cruciform links being extended through the ring-like links and folded upon themselves. and rivels extending through the cruciform links end engaging with the folded ends of th, arms.

1. A rubber tire guard comprising a network of alternating cruciform links and ring-like links, wires for securing the guard to a tire, and tightening devices on said wires.
2. A rubber tire guard comprising a network of alternating cruciform links and ring like links, the arms or members of

the cruciform links being extended through the ring-like links and folded upon themselves, supplemental links connected to the side links of the guard, wires extended through said supplemental links, and turn buckles for tightening said wires.

No. 100,196. Tire Inflating Device. Apparcil à gouftcr les pneus.


Gabriel Alexander Bobrick, Los Angeles, California, U.S.A., 24th July, 1906; 6 years. Filed 17th April, 1906. Receipt No. 134,951.
CLaima-1. A tire inflating means comprising a truck or wheeled support, a charging tank for holding liquefled or compressed gas, said tank being detachably supported on said truck to enable substitution of a charged tank for an exhaust tank, a reducing valve connected to said tank through a union, a pressure gauge connected to said reducing valve, a manual valve connected to the reducing valve, a flexible tube connected to the said manual valve and provided with a coupling for attachment to the inflating valve of a pneumatic tire to enable connection of the charging tank to any one of a number of tires of a vehicle, substantially as shown and described.
2. Inflating means for automobile tires comprising a truck or wheeled support, a frame thereon provided with an adjustable clamp, a tank detachably supported by said clamp and adapted to hold liquefied or compressed gas, sald tank having a safety device for relief of excessive pressure, and an outle: valve, a reducing valve connected to said outlet valve to reduce the pressure to the amount required for tire inflation, a gauge connected to the reducing valve for indicating the pressure thereon, a manual valve connected to receive gas at the reduced pressure from the reducing valve, and a flexible tube connected to said last-named valve and provided with a coupling for connection to the valve of a pneumatic tire, substantially as shown and described.

## No. 100,197. Apparatus for Placing Pneumatic Tires on Wheel Rims.

Apparcil pour placer les pneus pneumatiques sur les roues.
Cecil Beckwith, Cave-Brown-Cave. Chesham Boie Place, Chesham, Buckingham, England, 24th July, 1906; 6 years. Filed 1st May, 1906. Receipt No. 135,433.
Claim.-1. In a vehicle wheel having a detachable metallic rim holding a beaded edge pneumatic tire the combination
with the felloe, of a metallic tire carrying rim, a pair of side flanges one of which is detachable, and a plurality of divided

security bolts, each being composed of a shank passing radially through the felloe and rim and a detachable head situated between the beaded edges of the tire cover, the whole being constructed and adapted to operate, substan$t$ :ally as described and for the purpose specified.
2. In a vehicle wheel having a detachable metallic rim holding a beaded edge pnoumatic tire the combination with the folloe, of a metallic tire carrying rim, a pair of detachable side tlanges adapted to be pressed against the sides of the rim and a plurality of divided security bolts, each of which is comnosed of a shank passing through the rim and felloe and a detachable head situated between the edges of the tire cover and adapted to rest on the circumference of the rim.
3. In a vehicle wheel having a detachable metallic rim holding a beaded edge pneumatic tire the combination with the felloe, of a pair of side flanges, one of which is detachable and a plurality of divided security bolts passing radially through the felloe and rim, the bolt holes being wider in a direction parallel with the wheel axis, than at right angles thereto, substantially as and for te purpose described.
4. In vehicle wheels with detachable rims and pneumatic tires, a security bolt composed of a shank passing radially through the felloe and rim and a detachable head situated between the edges of the tire cover and adapted to fit the circumference of the air tube, the bolt head having a cavity facing the air tube and a narrower central opening for admitting tine shank to the said cavity. the said opening having a radial recess and the extremity of the shank having a lateral projection adapted to pass through the said recess into the said cavity and then to be turned in the same, substantially as described.
Ј. A security bolt for detachable pneumatic tire carrying rims composed of a shank passing radially through the rim and felloe and having at its extremity a lateral projection, with a detachable head situated between the edges of the tire cover and adapted to touch the circumference of the air tube, the said bolt head having a cavity facing the uir tube, and a narrower central opening adapted to admit the extremity of the shank into the said cavity, the base of the said cavity having a radial slot adapted to admit the lateral projection of the shank and a radial recess adapted to recelve and support the said projection, after the bolt has made a partial turn in the said cavity, substantially as described.
6. A security bolt for detachable pneumatic tire carrying rims composed of a shank passing radially through the rim and felloe and having at its extremity a lateral projection, with a detachable head situated between the edges of the tire cover and adapted to touch the circumference of the air tube, the said bolt head having a cavity facing the air tube and a narrower central opening adapted to admit the extremity o? the shank into the said cavity, the base of the said cavity having a radial slot adapted to admit the lateral projection of the shank and a series of helically inclined surfaces arranged round the central opening like a series of ratchet teeth, which surfaces serve to support the lateral projection of the shank and to impart to the shank a helical motion, when the shank is turned after the introduction of its extremity into the cavity of the bolt head, substantially as described.
7. A security bolt for detachable pneumatic tire carrying rims composed of a shank passing radially through the rim and felloe and having at its extremity a lateral projection, with a detachable head situated betpeen the edges of the tire cover and adapted to touch the circumference of the air tube, the said bolt head having a cavity facing the air tube and a narrower central opening adapted to admit the extremity of the shank into the said cavity, the base of the said cavity having a radial slot adapted to admit the lateral pro-
jection of the shank, and a radial recess adapted to receive and support the sald projection after the bolt has made a partial turn in the said cavity, and the cavity of the bolt head being covered with a flexible sheet adapted to distribute the pressure of the shank upon the air tube, substantially as described.
8. A security bolt for detachable pneumatic tire carrying rims, composed of a shank passing radially through the rim and felloe and having and having at its extremity a pair of lateral projections, with a detachable head situated between the edges of the tire cover and adapted to touch the circumference of the air tube, the said bolt head having a cavity facing the air tube and a narrower central opening adapted to admit the extremity of the shank into the sald cavity, the base of the said cavity having a radial slot adapted to admit the lateral projections of the shank, and a series of helically inclined surfaces arranged round the central opening like a series of ratchet teeth, which surfaces serve to gupport the lateral projections of the shank and to impart to the shank a helical motion, when the shank is turned after the introduction of its extremity into the cavity of the bolt head, substantially as described.
9. A vehicle having in combination a wooden felloe armed with a bonding hand, an ordinary tire carrying rim, a beaded edge pneumatic tire held in the said rim, a pair of side flanges facing the felloe and rim, a plurality of bolts adapted to press the side flanges against the sides of the felloe rim, and a pluraity of divided security bolts, composed of a bolt head situated between the edges of the tire cover and a shank adapted to be introduced radially through the felloe and rim and then t.j be secured to the head by a turning motion of the shank, substantially as described.

No. 100,198. Antomobile Tire Casing.
Fonte de pneus d'automobile.


Charles Leander Higgins, Montreal, Quebec, Canada, 24th July, 1906; 6 years. Flled 9th April, 1906. Recelpt No. 134,748.
Claim.-1. In the manufacture of coverings for tire casings and the like, cementing a strip of leather with its side edges skived to a layer of frictioned stock, cementing a pair of narrow strips of frictioned stock along such skived edges, coating the exposed surfaces of frictioned stock with uncured rubber, and finally vulcanizing the whole.
2. In the manufacture of coverings for tire casings and the like, cementing an inter tire with its side edges skived to a layer of frictioned stock, cementing a pair of narrow strips of frictioned stock along such skived edges, stitching the said strips in place, folding a portion of each strip over the lines of stitching, coating the exposed surfaces of frictioned stock with uncured rubber, securing an outer tread upon the exterior of the intertread, and finally vulcanizing the whole.
3. An outer wall of a tire comprising a layer of frictioned stock, a strip of leather cemented to such layer along the middle thereof, strips of frictioned stock extending along the edges of such leather strip and overlapping the portions contiguous thereto of the frictioned stock, llnes of stitching connecting the said layer, the intertread and last-mentioned strips together, a coating of vulcanized rubber covering the exposed outer surfaces of the frictioned stock, an outer tread, and means securing the latter upon the exterior of the intertread.
4. An outer wall of a tire comprising a layer of frictioned stock. a strip of leather cemented to such layer along the middle thereof and having its side edges skived, strips of frictioned stock cemented to the skived edges of such lea-
thern strip and overlapping the portions contiguous thereto o: the frictioned stock llnes of stitching connecting the eald layer, the intertread and last-mentioned strips together, such lines of stitching extending along the inner edges of the skived portlons and adjacent to the outer edges thereof, and such strips being folded over the said lines of stitching, a coating of uncured rubber covering the exposed outer surfaces of the frictioned stock, an outer tread, and means securing the latter upon the exterior of the intertread.
5. An outer wall of a tire comprising a layer of frictioned stock, a strip of leather cemented to such layer along the middle thereof, strips of frictioned stock extending along the edges of such leathern strip and overlapping the portions contiguous thereto of the friction stock, lines of stitching connecting the sald layer the intertread and last-mentioned strips together, a coating of vulcanized rubber covering the exposed outer surfaces of the frictioned stock, and means securing the latter upon the exterior of the intertread.

No. 100,199. Pneumatic Tixe. Prou proumatique.


Edward Brice Killen, London, England, 24th July, 1906; years. Filed 12th January, 1906. Receipt No. 181,805.
Claim.-1. In a pneumatic tire the combination of suitable parts $A, B$ and $C$, as herein described, which part $A$ becomes under load automatically eccentric in effect in use to wheal to which it is attached, substantially as specifed.
2. The construction of this pneumatic tire sultably bullt from suitable parts $A, B$ and $C$, as herein described, which part A can have a sultable concentric chaln wheel, or equivalent rigidly attached to it , substantially as specitied.
3. The pneumatic tire built from parts $A, B$ and $C$, as herein described, with wearing parts all interchangeable and easly replaced, the pneumatc part beng never subjected to driving, braking or any other severe strain, cubstantially as specified.

No. 100,200. Vehiale Tire. Prou de wintouk.


John Hewetson Lorimer, Philadelphla, Pennsylvania, U.8.A. 24th July, 1906; 6 years. Filed 9th April, 1906. Receipt No. 134,767.
Claim.-1. In a vehicle wheel, a supporting ring, a pair of flanges, and a series of independent transversoly arranged spiral spring tread units.
2. A vehicle wheel comprising a hub, spokes, a rim, and a series of independently removable transversely arranged spiral spring tread units.
3. In a vehicle wheel a rim and a series of independent alternately reversed trapsversely arranged spiral spring tread units.
4. In a vehicle wheel, a rim, and a series of spiral spring tread units embodied in resilient material and held in place by pins passing through the units.

No. 100,201. Pneumatic Tire Shield. Bouclier de pneu pneumatiquc.


Joseph Henry Lowrey, Neola, Iowa, U.S.A., 84th July, 1906; 6 years. Filed 1st March, 1906. Recelpt No. 133,436.
Claim.-1. A pneumatic tire shield having means for connecting the same to a rim including an elastically yieldable tension device to maintain the shield in snug engagement with the tire.
2. A pneumatic tire shield having means for connecting the same to a rim including a spring pressed tension element, and connections between opposite sides of the shield and the tension element.
3. A pneumatic tire shield having means for connecting the same to a rim including a spring pressed crosshead, and connections between opposite ends of the crosshead and the respective edges of the shield.
4. A pneumatic tire shield having means for connecting the same to a rim including a spring pressed tension device, and connections extending between opposite edges of the shield and the tension device and detachably connected to one of these elements.
5. A pneumatic tire shield having means for connecting the same to a rim including a spring pressed crosshead, and connections between opposite ends of the crosshead and the respective edges of the shield, said connections being detachably associated with the crosshead.
6. The combination of a rim and a pneumatic tire, of a shield embracing the tire, a crosshead disposed across the inner side of the rim, connections between the crosshead and opposite edges of the shield, and a spring interposed between the crosshead and the rim and tending to force the former towards the center of the wheel.
7. A pneumatic tire shield having means for connecting the same with a rim including a spring pressed crosshead, and flexible connections between the crosshead and opposite edges of the shield and detachably engaged with one of these elements, the crosshead capable of being forced back against the tension of the spring to remove strain from the connections and permit removal thereof.
8. The combination with a pneumatic tire shield, of a case for application to the inner side of a rim, a spring pressed crosshead having its ends projecting through slots in the case, and connections between the ends of the crosshead and the respective edges of the shield.
9. The combination with a wheel having a pneumatic tire, of a case mounted between adjacent spokes at the inner slde of the rim of the wheel, a shield embracing the tread of the tire, a spring pressed crosshead within the case with its ends projecting through slots therein, and connections between the ends of the crosshead and the respective edges of the shleld.
10. The combination of a pneumatic tire shield, a case for application to the inner side of the rim and provided in opposite sides with slots, a spring pressed crosshead within the case with its ends projecting through the slots, connections between the ends of the crosshead and the respective edges of the shield, and elastic closure flaps covering the slots and connected to the crosshead and the case.
11. The combination with a rim and a pneumatic tire, of a shield applied to the tire, and crossed anti-creeping braces connected to the rim and to he shield.
12. The combination with a rim and a pneumatic tire, of a shield, brackets upon the rim, and anti-creeping braces between the brackets and the shield.
13. The combination with a rim and a pneumatic tire, of a shield, a spring pressed crosshead at the inner side of the rim, connections between the crosshead and the shield, and unti-creeping braces between the rim and the shield, the braces and the connection at each side of the tire having a common point of attachment to the shield.
14. The combination with a wheel and a pneumatic tire, of a shield for the tire, a pair of spring pressed crossheads at the inner side of the rim and between adjacent spokes, connections between the respective crossheads and the shield, and anti-creeping braces connected to the rim at the ends of the spokes and crossed substantially midway of the spokes with their outer ends connected to the shield.
15. A pneumatic tire shield comprising a plurality of annular bands, each band being made up of a series of sections, each section consisting of a plate folded upon itself to form terminal eyes, links connecting the eyes of successive sections, and links connecting the coresponding sections of adjacent bands.
16. A pneumatic tire shield comprising a plurality of annular bands, each band being made up of a series of sections, each section including a plate having end and side portions folded to form terminal and lateral eyes, links connecting the terminal eyes of successive sections, and other links connecting the eyes of corresponding sections of adjacent bands.
17. As a new article of manufacture, a section of a pneumatic tire shield consisting of a plate having its end and side portions folded upon one side of the plate to form eyes, and a caulk secured to the other side of the plate.
18. The combination with a rim and a pneumatic tire, of a shield applied to the tire, a spring pressed crosshead at the Inner side of the rim, detachable connections between the shield and the crosshead, a jack having a base for applica. tion to the tread of the tire, a lever fulcrumed upon the base. and means for connecting the lever with the crosshead to retract the latter against the tension of the spring by manipulation of the lever.
19. The combination with a rim and a pneumatic tire, of a shield applied to the tire, a spring pressed crosshead at the inner side of the rim, detachable connections between the crosshead and the shield, a jack having a base for application to the tread of the tire, a rock bar mounted upon the base and having terminal cranks, connections carried by the cranks for engagement with the ends of the crosshead, and a handle connected to the shaft for rocking the same.

No. 100,202. Resilient Tire. Pneu d rebondissement.


Etienne L. A. Olivier, Paris, France, 24th July, 1906; 6 gears. Filed 4th May, 1906. Receipt No. 135,547.
Claim.-1. A resilient tire for vehicle wheels comprising two rigid annular bands or rings one of which is located around the other and one or more rims of rubber or other resilient or elastic material maintained in a state of tension between the said rings.
2. A resilient tire for vehicle wheels comprising two rigid rings one of which is located around the other, a flat rubber rim having two concentric circular enlarged portions on each of its sides, the inner ring having ribs or shoulders to engage the outside of the inner enlarged portions of the rim and the outer ring having ribs or shoulders to engage the inside of the outer enlarged portions of the rim.
3. A resilient tire for vehicle wheels comprising two rings one of which is located around the other and two flat rubber rims secured in a state of tension, by their edges, on the sides of the rigid rings
4. A resilient tire for vehicle wheels comprising two rigld rings one of which is located around the other, and a rubber rim U-shaped in cross section the bight of which passes on the outer ring and the resilient sides of which are held stretched by the edges secured to the inner ring.
5. A resilient tire for vehicle wheels comprising two rigid rings one of which is located around the other, a $U$ shaped rubber rim the bight of which passes on the outer ring and the edges of which are secured to the inner ring, the sides of the rim being in a state of tension, and inner rubber flanges on the rim, adapted to be compressed between the two rings.
6. A resilient tire for vehicle wheels comprising a rigid ring having a web the outer edge of which is provided with slots, a rigid ring having a U-shaped web, one of the sides of the sald web being provided with corresponding slots for the passage of the solld portions of the other ring, and a U-shaped rubber rim the bight of which passes on the outer ring and the edges of which are secured to the inner ring, the sides of the rim being stretched.
Nio. 100,203. Tixe. Prew.


Benjamin Coplln Seaton, St. Louis, Missouri, U.S.A., 24th July, 1906; 6 years. Flled 12th March, 1906. Recelpt No. 133,787.
Clatm.-1. A wheel tire comprising two rims having allgning walls, the edges of which are in the form of sinusoidal curves. the projections formed by said curves alternating with each other, and transversely arranged tension springs connected to the transversely opposite projections, substantially as described.
2. A wheel tire comprising two rims spaced apart, the adjacent edges of the rims forming a sinous slot, coil springs connecting the projections on one rim with those on the other, and protector plates carried by one of the rims and overlapping the other to close the slot, substantially as described.
3. A wheel tire comprising two rims spaced apart, the adjacent edges of the rims forming a sinuous slot, coil springs connecting the projections on one rim with those on the other, protector plates carrled by one of the rims and overlapping the other to close the slot, and a resilient tread carried by the outer rim, substantlally as described.
4. A wheel tire comprising two rims each of which is provided with outstanding projections arranged in transverse alternating series, each projection on one of the rims transversely aligning with those on the opposite side of the other rim, and coil springs connecting the transversely aligning projections, substantially as described.
5. A wheel tire comprising two rims one within the other and both of said rims having vertical walls aligning with each other, springs arranged within the rims and having their opposite ends connected to the vertical walls of the in ner and outer rims respectively, so that all of the springs will be in tension under load, substantially as described.
6. A wheel tire consisting of inner and outer rim portions, the walls of which align with each other, said inner and outer rim portions having diametrically opposite overlapping projections on their respective sides, and horizontally arranged coil springs connected to the oppositely arranged overlapping projections and normally under tension, substantially as described.
7. A wheel tire comprising spaced rims whose walls align with each other, and a series of coil springs connecting said rims, which springs are alternately opositely inclined under a bnormal tension, substantially as described.
8. A wheel having a tire comprising two sections, one of which is the inner section and approximately $\mathbf{U}$-shaped in cross section with side flanges disposed outwardly, the other section being the outer section and having side flanges which align with those on the inner section, the flanges on the side walls of one section having projections which align with those on the opposite section, the projections on the inner rim overlapping those on the outer rim, and said projections on each side of the inner rim transversely aligning with the projections on the opposite side of the outer rim, and a spring connecting each projection on the outer rim with the transversely aligning projection on the inner rim, substantially as described.
9. A wheel tire comprising an inner rim and an outer rim, the outer rim having side walls which align with the slde walls of the inner rim, sald outer and inner rims being spaced apart, and transversely arranged springs conflned within the rim, one end of each spring being connected to the inner rim, while the outer end is connected to the outer rim, substantially as described.

No. 100,204. THre Case. Etui de pncu.


Howard Richardson Teel, Medford, Massachusetts, U.S.A.. 24th July, 1906; 6 years. Flled 12th May, 1906. Receipt No. 135,843.
Olaim.-1. A tire case having a main portion to fit over the tread and sides of the tire, a supplemental portion at one edge of said main portion and of sufficient width to extend across to the opposite side of the case to cover the rim portion of the tire, and a retaining device at the opopsite edge only of said supplemental portion adapted to engage the other side of the main portion at the side of the case to hold the case in position about a tire, substantialy as described.
2. A tire case having a main portion to fit over the tread and sides of the tire, a flap extending beyond the edge of sald main portion to project across and cover the rim portion of the tire, and a retaining hoop for the outer edge of sald flap.
3. A tire case having a main portion to fit over the tread and sides of the tire, a fiap along each edge of said main portion, and a retaining hoop connected with the outer edge of each flap, substantially as described.
4. A tire case having overlapping portions adapted to oxtend across the tire from one side to the other, retaining hoops connected with the edges of sald overlapping portions, and means for connecting the opposite ends of each hoop. substantially as described.
5. A tire case, the main portion of which is adapted to be Itted over the body of the tire, said case being extended at the edge to form a flap, a pocket formed along the outer edge of said flap, a hoop contained in said pocket, and means for maintaining said hoop distended to fasten the flap in position.
6. A tire case having a main portion adapted to fit over the iread and sides of the tire, a supplemental portion to cover the rim portion of the tire, a retaining hoop connected with the outer edge of sald supplemental portion and means for uniting the ends of sald hoop to keep the hoop distended, substantially as described.
7. A tire case having a main portion to fit over the tread and sides of the tire, a flap extending beyond the edge of said main portion to project across and cover the rim portion of the tire, a retaining hoop secured to the outer edge of said flap, and a ball and socket connected with the ends of said hoop respectively.
8. A tire case having a main portion to fit over the tread and sides of the tire, a flap extending beyond the edge of sald maln portion to project across and cover the fim portion of
the tire, a retaining hoop secured to the outer edge of said fiap, a ball and socket screw-threaded on the ends of said hoop respectively, and finger pleces connected with said ball and socket.
9. A tire case having a main portion to fit over the trea. and sides of the tire, a supplemental portion at one edge of the main portion to cover the rim portion of the tire and overlapping the opposite side of the main portion, and a water shed connected with the main portion in position to ccver and protect the overlapping edge of said supplemental portion.

1To. 100,205. Rubber Tired Wheel. Roue d pneu de caoutchouc.


Richard Mulholland, Dunkirk, New York, U.S.A.. 24th July 1906; 6 years. Filed 13th March, 1906. Receipt No 188,872.
Clatm.-1. In a wheel of the class described, a felly, a rim on said felly, a tire on said rim, one or more retalning bands extending through said tire and a plate for locking the ends of sald bands having a series of tire retalning projections which are tadered to present a sharpened surface transversely and comparatively broad and blunt surface longitudinally, for the purposes set forth.
2. In a wheel of the class described, a felly, a rim on said felly, a tire on said rim, one or more retaining bands extending througb sald $t$ re and a plate for lockine the ends of said bapds having a series of integral rivet projections on one face and a geries of tire retaining projections o.a auviher face.
8. In a wheel of the class described, a lelly, a rim on said felly, a tire on said rim, one or more retaining bands extending through said tire, and a plate for locking the ends of said bands having a series of integral rivet projections on one face and a series of tire retaining projections on another face which are tapered to present a sharpened surface transversely and a comparatively broad and blunt surface longitudipglly, for the purposes set forth.
4. In a wheel of the class described, a felly, a rim on sald fally, a tire on said rim, one or more retaining bands extendine through said tire and a plate for locking the ends of said hends having a plurality of sets of Integral projections, one of said sets servi. $g$ as rivets and another of sand sets extending onnositely to said first-mentloned set and constituting tire retaining devices, substantially as set forth.
5. In a wheel of the class described, a telly. a rim on said felly, a tire on said rim, one or more retaining bands extending through said tire, a plate for locking the ends of said bands having integral rivet projections on one face and tire retalning projections on the other face, and one or more projections entering the under surface of the tire from the inside of the felly or rim to prevent longitudinal movement
6. In a wheel, a rim, a tire on said rim. two parallel channelled retalaing bands $U$-shaped in cross section, extending longitudinally through said tire, plates with integral rivet projections on one face and tire retalning projections on the other face, fitting into the channel of said bands for locking the ends in place and a bolt having a broad head extending over both bands pasaing through a portion of the tire through the rim and secured to same.
7. In a wheel, a rim. a tire on sald rim, two parallel channelled retaining bands $U$-shaped in cross section extending
longitudinally through said tire, plates with Integral rivet projections on one face, and tire retaining projections on the other face, fitting into the channel of sald bands for locking the ends in place, and a bolt having a broad head extending orer both bands passing through a portion of the tire through the rim and secured to same, one or more lag screws passing from the inside of the rim into the inner surface of the tire to prevent creeping.
8. In a wheel of the class described, a rim, a felly on said rim, a tire on said rim, one or more retaining bands extendlng through said tire, a plate for locking the ends of said band having integral rivet projections on one face, and integral tire retaining projections on the other tace and means for securing said plate to the rim and felly Including a shank or rod passing through a portion of the tire and having a screw-threaded end passing through the rim and felly and secured thereto by a screw nut and one or more screw bolts passing from the inside of said rim and felly and entering the lower surface of the tire, after the tire is secured to the rim to prevent longitudinal movement.

## No. 100,206. Artificial Silk. Soie artifctelle.

Henry Bernstein, Philadelphia, Pennsylvania, U.S.A., 24th July. 1906; 6 years. Filed 14th May, 1906. Receipt No. 135,875.
Claim.-1. Artificial silk containing cellulose and gum from the liquid obtained by bolling raw silk.
$\therefore$ Artificial silk containing cellulose, gum from the llquor obtained by boiling raw silk and a gelatinous substance.
3. As a step in the process of making artifial silk the treatment of dissolved cellulose with a liquor obtained by boiling raw silk.
4. As a step in the process of making artificial silk the treatment of dissolved cellulose at a gradually Increasing temperature with a liquor obtained by the boiling of raw silk.
5. In the process of manufacturing artificial silk the treatment of cellulose with a solution of cupric hydrate in aquaammonia and the liquid obtained by boiling raw sllk.
6. In a process of manufacturing artificial silk the treatment of cellulose with cupric hydrate dissolved in acquaammonla in the presence of the solution obtained by bolling raw sil and the subjecting of the solution obtained to a rising temperature.
7. In the process of manufacturing artificial silk the treat ment of dissolved cellulose besinning in a comparatively coo condition, with a liquor obtained by boiling raw silk, gradually increasing the temperature thereof, forming it into threads and treating it with a gelatinous substance.
8. In a process of manufacturing artificial silk, mixing cupric hydrate with aqua-ammonia. adding cellulose and a liquor obtained by boiling raw silk and raising the products from a comparatively cool condition gradually to the maximum temperature of treatment.
9. In a process of manufacturing artificial silk the addition of ammonia to cupric hydrate, adding cellulose and a liquor obtained by boilng raw silk thereto in a comparatively cool condition, subjecting the solution to a gradually rising temperature forming the same into flaments and treating it in an acid bath.
10. In a process of manufacturing artificial silk forming a concentrated solution of copper sulphate, adding sodium hydrate, pouring off the sodium sulphate thus formed, adding aqua-ammonia to the precipitate, dissolving cellulose in the solution thus formed and adding a liquid obtained by the boilling of raw silk thereto.
11. In a process of manufacturing artificial silk, dissolving cellulose in a solution of cupric hydrate and ammonla, adding the liquor oblained by boiling raw silk thereto, treating the product to obtain threads and washing the threads in a solution of castor oil, sulphuric acid and sodium hydrate.
12. In a process of manufacturing artificial silk the dissolving of cellulose in cupric hydrate and aqua-ammonia, the addition of a liquor obtained from boiling raw silk thereto, forming the same into threads, treating the threads with a preparation of castor oil, sulphuric acid and sodium hydrate and subsequently treating with an acid bath.

No. 100,207. Combination Tool. Outil à combinaison.
Robert H. Bowman, Canyon City, Colorado, U.S.A., 24th July.
1906; 6 years. Filed 28th June, 1906. Receipt No. 137,369.
Claim.-1. A combination tool comprising a driving head, a straight longitudinal side, and a lateral projection on the driving face of the head forming with sald stralght side a try square.
2. A combination tool comprising a driving head, a straight longitudinal side normal to the driving face, and a shoulder projecting laterally of and behind the driving face to form with said straight side a try square.
3. A combination tool comprising a head having a driving fice and a cuting edge at opposite ends thereof, a straight

longitudinal side between said face and edge, and a lateral projection adjacent to the driving face forming with the straight side a try square.

No. 100,208. Cornice Brake. Frein.


George Christopher Keene, Cincinnati, Ohio, U.S.A., 24th July, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,001.
Claim.-1. A device of the character described comprising clamping jaws, an end frame, actuating means for moving one jaw toward the other, a lever pivoted on the end frame with one end connected with the movable jaw and a countertalancing spring having one end connected with the end frame and its opposite end connected with said lever.
2. A device of the character described comprising clamping jaws one of which is movable toward and from the other, lifting rods engaged beneath the ends of the movable jaw, bearing members having adjustable pins on which the lifting bars are supported and means for operating the bear'ing members in unison.
3. A device of the character described comprising stationary and movable jaws, a lifting rod engaged beneath the movable jaw, a bearing member having a socket, a pin adjustably held in said socket and whereon the lifting bar is supported, a screw carried by the bearing member and engaged beneath the said pin for adjusting the same and means for rocking the bearing member.
4. A device of the character described comprising stationary and movable jaws, a lifting rod engaged beneath the movable jaw, a bearing member having a socket extended downwards in it and open at the upper part of sald member. a screw having threaded engagement in the lower part of the said socket and provided with a slotted upper end, a pin adjustably held in the socket with its lower end rested on said screw and its upper end engaged beneath the lifting rod and means for rocking the bearing member.
5. A device of the character described comprising stationary and movable jaws, an end frame, a bearing plate vertically adjustable at the lower part of the end frame and having screws for holding it in adjusted position, a lifting rod engaged beneath the movable jaw, a bearing member mounted to rock in the bearing plate and having an adjustable pin engaged beneath the lifting rod and means for rocking the bearing member.
6. A device of the character described comprising stationary and movable jaws, a counterbalancing device connected with the movable jaw for counterbalancing the same, a lifting rod engaged beneath the movable member, a bearing member mounted to rock and having a projection engaged beneath the lifting rod, a treadle lever connected to operate the bearing member and a retracting device connected with the treadle lever for retracting the same.
7. A device of the character described comprising stationary and movable jaws, a counterbalancing device connected with the movable jaw for counterbalancing the same, a lifting rod engaged beneath the movable jaw, a bearing member mounted to rock and having a projection engaged beneath the ifting rod, a treadle lever connected to operate the bearing member and a retracting device having a compensating connection with the treadle lever and arranged to partially retract the same when fully depressed.
8. A device of the character described comprising stationary and movable jaws, a counterbalancing device connected with the movable faw to counterbalance the same, a lifting rod engaged beneath the movable jaw, a bearing member mounted to rock and having a projection engaged beneath the lifting rod, a treadle lever connected to operate the bearing member, an arm pivoted on the treadle lever and adapted to depend therefrom when said lever is uplifted and a retracting spring connected with the depending part of said arm and arranged to partially retract the treadle lever when the same is fully depressed.

No. 100,209. Velocipede, Etc. Vélocipide, etc.


James Archer, Manchester, England, 24th July, 1906; 6 years. Flled 11th July, 1904. Recelpt No. 116.817.
Claim.-1. In variable speed gear for velocipedes and road motor vehicles, a fixed axle with longitudinal boring and transverse slot also with a planet pinion on its exterior and a screw thread at each end, a cone bearing fixed on sald axle near one end, and a further cone bearing loosely screwed on to the other end of the axie, a driving member fitting over said axle from the left hand end and against the said fixed cone bearing, a wheel hub a bush in each end of the hub and and thus axially support the hub, the driving member, the and the other designed to lie around the loose cone bearing, and thus axially supoprt the hub, the driving member, the hub, its bushes and the loose cone nut all being adjusted against the fixed cone bearing, in combluation with a planet cage, planet gear wheels and a gear ring, movable longitudinally within the wheel hub, and means whereby the planet cage and gear ring only on being moved to various positions, serve individually or collectively to transmit the motion of the driving member to the hub at three different speeds, and allow of free wheeling with each speed and the planet cage and gear to remain stationary whilst free wheelling, substantially as set forth.
2. In variable speed gear for velocipedes and road motor vehicles, a fixed axle with longitudinal boring and transverse slot, also with a planet pinion on its exterior and a screw thread at each end, a wheel hub with bush at one end. and said bush having ratchet teeth on its inner periphery, being bevelled inwardly at its inner end, and at its outer end formed to serve as one of the hub cun bearings, a further bush in the other end of the hub and forming the other cup bearing, pawls pivotally carried by said further bush, and springs for forcing the pawls slightly beyond the inner periphery of the bush. a driving member surrounding the axle and projecting into the hub and within the said bush with the ratchet teeth, and also having a series of open ended recesses of ratchet tooth-shape in a part of its periphery, the other part being left plain, and also having a series of open-ended onenings in its inner end, means for supporting the driving member and hub bushes centrally around the axle, a planet
cage and gear ring capable of being moved longitudinally and the planet cage having ratchet teeth designed to engage the pawls on the hub bush, planet gear carried by the cage and meshing with the gear ring and with the planet pinion on the fixed axle, a set of pawls pivotally carried by the gear ring and one set designed to press outwards and engage the teeth in the said hub bush, and the other set press inwards and thus project into the recess in the driving member, when opposite, thereto, or press against the plain surface of the driving member, substantially as set forth.

No. 100,210. Wrench. Clé àécrou.


Frank Williams and Jack Davis, both of Kelvin, Arizona, U.S.A., 24th July, 1906; 6 years. Filed 12th April, 1906. Receipt No. 134,867.
Claim.-1. A wrench for application to a plpe or other device comprising a handle, a stationary jaw, a swinging jaw, and means movably mounted adjacent to one of said jaws adapted to be engaged by the plpe or other device to move the swinging jaw toward the stationary jaw to grip said pipe.
2. A wrench for application to a pipe or other device comprising a handle having a stationary jaw and a swinging jaw, and means carried by the swinging jaw and movable adjacent to the stationary jaw and adapted to be engaged by the pipe or other device which acts to move the swinging jaw toward the stationary jaw to grip the pipe or other device between the same.
3. A wrench for application to a plpe or other device comprising a handle having a stationary jaw, a yoke pivoted thereto, a swinging jaw carried by the yoke, and means on the yoke adapted to be engaged by the pipe or other device for swinging the yoke and throwing the swinging jaw toward the stationary jaw.
4. A wrench for application to a pipe or other device comprising a handle having a stationary jaw and a swinging jaw, a pivoted yoke connecting said jaws, and an auxiliary jaw carried by the yoke and adapted to project slightly beyond the working face of the stationary jaw to be engaged by the pipe or other device, whereby the pipe acts on the auxilary jaw and thereby causes the swinging jaw to move toward the stationary jaw.
5. A wrench for application to a pipe or other device comprising a handle having a stationary jaw and a swinging jaw, a pivoted yoke connecting said jaw, and connected auxiliary jaws carried by said yoke, and having toothed edges which project beyond the working face of the stationary jaw to be engaged by the pipe or other device, said pipe acting on the auxiliary jaws to move the swinging jaw toward the stationary jaw.

## No. 100,211. Rotary Bngine. Machine rotatoire.

Orin Williams, Des Moines, Iowa, U.S.A., 24th July, 1906; 6 years. Filed 3rd July, 1905. Recelpt No. 126,553.
Claim.-1. In a rotary engine the combination of a cylinder, a hub rotatably mounted within the cylinder, eccentric relative to the cylinder and adjacent to the cylinder at one point. a piston slidingly mounted in the cylinder, and means for guiding the piston to engage the cylinder during the rotation of the piston.
2. In a rotary engine the combination of a cylinder, a hub rotatably mounted within the cylinder eccentric relative to the cylinder and adjacent to the cylinder at one point, a piston slidingly mounted in the cylinder, means for guiding the piston to engage the cylinder during the rotation of the piston, and a pressure blade slidingly mounted in the cylinder to engage the periphery of the rotary hub.
3. In a rotary engine the combination of a cylinder, a recess in the cylinder wall, a rotatable hub within the cylinder arranged eccentrically and having a portion of its periphery
projected beyond the inner wall of the cylinider and into said recess, a piston slidingly mounted in the hub, and means for

guiding the piston in a true circle concentric with the interior of the cylinder.
4. In a rotary engine the combination of a cylinder, a segmental recess formed in the cylinder wall outside of the circle of the interior of the cylinder, a rotary hub mounted eccentrically within the cylinder and having a portion of its periphery projected beyond the cylinder line into the segmental recess, a plston slidingly mounted in the hub, and means for guiding the piston to follow the true circle of the interior of the cylinder throughout the rotation of the hub.
5. In a rotary engine the combination of a cylinder, a segmental recess formed in the cylinder wall outside of the circle of the interior of the cylinder, a rotary hub mounted ececntrically within the cylinder and having a portion of its periphery projected beyond the cylinder line into the segmental recess, a plston slidingly mounted in the hub, means for gulding the piston to follow the true circle of the interior of the cylinder throughout the rotation of the hub, and a pressure blade projecting into the segmental recess to engage the periphery of the hub.
6. In an engine the combination of a cylinder, a segmental recess formed in the cylinder wall outside of the circle of the interior of the cyllnder, a rotary hub mounted eccentrically within the cylinder and having a portion of its periphery projected beyond the cylinder line into the segmental recess, a piston slidingly mounted in the hub, and means for guiding the piston to follow the true circle of the interior of the cylinder throughout the rotation of the hub, sald cylinder formed with an Induction port therein adjacent to the segmental recess.
7. The combination of a cylinder, a concentric annular groove in the cylinder head, a rotatable hub mounted eccentrically within the cylinder, a piston slidingly mounted in the hub, and a guiding means connected with the piston and inserted in the annular grooves.
8. The combination of a cylinder formed with a recess extended outside of the inner wall of the cylinder, the cylinder head formed with a concentric annular groove, a rotary hub mounted within the cylinder with a portion of its periphery projecting into the recess, a plston slidingly mounted in the hub, and a guiding means connected with the piston and inserted in the annular groove for guiding the piston in a true circle around the interior of the cylinder.
9. The combination of a cylinder formed with annular concentric grooves in the cylinder heads, rings rotatably mounted in said grooves, an eccentrically mounted rotatable hub within the cylinder, a piston slidingly mounted in the hub, means for connecting the piston and the rings, a counterbalancing weight slidingly mounted in the hub diametrically opposite from the piston, and means for connecting the counterbalancing weight with the rings.
10. The combination of a cylinder formed with annular concentric grooves in the cylinder heads, rings rotatably mounted in said grooves, an eccentrically mounted rotatable hub within the cylinder, a piston slidingly mounted in the hub, means for connecting the piston and the rings, a counterbalancing weight slidingly mounted in the hub diametrically opposite from the piston, means for connecting the counterbalancing weight with the rings, and a pressure blade mountod in the cylinder to engage the periphery of the hub.
11. The combination of a cylinder formed with concentric annular grooves in the cylinder heads and also formed with a segmental recess in the cylinder wall, said recess extending outside of the cylinder line, rings rotatably mounted in the anular grooves, a rotary hub mounted eccentrically within the cylinder with a portion of its periphery projecting outside of the cylinder line and into the said recess, a piston slidingly mounted in the hub, a shaft connected with the
piston and rotatably mounted in the rings, a counterbalanceing welght alidingly mounted in the hub and a shaft conneci ing the counterbalancing weight with the rings.
12. The combination of a cylinder formed with eccentric annular grooves in the cylinder heads and also formed with a segmental recess in the cylinder wall, said recess extending outside of the cylinder line, rings rotatably mounted in the annular grooves, a rotary hub mounted eccentrically within the cylinder with a portion of its periphery projecting outside of the cylinder line and into the said recess, a piston slidingly mounted in the hub, a shaft connected with the piston and rotatably mounted in the rings, a counterbalancing weight slidably mounted in the hub, and a shaft connected with the counterbalancing weight and slidingly connected with the rings.
13. An improved rotary engine comprising a cylinder, its inner wall forming a true circle, a segmental recess in thi inner wall outside of the true circle, a pressure blade projecting into the segmental recess with its end substantlally in line with the periphery of the hub, said cylinder also formed with an Induction port adjacent to the segmental recess and with an exhaust port, and the cylinder heads formed with annular concentric grooves, a shaft eccentrically mounted in the cylinder heads, a rotary hub on the shaft with a part of its periphery projecting into the segmental recess beyond the true circle of the cylinder, a piston slidingly mounted in the hub, a weight slidingly mounted in the hub diametrically oppositet from the piston, annular rings rotatady mounted in the grooves in the cylinder heads, means for connecting the piston with the weight and a shaft connected with the weight and inserted in the said rings.
14. In a rotary engine a rotary piston block formed with a radial groove at one side and a radial groove at a point diametrically opposite from the first, a radially movable piston mounted in one of the radial grooves, a radially movable counterbalancing weight mounted in the other groove, and rods extended through the piston block to connect the piston and weight.
15. In a rotary engine a rotary piston block formed with a radial groove at one side and a radial groove at a point diametriclly opposite from the first, a radially movable piston mounted in one of the radial grooves, a radially movable counterbalancing weight mounted in the other groove, rods extended through the plston block to connect the piston and weight, and steam packing devices surrounding said rod.
16. In a rotary engine a piston having radjal grooves at diametrically opposite points, plates on the ends of the piston formed with radial notches adjacent to one of said grooves and with radial openings adjacent to the other groove, a piston slidingly mounted in one of said grooves with its ends in the adjacent notches, a counterbalancing weight slidingly mounted in the other groove, rods connecting the weight and piston and passing through the plates at the ends of the piston, a shaft extended through the counterbalancing welght and through the plates, and means for guiding said shaft to move radially relative to the piston block.
17. In a rotary engine the combination of a cylinder, two steam chests adjacent to the cylinder, ducts for admitting steam from the chests to opposite sides of the cylinder, valves for controlling the admission of the steam, exhaust ducts communicating with the said admission ducts, and means for controlling the passage of steam through said exhaust ducts.
18. In a rotary enugine the combination of a cylinder, two steam chests adjacent to the cylinder, ducts for admitting steam from the chests to opposite sides of the cylinder, valves for controlling the admission of steam, exhaust ducts communicating with the said admission ducts, means for controlling the passage of steam through said exhaust ducts, and means for automatically operating the means for controlling the exhaust ducts in unison with the means for controlling the steam admission.
19. In a rotary engine a body portion formed with a cylindrical chamber, a cylinder head formed with an annular shoulder adjacent to the cylindrical body portion, a rotary piston block head fixed to the cylindrical plston block, and packing rings on the cylindrical piston block head in engagement with the annular shoulder of the cylinder head.
20. In a rotary engine the combination of a cylinder and rotary piston block, of a radially movable piston formed with a groove at its ends and outer edge, a packing bar slidingly mounted in the groove at the edge of the piston, and two packing bars mounted in the grooves at the ends of the plston, slidingly connected with the bar at the outer edge of the piston, springs for holding the end bars at their outer limit of movement relative to the bar in the edge of the piston, and independent springs for holding the inner ends of the end bars to their outer limit of movement.
21. In a rotary engine a rotating platon block, a piston sildingly supported in the piston block and formed with a groove in its outer edge and its ends, a packing bar slidingly mounted in the outer edge groove of the piston, two packing bars slidingly mounted in the end groove of the piston, and two extensible coil springs, each having one end resting upon the
piston and extended outwardiy radially and outwardly toward the end of the rotary piston block, its outer end engaging the end packing bars, said springs yieldingly holding the end packing bars to their limit of movement toward the ends of the rotary piston block and toward the periphery of same.
22. A rotary engine comprising a cylindrical body portion having a flat surface on its interior, a rotary piston block, a radially movable piston carried by the rotary piston block, a counterbalancing weight carried by the rotary plston block and connected with the piston.
23. In a rotary engine a rotary piston block, a radially movable piston at one side of the plston block und a counterbalancing weight carried by the rotary piston block diametrically opposite from the rotary piston and concected therewith.
24. In a rotary engine a plston block formed with a radial groove at one side and a radial groove at the opposite side, a radially movable piston in one groove and a radially movable weight in the groove, and means for connecting them.
25. In a rotary engine a cylindrical body portion formed with a flat surface on its interior and also formed with a slot open at the central portion of said fiat surface, a packing plate slidingly mounted in said slot, a shielding strip on top of the packing plate, a rigid bar on top of the yielding strip, and a screw engaging the top of the rigid bar to force the packing plate downwardly, and a rotary piston block in the cylinder engaged by sald packing plate.
26. In an engine the combination of a steam chest, a rotary valve in the steam chest, a valve stem rotatably supported and slidingly connected with said valve.
27. In an engine, a steam chest, a rotary valve formed with a steam port running through it, a valve seat formed in the steam chest at the point where the valve would be pressed against it by steam pressure within the steam chest, a rotary valve stem and means for connecting the valve stem with the valve to permit a movement of the valve toward ita seat without moving the valve stem.
28. In an engine, a steam chest, a cylindrical valve chamber in the steam chest having an inlet at its top and an outlet at its bottom, a rotary valve on the valve seat formed with a steam passage way running through it and also formed with a groove at one end, a packing box in one end of the steam chest, a valve stem passed through the paoking box and formed with a T-head slidingly mounted in the groove in the end of the rotary valve.
29. In an engine, a steam chest, a cylindrical valve chamber in the steam chest having an inlet at its top and an outlet at its bottom, a rotary valve in the valve seat rormed with a steam passageway running through it and also formed with a groove at one end, a packing box in one end of the steam chest, a valve stem passed through the packing box and formcd with a $T$-head slidingly mounted in the groove in the end of the rotary valve, and a set screw in the other end of the rotary valve with its head in engagement with the adjacent portion of the steam chest.
30. In an engine, the combination of a rotatable engine shaft, two rotary valves for controlling the admission of steam to the engine, means driven by the engine ahaft for actuating said valves, a lever and means operated by the lever for adjusting both of said valves at the same time to control their period of cut-off relative to the movement of the engine shaft.
31. In an engine the combination of a rotatable engine shaft, two independent valves for controlling the admission of steam to the engine, one operating to drive the engine in one direction and the other in a reverse direction, means driven by the engine shaft for actuating either one of said valvos, a lever, and means actuated by the lever for controlling the period of cut-off of both valves, so that when efther valve is used, the period of cut-off will be the same.
32. In an engine the combination of a rotatable engine shaft, two indepndent valves for controlling the admission of steam to the engine, one operating to drive the engine in one direction and the other in a reverse direction, means driven by the engine shaft for actuating either one of said valves, a lever and means actuated by the lever for controlling the period of cut-off of both valves, so that when either valve is used, the period of cut-off will be the same, and independent means for throwing elther one of the valves into operation and the other out of operation without effecting the cut-off controlling means.
33. In a rotary engine the combination of an engine shaft, a rotary piston on the shaft, two independent valves for controlling the admission of steam to the engine, one for turning the piston in one direction and the other in a reverse direction, a valve stem connected with each valve, a slotted arm connected with each valve stem, two eccentrical mount ed on the engine shaft, eccentric straps mounted on the eccentrics, arms connected with the eccentric straps and slidingly connected with said slotted arms, and means for simultaneously moving both of the eccentric arms relative to tbe slotted arms.
34. In a rotary engine the combination of an engine shaft. a rotary piston thereon, two rotary valves controlling the admission of steam to the engine, one for turning the piston in one direction and the other in a reversed direction, a valve stem for each of said valves, a rotatable clutch on each valve stem, a sliding clutch on each valve stem, a slotted arm on each rotary clutch formed with a slot, an eccentric arm slidingly mounted in the slot of each slotted arm, an eccentric strap connected with each eccentric arm, an eccentric fixed to the engine shaft and operating in each eccentric strap, two sliding blocks, links connected with the sliding blocks and also with the ends of the eccentric arms that are in the slotted arms; a single lever for moving both of said sliding blocks at the same time, a reversing lever, and means actuated by this reversing lever for throwing either one of the sliding clutches into engagement with its mating rotary clutch, and the other pair of clutches out of engagement at the same time.

No. 100,212. Stone Saw. Scic d pierre.


Isaac Matheson McKay, Fruitvale, California, U.S.A., 24th July, 1906; 6 years. Filed 12th June, 1906. Recelpt No. 136,816.
Claim.-1. An improved saw having a blade of uniform thickness with a sinuous cutting edge, the opposite sides of the blade being corrugated in corresponding lines which extend sinuously from said cutting edge to the back of the blade, said side sinuous corrugations communicating with the sinuations of said cutting edge.
2. An improved saw havigg a blade of uniform thickness and with a sinuous cutting edge, said blade having its sides provided with other sinuous corrugations which communicate with the sinuations of said cutting edge.

## No. 100,213. Floor Sweeper. Balayeuse.



Peter H. Melander, assignee of William A. Dunaway, both of Tacoma, Washington. U.S.A., 24th July, 1906; 6 years. Filed 9th January, 1906. Receipt No. 131,704.
Claim.-1. In a floor sweeper the combinatiun of a casing, an axle centrally mounted in said casing, supporting wheels on said axle, a rotary brush driven from said axle and lolated near one end of said casing, a rotary mop driven from said axle and located near the other end of said casing, a ro-
tary mop driven from said axle and located above it, dust flues leading from said brush and mop to said fan, and a dust pan adapted to receive the dust from sald fan.
2. In a floor sweeper the combination of a casing, an axle centrally mounted in said casing supporting wheels near brush driven from said axle and located near one end of said casing, a rotary mop driven from said axle and located near the other end of said casing, a rotary fan driven from said axle and located above it, dust flues leading from said brush and mop to said fan, dust spouts connecting with said fan, a movable plate adapted to close one of said dust spouts and to open the other, and means for operating and controlling said plate.

## No. 100,214. Pedestal for Hanging Paper.

Picdestale pour poser le papier de tenture.


John Richmond Brown, Yalesville, Connecticut, U.S.A., 24th July, 1906; 6 years. Filed 15th June, 1906. Receipt No. 136,923.
Claim.-1. In a paper hanger's pedestal, the combination with a clamp, of a horizontal arm having swivel connection therewith so as to swing on a vertical axis, an upright attached to the outer end of the arm, and a paper holder adjustably connected with the upper end of the upright.
2. In a paper hanger's pedestal, the combination with a clamp, of a horizontal arm having swivel connection thereWith so as to swing on a vertical axis, an upright pivotally' attached to the outer end of the arm, a brace between the arm and the upright, and a paper holder adjustably connected with the upper end of the upright.
3. In a paper hanger's pedestal, the combination with a clamp, of a horoizontal arm having swivel connection therewith so as to swing on a vertical axis, an upright attached to the outer end of the arm, a rod entered into the upper end of the upright in which it is adjustable, and a paper holder adjustably connected to the outer end of the said rod.
4. In a paper hanger's pedestal, the combination with a clamp, of a horizontal arm swivelled thereto so as to swing on a vertical axis, an upright pivotally attached to the outer end of the said arm, a folding brace between the said arm and upright, and a paper holder adjustably connected to the upper end of the said upright.
5. In a paper hanger's pedestal, the combination with a clamp adapted to be applied to a platform, of a horizontal arm having its inner end swivelled to the said clamp so as to swing upon a vertical axis, an upright pivoted to the outer end of the said arm, a brace between the sald arm and upright, a rod entered into the upper end of the upright in which it is adjustable, and a paper holder adjustably connected to the upper end of the said rod.
6. In a paper hanger's pedestal, the combination with a frame, of means for swivelling the same to a platform so as to swing on a vertical axis, a collapsible paper holder adjustably connected with the upper end of the said frame and stencil grippers for the said paper holder.
7. In a paper hanger's pedestal, the combination with a frame. of means for swivelling the same to a platform so as to swing on a vertical axis, and a collapsible paper holder adjustably connected with the upper end of the said frame and consisting on the principle of lazy tongs.
8. In a paper hanger's pedestal, the combination with a clamp, of a frame having swivel connection with the sa'd clamp so as to swing on a vertical axis, a collapsible paper holder comprising a top bar, a corresponding bottom bar, two pairs of side bars respectively having their outer ends pivoted to the ends of the said top and bottom bars and having their inner ends pivoted together, whereby the said paper holder is rendered collapsible on the principle of lazy tongs, and a short folding arm pivotally connected to the said lower bar of the paper holder with it connects to the sald frame.

No. 100,215. Sash Bar. Barre de fenêtre.


James P. Comstock, Tacoma, Washington, U.S.A., 24th July, 1906; 6 years. Filed 2nd January, 1906. Receipt No. 131,492.
Claim.-1. A sash bar comprising a pair of angle frons placed back toward back and securely fastened together through separators.
2. In a sash bar, the combination of a pair of parallel angle irons placed back toward back and securely fastened together through separators, a metallic strip curved to form an ornamental exterior covering for said bar, and means for securing said metal strip to said bar.
3. In a sash bar, the combination of a pair of parallel angle irons placed back toward back and securely fastened together through separators, a metallic strip curved to form an ornamental exterior covering for said bar, and clips engaging the inner side of said metallic strip and having screws securing said clips to said bar.
4. In a sash bar, the combination of a pair of parallel angle irons placed back toward back and securely fastened together through separators, a metallic strip curved to form an ornamental exterior covering for said bar, the sides of said metallic strip being inwardly folded, and clips engaging between the curved portion and the inwardly folded sides of said metallic strip and having screws securing said slips to said bar.
5. In a sash bar, the combination of a pair of parallel angle irons placed back toward back and securely fastened together through separators, and end castings adapted to be independently secured to the window frame and having extensions engaging between said angle irons and being secured thereto.
6. In a sash bar, the combination of a pair of parallel angle irons placed back toward back and securely fastened together through separators, and independent castings secured to the ends thereof between said angle irons and having lateral flanges adapted to be screwed to the window frame.
7. In a sash bar, the combination of a pair of parallel angle irons placed back toward back and securely fastened together through separators, Independent castings secured to the ends of the bar between the angle irons thereof and having lateral flanges adapted to be screwed to the window frame, a metallic strip curved to form an ornamental exterior covering for said bar, the sides of said metallic strip being inwardly folded, and clips engaging between the curved portion and the inwardly folded sides of said metallic strip and having screws securing said clip to said bar.
8. In a sash bar, the combination of a pair of parallel angle irons placed back toward back and securely fastened together through separators, and a clamp strip adapted to press the panes of glass against the legs of said angle irons and being formed to extend parallel with said angle irons and on each side thereof, and screw controlled clamping heads engaging said clamp strip and said angle irons to draw said clamp strip against the glass.
9. A window frame consisting of sash bars each formed of a pair of parallel angle irons placed back toward back and securely fastened together and secured at their ends to the building, similarly constructed transom bars extending between the sash bars, and clamping plates clamped to the sash bars and clamping the transom bars.
10. In a sash bar, the combination with a pair of angle irons placed back toward back and securely fastened together through separators and forming a stiff support with their backs between the panes of glass and lateral supports for the glass with their legs, of a keeper adjustably secured to said angle frons and clamping the glass between it and the legs thereof.

No. 100,216. Brick Mould. Moule d brique.


Peter Dierlamm, Stratford, Ontario, Canada, 24th July, 1906; 6 years. Filed 7th April, 1906. Recipt No. 134.723.
Claim.-1. In a machine of the class described the combination with a frame of a vertically movable currier thereon, means for operating said carrier, a pallet carried on the carrier, a plurality of longitudinal and transverse plates carried on the frame and means adapted to simultaneously reciprocate the transverse plates.
2. In a device of the class described the combination with a frame of a vertically movable carrier thereon. means for operating said carrier, a pallet on said carrier, a plurality of longitudinal plates supported on the framo adjacent the pallet and provided with slots therethrough, a plurality of transverse plates slidably engaged in said slots and means adapted to simultaneously move said transverse plates longitudinally.
3. In a device of the class described the combination with a frame of vertically reciprocating carriers thereon, means for operating said carriers, pallets on said carriers, longitudinal plates on said frame provided with vertical slots therein, a plurality of transverse division plates adapted to engage in said slots when at the inner limit of their movement and means for simultaneously reciprocating said plates transversely of the pallets.
4. In a device of the class described the combination with a frame of vertically movable carriers thereon, pallets on said carriers, intersecting transverse and longitudinal division plates carried on said frame and adapted to form compartment above the pallets, parallel ways on said frame, a head slidably engagen thereon and connected with sald transverse plates, means for moving said head along the ways, and tamping means hinged on the frame and adapted to tamp material in said compartments.
5. In a device of the class described the combination with a frame f verti all/ movabl pallets thereon, means for operating said pallets, means affording a plurallty of compartments above the pallets, a hopper adapted to rest on said plates and partitions therein adapted to divide sald compartments.

## No. 100,217. Electric Drill. Foret électrique.

William Obed Duntley, Chicago, Illinois, U.S.A., 24th July, 1906; 6 years. Filed 28th July, 1905. Receipt No. 127,271. Claim.-1. In an electric drill the combination of a tool shaft or driven spindle, a plurality of electric motors grouped about the axial line of said shaft and operatively connected therewith, and a casing and supporting said motors.
2. In an electric drill the combination of a tool shaft or driven spindle, a plurality of electric motors grouped about the axial line of said shaft and operatively connected therewith, a casing enclosing and supporting said motors, and grasping handles connected with such casing.
3. In an electric drill the combination of a tool shaft or driven spindle, a plurality of electric motors arranged equidistantly of the axial line of said shaft and operatively connected therewith, and a casing forming the field frame of the motors and enclosing and supporting the latter.
4. In an electric drill the combination of a tool shaft or driven spindle, a plurality of electric motors arranged equidistantly of the axial line of sald shaft and geared thereto, and a casing enclosing and supporting sald motors.
5. In an electric drill the combination of a tool shaft or spindle, a plurality of electric motors grouped around the

axial line of said spindle, a casing surrounding and supporting sald motors, pinions on the armature shafts of the motors, and a plate having an internal gear or curved rack with which each of the pinions mesh, said plate being connected with the tool spindle.
6. In an electric drill the combination of a tool shaft or spindle, a plurality of electric motors grouped around the axial line of said spindle, said motors being operatively connected with the tool spindle, and a feed adjusting screw arranged axially of the tool spindle and of the series of motors.
7. In an electric drill the combination of a tool shaft or spindle, a plurality of electric motors grouped around the axial line of said spindle, said motors being operatively connected with the tool opindle, a fixed screw-threaded shaft arranged axially of the series of motors, and a feed screw engaging the said fixed shaft.
8. In an electric drill the combination of a tool shaft or spindle, a plurality of electric motors equidistantly disposed around the axial line of said spindle said motors being operatively connected with the tool spindle, and end heads having a plurality of bearings for the armature shafts of the motors.
9. In an electric drill the combination of a tool shaft or spindle, a plurality of electric motors equidistantly disposed around the axial line of said spindle, said motors being operatively connected with the tool spindle, end heads having a plurality of bearings for the motor armature and a feed screw entering said head centrally thereof.
10. In an electric drill the combination of a tool shaft or spindle, a plurality of electric motors grouped around the axial line of said spindle, said motors being operatively connected with the tool spindle, end heads having a plurality of bearings for the motor armatures and provided with central openings, and a feed device comprising a fixed shaft recelved by the central opening of the lower end head and projecting upwardly therefrom and screw-threaded at its upper end, and a movable feed screw proper engaging sald shaft and passing through the central opening of the upper ena head.
11. In an electric drill the combination of a tool shaft or spindle, a plurality of electric motors grouped around the axial line of sald spindle, said motors being operatively connected with the tool spindle, end heads having a plurality of bearings for the motor armatures and provided with central openings, and a feed device comprising a fixed shaft received by the central openings of the lower end head and projecting upwardly therefrom and screw threaded at its upper end, and a movable screw-threaded sleeve forming the feed screw proper and engaging said shaft, said sleeve passing through the central opening of the upper end head.
12. In an electrlc drill the combination of a shell or casing forming the field frame of a series of electric motors, a series of fleld magnets arranged within the shell and connected therewith, a series of armatures disposed equidistantly with respect to the axial line of the shell, a tool spindle, and a gear plate connected with the spindle and to which said armatures are geared.
13. In an electric drill the combination of a shell or casing forming a field frame common to a serles of electric motors, a serics of field magnets arranged within the shell and connected therewith but forming ventilating spaces therebetween, a serles of armatures grouped about the axial line of the shell, a series of fans on the armatures to force air through the casing and through said ventllating spaces, and a tool spindle with which sald armatures are operatively connected.
14. In an electric drill the combination of a shell or casing. an electric motor therewithin, a tool spindle with which such motor is operatively connected, an electric switch on one sids of the shell or casing, and two handles arranged at oppositg sides of the casing, one of the handles being a dead handle with a passage therethrough, and the other being a live and rotatable handle having means for operating said switch, the leading in wires entering said dead handle and rim to the switch.
15. In an electric drill the combination of a shell or casing. an electric motor therewithin, a tool spindle with which such notor is operatively connected, an elctric switch on one sids Cl the shell or casing, and two handles arranged at opposit? sides of the casing, one of the handles being a dead handl? with a passage therethrough and the other being a live handle comprising a stationary socket portion or box fitting over the switch and a portion rotatable in said cocket portion, said rotatable portion being arranged to operate said switch, the leading-in wires passing in through the deal handle and extending to the switch.
16. In an electric drill the combination of a shell or casing, an electric motor therewithin, a tool spindle with which such motor is operatively connected, an electric switch on one side of the shell or casing, and two handles arranged at opposite sides of the casing, one of the handles being a dead handle with a passage therethrough and the other being a live handle comprising a stationary socket portion or box fitting over the switch and a portion rotatable in said socket portion and operatively connected with the switch, said socket portiou belng connected with the casing and removable therefrom and from the switch without interference with the wires, and leading-in wires passing trough the dead handle and across the body of the drill to the switch.
17. In an electric drill the combination of a shell or casing, an electric motor therewithin, a tool spindle with whlch such motor is operatively connected, an electric swltch on one side of the casing, a live and a dead handle, a split band clamped to the casing and connected with said hanales, said dead handle being hollow and receiving the leading-in wires which are run to the switch.
18. In an electric drill the combination of a shell or casing. an electric motor therewithin, a tool spindle with which such motor is operatively connected, an electric switch on one side of the casing, a live and a dead handle, a split band clamped to the casing and connected with said handles, and screws engaging the adjacent ends of the portions of the band for clamping them to the casing.
19. In an electric drill the combination of a shell or casing, an electric motor therewithin, a tool spindle with whith ssch motor is operatively connected, an electric switch on one side of the casing, a live and a dead handle, a split band clamped to the casing and connected with said handles, said band being outwardly expanded to form grooves for the reception of the wires, sald dead handle being hollow and receiving the leading-in wires which are run through the grooves in the band and to the switch.
20. In an electric drill te combination of a shell or casing, an electric motor therewithin, a tool spindle with which such motor is operatively connected, an electric switch on one side of the casing, a live and a dead handie, a split band clamped to the casing and connected with said handles, one portion of said band having a tubular extension to receive the dead handle, and the other portion thereof having a socket to fit over the switch.
21. In an electric drill the combination of a shell or casing, an electric motor therewithin, a tool spindle with which such motor is operatively connected, an electric switch on one side of the casing, a live and a dead handle, a split band clamped to the casing and connected with said handles, said band being outwardly expanded to provide a groove or channel for the leading-in wires one portion of said band having a tubular extension to receive the dead handle, and the other portion thereof having a socket fitting over the switch and means for clamping the band to the casing, said dead handle being hollow and arranged to permit the passage of the leading in wires through the channel to the switch.
22. In an electric drill the combination of a casing, end heads therefor, an electric motor arranged in the casing and having its bearings in such heads, and means whereby the motor may be bodily removable together with one of the end heads.
23. In an electric drill the combination of a casing, end heads therefor, an electric motor arranged in the casing and having its bearings in such heads, the motor buing removable as to one of jts bearings and fixed as to its other bearings to enable the motor to be bodily removed with one of the end heads.
24. In an electric drill the combination of a casing, end heads therefor, an electric motor arranged in the casing and having its bearings in such heads, one of the bearings having a bearing collar actuated by the armature shaft which is removable therefrom.
25. In an electric drill the combination of a casing, end heads therefor, an electric motor arranged in the casing and having its bearings in such heads, one of the bearings comprising a socket piece fitting in its end head, balls therein and a bearing collar actuated by the armature shaft which is bodily removable therefrom.
26. In an electric drill the combination of a casing, end heads therefor, an electric motor arranged within the casing and having its bearings in such heads, one of the bearings having a bearing collar actuated by the armature shaft which is removble therefrom, and a fan mounted on said collar.
27. In an electric motor the combination of a casing, top and bottom end heads therefor, a series of electric motors arranged within the casing and having bearings in the end heads, a tool spindle to which the motors are operatively connected, the bottom and head having bearing collars actuated by the armature shafts which are bodily removable therefrom, and fans mounted on the collars for circulating air through the casing to keep the parts air cooled.
28. In an electric drill the combination of a tool shaft or driven spindle, a plurality of electric motors arranged about the axial line of said shaft, a gear connected with said spindle and arranged to be engaged and actuated by each of sald motors, and a casing enclosing and supporting said motors.
29. In an electric drill the combination of a tool shaft or driven spindle, a plurality of electric motors arranged about the axial line of said shaft and having pinions on their armature shafts, a plate having a circular rack which is conrected with the spindle and with which sald pinions mesh, and a casing enclosing and supporting said motors.
30. In an electric drill the combination of a tool shaft or spindle, a plurality of electric motors arranged equidistantly of such shaft and operatively connected therewith, and a force feed device having a thrust bearing against the inner end of the tool shaft
31. In an electric drill, the combination of a tool shaft or spindle, a plurality of electric motors grouped about such shaft and operatively connected therewith, and a force feed device comprising a feed screw arranged axially of the tool shaft or spindle and having a thrust bearing against the inner end of the latter.
32. In an electric drill, the combination of a tool shaft or spindle, a plurality of electric motors grouped about such shaft and operatively connected therewith, and a force feed device comprising a fixed screw-threaded shaft arranged axlally of the tool shaft or spindle and having a thrust bearng against the inner end of the latter, and a feed screw also aranged axially of the tool shaft or spindle and engaging the fixed shaft.
33. In an electric drill, the combination of a shell or frame, a series of electric motors aranged therein, a series of fans operatively connected with said motors for causing a circulation of air among the parts of the different motors.
34. In an electric motor, the combination of a casing, an electrlc motor, a collar operatively connected with the armature shaft which is removable therefrom when the motor is lifted from casing, and a fan connected with such collar.
35. In an electric motor, the combination of a casing, an electric motor, a tool spindle to which the motor is operatively connected, bearings in the casing for the armature skaft of the motor, to one of which bearings the armature is operatively connected with said last-named bearing.
36. In an electric motor, the combination of a casing, a tool spindle, an electric motor arranged therein, and operatively connected with the tool spindle, a fan device operatively connected with the motor, and means whereby the rotor may be bodily removed without disturbing the fan device.

No. 100,218. Electric Drill. Foret électrique.
William O. Duntley, Chicago, Illinois, and Henry J. Kimman, Cleveland, Ohio, both in U.S.A., 24th July, 1906; 6 years. Filed 19th Sepetmber, 1905. Receipt No. 128,560.
Claim.-1. In an electric drill, the combination with an electric motor and a tool spindle operatively connected therewith, of means for breaking said connection when the load on the spindle reaches a predetermined amount.
2. In an electric drill, the combination with an electric motor and a tool spindle, of operating connections between the motor and the spindle for actuating the latter and governed by the load thereon.
3. In an electric drill, the combination with an electric motor and a tool spindle operatively connected therewith, of means for stopping the operation of the tool spindle when the load thereon reaches or exceeds a predetermined amount.
4. In an electric drill, the combination with an electric motor and a tool spindle operatively connected therewith, of means for interfering with said connection when the load on the spindle reaches a predetermined amount without interfering with the running of the motor.
5. In an electric drill, the combination with an electric motor and a tool spindle, of an operating connection there-

between arranged to drive the tool spindle up to a predetermined load thereon.
6. In an electric drill, the combination with an electric motor and a tool spindle, of a frictionally controlled drive connection between the motor and the spindle.
7. In an electric drill, the combination with an electric motor and a tool spindle, of a train of gearing between said motor and tool spindle, one of the members of the train being rendered inoperative when the load reaches a predetermined amount.
8. In an electric drill, the combination with an electric motor and a tool spindle, of a train of gearing between said motor and tool spindle, one of the members of the train being arranged to slip and thereby prevent actuation of the tool spindle when the load reaches a predetermined amount.
9. In an electric drill, the combination with an electric motor and a tool spindle, of a train of gearing between said motor and tool spindle, one of the members of the train being a rack normally stationary but arranged to rotate and thereby destroy the operating connections between the motor and tool spindle when the load on the latter reaches a predetermined amount.
10. In an electric drill, the combination with an electric motor and a tool spindle, of planetary gearing forming the operating connection between the motor and spindle, one nember of the train being arranged to become inoperative when the load reaches a predetermined amount.
11. In an electric drill, the combination with an electric motor and a tool spindle, of planetary gearing forming the operating connection between the motor and spindle, and comprising a rack and pinions, said rack being normally stationary but arranged to rotate when the load on the tool spindle reaches a predetermined amount.
12. In an electric drill, the combination with an electric motor and a tool spindle, of planetary gearing forming the operating connection between the motor and spindle and comprising a rack and pinions, and a casing or support with which said rack has frictional resistance up to a predetermined amount to resist a predetermined load on the tool spindle.
13. In an electric drill, the combination with an electric motor and a tool spindle, of planetary gearing forming the operating connection between the motor and spindle and comprising a rack and pinions, a casing or support, and a friction ring between said rack and casing whereby said rack will resist a load on the tool spindle substantially equalling the frictional resistance with said ring.
14. In an electric drill, the combination with an electric motor and a tool spindle, of planetary gearing forming the operating connection between the motor and spindle and comprising a curved rack and pinions, and means for clamping said rack to resist a predetermined load on the tool spindle.
15. In an electric drill, the combination with an electric motor and a tool spindle, of planetary gearing forming the operating connection between the motor and spindle and comprising a rack and pinions, and means for imparting a predetermined frictional resistance to the rack to resist a predetermined load on the tool spindle.
16. In an electric drill, the combination with an electric motor and a tool spindle, of train of gearing forming the operating connection between the motor and spindle, one of
the members of the train being a rack, and means for imparting to the rack a resistance adjustable in degree.
17. In an electric drill, the combination with an electric motor and a tool spindle, of planetary gearing forming the operating connection between the motor and spindle, one of the members of the traln being a rack, and means for imparting thereto a frictional resistance adjustable in degree to resist any predetermined load on the tool spindle.
18. In an electric drill, the combination with an electric motor and a tool spindle, of a train of gearing between said motor and tool spindle, and means for imparting to one of the members of the train a resistance equalling the maximum load on the tool.
19. In an electric drill, the combination with an electric motor and a tool spindle, of a train of gearing between said motor and tool spindle, and means for imparting to one of the members of the train a frictional resistance adjustable In degree to prevent slipping thereof untll the load on the tool reaches or exceeds a predetermined amount.
20. In an electric drill, the combination with an electric motor and a tool spindle, of a frictional drive connection between the motor and the spindle, and means for varying the degree of the irictional resistance.
21. In an electric drill, the combination with an electric motor and a tool spindle, of operating connections betwecu the motor and spindle for actuating the latter and governed by the load thereon, and means co-operating with said connections for varying the amount of power capable of being transmitted therethrough.
22. In an electric drill, the combination with an electric motor and a tool spindle, of a train of gearing between said motor and tool spindle. one of the members of the train having a frictional resistance substantially equalling the maximum load on the tool spindle and arranged to slip when the load reaches or expeods said amount, and means for adjusting the degree of said resistance.
23. In an electric drill. the combination with an electric motor and a tool spindle, of planetary gearing forming the operating connection between the motor and spindle and comprising a rack and pinions and springs imparting a frictional resistance to the rack.
24. In an electric drill. the combination with an electric motor and a tool snindle. of planetary gearing forming the operating connection between the motor and snindle, and comprising a rack and pinlons, springs imparting a frictional resistance to the rack, and means for varying the tension of the springs.
25. In an electric drill, the combination with an electric motor and a tool spindle, of planetary gearing forming the operating connection between the motor and spindle and comprising a rack and pinlons, friction rings bearing against the rack and means for varving the friction of such rings.
26. In an electric drill. the combination with an electric motor and a tool spindle, of planetary gearing forming the operating connection between the motor and spladle and comprising a rack and pinions. and a series of spring pressed studs exerting prescure against the rack to hold the same with a predetermined irictional resistance.
27. In an electric drill, the combination with an electric motor and a tool soindle, of planetary gearing forming the operating connection between the motor and spindle and comprising a rack and pinions, a friction ring bearing against the rack and a series of spring pressed studs bearing against the ring to hold the rack with a predetermined resistance.
28. In an electric drill, the combination with an electric motor and a tool spindle, of planetary gearing forming the operating connection between the motor and spindle and comprising a rack and pinions, a friction ring bearing against the rack, a series of spring pressed studs bearing against the ring to bold the rack with a irlctional resistance, and means for adjusting the degree of tension exerted by such studs.
29. In an electric drill, the combination with an electric motor and a tool spindle, of planetary gearing forming the operating connection between the motor and spindle and comprising a rack and pinlons, a casing or support having a socket to recelve such rack, and means for holding said rack therein with an adjustable frictional resistance.
30. In an electric drill, the combination with a casing and with the electric motor armature arranged thereln, of a fan within the casing which is provided with openings for the passage of air, and fuse arranged in the electric motor circuit and located adjacent one of said openings for ready inspection and replacement.
31. In an electric drill, the combination with a casing and with the electric motor armature arranged therein, of a force leed device comprising a screw-threaded yoke, and a screw-threaded wheel or ring engaging said yoke and bearing against the casing.
32. In an electric drill, the combination with a casing and with the electric motor armature arranged thereln, of a
force feed device comprising a yoke whose parallel members are screw threaded and enter the casing, and a screwthreaded ring engaging said yoke and bearing against the casing.
33. In an electric drill, the combination with a casing and with the electric motor armature arranged therein, of a force feed device comprising a U-shaped frame whose parallel screw-threaded members enter the casing and whose crosspiece extends diametrically across the outer end of the casing, and a screw-threaded ring engaging said yoke and bearing against the casing.
34. In an electric drill, the combination with a casing and with the electric motor armature arranged therein, of a force feed device comprising a yoke whose parallel members are screw threaded and enter the casing, said yoke having a centering point, and a screw-threaded ring or wheel engaging said yoke and bearing against the casing.
35. In an electric drill, the combination, with a casing and with the electric motor armature arranged therein, of a force feed device comprising a screw-threaded yoke, and a screw-threaded wheel engaging said yoke and rotatably mounted on the casing and having a flxed relation thereto with respect to the longitudinal axis thereof.
36. In an electric drill, the combination with the casing and the motor armature therein, of an electric switch for controlling said motor, and grasping handles connected with the casing, said switch having contact parts within said casing and an actuating part on the outside thereof adjacent a handle and within reach of the operator's hand.
37. In an electric drill, the combination with the casing and the motor armature therein, of grasping handles on the casing, an electric switch for controlling said motor, said switch comprising contact parts within said casing, a button for operating said contact parts, and another button for restoring said parts to their normal condition, sald buttons proiecting through the casing to the outside thereof and adjacent one of the handles.
38. The combination with an electric drill, of grasping handles on the casing, a controlling switch therefor, said switch being mounted upon said drill, and comprising contact parts, a part adapted to be moved to oderate said contact parts. and a part adapted to be moved to restore sald operating part to its normal position.
39. In an electric drill, the combination with the casing and the motor therein, of a handle on said casing, and a switch for controlling said motor, said switch being mounted on said casing, and having two actuating parts, one located on either side of sald handle.
40. In an electric drill, the combination with the casing and the motor therein, of a handle secured on said casing. and a switch for controlling said motor, sald switch being mounted on said casing and having an operating button, and a restoring button, said buttons being arranged for movement in the direction of the longitudinal axis of the drill, and being located one on either side of sald handle.
41. The combination with an electric drill, of a switch for controlling the same mounted upon sald drill, said switch having an actuating part arranged for movement in the direction of the longitudinal axis of the motor, whereby the drill may be controlled without disturbing its position with relation to the work.
42. In an electric drill, the combination with the casing and the motor therein, of a handle secured to the outside of the casing, and an electric switch for controlling said motor, said switch having its contact parts within said casing, and Its actuating part or button projecting through the casing in proximity to sald handle said button being movable substantially in the direction of the line of thrust of the drill.
43. In an electric drill, the combination with the casing and the motor therein, of a handle secured to the casing. and an electric switch for controlling said motor, said switch comprising contact parts within said casing and an actuating part outside of said casing in proximity to sald handle, sald actuating part being so disposed as to require a movement transverse to the longitudinal axis of said handle to actuate the same.
44. In an electric drill, the combination with the casing and the motor therein, of an electric switch for controlling said motor, sald switch comprising contact parts and an actuating part, said actuating part being located upon the outside of said casing and being so disposed as to require a movement thereof in the direction of the longitudinal axis of the motor to operate the switch.
45. In an electric drill the combination with the casing, and the motor therein, of a handle secured to the outside of said casing, an electric switch for controlling the circuit of said motor, sald switch being mounted on sald casing and having two actuating parts arranged in proximity to said handle, sald parts being movable substantially in the direction of the line of thrust of the drill, one of sald actuating parts operating to make the circuit and the other to break the circuit.
6. In an electric drill the combination with the casing, and the motor therein, of a handle secured to the outside of said casing, an electric switch for controlling the circuit of sald motor, contact parts for said switch within said casing, and actuating parts for said switch proferting through said casing in proximity to sald handle, said actuating parts being disposed one on either side of said handle and being arranged to be moved in the direction of the longitudinal axis of sald drill.
47. In an electric drill the combination with a casing, and a motor therein, of two handles rigidly secured to the outside of said casing at diametrically opposite points, and an electric switch for controlling said motor, said switch comprising contact parts located within said casing, an actuating key or button co-operating with said contact parts, a restoring key or buttom, and a link connecting sald buttons projecting through said casing in proximity to said handle and belng so disposed with relation to the drill that their operating movement is in the direction of the longitudinal axis thereof.
48. In an electric drill the combination with the casing and a switch for controlling said motor, said switch being mounted on said casing, and having an operating button. a restoring button, said buttons being moved in the direction of the lline of thrust of the drill. and means for holding the buttons in one position or the other with a yielding pressure.
49. In an electric drill the combination with the casing and the motor therein. of a handle secured on said casing, and a switch for controlling said motor, sald switch being mounted on said casing, and having an operating button. a restoring button, sald buttons being movable in the direction of the line of thrust of the drill, and a spring-pressed pin co-operating with said buttons to hold them in one position or the other.
50. In an electric drill the combination with the casing and the motor therein of a handle secured on said casing, and a switch for controlling said motor, said switch being mounted on sald casing, and having an operating button. a restoring button, a connecting rocking lever between the buttons having a propecting finger, and a spring-pressed pin co-operating with said finger to hold the lever and the buttons in one position or the other, said buttons being movable in the direction of the line of thrust of the drill.

No. 100,219. Electric Drill. Foret élcctrique.


John Maclean, 50 Wellwood Road, Goodmayes, Ilford, Essex. England, 24th July, 1906; 6 years. Filed 1st March, 1906. Recelpt No. 133,420.
Claim.-1. A portable electric drill comprising in combination, a frame, a fixed shaft in the frame, a magnet on the shaft, an armature arranged externally of the magnet, a commutator and an enclosing framework, said framework belng driven by gear from the armature and being adapted to rotate the drill, substantially as described.
2. A portable electric drill comprising in combination, a frame, a fixed shaft in the frame, a swilch, feeding mechanlsm, a magnet on the shaft, an armature arranged externally of the magnet, a commutator, a skeleton frame driven by gearing from the armature, an enclosing framework driven from the skeleton frame aforesaid, said enclosing framework having a socket in which the drill is fitted, the several working parts running in ball bearings, substantially as described.
3. A portable electric drill comprising in combination, a frame, a fixed shaft in the frame, a magnet on the shaft, an armature arranged externally of the magnet, a commutator, an enclosing framework, gear for driving the cylinder from the armature, means connected with the cylinder for rotating the drill, means for feeding the drill forward automatically and also for feeding it by hand, substantially as described.
4. A portable electric drill comprising in comblnation a frame, a fixed shaft in the frame, a switch, feeding mechanism, a magnet on the shaft, an armature arranged externally of the magnet, a commutator, a skeleton frame running upon ball bearings on the shaft, internal teeth on this frame, a gear wheel gearing witr the teeth and with a pinion carried on a sleeve running in ball bearings on the shaft, said sleeve being connected to the armature, and means connected with the skeleton frame for rotating the drill, substantially as described.
5. A portable electric drill comprising in combination, a frame, a fixed shaft in the frame, a switch, feeding mechanism, a magnet on the shaft. an armature arranged externally of the magnet, a commutator, a skeleton frame having internal teeth thereon, a gear wheel gearing with sald teeth on the one hand and with a pinion connected with the armature on the other hand, a bracket for supporting the gear wheel, an enclosing cylinder fitted on the shait at one end and connected with a socket adapted to receive the drill at the other end, internal teeth on the enclosing cylinder, a gear wheel, a pinion running in ball bearings and connected with a skeleton frame, and a brackt for supporting the gear wheel, substantially as described.
6. A portable electric drill comprising in combination, a frame, a fixed shaft in the frame, a magnet on the shaft, an armature arranged externally of the magnet, a commutator, a1: enclosing cylinder, gear connected with the armature for rotating the cylinder, a socket connected with the cylinder, a bracket on the frame, a short shaft with a second socket therein carried by the bracket, teeth on this socket, external teeth on the socket of the enclosing cylinder and an intermediate pinion adapted to engage with sald teeth and with the teeth of the second socket, substantially as described.
7. A portable electric drill comprising in combination, a frame, a fixed shaft in the frame, a magnet on the shaft, an armature arranged externally of the magnet, a commutator, an enclosing cylinder driven by gear from the armature, a socket connected with the cyllinder, teeth on the socket, a bracket on the frame, a shaft having a socket at one end thereof carled by the bracket, teeth on both sockets, an intermediate pinion, a screw for feeding the drill, ratchet mechanism for oparating the screw, a second bracket with screw hole thereln which is in line with the second socket and which is adacted to receive a feed screw, substantially as described.

No. 100,220. Fruit Gatherer.
Appareil d cuolllir les fruits.


George Henry Roberts, Richburg, New York, U.S.A., 24th July. 1906; 6 years. Filed 14th May, 1906. Recelpt No. 135,918 .
Claim.-1. In a fruit gatherer, an apron constructed from a plurality of fabric members having their side cdges converging and united along all of said edges except one by sewing. a binding strip folded over the outer ends of the united fabric members and sewed thereto, a rope binder within the folled outer binding strip, straps folded centrally upon themselves and riveted to the binding strips at points where the seams betweon the fabric members occur and extended over said seams and secured by rivets passing through the overlapping portions of the fabric members at the seams, and rings supported by said strap.
2. In a frult gatherer, an apron contructed from a plurality of fabric members having thelr alde edges converging and
united along all of said edges except one by sewing, a binding strip folded over the outer ends of the united fabric members and sewed thereto, a rope binder within the inner binding strip, a band for enclosing the trunk of the tree from which the fruit is to be gathered, guy members connecting said band to said apron at the points where the seams occur, straps folded centrally upon themselves and riveted to the outer binding strip at points where the radial seams odcur and extended over said seams and secured by rivets passing through the overlapping portions at the seams, and rings supported by said straps.

## No. 100,221. Method of Making Roads.

Méthode de faire les chemins.
Leonard Schade van Westrum, Berlin, Germany, 24th July, 1906; 6 years. Filed 25th November, 1903. Receipt No. 110,408.
Claim.-1. A method of making roads and like surfaces consisting in binding together the materials such as broken stones, sand, dust, earthy materials and the like used for forming the street body and the like with an emulsion consisting of water and oily substances emulsionized with water, substantially as described and for the purpose specified.
2. A method of making roads and like surfaces consisting in binding together the materials such as broken stones, sand, dust, earthy materials and the like used for forming the street body and the like with an emulsion of water and oflv substances, as mineral oil, tar or asphalt emulsionized with a more volatile agent such as ammonia.
3. A method of making roads and like surfaces consisting in binding together the materials such as broken stones, sand, dust. earthy materials and the like used for forming the street body and the like with an emulsion of water and oily substances saponified with resin oil, olein and ammonia.

No. 100,222. Circular Saw Gear.
Engrenage de scies circulaires.


James Harrison Martin and Charles Newman, assignee of a half interest, both of Springfield, Missouri, U.S.A., 31st July, 1906; 6 years. Filed 3rd July, 1906. Recelpt No. 137,475.
Claim.-1. In a portable sawing machine the combination with a vertical shaft and suitable supports therefor, of a beam connected with the said shaft by a universal joint, and a circular saw journalled in the outer end of said beam, and means for driving the saw at any lateral inclination thereof, or at any vertical or horizontal angle at which the beam may be held, substantially as described.
2. In a portable sawing machine a movable beam carrying a circular saw for being operated perpendicularly and laterally, also at any desired angle by means of a universal joint at the heel or fixed end, and a swivel joint connecting the parts of the beam, all substantially as shown and described.
3. In a portable sawing machine a beam divided into two parts, one part forming a socket, the other entering the same to form a swivel joint for turning the saw in different planes, said beam having a spring provided with a nut for tightening the same for adjusting the tension of the belt, substantially as shown and described.
4. In a portable sawing machine, a movable beam carrying a circular saw provided with handles at its outer end for the operator. and its opposite end having a double hinge or universal joint, one axis formed by a bolt passing through the end of the beam and a strap passing around the shaft and a bushing, permitting a perpendicular motion of the saw, and the said bushing on the shaft giving lateral motion to the saw. substantially as shown and described.
5. In a portable sawing machine, a beam carrying a circular saw provided with a hinge joint at its heel giving perpendicular motion and also lateral motion combined with a swivel joint formed in the beam for adjusting the saw in different planes, combined with a belt passing around sheaves for guiding and giving tension to the belt, all substantially as shown and described.
6. In a portable sawing machine the combination with a suitable guide and a shaft whilch is adjustable vertically therein, of a beam swivelled to the said shaft, a circular saw carried at the outer end of the beam, and means adapted for driving sald saw at whatever angle the beam may be held, substantially as described.
7. In a portable sawing machine the combination of a motor, a wagon frame and a belt with a movable beam carrying saw, sald movable beam having a universal joint at its heel for permitting same to have perpendicular and lateral motion, and a swivel joint in the beam for rotating the end carrying the saw to the desired plane for cutting, combined with a counterweight, supported from the said frame for supporting the sald beam which carries the saw, all substantially as specified.

No. 100,223. Rail Chair. Coussinet.


William H. J. Clifton, West Point and Anna M. Holland, assignee of a half interest, Loretto, both in Tennessee, U.S.A., 31st July, 1906; 6 years. Filed 7th July, 1906. Recelpt No. 137,591.
Claim.-1. A device of the class described comprising a chair plate and rail clamping plates slidably disposed upon the chair plate to engage a rail supported thereby.
2. A device of the class described comprising a chair plate and rail clamping plates slidably disposed upon the chair plate to engage a rall supported thereby, and including portions arranged to underlie the said rail.
3. A device of the class described comprising a chair plate, and rail clamping plates slidably disposed upon the chair plate to engage a rall supported thereby, and including portions arranged to underlie the said rail, said portions having their ends bevelled.

No. 100,224. Plectric Furnace. Fournaisc électrique.


La Societé Electro-Metallurgic Francaise, Froges, Isere, assignee of Paul Louis Toussaint Heroult, La Praz, Savoie, all in France, 31st July, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,i03.

Claim.-1. An electric furnace having a jacket of magnetic material divided by a picce of non-magnetic material to break the lines of force around the furnace.
2. An electric furnace having a body $A$ of carbon and a jacket surrounding the same comprising a portion $E$ of iron, sald portion being divided and its ends connected by a portion $F$ of copper to break the lines of force around the furnace.
3. An electric furnace having a base plate of cast iron with rods of wrought iron projecting into the body of the furnace and having their lower ends cast into the base plate.
4. Means for attaching electric cables to a cast plate comprising a contact block of highly conductive material, said plate being cast about said block and intimately welded thereto.
5. Means for attaching electric cables to a cast plate comprising a contact block of highly conductive material, said plate being cast about said block, and a cable block in which the end of the cable is cast, the two blocks being strongly clamped together
6. Means for attaching electric cables to a cast iron plate $C$, comprising a contact block $J$ of copper, said plate being cast about said block and intimately welded thereto.
7. Means for attaching electric cables to a cast iron plate C comprising a contact block $J$ of copper, said plate cast about said block, and a cable block $L$ in which the end of the cable is cast, said blocks having their contact faces planed and being bolted together.

No. 100,225. Holder for Mlectrodes. Porte-électrodes.


La Société Electro-Métallurgique Francals, Froges, Isère, assignee of Paul Louis Toussaint Hérault" La Praz, Savoie, both in France, 31et July, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,705.
Claim.-1. A holder for electrodes including a head adapted to be fastened to the end of the electrode and having a serfes of ribs for effecting a rapid radiation of heat therefrom.
2. A holder for electrodes including a head $B$ having a lower portion $C$ adapted to be fastened to the end of an electrode and having its upper portion formed with ribs $E$ for effecting a rapid radiation of heat.
3. A holder for electrodes including a head $B$ having a lower portion $C$ adapted to be fastened to the end of an electrode, and having its upper portion formed with ribs E for effecting a rapid radiation of heat, and a plpe fior the circulation of a cooling fiuid embedded in the lower portion of said head.
4. $\boldsymbol{A}$ holder for electrodes including a jacket adapted to surround the electrode, a ring outside of said jacket, and a serles of wedges adapted to be driven between said ring and said jacket to clamp the latter strongly against the electrode.
5. A holder for electrodes including a jacket $G$ of sheet copper adapted to surround the electrode, a ring $H$ of steel outside of said jacket, and a series of wedges $J$ adapted to be driven between said ring and said jacket to clamp the latter strongly against the electrode.
6. A holder for electrodes including a head fitting in the end of the electrode, and means for clamping he parts of the electrode together about sald head.
7. A multiple electrode composed of several parts having, when clamped together, a socket in the end, in combination with a head having a portion fitting in said socket, and means for clamping the parts of the electrode together with said head embraced in sald socket.
8. A holder for electrodes including a head $B$ fitting in the end of an electrode, a jacket $G$ surrounding the electrode and adapted to be clamped agalnst the same, and a yoke $L$ connected to the upper ends of said head and jacket respectively.
9. The combination with the electrode of an electric furnace, of a protecting case therefor insulated therefrom.
10. The combination with the electrode of an electric furnace, of a protecting steel casing $P$ therefor provided with an inner layer $Q$ of insulating material.
11. The combination of the electrode of an electric furnace, of a protecting casing therefor, a jacket surrounding the upper end of the electrode, a ring $H$ outside of said jacket, and a series of wedges adapted to be driven between said ring and said facket to clamp the latter strongly against the electrode, and means for supporting said protecting casing from said ring and insulating the same electrically from the ring.

No. 100,226. Flectric Fumase. Fournaise électrique.


La Societe Electro-Métallurgique Francais, Froges, Isere, assignee of Paul Louls Toussaint Héroult, La Praz, France, 31st July, 1906; 6 years. Filed 8th June, 1906. Recelpt No. 136,706.
Claim.-1. A contract for an electrode comprising divided rings of conducting material adapted to surround the electrode, the adjacent rings having contacting faces which are wedge-shaped so that the pressing of the adjacent rings together makes a more intimate contact between them, and also a more intimate contact of one ring with the electrode.
2. A contact for an electrode comprising divided rings $G$ and $H$ of conducting material adapted to surround the electrode, the ring GG having an upper conical face $J$ and the ring $H$ having a lower conical face $K$ in engagement therewith, so that the pressing of the adjacent rings together makes a more intimate contact between them, and also a more intimate contact of one ring with the electrode.
3. The combination in an electric furnace, of an electrode, a stuffing box surrounding the electrode at the point where it enters the furnace, and means for making a contact between said furnace and said electrode comprising divided rings $G$ and $H$ made up of a series of carbon blocks $G^{1}$ and $H^{1}$ adapted to surround the electrode, the ring $G$ having an upper conlcal face $J$ and the ring $H$ having a lower conical face $K$ in engagement therewith, the inner face $L$ of the lower wall of the stufing box belng correspondingly conical, a copper ring $M$ above said carbon rings, a ring $Q$ of packing material above said copper ring, and a gland $N$ fur exerting pressure upon said packing ring and thereby upon sald copper and carbon rings, said gland having a flange $R$ protecting the packing ring $Q$ from the heat of the electrode.

No. 100,227. Process of Preparing Copper Ores. Procédé pour préparer les minerais de cuivre.


La Société Métallurgique Françals, Froges. Isère, assignee of Paul Louls Toussaint Héroult, La Praz. Savoie, France, 31st July, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,707 .
Claim.-1. The method of treating copper ore which consists in freding it into an electric furnace and fusing it there.
in and simultaneously injecting oxygen into the ore to oxidize part of the sulphur.
2. The method of treating copper ore which consists in feeding it into an electric furnace and fusing it thereln and simultaneously injecting oxygen in sufficient quantity to oxidize a large part of the sulphur and iron and to leave only a black copper melt with a slag of gangue and iron.

No. 100,228. Tie Plate. Plaque de dormant.


Eernard James Coghlin, Montreal, Quebec, Canada, 31st July,
1906; 6 years. Filed 10th July, 1906. Receipt No. 137,670.
Claim.-1. A brace tie plate cast and being of oblong configuration and having a vertical brace at diagonally opposite corners, each of said braces being adapted to bear upon the web of the rail and one of said braces supporting the head of the rall and the other brace being of less height than the head of the rail, the braces having laterally projecting reinforcing ribs extending along the edge of the bearing face of same, substantially as described.
2. A brace tie plate cast and being of oblong conflguration and having a vertical brace at diagonally opposite corners, each of said braces being adapted to bear upon the web of the rail and one of said braces supporting the head of the rail and the other brace being of less height than the head of the rail, the braces having laterally projecting reinforcing ribs extending along the edge of the bearing face of same, the inside ribs being supplemented by wing projections, substantially as described.
3. A tie plate the upper surface of which is inclined from the outer end inward.
4. A tie plate one end portion of which is thicker than the other.
5. A tie plate of tapering thickness from the outer to the inner end.
6. A brace tie plate of oblong conflguration and having a vertical brace at diagonally opposite corners, each of said braces being adapted to bear upon the web of the rail and one of said braces supporting the head of the rail and the other brace being of less height than the head of the rall, the base of the plate having a serles of ribs on its under surface, substantially as described.
7. A brace tie plate of oblong conflguration and having a vertical brace at diagonally opposite corners, each of said braces being adapted to bear upon the web of the rail and one of said braces supporting the head of the rail and the cther brace being of less height than the liead of the rall, the base of the plate being of tapering thickness and having a serles of ribs on its under surface, substantially as described.
8. A brace tie plate of oblong configuration and having a vertical brace at diagonally opposite corners, each of sald braces being adapted to bear upon the web of the rall and one of said braces supporting the head of the rail and the other brace being of less height than the head of the rail, the base of the plate being of tapering thickness and having a series of ribs on its under surface and the braces having laterally projecting reinforcing ribs, substantially as des. cribed.
9. A brace tie plate cast of iron and rendered malleable and being of oblong configuration and having a vertical brace at diagonally opposite corners, each of said braces being adapted to bear upon the web of the rail and one of said braces supporting the head of the rall and the other brace being of less height than the head of the rail, the base of the plate being of tapering thickness and having a series of ribs on its under surface and the braces having laterally projecting relnforcing ribs with wing projections from the inside ribs, substantially as deseribed.

No. 100,229. Steol Cross IYe. Dormant on acder.


Samuel B. Ferguson and Charles Calhoun, both of Rome, Mississlppi, U.S.A., 31st July, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,009.
claim.-1. The combination with a channelled metallic tie having rail engaging tongues integral therewith, of rall supporting blocks within the tie, means thereon for engaging the rails, and adjustable means connecting the blocks.
2. The combination with a channelled metallic tie having mieans thereon for engaging the inner flanges or ralls, of rail supporting blocks within the tie, means thereon for engaging the outer flanges oi rails, and an adjusting device connecting the blocks and within the tie.
3. The combination with a channelled metallic tie having ictegral rail engaging means, of rail supporting blocks withis the tie, ears thereon adapted to co-operate with the rail engaging means on the tie for clamping the rails in position, and an adjustable device connecting the blocks.
4. The combination with a channelled metallic tie having integral rail engaging tongues upon the sides thereof and braces connecting the sides, of rail supporting blocks adjustably mounted within the tie, rail engaging ears upond said blocks adapted to co-operate with the tongues to clamp the rails in position, and means connecting the blocks to hold them against displacement.
5. The combination with a channelled metallic tie having rail seats thereon and rail engaging tongues overlapping the seats, of rail supporting blocks within the tie and adjacent the seats. ears integral with the blocks for engaging the rails and adapted to co-operate with the tongues for securing the rails to the tie, and means for adjusting the blocks toward each other and holding them against movement.

No. 100,230. Cross Tie Cutter. Coupe-dormant.


Richard Sloan Wright, Nelson, Arkansas, U.S.A., 31st Julyo 1906; 6 years. Filed 9th July, 1906. Receipt No. 137,643. Olaim. -1 . A cross tie cutter comprising a frame, a carriage movable horizontally along the frame, racks on said carriage, gear wheels co-acting with said racks, and two pairs of segmental blades mounted on the carriage at opposite sides, the blades of each pair being spaced apart, the blades of one pair being closer together than the blades of the other pair.
2. A cross tie cutter comprising a frame, upper and lower bars extended longitudinally through the frame, tracks on the under sides of the upper bars, tracks on the upper sides of the lower bars, a carriage, rollers on said carriage for engaging with the upper and lower tracks, a gear mechanlim for causing back and fonth movements of the carriage, and two pairs of segmental blades mounted on the carriage at opposite sides, the blades of one pair being closer together than the blades of the opposite pair.

No. 100,231. Track Clearer. Nettoyeur de voies.


William E. Knowlton, Portland, Maine, U.S.A., 31st July, 1906; 6 years. Filed 3rd July, 1906. Receipt No. 137,501.
Claim.-1. In a track clearer for removing ice, the combination of a car or other vehicle provided with a series of pivoted discs set at an acute angle to the line of motion of the car and adapted to roll on the ice.
2. In a track clearer for removing ice, the combination of a car or other vehicle provided with a series of pivoted discs with thickened centers and sharpened edges set at an acute angle to the line of motion of the car and adapted to roll on the ice.
3. In a track clearer for removing ice, the combination of a car or other vehicle, a beam beneath said car, means for raising and lowering said beam and a series of discs pivoted on the underside of said beam and set at an acute angle with the line of motion of the car and adapted to roll on the ice.

No. 100,232. Track Brake. Frein.


Nels Edward Knutzen, Manitowoc, Wisconsin, U.S.A., 31st July, 1906; 6 gears. Filed 11th July, 1906. Receipt No. 137,696.
Claim.-1. In a track brake to be used in connection with the usual train pipe, the comblnation with the usual automatic system for wheel brakes of an auxiliary reservolr, a cylinder and piston, means for connecting sald auxiliary reservoir with the train pipe, means for connecting the said auxiliary reservoir with the said cylinder and means for allowing pressure in the auxiliary reservoir to enter the sald

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cylinder when there is an emergency application of the wheel brakes, and brake shoes adapted to engage the track, substantially as described.
2. In an emergency track brake the combination with the train pipe of the usual automatic system for wheel brakes, of a valve connceted thereto, an auxiliary reservoir connected to said vaive, a cylinder connected to said valve, a piston in said cylinder, brake shoes connected to said piston and adapted to be operated thereby, means in said valve for establishing communication between the auxiliary reservoir and the said piston operated by an emergency reduction of pressure in the train pipe, substantially as described and for the purposes set forth.
3. In an emergency brake the combination with the train p'pe of the usual automatic system for wheel brakes, of a valve connected thereto, an auxiliary reservoir connected to said valve and a cylinder and piston connected to sald valve, brake shoes connected to the piston, means for allowing communication between the train pipe and the said auxiliary reservoir for charging said reservoir and means in said valve for allowing a direct communication between the said auxiliary reservoir and the said cylinder during an emergency application of the wheel brakes and means in said valve for allowing direct communication between the sald cylinder and the atmosphere, substantlally as described and for the purposes set forth.

No. 100,233. Brake Shoes for Locomotives. Sabot de frein pour locomotives.


Henry H. Urquhart, Paducah, Kentucky, U.S.A., siat July 1906; 6 years. Filed 5th July, 1906. Recerpt No. 187,545. Claim.-1. In a device of the class described the combination with a brake block or head, of a brake shoe provided in its rear face with a recess receiving the brake block or head, said brake shoe being provided at the said recess with side and end walls, whereby it is held against lateral and longitudinal movement, and means for securing the brake shoe to the brake block or head.
2. In a device of the class described the combination with a brake block or head, of a brake shoe provided in its rear face with a recess receiving the brake block or head, said brake shoe being provided at the said recess with side and end walls, whereby it is held against lateral and longitudinal movement, and means for securing the brake shoe to the brake block or head, said means being located in rear of the brake shoe to permit the latter to be worn out without affectIng the securing means.
3. In a device of the class described the combination of a brake block or head provided with a socket having side and end walls, a brake shoe provided at its rear face with a recess recelving the brake block or head and having side and end walls for engaging the same, said brake snoe being also provided with a lug extending into the socket of the brake block or head, and fastening means for securing the lug to the brake block or head.
4. In a device of the class described the combination of a brake block or head provided with a socket having side and end walls, a brake shoe provided at its rear face with a recess receiving the brake block or head and having side and end walls for engaging the same, said brake shoe belng also provided with a lug extending into the socket of the brake block or head, and a transverse fastening device piercing the brake block or head and the lug and having exteriorly arranged means for detachably holding it in poaition.

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No. 100,234. Barrel. Baril.


Chauncey D. Crandal, St. Louis, Missouri, U.S.A., 31st July, 1906; 6 years. Filed 10th July, 1906. Receipt No. 137.673.
Claim.-1. A knock-down barrel constructed of a plurality of uniformly sized and shaped vencered staves, vencered heads located in the ends of the barrels and means whereby said staves and heads are held together, substantially as specified.
2. A knock-down barrel comprising a plurality of uniformly sized veneered sections, metallic binders located on the ends of said sections, and veneered heads positioned in said binders in the ends of the barrels, substantially as specified.
3. A knock-down barrel comprising a series of uniformly sized veneered sections, metallic binders enclosing the ends of said sections when set up in barrel form, veneered heads removably located in the ends of the barrel and engaged by the binders, means carried by one of the heads whereby it is detachably secured to one of the binders, and metallic heads located upon the barrels, substantially as specified.
4. A knock-down barrel constructed of a scries of uniformly sized sections adapted to form the body of the oarrel, metallic binders positioned upon the ends of the sections when set up in barrel form, there being flanges formed integral with the inner walls of each of the binders, heads seated upon said flanges, and a series of keepers carried by one of said heads for detachably securing said head in position, substantially as specified.
5. A knock-down barrel constructed of a series of uniformly sized stave sections adapted to form the body of the barrel, binders located upon the ends of the sections when set up in barrel form, there being flanges formed integral with the edges of said binders for engaging the stave sections. heads for the barrel engaging upon tho flanges of the binders, metallic hoops bent from a single piece of material and encircling the barrel, and metallic clamps for engaging the meeting ends of said hoops, substantially as specified.

No. 100,235. Skirt Gange. Jauge pour jupes.


Frances Moise De Leon, New York City, New York, U.S.A., 31st July, 1906; 6 years. Files 29th June, 1906. Receipt No. 137,422.
Claim.-1. In a skirt gauge in combination a base plate, a stafif carried thereby, and a plate carried by said staff, the inner edge of the said base plate having a projecting portion adapted to be applied to the side of one's foot, and a receding portion adapted to be applied to the toe of one's foot.
2. In a skirt gauge in combination a base plate, a staff projecting upwardly therefrom, a marking plate, means for
locking sald marking plate to said staff in a plurality of positions, the inner edge of sald base plate presenting a projecting edge, substantially centrally disposed with respect to said staff, with recesses beyond said projecting edge.
3. A skirt cange comprising a base plate adapted to rest upon a horizontal support, and having a socket formed thereupon, a staff having a foot removably received in said socket, and a marking plate adjustably mounted on said staff.
4. In a device of the class described, in combination a base plate adapted to rest upon the floor, a stafl projecting upwardly therefrom, said base plate having recesses formed therein adapted to receive the toes, and a marking plate adjustably mounted on said staff and having recesses in the edge thereof in substantial alignment with sald first recesses.
5. In a device of the class described, in combination a base plate having a socket formed therein, a staff having a laterally projecting foot adapted to be slid longitudinally into said socket and retained thereby. a marking plate having a sleeve received over said staff, and a clamping screw mounted in said sleeve, for clamping said marking plate on said staff.
6. In a skirt gauge. in combination a base plate having a projecting nose at substantially the middle point thereof, adapted to be applied to the heels of a person being fitted, and presenting oppositely disposed notches adapted to be applied to the toes, said base plate further having concave portions connecting the said notches and said nose, adapted to be applied to the arch of the foot, and a marking plate mounted upon said base plate.

No. 100,236. Animal Foist. Ascenseur pour animaus.


Oliver P. Hurford, Chicago, Illinois, U.S.A., 31st July, 1906; 6 years. Filed 28 th June, 1906. Receipt No. 137,387.
Claim.-1. In a hog hoisting device, in combination with an endless chain and an upper and lower sprocket wheel on which said chain is alone mounted. depending hog shackles carried by said endless chain, said lower sprocket wheel having a diameter greater than that of the upper sprocket wheel and of sufficient length to form a comparatively long receiving stretch of chain whereby the hogs may be readily shackled thereon, and said lower wheel also providing a lateral support for the receiving stretch of chain throughout the shackling pen, said wheels providing a substantially triangular arrangement of the chain conveyer and both being inside a vertical line tangent to the upper wheel whereby an upwardly inclined ascending leg is formed and also a descending leg from which the hog upon release therefrom will be carried directly away from the chain and space enclosed thereby and a sticking rail extending at an angle to sald conveyer and adapted to receive the shackle from the descending leg, substantially as described.
2. In a hog hoisting device, in combination with an endless carrier chain, depending shackles carried thereby, two sprocket wheels, one above the other, on which said chain is supported, the lower wheel being of greater diameter than the upper wheel, said wheels arranged to bring the ascending leg of said chain in a path inclined upwardly toward an adjacent slaughtering room, and the descending leg of said chain in a vertical path adjacent the slaughtering room, and a sticking rail having a member intersecting the plane of the vertical leg of said chain and inclined therefrom toward the slaughtering room, substantially as described.
3. In a hog holsting device, in combination with an endless chain an upper and a lower sprocket wheel therefor whereby only two stretches of chain between the sprocket wheels are formed, the lower wheel of greater diameter than the upper wheel but each having one of its vertical tangents in the same plane, whereby an ascending incline leg of said chain and a vertical descending and dellvering leg of said chain are formed, and a lateral support for the chain in the shackling pen is provided, substantially as described.
4. In a hog hoisting device in combination with an endless chain conveyer, depending flexible hog shackies secured to said conveyer, a sprocket wheel at the upper part of said chain on which said conveyer is supported, and a larger sprocket wheel at the lower part of said chain and forming a positive lateral support for the entire length of the receiving leg of the chain which extends through the shackling pen, said wheels having their centers out of alignment with the center of the lower wheel farther away from the delivery side of the pen, whereby a substantially triangular hoist is formed having only two stretches of chain between the spocket wheels and with an ascending leg of the conveyer inclined toward the delivery side of the pen is provided, and a continuous straight descending leg of said chain from the top sprocket wheel to the lower sprocket wheel is provided, and a sticking rall intersecting the plane of said descending leg and having a shackle receiving mem ber which extends away from said chain on a downward incline, substantially as described.
5. In a device of the class described, the combination with a conveyer, means for actuating the same, means for shackling animals thereto, and a suitable receiving rail, of an inclined delivery block adjustable along and upon said rail. and means for securing said block upon said rail.
6. In a device of the class described, the combination with an endless conveyer adapted to travel in a vertical plane and having a forwardly inclined ascending leg, and means for shackling animals thereto, of a receiving rail arranged adjacent to the path of travel of said conveyer, and an inclined delivery block adjustable upon and along said rail.
7. In a device of the class described, the combination with an endless conveyer having a forwardly inclined ascending leg, an auxiliary guide and support for said ascending leg, and means for shackling animals to said conveyer, of a receiving rail arranged adjacent to the path of travel of said conveyer, and an inclined delivery block adjustable upon and along said rall.
8. In a device of the class described, the combination, with a pair of conveyer wheels arranged one above the other in the same vertical plane and the lower thereof being of greater diameter than the upper, of an endless conveyer mounted thereupon, said wheels being relatively disposed to provide a forwardly inclined ascending leg of said conveyer, means for preventing lateral movement of said ascending leg, an animal shackle detachably suspended from said conveyer, a suitable receiving rail, and a guard insuring engagement between said shackle and said rail.
9. In a device of the class described the combination with an endless chain conveger, of a large chain supporting sprocket wheel, and a small chain supporting sprocket wheel above the large wheel, the centers of the wheels being out of alignment and forming a forwardly inclined ascending leg, and a series of small loose guide sprocket wheels with which said ascending leg of the chain engages. substantially as described.

## No. 100,237. Flectric Flour Purifier.

Appareil électrique pour purifler la fleur.
John Lawson Lawson, Caledonia Mills, Leith, Midlothian, Scotland. 31st July, 1906; 6 years. Filed 7th June, 1906. Recelpt No. 137,594.
Claim.-1. The method of purifying flour, grain, rice and like cereals, consisting in subjecting these cereals to the action of high tension, electricity on plates charged with same and whereby the bran chaif and other impurities are separated from the best material, substantially as herein set forth.
2. Apparatus for the treatment of flour, rice, and like cereals, and the separation of the offals therefrom, consisting of insulated conducting plates charged witb high tension electricity and working transversely over reciprocating or moving trays with alternate channels and spaces, substantially as set forth.
3. Apparatus for the treatment of flour, rice and like cercals, and the separation of the offals therefrom, consisting of a series of insulated plates charged with high tension electricity and arranged on an incline alternately from opposite ends, trays correspondingly arranged below these plates. and having these parts combined and operated in the manner herein set forth.
4. In an apparatus for the treatment of flour, rice, and like cereals, parallel electrified and insulated wires with spaces

between the wires of sufficient size to admit of impurities freely passing between them to the trays above, substantially as set forth.

No. 100,238. Hoe. Ноис.


William A. Nyswonger, Diamond Fields, Nevada, U.S.A., 31st July, 1906; 6 years. Filed 11th July, 1906. Recelpt No. 137.703.

Claim.-1. An implement of the class described comprising a shank provided with an integral flat portion of greater width than said shank, a concavo-convex blade secured intermediate its length to the flat portion of said shank, said blade provided with a curved cutting edge extending its entire length, a curved and a straight cutting edge formed upon one end of sald blade and a straight cutting edge formed upon the opposite end.
2. An implement of the class described comprising a handle, an upwardly and outwardly curved shank provided with a ferrule, carried by said handle, said shank provided with an integral flat portion, and a concavo-convexed blade axedly secured to the fiat portion of said shank, said blade positioned at an oblique angle to said handle, said blade provided With a main cutting edge of substantially the same length as said blade and with a substantially straight auxiliary cutting edge, said main and auxillary cutting edges constituting a trowel structure, and said blade provided at one end with a curved cutting edge.

## No. 100,239. Heating Apparatus.

Appareil de chauflage.
Mathew Rapp, Morton, Illinois, U.S.A., 31st July, 1906; 6 years. Filed 11th July, 1306. Recelpt No. 137,695.
Claim.-1. In a hot water heater the comblnation of a casing, an annular water chamber supported within the casing, a pair of cylindrical manifolds consisting of a series of segmental chambers which are supported by the annular chamber, a cone-shaped water jacket depending within the manifolds and communicating therewith, and a fuel magazine supported within the cone-shaped jacket.
2. In a hot water heater the combination of a casing, a pair of seml-circular water jackets connected by tubular
grate bars, a series of pairs of intercommunicating water chambers disposed in cylindrical arrangement supported by

the aforesald jackets, a water jacket depending within the inner circle described by the pairs of chambers aforesaid and communicating therewith, and a fuel magazine depending within the last-mentioned jacket.
3. In a hot water heater the combination of a casing made of several sections with overlapping portions detachably connecting means for securing the said sections, an annular water chamber supported within the casing, a pair of cylindrical manifolds consisting of a series of segmental chambers which are supported by the annular chamber, a cone-shaped water jacket depending within the manifolds and communicating therewith, and a fuel magazine supported within the cone-shaped jacket.
4. In a hot water heater the combination of a casing, a pair of semi-circular water jackets, a series of tubular bars connecting the said jackets, an annular water chamber supported upon and communicating with the said semi-circular jackets, one or more cylindrical manifolds composed of a series of segmental chambers supported upon and communicating with the annular water chamber, a cone-shaped water jacket, depending within the ring formed by the segmental chambers, and a fuel magazine supported within the coneshaped Jacket.
5. In a hot water heater the combination of a casing, a pair of semi-circular water chambers, a series of tubular grate bars connecting the said chambers, a flat annular water jacket supported by the said semi-circular water chambers, the inner wall of the said annular jacket serving as the lower wall of the fire box, a series of pairs of segmental chambered sections forming a substantially annular manifold supported by the annular water jacket, the inner wall of the said sections being bevelled and serving as the upper wall of the fire box, a fuel magazine depending within the circle described by the manifold, feed pipes attached to one or the other of the semi-circular water chambers, and outlet pipes suitably connected with the manifold.
6. In a hot water heater the combination of a casing, a fuel magazine supported within the casing, one or more water jackets beneath the lower end of the magazine, feed pipes connected with said jackets, a pair of substantially cylindrical manifolds, one encircling the other and both surrounding the said magazine, said manifolds composed of a series of segmental chambered sections, connections between said sections and the said jackets, an outlet pipes suitably connected with the said sections.
7. In a hot water heater the combination of a casing, a flat annular water chamber, its inner wall serving as the lower wall of a fire box, and Its upper wall formed with an annular projected ring, grate bars suitably supported beneath the chamber and the sald fire box, a series of pairs of sections supported by the said chamber and upon opposite sides of its annular projecting ring, the same having intercommunicating chambers, a depending cone-shaped water jacket communicating with the aforesaid sections, means for securing the sections at their upper ends to the cone-shaped jacket and at their lower ends to the ring of the chamber aforesaid, a iuel magazine, feed pipes communicating with the flat annular chamber, lead pipes communicating with the cone-shaped water jacket, substantially as specified.
8. In a hot water heater the combination of a casing an annular water chamber supported therein, a series of segmental chambered sections supported in circumferential rows one within the other upon and communicating with the an-
nular chamber, the outer row of sections being taller than the inner row, a water chamber supported within the circle described by the said sections and attached to and communicating with said sections, a fuel magazine supported within the circle described by the inner wall of said last-mentioned chamber, feed pipes to the first-mentioned chamber, and outlet pipes from the chamber surrounding the fuel magazine.
9. In a hot water heater the combination of a casing, an annular water chamber supported therein, a series of segmental chambered sections supported in circumferential rows one within the other upon and communicating with the annular chamber, the disposition of the sections forming annular passageway between the two rows, also radial passageways extending between each of the sald segmental sections, a water chamber supported within the circle described by the said sections and attached to and communicating with said sections, a fuel magazine supported within the circle described by the inner wall of said last-mentioned chamber, food pipes to the first-mentioned chamber, and outlet pipes from the chamber surrounding the fuel magazine.

No. 100,240. Means of Separating Stone Irom Claj. Moyen de síparer la pierre de la glaise.


Axel Sabroe, Aastrup. near Hadersleben, Germany, 31st July, 1906; 6 years. Filed 11th July, 1905. Recerpt No. 126,795. Claim.-1. In a device of the character described, a casing provided with inlet and outlet openings and an outlet opening at an angle to the inlet opening, means for feeding clay into the casing, a separating member disposed across one of the outlet openings, and means for removing foreign bodies separated by a separating member.
2. In a device of the character described, a casing provided with inlet and outlet openings and provided with an outlet opening at an angle thereto, a worm press disposed in the inlet opening, a separating member disposed across one of the outlet openings. and means for removing foreign bodies scparated by the separating member.
3. In a device of the character described a casing provided with an inlet opening and a plurality of outlet openings, means for feeding clay into the casing, a reciprocable separating member disposed across one of the outlet openings, and means for removing foreign bodies separated by the separating member.
4. In a device of the character described, a casing provided with an inlet opening and provided with a plurality of outlet openings, means for feeding clay into the casing through the inlet opening, a scparating member provided with projections and disposed across one of the outlet openings, and means for removing through the other outlet opening foreign bodies separated by the separating member.
5. In a device of the character described, a casing provided with an inlet opening and provided with a plurality of outlet openings, means for feeding clay into the casing through the inlet opening, a grating comprisng a plurality of bars each having a projection disposed in alignment with the inlet opening, and means for removing foreign bodies separated by the separating member.
6. In a device of the character described, a casing provided with an inlet opening and provided with a plurality of outle: openings, means for freding clay through the inlet opening into the casing, a movable separating member disposed in the casing in alignment with the inlet opening, a crank shaft carried adjacent the casing, rods connected to the crank shaft and the separating member, and means for removing foreign bodies separated by the separating member.
7. In a device of the character described, a casing provides with an inlet opening and provided with a plurality of outlet openings, means for feeding clay into the casing, a recipro-
cable separating member disposed in the casing across one of the outlet openings, means for reciprocating the separating member, rollers disposed on the casing on which the separating member is adapted to bear, and means for removing through one of the outlet openings a foreign body separated by the separating member.
8. In a device of the character described, a casing provided with an inlet opening and a plurality of outlet openings, means for feeding clay into the casing, a separating member disposed across one of the outlet openings, and a worm conveyer disposed in the other outlet opening.
9. In a device of the character described, a casing provided with an inlet opening and a plurality of outlet openings, means for feeding clay into the casing, a separating member disposed across one of the outlet openings, a worm conveyer disposed in the other outlet opening, a disc on the worm, and a driven disc adapted to engage said disc when pressure is exerted against the worm.

No. 100,241. Rubber Footwear.
Chaussure de caoutchouc.


Daniel Smith and Frederick William Smith, both of Christchurch, New Zealand, 31st July, 1906; 6 years. Filed 13th July, 1906. Receipt No. 137,813.
CLaim.-1. In the manipulation of goloshes, gum boots and other rubber footwear, a strip or strips of leather or like material secured upon the insole of the article and covering the portions corresponding to the wearing surfaces thereof, and a rubber outer sole moulded upon the surfaces of suci strips, substantially as specified.
2. In the manufacture of goloshes, gum boots and other rubber footwear, a strip or strips of leather or like material secured upon the insole of the article provided with projections upon the outer face thereof, and a rubber outer sole moulded upon the surface of such strip or strips and so formed that its outer face forms a uniform surface with the surfaces of the projections, substantially as specified.
3. In the manipulation of goloshes, gum boots and other rubber footwear, a strip or strips of leather or like material secured upon the insole of the article, provided with recessed and (or) cut-away portions at intervals in its outer surface, and a rubber outersole moulded upon the surface of the strip or strips, substantially as specified.

No. 100,242. Coal Chnte. Chute d charbon.
James M. Triggs, Morenci, Michigan, U.S.A., 31st July, 1906; 6 years. Filed 11th July, 1906. Receipt No. 137.705.
Claim.-1. The combination with a chute, of a hopper portion pivoted thereto and adapted to be placed in operative or laoperative position relative thereto.
2. The combination with a chute, of a hopper portion removably pivoted therein adjacent its mouth and adapted to be placed in operative or Inoperative position relative thereto.
3. The combination with a chute, of a trlangular shaped hopper removably pivoted therein and adapted to be entirely enclosed therein or drawn out to act as a hopper for the mouth of the chute.
4. The combination with a chute, of a door hinged to normally close the mouth thereof. and a member pivoted within the chute and adapted to be placed in inclosed position when the door is closed and be drawn out to act as a hopper therefor when the door is in open position.
5. The combination with a chute, of a door and a hopper each having separate pivotal connection therewith, and the latter being locked in inoperative position therein by a closing of the door.
6. The combination with a chute, of a door adapted to be elevated above the mouth thereof when open, and a member
normally inclosed within the chute and adapted to be drawn out to act as a hopper for its mouth when the door is open.

7. The combination with a chute, of a door pivoted above its mouth and having means associated with its pivot for automatically locking it in elevated position.
8. The combination with a chute, of a member pivoted within and adjacent the top of the mouth thereof, sald member being adapted to be swung outwardly relative to the chute to act as a hopper therefor and provided with slotted bearings having one end open to permit a removal of the member from its pivot.
9. In combination a chute, a door hinged at the top of the chute mouth and having slotted bearing ears for the purpose described, a hook on the door for locking within the mouth of the chute when the door is closed, and a hopper comprising triangular side portions and a curved base portion connecting the side portions and provided with spurs for coacting with the lower outer portion of the chute frame when the hopper is in open position, said side portions being pivoted witin the chute mouth and having open slotted bearings, substantially as described.
10. In combination, a chute, a door therefor, and a hopper associated therewith and adapted to be placed in operative or inoperative position relative thereto.

No. 100,243. Standard for Lumber Cars. Fleche pour chars d bois.


Joseph Malone, Muscogee, Florida, U.S.A., 31st July, 1906; 6 years. Filed 5th July, 1906. Recelpt No. 137,548.
Claim.-1. In combination with a bunk, a plate secured to the face thereof and having a slot in its edge, a standard pivotally mounted upon the bunk, a pivotal standard support mounted upon the bunk and adapted to swing underneath the standard and into sald slot, and means for holding said bar in said slot, as set forth.
2. In combination with a bunk, a plate secured to the face of the bunk with a space intervening between a portion of the plate and the bunk, a pin passing through said plate and secured to the bunk, an angled standard pivotally mount-
ed upon said pin and between the plate and face of the bunk, and a horizontally pivoted standard supporting bar carried by the bunk and adapted to swing underneath the standard and support the latter, as set forth.
3. In combination with a bunk, a plate secured to the face of the bunk with a space intervening between a portion of the plate and the bunk, a pin passing through said plate and secured to the bunk, an angled standard pivotally mounted upon said pin and between the plate and face of the bunk, a pivotal and horizontally swinging bar mounted in a recess in the bunk and adapted to swing into a slot in the edge of said plate to form a support to the standard, and a hook pivotally mounted upon the plate and adapted to hold said bar within the slot of the plate, as set forth.

No. 100,244. Bolster for Railway Cars.
Traversin pour chars de chemin de fer.


John Oscar Neikirk, Chicago, Illinois, U.S.A., 31st July, 1906; 6 years. Filed 9th July, 1906. Receipt No. 137,658.
Claim.-1. A bolster for rallway cars having compression and tension members composed of angle iron bars arranged in pairs, said compression and tension members being rigidly secured together at their ends, and a strut separating the compression and tension members and secured thereto.
2. A bolster for railway cars having compression and tension members composed of angle iron bars arranged in pairs, said compression and tension members being rigidly secured together at their ends, and an angle iron strut separating the compression and tension members.
3. A bolster for railway cars having compression and tension members, said tension members being composed of angle irons having upwardly extending vertical flanges and said compression members being composed of angle irons having downwardly extending vertical flanges, and a strut separating the tension and compression members, said strut composed of angle iron members having adjacent flanges received between the vertical flanges of the compression member, and said strut being separated at its ends and receiving the vertical flanges of the tension member between its separated parts.
No. 100,245. Dump Car. Char à bascule.


Spencer Otis, Chicago, Illinois, U.S.A., 31st July, 1906; 6 years. Filed 9th July, 1906. Receipt No. 137,659.
Claim.-1. In a car of the class described the combination of a dumping door, a reciprocatory door supporting shaft
movable upward and outward at an incline transversely of the car, and operating mechanism mounted beneath the door substantially in alignment with the path of movement of such reciprocatory shaft for operating it and thereby the dumping door.
2. In a car of the class described the combination of a dumping door, a reciprocatory shaft movable transversely of the car for supporting such door, inclined tracks extending upwardly and outwardly at an incline transversely of the car for supporting such reciprocatory shaft and thereby the door, and a crank shaft below the door provided with cranks having their swinging ends movable substantially into alignment with the path of movement of such reciprocatory shaft and operatively connected therewith.
3. In a car of the class described the combination of a dumping door, reciprocatory door supporting mechanism movable transversely of the car toward and from the swinging edge of the door, and a crank shaft below the door provided with crank arms having their swinging end movable substantially into alignment with the path of movement of such reciprocatory door supporting mechanism and operatively connected therewith.
4. In a car of the class described, the combination of a dump door, a reciprocatory shaft in operative engagement with the door movable upward and outward at an incline toward the swinging edge thereof, crank mechanism below the door for operating such reciprocatory shaft, and connecting arms connected at one end with the reciprocatory shaft and having their opposite ends connected with such crank mechanism and movable into substantial alignment with the path of movement of the reciprocatory shaft.
5. In a car of the class described the combination of a dump door, a reciprocatory door supporting shaft movable upward and outward at an incline beneath the door, crank arms operatively connected with such reciprocatory shaft and having their swinging ends movable into position below the lower limit of movement of the reciprocatory shaft and operatively connected therewith, and inclined track mechanism for supporting such reciprocatory shaft.
6. In a car of the class described the combination of a car frame provided with end sills, dumping doors mounted in such car frame, door operating shaft mechanism mounted beneath such dumping doors, gear mechanism mounted beneath the end sill mechanism for operating such shaft mechanism and thereby the doors, and shaft operating mechanism mounted outside of the end framework and operatively connected with such gear mechanism.
7. In a car of the class described the combination of a car frame provided with end sills, dumping doors mounted in such car frame, door operating shaft mechanism operatively connected with such dumping doors, gear mechanism mounted beneath the end sill mechanism for operating such shaft merhanism and thereby the doors, and hand wheel and shaft mechanism mounted outside the framework and operatively connected with such gear mechanism.
8. In a car of the class described the combination of a car frame, dumping doors mounted in such frame, door operating shafts operatively connected with such dumping doors, and shaft operating mechanism mounted outside the inner face of the end framework and operatively connected with such door operating shaft mechanism.
9. In a car of the class described the combination of a car frame provided with longitudinal sills, transverse beams provided with upright web portions, and side stakes secured to the ends of such transverse beams and having upright web portions secured to the upright webs of the transverse beams.
10. In a car of the class described the combination of transverse beams, side stakes provided with depending web portions extending below the upper edges of such transverse beams and secured thereto, and angle irons secured to the transverse beams and to such depending web portions of the side stakes.
11. In a car of the class described the combination of transverse beams provided with web portions, angle iron members forming side wall portions of such transverse beams, and side stakes mounted upon such transverse beams and provided with depending web portions extending between the side wall portions and the upright web portions of the transverse beams and secured thereto.
12. In a car of the class described the combination of a car frame provided with longitudinal sills mechanism, a central floor portion mounted over such longitudinal sill mechanism dumping doors mounted on opposite sides of the longitudinal center of the car, supporting plates extending transversely of the car beneath such central floor portion for supporting it, and dumping door hinges secured to such transverse supporting plates and to the dumping doors.
13. In a car of the class described the combination of a pair of body bolsters. and longitudinal sills each formed of a central section having upright web portions extending be-
tween the body bolsters and the end sections extending beyond the body bolsters, such end sections having upright web portions of greater thickness than the upright web portions of the central sections.
14. In a car of the class described the combination of a body bolster provided with upright side plates, a top plate connecting the upper portions of such side plates, a bottom plate mounted between the side plates near the lower edges thereof and provided with depending flanges, and angle irons having uprigat flanges mounted betwe :n the depending flanges of such bottom plate and having lateral flanges extending outward beneaih the depending flanges of such bottom plate
15. In a car of the class described the combination of a body bolster provided with upright side plates having a space therebetween, upright filler plates extending transversely across such space and secured to the inner sides of such plates, a top plate connecting the upper portions of the side plates, a bottom plate mounted between the lower portions of the side plates and having depending, flanges flush with the lower edges of surch plates, angle iron members provided with upright flanges secured to such bottom plate and side plates and having transverse flanges extending outward beyond the side plates, and a gusset plate mounted beneath such angle iron members and extending transversely of the bolster beyond the side plates.
16. A car provided with a suitable track, a drop door, a wedge member on the under face of said door, an operating bar travelling on the track and in engagement with the wedge member on the door, and operating mechanism for the operating bar, the parts being entirely beneath the door when the 'latter is in both open and closed position.

No. 100,246. Grain Car Door.
Porte de chars d grain.


William Pratt, Penetanguishene, Ontario, Canada, 31st July, 1906; 6 years. Filed 11th July, 1906. Recelpt No. 137,707.
Claim.-1. In a grain car door the combination with the side posts, of guideways secured to the side posts and boards adapted to lie horizontally on each other edge on edge and provided with horizontally disposed laps, as and for the purpose specified.
2. In a grain car door the combination with the side posts, of guideways secured to the side posts and boards adapted to lie horizontally on each other edge on edge and provided with horizontally disposed laps located partially on one side and partially on the opposite side of each board, as and for the purpose specifled.
3. In a grain car door the combination with the side posts, of guideways secured to the side posts and boards adapted to lie horizontally on each other edge on edge and provided with horizontally disposed laps located partially on one side and partially on the opposite side of each board, and pins suitably connected to the frame and designed to extend through holes immediately above the uppermost board, as and for the purpose specifled.
4. In a grain car door the combination with the side posts and guideways terminating at the top on a curved and horlzontally disposed portion under the roof, of boards horizontally disposed and set edge on edge and located in such guideways, as and for the purpose specifled.
5. In a grain car door the combination with the side posts and guldeways terminating at the top in curved portions and end buckets under the roof, of boards horizontally disposed and set edge on edge and located in such guideways, as and and set edge on edge and
for the purpose specified.

No. 100,247. Tide Power System.
Sustème de pouroir de marse.


Walter Fred Cove, George H. Cove and Frank R. Kimball, Boston, Massachusetts, U.S.A. 31st July, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,694.
Claim.-1. In a tide water power system a dam fitted with gates whereby water may be supplled thereto or near flood tide, a tide water channel below sald dam, a second dam, a turbine, turbines or other water wheel beyond said second dam, flumes or tubes passing through said socond dam and leading to sald turbine, turbines or wheels respectively, a discharge basin beyond said turbine of greater area than said reservoir, a third dam fitted with gates whereby water may be discharged from said basin at ebb tide, and a channel beyond said last-mentioned dam communicating with the sea.
2. In a tide water power system the combination of an upper and a lower dam disposed in a continuous channel, an intermediate dam whereby a reservoir and a discharge. basin is formed in the channel between said first-mentioned dams, gates in said dams respectively whereby water may be stored in said reservoir and excluded from said basin at flood tide, and water may be discharged from said basin at ebb tide, water wheels arranged beyond said intermediate dam, and sluices or tubes passing through said intermediate dam and establishing communication between said reservoir and saill wheels.
3. In a tide water power system the combination of an upper and a lower dam disposed at different points on the bend of a tide water stream and a channel connecting the channel of said stream at a point above said upper dam with a point below said lower dam whereby a continuous channel is formed, an intermediate dam whereby a reservoir and a discharge basin is formed in the channel between said firstmentioned dams, gates in said dams respectively whereby water may be stored in said reservoir and excluded from said basin at flood tide, and water may be discharged from said basin at ebb tide, water wheels arranged beyond said intermediate dam, and sluices or tubes passing through said Intermediate dam and establishing communication between said reservoir and said wheels.

No. 100,248. Cooling System for Internal Combustion Engines.
Sustème de refrigeration pour machines a combustion interne.


Gustavus Green, F. P. C. Hope and Joseph Miler, all of Bex-hill-on-Sea, Sussex, England, 31st July, 1906; 6 years. Filed 21st September, 1905. Recelpt No. 128,626.
Claim.-1. In an internal combustion engine, the combination with the cylinder and water jacket, of members pro-
fecting from the facket and adapted to form channels for the circulation and cooling of the water, substantially as described.
2. In an internal combustion engine, the combination with the cylinder and water jacket, of piping projecting from the jacket and adapted to form channels for the circulation and cooling of the water, substantially as described.
3. In an internal combustion engine, the combination with the cylinder and water jacket, of tubing around said jacket communicating therewith at a plurality of points, means for filling the jacket with water and means for allowing for expansion of the water.
4. In an internal combustion engine, the combination with the cylinder and water jacket, of tubing around said jacket communicating therewith at a plurality of points, means for filling the jacket with water and means for allowing for expansion of the water for allowing of escape of steam if required.

No. 100,249. Bottle. Boutcille.


Rudolph Sauer, Minneapolis, Minnesota, U.S.A., 31st July, 1906; 6 years. Filed 19th February, 1906. Recelpt No. 133,051.
Claim.-1. A bottle comprising a body with a hole at one side adapted to be corked and sealed, and a neck solid in its top and having two opposite side openings, and suitable means for closing said side openings, said openings in the neck forming ducts extending on a slant out and downward from the regular inner canal of the neck.
2. A bottle comprising a body with a hole at one side adapted to be corked and sealed, and a neck solid in its top and having two opposite side openings, and suitable means for closing said side openings, said openings in the neck forming ducts extending on a slant out and downward from the regular inner canal of the neck, and the annular shoulder 11 below said openings to form a recess for the purposes set forth.
3. A bottle comprising in combination a body with a hole at one side adapted to be closed and sealed, a neck with a head solid in its top and having two opposite out and downwardly slanting side openings communicating with the interior of the bottle neck, and an elastic cap adapted to be fcreed downward upon the head and keep said side openings closed.
4. A bottle comprising in combination, a body with a hole at one side adapted to be closed and sealed, a neck with a head solid in its top and having two opposite out and downwardly slanting side openings communicating with the interior of the bottle neck, the shoulder 11 at the base of said head, and an elastic cap adapted to be forced snugly downward over said head and to engage with its edges below said shoulder.
5. A bottle comprising a body with a hole at one side adapted to be corked and sealed, and a neck solid in its top and having two opposite side openings, and an elastic cap adapted to be forced downward upon the neck to cover said openings.

No. 100,250. Separator Sieve. Tamis à séparation.
William C. Black, Plymouth, Ohio, U.S.A., 31st July, 1906; 6 years. Filed 6th February, 1906. Receipt No. 132,650.
Claim.-1. A screen for separators comprising a frame, a sieve secured thereon, tongues struck from the surface of
the sieve and bent downward, thus forming apertures, draw bars positioned above sald sieve, a series of slats located

below said sieve adjacent said apertures and tongues, straps secured to said slats and passing through slots in the sieve engaging said draw bars, and a movable crank shaft with which said draw bars are connected to permit an adjustment of the mesh of the sieve by the reciprocation of the slats.
2. A screen for separators comprising a suitably supported plate, inclined tongues cut from said plate and projecting downward, slats mounted for movement below sald plate, a draw bar mounted for longitudinal movement above said plate, straps extending through slots in said plate to connect the draw bar and slats, means for actuating said draw bar, and a guard secured to said plate and extending over said draw bar and the slots for the connecting straps.
3. A screen for separators comprising a frame, a perforated plate having downwardly projecting tongues stationarily mounted thereon, a series of imperforate slats slidable below the plate, the slats formed independent of each other, means connected with the slats for moving them to adjust the mesh of the screen, and guards to inclose the connecting means.

No. 100,251. Device for Hanging Wall Paper.
Appareil pour poser le papier de tenture.


Carl F. Caswell, Coon Rapids, Iowa, U.S.A., 31st July, 1906; 6 years. Filed 14th March, 1906. Receipt No. 133,879.
Claim.-1. A device for hanging wall paper comprising a support, a handle removably supported thereon, a paper receiving tray carried by the handle, and a smoothing bar upon the upper end of the handle.
2. A device for hanging wall paper comprising a support, a handle removably supported thereon, a longitudinally adjustable paper receiving tray carried by the handle, and a smoothing bar upon the upper end of the handle.
3. A device for hanging wall paper comprising a foldable support, a handle removably supported thereon, a foldable peper receiving tray carried by the handle, and a smoothing bar detachably connected with the upper end of the handle.
4. A device for hanging wall paper comprising a support having a central bar, and provided with legs, a handle having a socket adapted to receive the upper end of the central bar of the support and having on is upper end a tongue, a smoothing bar having a socket adapted to receive the tongue
or. the upper end of the handle, a paper supporting tray comprising a flange having a shelf on its lower end, parallel bars and cross pieces pivotally connected to each other and to said shelf, uprights on the outer portions of the tray, a band attached to the flange and encircling the handle, and a thumb screw extending through the band.
110. 100,252. Pen Fiolder. Porte-plume.


James Osborne Dodge and Herbert Egbert Dodge, both of Williams, Arizona, U.S.A., 31st July, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 187,173.
Claim.-1. In a pen holder the combination with the stub ur forward end of same, of a ferrule encircling said stub, a rigid bearing point within the ferrule and a rigid bearing point on the stub, said rigid bearing points being longitudinally separated, and a single yielding or spring bearing iccated longitudinally beyond said rigid bearing points.
2. In a pen holder the combination with the stub or for ward end of same, of a ferrule encircling the same, a rigid bearing point within the ferrule and a rigid bearing point on the stub, said rigid bearings being longtudinally separated, and a ylelding member secured at one end to the ferule and adapted to bear at its irec end against a pen body secured between the ferrule and stub to cause the pen body to be firmly seated against the aforesaid rigid bearings, whereby releasing pressure of the yielding member will cause the pen to be released from the ferrule by gravity.
3. A pen holding and releasing device consisting of a stub and a ferrule encircling sald stub to recelve the epn, a rigid braring point within said ferrule near jits forward end, said and a ferrule encircling said stub to recelve the pen, a rigid bearing point on the stub beneath said cut-out portion and adjacent thereto, and a yielding spring member secured at cne end to a rigid portion of the ferrule, and adapted to bear at its free end on a pen inserted in said ferrule to cause the I.en to have a rigid bearing at two points within the ferrule whereby releasing pressure of the yellding spring against the pen will cause the pen to be released from the ferrule by gravity.
4. A pen holding and releasing device consisting of a body or handle portion having a reduced forward or stub end, a ferrule fitted on the stub end of said handle, said ferrule having a cut-out portion or slot in its upper wall adjacent to the stub end of said handle, and a yielding spring member secured at its lower end within the ferrule and adapted to bear at its free upper end against the lower face of a pen ir:serted in sald ferrule, whereby releasing pressure of the Tree end of the spring member will cause the release of the pen from the ferrule by gravity.

## No. 100,253. Photographic Mailing Card.

 Carte photographique pour la malle.Sarnuel Aaron Markoff, Providence, Rhode Island, U.S.A., 31st July. 1906; 6 years. Filed 2ith April, 1906. Receipt No. 135,344.
Claim.-A mailing card comprising a body portion having a display opening, a flap or sheet of thin material capable of being rolled back upon itself and of having the position of the display opening defined thereon, said flap being attached In part to said body portion and loosely overlying the display
opening, and an adhesive on said flap serving to attach the back of a photograph or the like to said flap so that the

photograph will register with the display opening, and to seal the flap to the body portion.

No. 100,254. Envelope Marker. Marqueur dentcloppe.


Edwin Neron, Dover, New Hampshire, U.S.A., 31st July. 1906; 6 years. Filed 1st May, 1906. Receipt No. 135.421.
Claim.-1. An envelope marker consisting of a thin flate adapted to be inserted within an envelope or the like and having a series of slightly raised ridges arranged for temporarily marking address lines or the like on the envelope, substantially as described.
2. An envelope marker consisting of a thin plate of resilient material adapted to be inserted within an envelop or the like and having a series of slightly ralsed resilient ridges arranged for temporarily marking address lines or the like on the envelope, substantially as described.
3. An envelope marker consisting of a shert of thin celluloid having a series of fine corrugations arranged according to the desired lining effect to be produced in the envelope or the like. said corrugations forming on the upper surface thereof slightly raised resilient ridges, as and for the purpose set forth.

## No. 100,255. Furnace for Ore

rournaise pour minfrais.
Peter A. Wagner, San Francisco, California, U.S.A., 31st July. 1906; 6 years. Filed 9 th May, 1906. Receipt No 135.715.

Claim.-The combination with an ore roasting apparatus, of a collecting chamber interposed between the roasiing chamber and the furnace stack, a conduit for corveying tho hot products of combustion into the collecting chamber, of means for maintaining a water level within said chamber above the discharge end of the conduit during the working
of the ore and a pipe extending from the outside of the collecting chamber into the discharge condult of the roasting

chamber, through which pipe an inspection of the interior of the roasting chamber may be had.

No. 100,256. Car Coupler. Altclage de chars.


The National Malleable Castings Company, assignee of Arthur James Bazeley, all of Cleveland, Ohio U.S.A., 31st July, 1906; 6 years. Filed 16th July, 1906. Receipt No. 137,843.
C'laim.-1. A coupler having a knuckle, an upwardly moving lock, a knuckle throwing lever journalled on the lock, and means for engaging the bottom of the lever to lift it, and thereby lift the lock.
2. A coupler having a knuckle, an upwardly moving lock, knuckle throwing lever journalled on the lock, constructed to move in a substantially vertical plane, and means for engaging the bottom of the lever to lift it, and thereby lift the lock.
3. A coupler having a knuckle, an upwardly moving lock, a knuckle throwing lever journalled on the lock, having a projection adapted to engage the knuckle and to lock-set the lock, and means for engaging the bottom of the lever to lift it, and thereby lift the lock.
4. A coupler having a knuckle, an upwardly moving lock, a knuckle throwing lever journalled on the lock, a shoulder on the coupler adapted to engage the lever when in its bottom position and to lock the lock, and means for lifting the lever and thereby lifting the lock.
5. A coupler having a knuckle, an upwardly moving lock, a knuckle throwing levir journalled on the lock by a trunnion and guided by a grooved portion of the coupler, and means for lifting the lever and thereby lifting the lock.
6. A coupler having a knuckle, an upwardly moving lock, a knuckle throwing lever journalled on the lock in a hooked supporting portion therrof, and means for lifting the lever and thereby lifting the lock.
7. A coupler having a knuckle, an upwardly moving lock, a knuckle throwing lever journalled on the lock, a shoulder by which the lever is restrained in its lower position, a stop portion on the lever adapted to limit its initial forward motion, a lock-setting projection on the lever, and means for lifting the lever and thereby lifting the lock.
8. A coupler having a knuckle, an upwardly moving lock, a knuckle throwing lever journalled on the lock, a shoulder by which the lever is restrained in its lower position, a locksetting projection on the lever, and means for lifting the lever and thereby lifting the lock.
9. A coupler having a knuckle, an upwardly movable lock having a head, an intermediate recessed portion, and a gulding surface 15 on the coupler head arranged to guide the lock rearwardly.
10. A coupler having a knuckle, an upwardly movable lock having a head, and a lateral projection on the head adapted to engage the knuckle tail in locking position, said lock also having a bottom hook.
11. A coupler having a knuckle, an upwardly moving lock, a knuckle throwing lever journalled on the lock, and a lifting finger entering the bottom of the coupler head and to engage the lever.
12. A coupler having a knuckle, an upwardly moving lock a knuckle throwing lever journalled on the lock and adapted to tilt rearwardly by gravity when the parts are in locked position.
13. A coupler having a knuckle, an upwardly moving lock, a knuckle throwing lever journalled on the lock, a shoulder by which the lever is restrained in its lower position, a lock setting projection on the lever, and means for lifting the lever and thereby lifting the lock, sald lever being adapted to tilt rearwardly by gravity when the parts are in locked position.
14. A knuckle throwing lever having trunnions, a projection $6 b$ and a stop portion adapted to engage the coupler head to guide it in its upwardly movement.
15. A coupler lock having a head with a lateral projection, an intermediate recessed portion, and a bottom hook.
16. A coupler lock, a knuckle throwing lever journalled therein, said lock having an engagement with the coupler head to hold it in place relatively to the lever.
17. A coupler lock, a knuckle throwing lever with which it is loosely engaged, said lock having a projection engaging with a groove in the coupler head to hold the lock in place relatively to the lever.

No. 100,257. Paper Slitter. Tendettr de papier.


William John Lupton. Lockport, New York, U.S.A.. 31st July. 1906; 6 years. Filed 3rd July, 1906. Receipt No. 137,494.
Claim.-1. A paper slitter comprising two frames arranged on opposite sides of the path of the web to be cut and each pivoted on an axis parellel to the plane of said web and capable of making a complete turn, two sets of cutters mounted on cach frame, and means for turning said frames and bringing the companion sets of cutters therof into co-operative relation, substantially as set forth.
2. A paper slitter comprising two rotary frames pivoted on onnosite sides of the path of the web to be cut, two sets of cutters mounted on each of said frames on opposite sides of its pirot, and means for turning said frames for bringing each of its sets of cutters between the two plvots of the two frames. substantially as set forth.
3. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to be cut, co-operating cutters mounted respectively on said frames, and connecting mechanism between said frames operating to turn the same together, substantially as set forth.
4. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to cut, co-operating cutters mounted respectively on said frames, und connecting mechanism between said frames operating to turn the same together, and consisting of an intermediate shaft and bevel gearing connecting said shaft with the pivot of said frames, substantially as set forth.
5. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to be cut, two co-operating cutters mounted respectively on said frames, and a locking device for holding both of said frames against turning consisting of locking discs arranged on the pivots of said frames and each having notches or recesses in its perphery, a reciprocating locking bar, and pawls arranged on said bar and constructed to enter the notches or recesses of said discs, substantially as set forth.
6. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to be cut, co-operating cutters mounted respectively on said erames, and a locking device for holding both of sald frames against turning consisting of locking discs arranged on the plvots of said frames and each having notches or recesses in its periphery, a reciprocating locking bar and pawls arranged on said bar and constructed to enter the notches or recesses of said discs, a spring for moving said bar in one direction and a shifting rod connected by an elbow lever with said bar and operating to move the same in the opposite direction, substantially as set forth.
7. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to be cut, cutter shafts journalled on each of said frames on opposite sides of its plvot and parallel therewith, cutters mounted on each of said cutter shafts, and a gear wheel mounted on each cutter shaft, the gear wheel of the companion cutter shaft of the two frames being movable into and out of engagement with each other upon rotating sald frames, substantially as set forth.
8. A paper slitter comprising two rotary frames pivoted on a nosite sides of the path of the web to be cut, cutter shafts journalled on each of said frames on opposite sldes of its pivot and parallel therewith, cutters mounted on each of said cutter shafts, gear wheels mounted on said cutter shafts, and the gear wheels of the companion shafts of both frames being movable into and out of engagement upon rotating said Crames, and a driving gear wheel arranged to be engaged by one of each pair of companion gear wheels upon turning sali frame into an operative position, substantially as set forth.
9. A paper slitter comprising two rotary irames pivoted on opposite sides of the path of the web to be cut, cutter shafts arranged on said frames and parallel therewith, swivelling bearings pivoted on one of said frames and each supporting one end of one of its cutter shafts, a radially movable bearing guided on said last-mentioned frame supporting the opposite end of one of its cutter shafts, and a gear wheel secured to the last-mentioned cutter shaft adjacent to its radially movable bearing and adapted to move into and out of engagement with a gear wheel on the other cutter shaft, substantlally as set forth.
10. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to be cut, cutter shafts arranged on sald frames and parallel therewith, swivelling bearings pivoted on one of said irames and each supporting one end of one of its cutter shafts, a radially movable bearing guided on said last-mentioned frame supporting the opposite end of one of its cutter shafts, and a gear wheel secured to the last-mentioned cutter shaft adjacent to its radially movable bearing and adapted to move into and out of ongagement with a gear wheel and the other cutter shaft, and springs operating to hold said radially movable bearing yieldingly in its normal position, substantially as set forth.
11. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to be cut, cutter shafts arranzed on sald frames and narsilel therewith, swivelling bearings pivoted on one of said frames and each supporting one end of its cutter shafts, a radially movable bearing guided on said last-mentloned frame supporting the opposite end of one of its cutter shafts, a gear wheel secured to the lastmentioned cutter shaft adjacent to its radially movable bearing and adapted to move into and out of engagement with a gear wheel on the other cutter shaft, and radially adjustable pivots mounted on one of said frames and supporting said swivelling bearing, substantially as set forth.
12. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to be cut, cutter shafts arranged on said frames and parallel therewith, swivelling bearings pivoted on one of said frames and each supporting one end of one of its cutter shafts, a radially movable bearing guided on sald last-mentioned frame and supporting the opposite end of one of its cutter shafts, a gear wheel secure
o last-mentioned cutter shaft adjacent to its radially movable bearing and adapted to move into and out of engagement with a gear wheel on the other cutter shaft, and pivots for said swivelling bearing arranged on bolts which are adjustable radially in slots formed in one of sald frames, substanfially as set forth.
13. A paper slitter comprising two rotary frames pivoted on oposite sides of the path of the web to be cut, cutter shafts arranged on said frames and parallel therewith, swivelling bearings pivoted on one of said frames and each supportins one end of one of its cutter shafts, a radially movable bearing guided on said last-mentioned frame supporting the opposite end of one of its cutter shafts, a gear wheel secured to said last-mentioned cutter shaft adjacent to its radially movable bearing and adapted to move into and out of engagement with gear wheel and the other cutter shaft, pivots for said swivelling bearing adjustable radially on one of said frames and adjusting screws mounted on sald last-mentioned frame and engaging with the inner and outer sides of sali swivelling bearing, substantially as set forth.
14. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to be cut, cutter shafts arranged on said frames and parallel therewith, swivelling bearings pivoted on one of said frames and frames and each supporting one end of one of its cutter shafts, a radially movable bearing guided on sald last-mentioned frame supporting the opposite end of one of its cutter shafts, a gear wheel secured to last-mentioned cutter shaft adjacent to its radially movable bearing and adapted to move into and out of engagement with a gear wheel and the other cutter shaft, a spring arranged on said last-mentioned frame and bearing against the inner slde of said radially movable bearing, and an adjusting screw arranged on said last-mentioned frame and bearing against the outer side of said radially movable bearing, substantially as set forth.
15. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to be cut. cutter shafts arranged on said frames and parallel therewith, swivelling bearings pivoted on one of said frames and each supporting one end of one of its cutter shafts, a radially movable bearing guided on said last-mentioned frame and supporting the onnosite end of one of its cutter shafts, a gear wheel secured to the last-mentioned cutter shaft adjacent to its radially movable bearing and adapted to move into and out of engagement with a gear wheel on the other cutter shaft, and a locking device for holding said radially movable bearing in its normal position, substantially as set forth.
16. A paper slitter comprising two rotary irames pivoted on onnosite $^{n}$ sides of the path of the web to be cut, cutter shafts arranged on said frames and parallel therewith, swivelling bearings pivoted on one of ald frames and each supporting one end of one of its cutter shafts, a radially movable bearing guided on said last-mentioned frame and supporting the $0^{n n o s i t e}$ end of one of its cutter shafts, a gear wheel secured $t$ the last-mentioned cutter staft odjacent to its radially movable bearing and adapted to move into and out of engagement with a gear wheel on the other cutter shaft, and an automatic locking device for holding said radially movablo bearing in its normal position and operated by the rotation of said last-mentioned frame. substantially as set forth.
17. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to be cut, cutter shafts arranged on said frames and parallel therewlth swivelling bearings pivoted on one of sald frames and each supporting one end of one of its cutter shafts, a radially movable bearing guided on sald last-mentioned irame and supporting the opposite end of one of its cutter shafts, a gear wheel secured to the last-mentioned cutter shaft adJacent to its radially movable bearing and adapted to move into and ou of engagement with a gear wheel on the other cutter shafi a a a locking device for holding said radially movable bear ing in its normal position consisting of a latch mounted on the last-mentioned frame and engaging with an abutment on said radially movable bearing, and a cam operatively connected with said latch, substantially as set forth.
18. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to be cut, cutter shafts arranged on said frames and parallel therewith. swivelling bearings pivoted on one of said frames and each supporting one end of one of its cutter shafts, a radially movable bearing guided on sald last-mentioned frame and supporting the opposite end of one of its cutter shafts, a gear wheel secured to the last-mentioned cutter shaft adjacent to its radially movable bearing and adapted to move into and out of engagement with a gear wheel on the other cutter shaft, and a locking device for holding said radially movable bearing in its normal position consisting of latches pivoted on the frames and normally engaging abutments on said last-mentioned bearings, a slide guided on said lastmentioned frame and having a cam slot engaging with a pin on said latch, a spring for shifting sald slide in a direction
for moving said latch Into Its normal position and an actuating cam operating to move said slide in the opposite direction, substantially as set forth.
19. A paper slitter comprising two rotary frames pivoted on opposite sides of the path of the web to be cut., cutter shafts arranged on said frames and parallel therewith, swivelling bearings pivoted on one of said frames and each supporting one end of one of its culter shafts, a radially movable bearing guided on said last-mentioned frame and supporting the opposite end of one of its cutter shafts, a grar wheel secured to the last-mentioned cutter shaft adjacent to its radially movable bearing and adapted to move into and out of engagement with a gear wheel on the other cutter shaft, and a locking device for holding, said radially movable bearing in its normal position consisting of a latch pivoted on the last-mentioned frame and normally engaging an abutment screw on said radially movable bearing, a stop arranged on said last-mentioned frame and limiting the movement of said latch in one direction, a slide arranged on said last-mentioned frame and having a cam slot which receives a pin on said latch, a spring operating to move said slide in the direction for moving the latch into its normal operative position, a stationary guide ring which receives a shifting finger on said slide, and a pivoted cam engaging its free end with said guide ring and arranged to be engaged by said shifting finger for moving said slide in the direction for retracting the latch from said abutment screw, substantially as set forth.
20. A paper slitter comprising a supporting frame, a cutter shaft journalled on said frame and capable of axial movement, a plurality of cutters mounted on one end of said shaft so as to normally move axially therewith, a single cutter mounted on the opposite end of said shaft but constantly free to move axially independent thereof, an adjusting shaft journalled on said frame and baving screw threads inclining in opposite directions and screw nuts engaging said threads and operatively connected with said shaft and with said single cutter, substantially as set forth.
21. A paper slitter comprising a supporting frame, a cutter shaft journalled on said frame and capable of axial movement, a plurality of cutters mounted on one end of said shaft so as to normally move axially therewith. front and rear stop collars secured to said shaft on opposite sides of each of said plurality of cutters, a spring interposed between each front stop collar at the front side of the adjacent cutter, a grooved coupling collar connected with said shaft, a single cutter mounted on the opposite end of said shaft but constantly free to move axially independent thereof, a grooved coupling collar mounted on said shaft and loosely connected with said single cutter, a spring interposed between said single cutter and the last-mentioned coupling collar, an adjusting shaft journalled on said frame and having screw threads inclining in opopsite directions, and nuts engaging with said threads and having fingers engaging with the frooves of said coupling collars, substanifally as set forth.
22. A paper slitter comprising a supporting frame, a cutter shaft journalled on said frame and capable of axial movement, a plurality of cutters mounted on one end of said shaft so as to normally move axially therewith, a single cutter mounted on the opposite end of said shaft but constantly free to move axially independent thereof, an adjusting shaft journalled on said frame and having serew threads inclining in opposite directions, a nut engaging with one of said threads and loosely connected with said shaft, a carrier loosely coupled with said single cutter, a nut engaging with the other thread and fournalled in said carrier but held against axial movement relatively thereto, and a set screw for holding the last-mentioned nut against turning in said carrier, substantially as set forth.

## No. 100,258. Can Soldering Machine.

Murhine ì soudry les boîtes de blanc.
George H. Stewart, Los Angeles, California, U.S.A., 31st July, 1906; 6 years. Filed 5th June, 1906. Receipt No. 136,573.
Claim.-1. In a machine for soldering end seams of cans and in combination a way for the cans, means for rolling the cans thereon, a solder feed mechanism having an arm arranged to be moved by the rolling can, and controlling the feed of the solder when so moved, means for directing the solder upon the rolling can and means for heating the cans before they reach the soldering mechanism, substantially as described.
2. In a can soldering machine. and in combination a way on which the cans are rolled, mechanism for moving the cans, mechanism for controlling the feed of the solder through the movement of the cans, including a device arranged in the path of the cans and to ride over the rolling cans. and means for heating the cans before they reach the soldering mechanism, substantially as described.
3. In a soldering feeding mechanism, a ratchet wheel having spaces between its teeth corresponding to the amount of

soldering feed required, a pawl for arresting the ratchet wheel. mechanism carrying the pawl and in range of the moving cans, whereby the pawl may be released from the wheel and the feed be started and continued unltl the pawl comes into contact with the next succeeding tooth of the ratchet wheel.
4. In a machine for soldering end seams of cans, a way for the cans, means for rolling the cans thereon, solder feeding mechanism controlled by a member which rides over each can, a guide for the solder wire, to apply it to the seam, and means for heating the can before it reaches the soldering mechanism, substantially as described.

No. 100,259. Percussive Device. Appareil de percussion.


Charles Tingley Carnahan, assignee of Jeremiah Murphy. both of Denver, Colorado, U.S.A., 31st July, 1906; 6 years. Filed 10th May, 1906. Receipt No. 135,783.
C'laim.-1. In a percussive device, the combination with the cylinder thereof, a handle, a base therefor provided with a lateral extension having a slit, means for swivelly connecting the base with the cylinder, thereby permitting of the cylinder being rotated independently of the handle, means connected with the cylinder and provided with a lateral extension having a slit, and means carried by one of said extensions for coupling the handle with the cylinder, thereby enabling the handle and the cylinder to be rotated in unison
2. In a portabie percussive device, the combination with the cylinder thereof, of a handle swivelly connected upon one end of the cylinder and to permit of the cylinder rotating independently of the handle, and means carried by the cylinder for coupling the handle therewith so as to enable the rotating of the cylinder and the handle in unison.
3. In a portable percussive device, the combination with the cylinder thereof, a cap secured to one end of the cylinder, a handle, a base therefor, means for swivelly connecting the base to the cap to permit of the cylinder being rotated independent of the handle, and means connected to the cap and engaging in the base for coupling the base to the cylinder, thereby enabling the rotation of the cylinder and handle in unison.

## No. 100,260. Manufacture of Nitro-Glycerine. Fabrication de nitro-glycérine.

Deutsche Sprengshoff Aktiengeselleschaft, Nobelshof, Hamburg, Germany, assignee of Friedrich J. H. Rower, same place, 31st July, 1906; 6 years. Filed 6th June, 1906. Receipt No. 136,579.
Claim.-1. The process for the manufacture of nitro-glycerine explosives insensible to the action of cold which consists in adding to nitro-glycerine, monochlordinitroglycerine.
2. The process for the manufacture of nitro-glycerine explosives insensible to the action of cold, characterized by the addition of monochlordinitroglycerine to nitro-glycerine, substantially as described.

No. 100,261. Electrolytic Decomposition of Saline Solutions.
Décomposition électrolytique des solutions salines.

## Fig. 4.



Arthur B. Larchar and George H. Richardson, both of Oldtown, Maine, U.S.A., 31st July, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,184.
claim.-1. The improvement in the electrolysis of saline solutions by the use of a diaphragm immersed in and separating two bodies of liquids, one containing the anode and the other the cathode, which consists in regulating the depth of the cathode containing liquid relative to the liquid in the anode chamber to control the passages of caustic soda and undecomposed salt through the diaphragm and prevent the backward diffusion of the caustic soda through such diaphragm.
2. The improvement in the electrolysis of the saline solutions by the use of a diaphragm immersed in and separating two bodies of liquid, one containing the anode and the other the cathode, which consists in controlling the passage of caustic soda and undecomposed salt through said diaphragm by the regulation during the operation of the depth of the cathode containing body of liquid, and conducting the liquid, percolating through the diaphragm, in films or thin sheets of liquid by passing the latter through narrow passages extending through the cathode as and for the purpose set forth.

## No. 100,262. Manufacture of Steel from Iron.

 Fabrication dc l'acier du fer.Fritz André, Haardt, assignee of Adam Massott, Jr., Mutterstadt, Palatinate, both in Germany, 31st July, 1906; 6
years. Filed 30th January, 1906. Receipt No. 132,405.
Claim.-1. A method of manufacturing steel from ordinary iron and inferior sorts of steel, characterised by the metal being heated in a furnace to white heat, with the addition of ferrocyanide of potassium, leather size, charcoal powder, colophony, finely screened earth and soda, substantially as described.
2. A method of manufacturing stcel from ordinary iron and inferior sorts of steel, characterised by the metal being heated in a furnace to white heat, with the aidition of ferrocyanide of potassium, leather size, charcoal powder, colophony, finely screened earth and soda with simultaneous addition of nitrate of potash and graphito. substantially as described.
3. A method of manufacturing steel from ordinary iron and inferior sorts of steel, characterised by the metal being

heated In a furnace to white heat, with the addition of ferrocyanide of potassium, leather size, charcoal powder, colosize, charcoal powder, colophony, finely screened sand and soda, and carried in a retort closed in an air tight manner. substantially as described.
4. For carrying out the method set forth, a powder chielly composed as follows, 300 grms. ferrocyanide of potassimm. 200 grms. size made from leather parings, 200 grms . charcoal powder, 180 grms. colophony, 20 grms. soda, 40 finely screened sand or earth containing silica, 25 grms. nitrate of potash, 35 grms. graphite.

## No. 100,263. Electroplating Tank.

Réservoir à électroplaquer.


Zucker and Levett and The Loeb Company, assignees of C. G. Backus and G. L. Wallace, all of New York City, New York, U.S.A., 31st July, 1906; 6 years. Filed 6th April, 1906. Receipt No. 134,665.

Claim.-1. In a device of the kind described, a tank, arms attached at one end to a side of the same and a rotatable drum supported by the outer ends of said arms, and means for raising said drum out of said tank and lowering it on, one side of te tank. substantially as described.
2. In a device of the kind described, a tank adapted to contain a liquid, arms hinged at one end to a side of the same ard a rotatable receptacle supported by the other ends of said arms and adapted to be entirely submerged in said liquid, substantially as described.
2. In a device of the knd described, a tank, arms hinged at one end to a side of the same and supporting at the other end, a second set of arms hinged thereto and a rotatabie drum supported at the ends of sald second set of arms, substantially as described.
4. In a device of the kind described, a tank, arms hinged at one end to a side of the same, a rotatable drum supported by the outer ends of the same and a crank mounted on the side of the tank and combined with transmitting mechanism to raise and lower the drum, substantially as described.
5. In a device of the kind described, a tank, arms hinged at one end to a side of the same, a rotatable drum supported by the outer ends of the same, a worm wheel in engagement with one of said arms and an endless screw in engagement with said worm wheel. substantially as deseribed.
$\boldsymbol{6}$. In a device of the kind described, a tank adapted to-contain a liquid, a rotatable drum mounted on sald tank and adapted to rotate in the said liquid. means for raising sald drum out of sald tank and to one side of the same, sald means comprising self locking mechanism for retaining the drum at any desired elevation, substantially as described.
7. In a device of the kind described, a rotatable receptacle, comprising boards forming the side walls thereof, said boards being formed of two layers secured directly to each other, one layer being of wood and the other of hard rubber, and perforations in said boards formed by oppositely disposed staggered openings connected with each other by channels, the said openings and channels forming passageways through the boards, substantially as described.
8. In a device of the kind described, a tank adapted to contain a liquid and a rotatable drum mounted on said tank and adapted to be entirely submerged in said liquid and to rotate therein, means for raising said drum out of said liquid and to one side of the tank and means for retaining it at any intermediate position, substantially as described.
9. In a device of the kind described, a rotatable receptacle ccmprising boards forming the side walls thereof, said boards being formed of two layers secured directly to each other, one layer being of strengthening material and the other of waterproof material, and perforations in said boards formed ty oppositely disposed staggered openings connected with each other by channels, said openings and channels forming passageways through the boards, substantially as described.

No. 100,264. Machine for Making Nuts. Machine pour faire des écrous.


Otto Briede, Benrath, near Dusseldorf, Germany, 31st July, 1906; 18 years. Filed 29th May, 1905. Receipt No. 125,574.
Claim.-1. In a machine for making nuts, washers, etc., the combination of shaping and retaining matrices, a punch having its axis in line with the axes of the matrices and means for reciprocating the punch.
2. In a machine for making nuts, washers, etc., the combination of dies having shaping and retaining matrices, means for opening and closing said dies, a punch having its axis in line with the axes of the matrices and means for reciprocating the punch.
3. In a machine for making nuts, washers, etc., the combination of shaping and retaining matrices, a punch, a compressing die, said punch and die having their axes in line with the axes of the matrices and means for reciprocating the punch and die.
4. In a machine for making nuts, washers, etc., the combination of holding, shaping and retaining matrices, a punch and means for moving the punch through the retaining matrix into the shaping matrix.
5. In a machine for making nuts, washers, etc., the combination of shaping matrix, mechanism for feeding a blank into said matrix and a punch having its axis in line with the axis of the blank while in feed position.
6. In a machine for makng nuts, washers, etc., the combination of a shaping matrix, a reciprocating punch, levers provided with gripping jaws, a wedge for opening and closing the jaws and shifting the levers to effect a feed movement, and means for reciprocating the wedge.
7. In a machine for making nuts, washers, etc., the combination of pivotally mounted arms, dies carried by said aims, a punch, and means for shifting the arms and punch.
8. In a machine for making nuts, washers, etc., the combination of pivotally mounted arms, dies carried by said arms, wedges for shifting the arms, a punch and means for shifting the wedge and punch.
9. In a machine for making nuts, washers, etc., the combination of a die, punch. sliding bed, a power shaft mounted on said bed, connections from the shaft to the punch and nieans for yieldingly holding the sliding bed in position.
10. In a machine for making nuts, washers, etc., the combination of a main frame, a die carried by the main frame, a punch, a bed movably mounted on the main frame, a driving shaft mounted on the bed, connections from the shaft to the punch, and means for yieldingly holding the bed in operative position.

No. 100,265. Magnetic Ore Separator.
Séparateur magnétique de minerais.


William Henry Adams, Mineral, Virginia, U.S.A., 31st July, 1906; 6 years. Filed 16th May, 1906. Receipt No. 135,967. Claim.-1. A magnetic separator comprising means for producing a revolving field of magnetic force, means for passing comminuted material through said field of force in a direction contrary to the direction of revolution of said field, and means for removing the segregated particles from the field of force.
2. A magnetic separator comprising means for producing a revolving field of magnetic force, means for passing comminuted material through said field of force in a direction contrary to the direction of revolution of said field and a conveyer for removing the magnetic particles passing through said field of force between its source and the comminuted material.
3. A magnetic separator comprising means for producing a revolving field of magnetic force, means for passing comminuted material through said field of force in a direction contrary to the direction of revolution of said field, and a belt passing through said field of force between its source and the comminuated material in an upward circular path and then horizontally whereby the magnetic particles are removed from the field of force.
4. A magnetic separator comprising means for producing a revolving field of magnetic force and a belt passing through said field of force between the source thereof and the comminuted material and adapted to retain the attracted particles by gravity as it leaves the field of force.
5. A mgnetic mineral separator comprising means for produceing a field of magnetic force, means for passing the comminuted mineral through said field of force, a belt and means for passing the belt into and through said field of force between its source and the magnetic material in a manner to first attract the material to the belt against the action of gravity and then, by the progress of the belt, to make the action of the field of force coincide with that of gravity, whereby the particles on the belt may be carried by the belt out of the field of force.
6. A magnetic separator comprising means for producing a revolving magnetic field, means for passing comminuted material containing magnetic particles through said field of force, a discharge conveyer for the segregated magnetic particles, and means for delivering the magnetic particles upon said conveyer in position for further removal by the action of said field of force.
7. The combination with a sluice box of meaus for producing a revolving magnetic field above and including a section of the path of the comminuted material flowing in said sluice box, a conveyer for the segregated magnetic particles and means for delivering and holding the segregated magnetic particles upon said conveyer by the action of said field of force, until they may be retained thereon by gravity.
8. The combination with a sluice box, of means for magnetically extracting the magnetic materials, and means for mechanically classifying the non-magnetic materials both operative simultaneously upon the materials.
9. The combination with a sluice box or conduit having a series of openings in its bottom, classifying screens covering said openings, settling pockets depending from the sluice box and each enclosing one of said openings, said pockets having controllable discharge openings, of revolving magnets placed over the screens and means for discharging the magnetic materials extracted by said magnets.
10. The combination with a sluice box having screen coverrd settling pockets communicating with the box bottom and provided with controllable discharge openings, of means for magnetically extracting the magnetic materials as they reach the screens.
11. The combination with a sluice box, of a revolving elec-tro-magnet dipping into the stream in said box, a belt and means for moving said belt about the magnet with its upper run travelling away from the magnet.
12. The combination with a sluice box, of a revolving elec-tro-magnet dipping into the stream in said box, means for adjusting the distance of the magnet from the bottom of the box, a belt and means for moving said belt about the magnet with its upper run travelling away from the magnet.
13. The combination with a sluice box having riffles therein, of revolving electro-magnets dipping into the stream in said box just below the riffles, a belt and means for moving said belt about the magnet with its upper run travelling away from the magnet.
14. The combination with a sluice box, of a revolving elec-tro-magnet dipping into the stream in sald box, means for agitating the materials flowing in said box just before it reaches the magnet, a belt and means for moving the belt about the magnet and with its upper run travelling away from the magnet.
15. The combination with a sluice box having riffles therein, of revolving magnets operative to extract the magnetic particles at the point where the stream is agitated by the riffles.
16. The combination with a sluice box having riffles therein, of revolving electro-magnets operative to extract the magnetic particles at the points where the stream is agitated by the riffles, and classifying screens in the bottom of the box at the same points.
17. The combination with a sluice box having riffles therein, of revolving electro-magnets operative to extract the magnetic particles at the points where the stream is agitated by the riffes, settling pockets communicating with the box at the same points and classifying screens covering said pockets.

No. 100,266. Shesrs. Cisailles.


Harvey L. Hopkins, Chicago, Illinois, U.S.A., 31st July, 1906 6 years. Filed 14th October, 1905. Receipt No. 129,249.
Claim.-1. In a device of the character described the con: bination with a pair of scissors or shears of a metal strip formed of a U -shaped hook, one end of said hook being bent at right angles thereto, the other end of the hook being adapted to engage the bevel on the side of the shear blade. means to secure and hold said strip in position for the purpose set forth, substantially as described.
2. In a device of the character described the combination with a pair of scissors or shears of spring actuated means. whose tension is regulated and increased through the bevel on the side of the shear blade by the closing of the shears for the purpose set forth, substantially as described.
3. In a device of the character described the combination with a pair of scissors or shears of means to regulate and in crease the pressure existing between the blades by the use of the bevel on the side of the shear blade by the operation of the shears for the purpose set forth, substantially as described.
4. In a device of the character described the combination with a pair of scissors or shears of spring actuated means to produce a pressure between the blades, which pressure shall be automatically regulated and increased through the bevel side of the blade by the operation of the shears for the purpose set forth, substantially as described.
b. In a device of the character described the combination with a pair of scissors or shears, of a strip of metal formed into a $\mathrm{t}^{-}$-shaped hook, one of the ends of which is bent $a^{\prime}$ right angles and adapted to be held in place by an extended pivot secured in such a manner that the opposite end will engage the bevel face of the shear blade for the purpose set forth. substantially as described.
6. In a device of the character described the shears 1 , the V-shaped hook having ends 6 and 7 , screws 9 , all combined and arranged substantially as set forth and described.

No. 100,267. Cathode Plate. Plaque de cathode.


Harry Cross Hubbell, East Orange, New Jersey, U.S.A., 31st July, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,263.
Claim.-1. A cathode comprising a foraminous foundation, a silver oxide mass deposited upon the opposite sides thereof and keyed through the perforations therein, a sheet of asbestos filtering laterial inclosing the plate, and a wirc gauze pocket having binding straps at its edge for inclosing the parts.
2. A battery plate comprising a fcraminous nickel foundatlon, a silver oxide deposit upon its opposite sides, the edges of the foundation uncovered by the deposit, a layer of asbestos paperr surrounding the deposit, a wire gauze pocket inclosing the parts and held in place by channelled binding strips crimped upon the edges of the gauze pocket.

No. 100,268. Knife Polishing Device.
Machine d polir les couteaux.


Henry J. Hutchinson, Vancouver, British Columbia, Canada, 31st July, 1906; 6 years. Filed 5th January, 1906. Receipt No. 131.5: s .
Claim.-1. As a knife cleaning device, two parallel opposed integral resilient members, the adjacent surfaces of which are each in one uninterrupted plane and are covered with a bufling or polishing material.
2. As a knife cleaning device, two parallel opposed integral resilient members, the adjacent surfaces of which are each in one uninterrupted plane and ate covered with a butfing or polishink material, and means for securing the same to the woodwork of an article of kitchen furniture.
3. In a device of the class described, two integral opposed resillent members one of which is produced beyond the other and provided with means for attaching to an article of kitchen furnishing, and the upper edge of the other outwardly bent to form an entering flare between them, the adjacent surfaces of both members being furnished with a buffing or polishing material.

## No. 100,269. Electric Furnace Apparatus.

. Ipmaril de fournaise electrique.
Frederick Adolf Kjellin, Stockholm, Sweden, 31st July, 1906; 6 years. Filed 17th May, 1906. Receipt No. 136.601.
Claim.-In electric furnaces, where the electro-motive force is produced by a periodically varying magnetic field. the arrangement of electric conductors in such a position
with relation to the circuits and the leak fields as to induce currents in sald conductors opposing the production of leak fields, for the purpose of reducing the self induction.

No. 100,270. Apparatus for the Electrolytic De-
composition of Alkali Chlorid Solutions.
Appareil pour la décomposition électrolytique de solutions do chlorate d'alcali.


Johan Jacob Rink, Copenhagen, Denmark, 31st July, 1906; 6 years. Filed 9th May, 1906. Receipt No. 135,723.
Claim.-1. In apparatus for the electrolytic decomposition of alkali chloride solutions by means of a mercury cathode, the combination of a tank containing the mercury cathode, a vessel containing the anode, a diaphragm separating the space containing the cathode from the space containing the anode, and means for connecting the decomposition space adjacent to the cathode for connecting the decomposition space adjacent to the cathode with a special concentration receptarle free of chlorine.
2. In apparatus for the electrolytic decomposition of alkall chloride solutions by means of a mercury cathode, the combination of a tank containing the mercury cathode, a vessel containing the anode, a diaphragm separating the space containing the cathode from the space containing the anode. and means for connecting the decomposition space adjacent to the cathode on the one hand with a special concentration receptacle fre of chlorin. and on the other hand with a washing box in which several drip surfaces for the amalgam are arranged between several electro-negative conductors.
3. In apparatus for the electrolytic decomposition of alkall chloride solutions by means of a mercury cathode. the combination of a tank containing the mercury cathode, a vessel containing the anode, a separating diaphragm between the spaces containing the cathode and anode, a concentration receptacle free of chlorine gas connected with the decomposition space adjacent to the cathode, a second concentration receptacle connected with the space containing the anode, a washing box provided with vertical drip surfaces for the amalgam arranged between electro-negative conductors, and means for connecting the decomposition space of the tank with one concentration receptacle and with the washing box and the space containing the anode with the second concentration rectptacle.

## No. 100,271. Gas Generator. Gicirivtemi ì !!⿱ż

Melville Day Shaw and William Patrick Rhody, co-inventors, both of Wapakoneta, Ohio, U.S.A., 31st July, 1906; 6 years. Filed 10th March, 1906. Receipt No. 133,731.
Claim.-1. The combination with an inlet pipe and exhaust pipe of a gas engine, of a generating tank connected with the exhaust and heated thereby, a crude oil supply tank operatively connected to said generating tank, a gasometer or holder connected to said generator tank and means for feeding the gas generated in said tank and stored in said holder, from the latter to the inlet pipe of the engine.
2. The combination with an inlet pipe and exhaust pipe of a gas engine, of a generating tank connected to the exhaust, and containing generating coils, a crude oil supply tank connected to one end of said coil. a gasometer or bell connected with the other end of said coil. a purifier connected to said gasometer and a pipe connecting the purifier to the inlet pipe of the engine.
3. The combination with an inlet pipe and exhaust pipe of a gas engine. of a generating tank connected to the exhaust pipe atd heated thereby. a coil in said tank, a crude oil supply tank having a valved connection with one end of said coil, a gasometer connected to the other end of said coil and provided with a bell. an arm carried by said bell and arranged to open the valved connection between the supply tank
and the coll when the bell lowers, a blow-off for said gasometer. a purifier connected to said gasometer and provides

near its lower end with a screen designed to support purifying material, and a pipe connecting sald purifier to the inlet pipe of the engine.

## No. 100,272. Floor Polishing Machine.

Machine à polir les planchers.


Peter Sass, Vancouver, British Columbia, Canada, 31st July, 1906; 6 years. Filed 5th May, 1906. Receipt No. 135,581.
Claim.-1. In a floor polishing machine the combination with a wheeled frame carrying a motor, of a vertical hollow shaft rotatable and vertically slidable in bearings projecting from the motor carrying frame, said shaft having at its lower end an annular polishing head, a steering wheel secured to a stem movable in the center of the polishing head shaft. which shaft is endwise movable on the stem, and means for rotating the hollow shaft from the motor.
2. In a floor polishing machine the combination with $a$ motor carrying wheeled frame, of a vertical hollow shaft rotatable and vertically slidable in bearings projecting from the motor carrying frame and having at its lower end an annular polishing head, a steering wheel on the lower end of a stem passing through the hollow shaft on which stem the hollow shaft is rotatable and endwise slidable, a lever secured to the upper end of the steering wheel stem and passing toward the after end of the motor carrying frame, means for driving the hollow shaft and its pollshing head from the motor and means for endwise lifting the hollow shaft in its bearings.

## No. 100,273. Can Soldering Machine.

## Machine à souder les boites de fer blanc.

George H. Stewart, Los Angeles, California, U.S.A., 31st July 1906; 6 years. Filed 5th June, 1906. Recelpt No. 136,572. Claim.-1. In a can soldering machine the combination of means for moving a can body continuously past the solder point, means for heating the cans or bodies prior to reaching the solder point, and mechanism for feeding solder to the can in the form of wire, said mechanism being controlled by the can body in its continuous passage by the solder point to feed definite and exact lengths of said solder wire, substantially as described.
2. In combination in a can soldering machine, means for moving the cans axially, wire solder feeding means to direct

the wire solder to the side seam and means acted on by the ran and traversing the same from end to end for controlling the feeding of the solder wire, substantially as described.
3. In combination, a horn, a chain for moving the can bodies along the horn, wire soldering feeding devices for directing the solder wire to the seam, means in the path of the can body and arranged to traverse the same from end to end, said means controlling the feed of the solder wire, substantially as described.
4. In combination means for moving the can body in a substantially horizontal position with its side seam uppermost, means for feeding solder wire down upon the said side seam, whereby the end of the solder wire will traverse the can body from end to end, and means engaging the side of the can and traversing the same from end to end, parallel with the side seam, said means controlling the feed of solder wire to the side seam and engaging and disengaging the can body simultaneously with the solder wire, substantially as described.
$\bar{j}$. In combination, a horn over which the can body moves, solder wire leed means for directing wire solder to the seam and controlling means contacting with another part of the can and which traverse the same from end 10 end parallel with the path of the solder.
6. In combination, a horn over which the can body moves, means above the can body for feeding the solder wire down upon the same and means engaging the side of the can body and traversing said body from end to end, sald means controlling the feed of the solder, substantially as described.
7. In combination, a horn over which the can body moves, means above the can body for feeding the solder wire down upon the same and means engaging the side of the can body to one side of the seam and traversing said body from end to end, said means controlling the feed of the solder, and including a bell crank lever, substantially as described.
8. In comblation in a can soldering machine, means for moving the cans axially or in the direction of their length, soldering means to direct the wire solder to the side seam, and means acted on by the can and traversing the same from end to end for controlling the feeding of the solder wire, the said cans being moved continuously past the soldering point substantially as described.
9. In a can soldering machine and in combination, a solder feeding device operated by a constantly moving power, through frictional contact, and an arresting device controlled by the movement of the cans and acting intermittently on the feed device, substantially as described.
10. In combination iu a can soldering machine, means for moving a can body past the solder point, means for heating the can or body prior to reaching the solder point and mechanism for fecding the solder to the can in the form of wire, said mechanism being controlled in its feeding movement by the can body to an extent corresponding to the length of the sald can body, substantially as described.

No. 100,274. Apparatus for Producing Combustion Gag.
Appareil pour la production du gaz a combustion.
Adolf Vogt, 149 Tulse Hill, Surrey, England, 31st July, 1906; 6 years. Filed 7th March, 1906. Receipt No. 133,635.
Claim.-1. In apparatus for producing gases under pressure by the combustion of alr with combustible gas or liquid combustible, the combination with a combustion chamber, of a plurality of concentric casings surrounding the same, form-
ing concentric spaces through which the air supply for the combustion chamber is made to pass consecutively in the

direction from the outside to the combustion chamber, so 28 to take up and carry inward the heat radiated from the combustion chamber to the several casings, substautially as described.
2. In apparatus for producing combustion gases under pressure by the combustion of air with combustile gas or liquid combustible, the combination chamber surrounded by a serifa of casings of sheet nickel or other suitable material forming spaces through which the air supply is caused to pass consecutively in the direction from the outside towards the comcustion chamber, so as to take up and carry inward the heat imparted by radiation to the several casings, substantially as described.
3. In apparatus for producing combustion gases under pressure by the combustion of air with combustíble gas or liquid combustible, the combination with the discharge nozzle, of a surrounding nozzle for the supply of liquid for the purpose of transferring the kinetic energy of the gas jet to a jet of liquid, substantially as described.

No. 100,275. Bracket for Eaves Troughs.
('onsole pour larmiers.


Harry K. Flowers, Beverly, Ohlo, U.S.A., 31st July, 1906; years. Filed 25th June, 1906. Recelpt No. 137,236.
Claim.-1. An eavestrough supporting bracket consisting of a twisted wire standard portion having arms extending from its ends for bearing respectively over and beneath the trough, one of said arms terminating in an eye and the other arm terminating in a hook, and a twisted wire portion extending from said standard intermediately of the same and terminating in an eye for respectively receiving the eye and hook of said arms.
2. An eavestrough supporting bracket comprising a standard portion having an arm extending therefrom at one end and terminating in a loop and an arm extending from the other end and terminating in a hook, and a wire member folded together and twisted for a portion of its length and engaged at the fold with sald loop and with the free ends extended in opposite directions and twisted around the standard portion.
3. An eavestrough supporting bracket consisting of a twisted wire standard portion having arms extending from its ends for bearing respectively over and beneath the trough. one of said arms terminating in an eye and the other arm terminating in a hook, a twisted wire portion extending from sald standard intermediately of the same and terminating in an eye for respectively recelving the eye and hook of said
arms, in combination with an eavestrough for support between said brace member and lower arm member and formed with spaced recesses to recelve the inner portion of the intermediate member.
4. An eavestrough supporting bracket consisting of a twisted wire standard portion having arms extending from its ends for bearing respectively over and beneath the trough, one of said arms terminating in an eye and the other arm terminating in a hook, a twisted wire portion extending from sald standard intermediately of the same and terminating in an eye for respectively recelving the eye and hook of said arms, and a clip for bearing over said standard portion and having means for securing to a supporiing structure, and, provided with a notch for engaging the upper lateral member.

No. 100,276. Medicine Spoon. ('uillive ìmillwill'.


William L. Jenkins, Moultrie, Georgia, U.S.A., 31st July, 1906; 6 years. Filed 25th May, 1406 . Receipt No. 136,240.
Claim.-1. A medicine spoon embodying a bowl and a handle, the under side of the deepest portion of the bowl and the under side of the handle being in the same plane. and the bowl belng provided with interior graduation box and with a spout, the under side of which is serrated.
2. A medicine spoon having its bowl provided with a spout the free end of which is bent downwardly and provided on its underside with serrations.
3. A medicine spoon embodying a bowl and a handle. the bowl being provided with an elongated slot covered throughout a greater portion of its length and having its free end bent downwardly and provided on its underside with gerrations.

No. 100,277. Rock Drill. Forel à rochc.


John George Leyner, Denver. Colorado, U.S.A.. 31st July, 1906: 6 years. Filed 1st August, 1905. Receipt No. 137,331.
Claim.-1. A drill, a hammer piston, a striking member operationly arranged to recelve and impart the blows of the
hammer piston to the drill, a feed screw for said drill, and matans connected to said feed screw for rotating said drill.
2. A drill. a hammer piston, a striking pin arranged and adapted to recrive and impart the blows of said hammer piston to said drill, a drill holding chuck, and means conincted with said chuck for imparting rotative movement to said drill
3. A drill, a hammer piston, a striking pin arranged to receive and impart the blows of said hammer piston to said drill, a buffer device for said hammer piston, a drill holding chuck, a feed screw for said drill, and means connected with said fied screw and chuck whereby rotation of sald feed screw effects rotation of said drill.
4. A drill, a striking pin for striking the drill, a hammer p:ston for striking the striking pin, a chuck for holding the cirill. a feed screw for fecding the drill, and means inchuding focaring for connecting said feed screw to said chuck whereby rctation of said feed screw effects rotation of said drill.
$\bar{j}$. A drill, a riciprocal compensating striking pin for striking the drill, a hammer piston for striking the striking pin, a bufter device arranged to receive the inoperative blows of said hammer piston, and means for defining the reciprocal compensating movement of said striking pin relative to the cushioning of the inoperative blows of said hammer piston by said buffer device.
6. In a rock drilling eugine, a cylinder, a hammer piston reciprocally mounted in said cylinder, a drill bit supported in said cylinder and adapted to be driven by said hammer piston a chuck and gear rotatably mounted on said cylinder and arranged to support said drill bit, a gear in mesh with said chuck gear. a feed screw operatively connected to said cylinder, and means for rotating said second gear from said feed screw.
7. In a rock drilling engine, a cylinder, a supporting shell it, which said cylinder is slidably mounted, hammer piston reciprocately mounted in said cylinder, a drill bit supported ir said cylinder and adapted to be driven by said hammer piston, a rotatable drill holding chuck, a drill bit supported i:i said chuck, a gear mounted on sald chuck, a second gear rctatably journalled in said cylinder and arranged in operative mesh with said chuck gear, a sleeve projecting from said gear. a feed screw operatively connected to said cylinder and shell, and estending through said sleeve, and means conrected with said feed screw and said sleeve whereby rotation of said feed screw effects rotation of said chuck and dir:ll bit.
8. In a rock drilling engine, an operative cylinder and hammer piston and a feed screw operatively connected to said cylinder, a drill bit in said cylinder, a sleeve supported by said cylindur and surrounding said feed screw. a key way in said slieve, a feather key serured to said sleeve and projerting looscly into said key-way, a gear on said sleeve. and marans including a gear in mesh with the gear on said slecro for rotating said drill bit.
9. In a rock drilling engine, a rock drill, a motive fluid controlled hammer piston for driving the same, a gear for rotating said drill, a feed screw for feeding said drill. a sifeve feathered to sald fred screw, and a gear secured to said sleeve and in mesh with said drill rotating gear.
10. A rock drill comprising a cylinder having a piston hammer and a revoluble drill chuck. a support on which said cylinder is slidiably mounted, a feed screw in engagement with said cylindor and support, and means whereby rotation of said screw effects rotation of said chuck, as set forth.
11. A rock drill comprising a cylinder having a hammer piston and a ruvoluble drill whuck, a support on which said cylinder is slidably mounted, a feed screw in engagement with said cylindmr and support. and meshing gears rotating with said screw and chuck, as set forth.
12. A rock drill comprising a cylinder having a hammer piston and a revoluble drill chuck, a support on which said cylinder is slidably mounted. a feed screw in engagement with but slide on said screw, and meshing gears rotating with but slide on said screw, and meshng gears rotating with said sleeve and chuck, as set forth.
13. A rock drill comprising a cylinder having a hammer piston and a revoluble drill chuck, a support on which sald cylinder is slidably mounted, a feed screw in engagement with said rylinder and support, a sleeve mounted to rotate with but slide on sald screw, and meshing gears rotating with said sleere and chuck, as set forth.
14. In a motive fluid hammer niston rock drilling engine. the combination of the cylinder. the hammer piston, the drill chuck and the drill bit, with a drill bit striking pin interposed between said hammer niston and said drill bit, and adapted to recerive the blows of said hammer piston and impart them to said drill bit, and the steel sleeve. and resilient buffer devire for cushioning the inoperative blows of said hammer piston.
15. In a motive fluid hammer piston rock drilling engina. the combination with the cylinder. the supporting shell, the feed screw operatively connected to said shell and cylinder.
and the drill holding chuck, provided with a gear, of a gear rotatably mounted in said cylinder, in mesh with said chuck gear, a sleeve on said gear surrounding said feed screw, and means for rotatably and slidably connecting said sleeve to said feed screw, substantially as described.
16. In a motive fluid hammer piston rock drilling engine the combination with the cylinder, the supporting shell, the gear drill chuck and the feed screw, provided with oppositely disposed key way, of a gear rotatably mounted in said cylinder in mesh with said chuck gear, and provided with a sleeve, said gear and sleeve surrounding said feed screw, and provided with two oppositely disposed integral feather keys slidably keyed to said feed screw, substantially as described.
17. In a motive fluid hammer piston rock drilling engine, the combination with the supporting shell, the feed screw and the cylinder, having an exhaust port opening to the atmosphere opposite to said feed screw, of the gear drill chuck and the gear and sleeve surrounding the feod screw and in mesh with said chuck gear, and a circumferential row of apertures in the shell of said sleeve registering opposite the fluid exhaust port of said cylinder, adapted to admit the exhaust fluid pressure to said feed screw, substantially as described.
18. In a motive fluid hammer piston rock drilling engine a rock drill bit, having a cutting point, and a shank consist ing of a bar of any mercharitable drill tool steel in its natural merchantable state, of any form of cross section said shank being entirely free from projections, collars lugs, shoulders, notches, recesses, or any kind or character of machined or added element.
19. A rock cutting drill bit, for motive fluid controlled rock drilling engines, consisting of a bar of merchantable drill tool steel of any form of cross section having rock cutting lips at one end, and a striking shank free from lugs recesses, slots, collars, projections, or shoulders, and a chuck having a drill recelving aperture of a form to suit the cross section form of said drill bit.
20. A rock cutting drill bit for motive fluid controlled rock drilling engines, consisting of a bar of merchantable cruciform drill tool steel of any form of cross section, havilig rock cutting lips at one end, and having its shank throughout its length of its natural rolled form, and entirely free from projections or recessed elements that would act to define the length of that portion of its shank that is inserted in the drill holding chucks of rock drilling engines, and a chuck for rock drilling engines having a drili holding aper ture of cruciform shape adapted to receive and support said cruciform shaped drili bit loosely, whereby an operator can instantly insert and remove by hand said drill bits in said chuck.
21. In a motive fiuid controlled rock drilling engine, the combination with the supporting shell, the cylinder, and the feed screw of a top secured to said shell, and an arm on said cylinder arranged to engage said stod, and limit the feeding movement of said cylinder in said supporting shell 22. In a motive fluid controlled hammer piston rock drilling engine, a supporting shell, a cylinder slidably mounted in said shell, a feed screw connected to said shell and cylinder and arranged to feed said cylinder in said shell, a drill holding chuck in said cylinder, a drill bit in said drill holding chuck, a striking pin for striking the drill bit, a hammer piston in said cylinder for striking the strike pin, a buffer device for cushioning the inoperative blows of said hammer piston, and means connected to said feed screw and chuck whereby rotation of sald feed screw effects rotation of said drill bit.
23. In a motive fluid hammer piston drill, the combination with the cylinder, the shell, the feed screw, the hammer piston, and the arill bit, of a drill bit holding chuck rotatably mounted in said cylinder provided with a gear, a gear rotatably connected and slidably feathered to sald feed screw in mesh with the gear of said drill bit holding chuck, a striking pin for striking said drill bit, and a hammer piston for striking said striking pin, substantially as described.
24. In a rock drilling engine, the combination of a cylinder having a fluid inlet port, axially arranged ports in its shell. and circumferential ports in its inner periphery registering with said axial ports at predetermined intervals, and a circumiferential exhaust port in its inner periphery open to the atmosphere, with a hammer piston provided with an axial bore extending into it from its rear end a predetermined distance, a circumferential row of radial ports in its shell adjacent to its rear, having their inner entrances arranged in zigzag order, and the outer entrances arranged in a circumferential row, and arranged to register with said cylinder inlet ports, and a row of radial exhaust ports in its shell arranged to register with said cylinder's exhaust port, substantially as described.
25 . In a motive fluid hammer piston rock drilling engine the combination with the cylinder and the hammer piston. of a drill bit holding chuck mounted in said cylinder provided with an enlarged portion, a steel buffer sleeve mounted
in said cylinder.$n$ the reciprocal path of sald hammer plston, and arranged to fit over the end of said chuck, a resilient buffer ring and a steel washer mounted on said chuck betwren said steel buffer sleeve and said enlarged portion of said chuck, an axial aperture in said steel buffer sleeve, of two diameters, arranged to form a shoulder in the front end of said sleeve, a piston hammer striking pin reciprocally mounted in said sleeve, and arranged to project normally beyond the said sleeve into the reciprocal path of said hammer piston, a collar on said pin arranged to have a sliding movement between the shoulder in said steel buffer sleeve, and the adjacent end of said chuck, and adapted to define the reciprocal compensating movement of said pin relative to the reciprocal strokes of said hammer piston, and a drill bit adapted to be supported by said chuck and adapted to be held against said pin, and to be struck by said striking pin, substantially as described.

No. 100,278. Draft Appliance. Appareil de tirage.


Isalu Rancourt, Napierville, Quebec. Canada, 31st July. 1906
6 ycars. Filed 2nd February, 1906. Recelpt No. 132,511.
Chill.--1. In a device of the rharacter described the combination comprising a plurality of connecting bolts, side plates adjustably disposed on the bolts, a transverse bar disposed on the plates, means for adjustably locking the bar on the plates, and means for pivocally attaching a draft tongue to the bar
2. In a device of the character described the combination comprising a plurality of connecting bolts. plates adjustably disvosed on said bolts, a yoke pivotally disposed on one of sald bolts, a bar secured on the plates, and a draft tongue pivotally secured to the bar.
3. In a device of the character described the combination comprising a pair of plates. means for adjustably holding the plates together, a transverse bar adjustably disposed on the plates, yokes disposed over the transverse bar and extending past the plates, clamping plates disposed on the yokes, nuts disposed on the yokes beneath the clamping plates, and means for connecting the transverse bar to a draft tongue.
4. In a device of the character described the combination comprising a pair of shle plates provided with seats, means for aljustably holding the side plates together, a transverse bar disposed in said plates, means for locking the bar to said plates, a brace pirotally connected to sald bar and extending forwardly thereof, a bar pivotally connected to said transverse bar and provided with a horizontal extension in a differcnt plane. and a draft tongue secured to said horizontal extension and to said brace
5. In a device of the character described the combination comprising a pair of plates, means for adjustably holding the plates, a clevis connected to the plates, a bar on the plates. and a draft tongue connected with the bar.

## No. 100,279. Mould for Plastic Matorial.

## Moule pour matieres plastiques.

Ebenezer W. Rider, Detroit. Michigan. U.S.A.. 31st July, 1906; 6 years. Filed 20th June. 1906. Receipt No. 187.082.
Claim.-1. In a machine for moulding plastic material the combination with a mould. of means for fllling said mould with plastic material, means for subsequently depositing a second layer of plastic material above the mould, and a compression plunger for simultaneously compressing both layers of material.
2. In a machine for moulding plastic material the comblnation with a mould, of mans for completely filling sald mould with plastic material, means for superposing and holding a
second layer of plastic material above the first deposit and a plunger for compressing both layers within the mould.

3. In a machine for moulding plastic material the combination with a mould, of means for completely flling the cavity of said mould with plastic material, means for extending the mould to vertically enlarge the mould cavity thereof, means for fllling the extended cavity with a second layer of plastic material, and a plunger for compressing both layers in the mould.
4. In a machine for moulding plastic material the combination of a mould, a carrier for plastic material mounted for the lateral reciprocation across sald mould to completely fill the same, and a sscond carrier mounted for reciprocation across the mould subsequent to the operation of the first carrier, and means for enlarging the mould cavity intermediate the movements of said carriers, whereby a layer of material from the second carrier will be superposed upon the deposit from the first.
5. In a machine for moulding plastic material the combination with a mould, of a vertically reciprocating plunger, a pitman and a crank connection for actuating said plunger, a drive connection for said crank, and a clutch intermediate said drive and crank, permitting the acceleration of the descent of the plunger by gravity.
6. In a machine for moulding plastic material the combination with a mould, of a vertically reciprocating plunger, a pitman and a crank connection for actuating said plunger, and a lost motion connection for said pitman, permitting the continued rotation of the crank, after the movement of said plunger is arrested.
7. In a machine for moulding plastic material the combination with a mould, of a vertically reciprocating plunger, a pitman and a crank connection for actuating said plunger, a drive connection for said crank, a clutch intermediate said drive and crank, permitting the acceleration of the descent of the plunger by gravity, a lost motion connection for said pitman permitting the continued rotation of said crank after the arrest of said plunger in its downward movement, and means for automatically disengaging sald clutch before the limit of lost motion in the return movement of the pitman is reached, whereby said plunger remains in lowered position within the mould.
8. In a machine for moulding plastic material the combination with a mould, of a vertically reciprocating plunger, a pitman and a crank connection for actuating said-plunger, a drive connection for said crank, and a clutch intermediate said drive and crank permitting the acceleration of the descent of the plunger by gravity, a lost motion connection for said pitman permitting continued rotation of the crank after the arrest of said plunger, means for automatically disengaging said clutch before the limit of lost motion is reached in the upward movement of the pitman, means for again automatically disengaging said clutch after re-engagement before said crank has passed the upper dead center, and means for preventing backward rotation of the crank.
9. In a machine for moulding plastic material the combination with a mould, of a vertically reciprocaling plunger, a pitman and crank connection for actuating said plunger, a drive connection for said crank, a clutch intermediate said drive and crank, permitting acceleration of the descent of the plunger by gravity, means for automatically disengaging said clutch before the upward movement of said plunger, means for raising said mould to disengage the same from the
compressed brick. and means for automatically locking said plunger to hold the same from movemnt during the raising of said mould.
10. In a machine for compressing plastic material the combination with a mould, of a reciprocating plunger for compressing the material within the mould actuated by gravity in its compression stroke, means for raising the plunger after compression, means for raising the mould during the arrest of said plunger to disengage the compressed block, and means for automatically locking said plunger from movement during the raising of said mould, and for unlocking the same at the completion of the raising of said mould.
11. In a machine for compressing plastic material the combination with a mould, a plurality of pallets or bottom plates therefor, a laterally reciprocating carrier for filling the mould with plastic material, and a vertically reciprocating plunger for compressing the plastic material within said mould against the pallet, of timed mechanism for effecting successively in each cycle, the locking of the plunger in its lowered position, the raising of the mould, the unlocking of the plunger, the feeding of one pallet from beneath the mould, and another pallet in registration therewith, the raising of the plunger, the reciprocation of the carrier to fill the mould and the arrest of the timed mechanism, independently controlled means for effecting the downward movement of the plunger, and means whereby one or more succeeding operations of the plunger may be accomplished while the automatic mechanism remains stationary.
12. In a machine for moulding plastic material the combination with a bed and a vertically reciprocating plunger of slmultaneously co-operating adjustable side plates for varying the width of the space for the mould cavity.
13. In a machine for moulding plastic material the combination with a bed and a vertically reciprocating plunger, of a plurality of pallets or bottom plates, an endless chain for feeding said pallets periodically longitudinally of the bed, in and out of registration with said plunger, and a mould box containing a series of separate moulds extending longitudinally of the bed.
14. In a machine for compressing plastic material the combination with a bed, of a vertically reciprocating plunger, a laterally reciprocating carricr for the plastic material, a laterally adjustable side plate for varying the width of the mould cavity above said bed, and a wing or plate integral with said side plate forming a bottom for said carrier.

No. 100,280. Fuel. Combustible.
Andrew Schmidt. Pittsburg, Pennsylvania, U.S.A., 31st July. 1906; 6 years. Filed 7th September, 1905. Receipt No. 128,262.
Claim.-1. A composition fuel consisting of peat and burnt limestone, the limestone being slacked by the peat, and compressed into sultable forms for fuel purposes.
2. A composition fuel consisting of burnt limestone and peat, said ingredients being compressed into suitable forms for fuel purposes.
3. A fuel consisting of burnt granulated limestone and peat in the same or equivalent state.

## No. 100,281. Stopper for Bottles.

Bouchon de bouteilles.


Thomas Henry Collins, Hamilton, Ontario, Canada, 31st July, 1906; 6 years. Filed 31st May, 1906. Recelpt No. 136,445. Claim.-1. In a stopper holder device for bottles the combination with a bottle having a recess formed therein to receive the secondary closure for the bottle and means for
retaining such closure in position, as and for the purpose epecifled.
2. In a stopper holding device for bottles the combination with a bottle having a recess formed in the bottom thereof to recelve the secondary closure for the bottle and removable means for retaining such closure in position, as and for the purpose specifled.
3. In a stopper holder device for bottles the combination with a bottle having a recess formed in the bottom thereof to receive the secondary closure for the bottle and a seal designed to be fastened to the bottom of the bottle, so as to hold the secondary closure securely in the recess, as and for the purpose specified.

No. 100,282. Bottle Stopper. Bouchon de bouteilles.


August Wilhelm Cordes, New York City, New York, U.S.A..
31st July, 1906; 6 years. Filed 26th April, 1906. Receipt No. 135,301.
Claim.-1. A stopper comprising a cap having depending fingers and a clamping ring embracing said fingers and having parts co-operating with the cap whereby the ring will move axially when rotated with respect to the cap.
2. A stopper comprisin's a cap having depending fingers with exterior and interior cam surfaces, and a clamping ring having parts co-operating with the cap and adapting it to move axially when rotated and to engage said exterior cam surfaces.
3. A stopper comprising a cap having depending fingers with interior cam surfaces adapted to engage a bead upon a bottle, a clamping ring having parts co-operating with the cap whereby the ring will when rotated move downward upon the fingers to engage them in locked relation with the bottle.
4. A stopper comprising a cap having depending fingers with exterior and interior cam surfaces, and a clamping ring having a lower peripheral edge engaging said exterior cam surfaces, and having cam inclines on its upper edge adapted to engage with the cap whereby it is, forced axially into clamping relation when turned.
5. A stopper comprising a cap having depending fingers with exterior and interior cam surfaces, and a clamping ring having inclines on its upper edge adapted to engage with the cap and having a beaded central portion adapted to be forced downward upon said exterior cam surfaces by a circumerential movement of the ring with respect to the cap.
6. A stopper comprising a cap having depending fingers and having a plurality of lugs, of projections on its exterior surface, and a clamping ring having inclines adapted to engage sald lugs or projections to force the ring axially and move the fingers inward.
7. A stopper comprising a cap having depending fingers embossed with strengthening protuberances, and having exterior and interior cam surfaces, and a beaded clamping ring having cam inclines co-operating with the cap by which it is forced axially when turned so us to engage the exterior cam surfaces and force the fingers inward.

No. 100,283. Bottle Itopper. Bouchou de boutcilles.
Jemes M. Cumming. Newark, New Jersey, U.S.A., 31st July, 1906; 6 years. Filed 13th June, 1906. Receipt No. 136.839.
Claim.-1. A chambered stopper for bottles comprising a stopper body formed with bolt receiving openings, a contracted neck, an open and outwardly flaring portion, a cap or covering on said outwardly flaring portion, means for rigidly securing said cap or cover upon said outwardly flaring portion, said outwardly extending portion being provided with a key bole, a pair of pivot lugs in said contracted neck,
an arm pivotally connected with each lug, a bolt upon each arm extending into a bolt receiving opening, a spring ar-

ranged between the lower portions of said arms, and a key receiving means between the upper portions of said arms for the reception of the key for actuating sald arms, substantially as and for the purposes set forth.
2. The herein described stopper for bottles comprising a stopper body having a closed bottom and an annular shoulder, a resillent covering or shell surrounding said body and its bottom, said body and covering being provided with registering bolt receiving openings, a contracted neck, an open and outwardly flaring portion, a cap or cover on said outwardly flaring portion, means for rigidly securing said cap or ecver upon said outwardly flaring portion, said outwardly (-xtending portion being provided with a key hole, a pair of fivot lugs in said contracted neck, an arm pivotally connected with each lug, a bolt upon each arm extending into the registering bolt receiving openings of said stopper body and covering, a spring arranged between the lower portions of said arms, and a key receiving means between the upper portions of said arms for the reception of a key for actuating said arm, substantially as and for the purposes set forth.

No. 100,284. Bottle Stopper. Bouchon de bouteilles.


Henry E. Lazarus, Chicago, Illinois, U.S.A., 31st July, 1906: 6 years. Filed 25th May, 1906. Receipt No. 136,242.
Claim.-1. In a bottle stopper the combination of a cork piece, a disc thereon, and an additional piece formed up to cbtain a top and a cylindrical wall, such cyllndrical wall arranged to be forced inward into close contact with the neck of a bottle and such top cut to obtain a thumb plece, arranged to be bent into position to be seized and thereby a strip torn from the top and cylindrical well piece to release it from the bottle neck, and such thumb plece provided with a ralsed rib, tending to maintain the thumb piece in this seme plane as the remainder of the top, substantially as described.
2. The combination of a bottle stopper and the neck of a buttle, the neck of the bottle provided with an annular rib and the bottle stopper consisting of a cork piece, a disc thereon, and an additional piece formed up to obtain a top and a cylindrical wall, such cylindrical wall arranged to be forced inward into close contact with the neek of the bottle and under the annular rib thereon and such top cut to obtain a thumb piece, arranged to be bent into position to be seized and thereby a strip torn from the top and cylindrical wall of the additional piece to release it from the bottle reck, and such thumb piece provided with a raised rib tending to maintain the thumb piece in the same plane as the remainder of the top, substantially as described.

No. 100,285. Bottle Closure. Fermeture de bouteilles.

('harles Hanmer, New York City, New York, U.S.A., 31st July. 1906; 6 years. Filed 15th June, 1906. Receipt No. 136.939.

Claim.-1. A bottle or jar having a rabbeted portion, a dished dise adapted to fit said rabbeted portion, and a cap adapted to flatten said dished disc to increase its diameter.
2. A bottle or jar having a rabbeted portion, a dished disc adapted to fit into said rabbeted portion, and a cap having a depression in its end adapted to flatten the dished disc to increase its diameter.
3. A bottle or jar having a rabbeted portion, an annular rib, and a plurality of separated spiral threads extending upward from the rib, a dished disc fitted into the rabbeted portion, and a cap having a depression to flatten the dished disc, and a plurality of inclined notches in the lower edge thereof to form inward projections to engage the separated threads.
4. A bottle or jar provided with an annular shoulder and a plurality of superposed separated threads connecting at their lower ends with said shoulder, in combination with a cap having one or more inpunched projections at its lower edge to engage saıu threads, said projections being provided with inclined upper walls having an angular arrangement with relation to the lower edge of the cap forming to the angular arrangement of the threads with relation to the shoulder, whereby stops are provided at the junction of the threads with the shoulder to limit the turning movement of the cap, the relauve angular arrangement of the parts being such as to adapt the cap to be screwed down into close contact with the shoulder so that the inclined upper walls of the projections and basal edges of the inner walls thereof will respectively bear against the threads and shoulder and exert resisting pressures to prevent injury to the projections when the cap is screwed on.
5. A bottle or jar provided with an elongated neck having an annular rib or shoulder and a plurality of superposed separated threads connecting at their lower ends with said shoulder, in combination with a cap having one or more inpunched projections at its lower edge to engage said threads, said projections being provided with inclined upper walls having an angular arrangement with relation to the lower edge of the cap conforming to the angular arrangement of the threads with relation to the shoulder, whereby stops ar. provided at the junction of the threads with the shoulder to limit the turning movement of the cap, the relative angular movement of the parts being such as to adapt the cap to be screwed down into close contact with the shoulder so that the inclined upper walls of the projections and basal edges of the inner walls threof will respectively bear against the threads and shoulder and exert resisting pressures to prevent injury to the grojections when the rap is screwed on 6. A bottle or jar having a rabbeted portion, and a plurality of separated threads, a dished dise adapted to fit said rabbitud portion, and a rap having a depression to flatten said dic, and means to engage the scparated threads.

## No. 100,286. Non-Refllable Bottle. <br> Boutrille non -réemplissable,



Charles Henry White, Charlottetown, Prince Edward Island,
Canada, 31st July, 1906: 6 years. Filed 27th December, 1904. Receipt No. 121,075.

Claim.-1. In a non-refllable bottle having substantially concentric neck walls, passages leading from the interior thereof between said walls, and an inwardly projecting valve seat, in combination with a valve adapted to rest thereon a hollow stem connected with said valve, a resilient member in said stem and an insertible member adapted to bear on said resilient member.
2. In a non-refillable bottle having substantially concentric neck walls w.h passages leading from the interior thereof between said walls, and an inwardly projecting valve seat, in combination with a rotatable valve, a hollow strm on said valve, an insertible plug, a stem on the lower side of said plug, a resilient member between said stem and said valve, and means for locking said insertible plug in position.
3. In a non-refillable bottle having substantially concentric noek walls with passages leading from the interior thereof between said walls, and an inwardly projecting valve seat, in combination with a rotatable valve, a hollow stem on said valve, an inserting plug, a stem on the lower side of said plug. a resilient member between said stem and said valve, a frangible stem on said insertible plug, and means for locking said insertible plug in position.

## No. 100,287. Voltage Regulator.

Regulateur de voltage.


The Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada, assignee of Harve R. Stuart, Wilkinsburg. Pennsylvania, U.S.A.. 31st July, 1906; 6 years. Filed 13th May. 1305. Receipt No. 125,146.
Claim.-1. The combination with means for successively opurating a series of switches, of means for alternately operating two other switches.
2. The combination with means for first closing one switch of a series and then opening the last preceding switch of that series. the operation of the switches continuing to the end of the series. of means for next closing one of a pair of switches and then opening the other, the two switches being allernately opened athd closed.
3. The combination with a quill, of a shaft that is actuated thereby and has a threaded portion at one end, a stationary nut with which said threaded portion engages, and cams mounted on said shaft.
4. The combination with an operating handle and a pinioi actuated thereby, of a gear wheel meshing with said pinion, a shaft to which said gear wheel is rigidly secured, a quill loosely mounted on said shaft, and cams on said quill.
5. The combination with an operating handle and a pinion actuated thereby, of a gear wheel meshing with sald pinion, a shaft to which said gear wheel is rigidly secured, a quill loosely mounted on said shaft, and a lost motion connection between said shaft and said quill.
6. The combination with an operating handle and a pinion actuated thereby, of a gear wheel meshing with said pinion, a shaft upon which said gear wheel is rigidly secured, a quill loosely mounted on said shaft, cams on said quill, and a second quill actuated by said shaft.
7. The combination with an operating handle and a pinion actuated thereby, of a gear meshing with said pinion, a shaft upon which said gear wheel is rigidly secured, a quill loosely mounted on said shaft, cams on said quill, a second quill actuated by said shaft, and a shaft actuated by said second quill.
8. The combination with an operating handle and a piston actuated thereby, of a gear wheel meshing with said pinion, a shaft upon which sald gear wheel is rigidly secured, a quill loosely mounted on said shaft, cams on said quill, a second quill actuated by said shaft. a shaft actuated ty said second quill and having a threaded portion at one end, and a stationary nut with which said threaded portion engages.
$y$. The combination with an operating handle, a pinion actuated thereby and a gear wheel meshing with said pinion, of a shaft to which said gear wheel is rigidly secured, a quill loosely mounted on said shaft, cams on said quill, a second quill actuated by said shaft, a shaft actuated by said second quill and having a threaded portion at one end, a stationary nut with which said threaded portion engages, and cams nut with which said
mounted on said shaft.
10. The combination with a connecting rod and a link, of a lever plvoted at one end to said link, a stationary bracket to which the other end of said lever is pivoted and toggle members one of which is pivoted to said lever and the other of which is pivoted to said stationary bracket.
11. The combination with a connecting rod and a link, of a lever connected at its free end to said link and fulcrumed at its other end, and toggle members one of which is pivoted to said lever and the other of which is fulcrumed on a stationary axis.
12. The combination with a connecting rod and a link, of a lever connected at its free end to said link and fulcrumed at its other end, toggle members one of which is pivoted to said lever and the other of which is fulcrumed on a stationary axis, and a lever fulcrumed on said axis to engage said second-named toggle meniber.
13. The combination with a switch operating rod, a link connected to one end thereof and a rotatably mounted cam, of a lever connected at its free end to said link and fulcrumed at its other end, toggle members one of which is pivoted to said lever and the other of which is fulcrumed on a stationary axis and provided with a roller to be engaged by said cam.
14. The combination with a switgh operating rod, a link connected to one end thereof and a rotatably mounted cam, of a lever connected at its free end to said link. and fulcrumed at its other end, toggle members one of which is pivoted to said lever and the other of which is fulcrumed on a stationary axis, and a lever fulcrumed on said axis to engage said second-named toggle member and provided with a roller to be engaged by said cam.
15. The combination with connecting rods and links, of levers connected at corresponding ends to sald links, a shaft on which the other ends are fulcrumed, pairs of toggle members interposed between the levers and actuating devices, and cams on said shaft adapted to cause said toggle members to buckle.
16. The combination with connecting rods and links, of levers connected at one end to sald links, a shaft on which the other ends are fulcrumed, pairs of toggle members, cams on said shaft adapted to cause said toggle members to buckle. and a gear wheel loosely mounted on said shaft and baving lost motion connection therewith.
17. The combination with connecting rods and links, of levers connected at one end to said links, a shaft on which the other ends are fulcrumed, pairs of toggle members, cams on sald shaft adapted to cause said toggle members to buckle. dogs on said shaft, a gear wheel loosely mounted thereon and lugs on said gear wheel with which said dogs are adapted to engage.
18. The combination with rotatable cams, of levers adapted to engage at corresponding ends with said cams and toggle members having knuckle joint connections with said levers.
19. The combination with a quill, of a shaft that is actuated thereby and has a threaded portion at one end, a stationary nut with which said threaded portion engages, cams mounted on said shaft and switches actuated by said canus.
20. The combination with an operating handle and a pinion actuated thereby, of a gear wheel meshing with said pinion, a shaft to which said gear wheel is rigidly serured, a quili loosely mounted on said shaft, cams on said quill and switches actuated by said cams.
21. The combination with an operating handle and a pinion actuated thereby, of a gear wheel meshing with said pinion, a shaft upon which said gear wheel is rigidly secured, a quill loosely mounted on said shaft. cams on said quill, switches actuated by said cams. a second quill actuated by said shaft. a serond shaft provided with cams and actuated by sald second quill, and switches actuated by sald cams.
22. The combination with an operating handle and a pinion actuated thereby, of a gear wheel meshing with said pinion, a shaft upon which sald gear wheel is rigidly secured, a quill loosely mounted on said shaft, cams on said quill, switches actuated by said cams, a second quill actuated by said shaft, a second shaft provided with cams, and actuated by said second quill, and switches actuated by said cams.
23. The combination with an operating handle and a pinion actuated thereby, of a gear wheel meshing with said pinion, a shaft upon which said gear wheel is rigidly securen, a quill loosely mounted on said shaft, cams on said quill, switches actuated by said cams, a second quill actuated by said shaft, a shaft actuated by said second quill and having a threaded portion at one end, cams on sald shaft, switches actuated by said cams, and a stationary nut with which said threaded portion engages
24. The combination with an operating handle, a pinion actuated thereby and a gear wheel meshing with said pinion, of a shaft to which sald gear wheel is rigidly secured, a quill loosely mounted on said shaft, cams on said quill, switches actuated by sald cams, a sccond quill actuated by said shaft a shaft actuated by said second quill and having a threaded portion at one end, a stationary nut with which said threaded portion engages, cams mounted on said shaft, switches act uated by said cams, and tripping devices for said switches.
25. The combination with a switch operating road and a link, of a lever pivoted at one end to said link, a stationary bracket to which the other end of said lever is pivoted, toggle members one of which is pivoted to said lever and the other of which is pivoted to said stationary bracket, means for actuating said toggle members slowly in one direction, and means for tripping said members.
26. The combination with a switch operating rod and a link. of a lever connected at its frecend to sald link and fulcrumed at its other end, toggle members one of which is pivoted to said lever and the other of which is fulcrumed on a stationary axis, and means for operating said toggle members.
27. The combination with a switch operating rod and a link, of a lever connected at its free end to said link and fulcrumed at its other end, toggle members one of which is pivoted to said lever and the other of which is fulcrumed on a stationary axis, a lever fulcrumed on said axis to engage said second-named toggle member, and means for actuating the second lever.
28. The combination with a series of switches and toggle joint mechanisms for closing them, of a plurality of interconnected shafts provided with operating cams and a single handle for operating said shafts.
29. The combination with a series of switches and a plurality of inter-connected shafts and quills provided with cams toggle joint mechanisms actuated by said cams to close and open said switches in a predetermined order, and a single handle for operating said devices.

No. 100,288. Non-Refllable Bottle.

## Boutetlle non-réemplissable.

L. E. L. Themke, Josef Dittrick, both of Strathcona, and Franz Scheibal, Edmonton, both in Alberta, Canada, 31st July, 1906; 6 years. Filed 16 th June, 1906. Receipt No. 136,972.
Claim.-1. In a device of the character described the combination comprising a bottle, an expansible tube disposed in the neck of the bottle, a valve casing disposed in the neck below the tube and proviled with channels, a valve disposed in the casing, and means fo: limiting the movement of the valve.
2. In a device of the character described the combination comprising a bottle having annular channels in its neck, an expansible tube disposed in the neck and having portions expanded into the channels, a valve casing disposed in the neck below the tube and provided wi:h channels, a valve disposed in the casing, and means for limiting the movement of the valve.
3. In a device of the character described the combination comprising a bottle, an expansible tube disposed in the neek
thereof, means for locking the tube in the neck, a valve casing disposed in the neck below the tube and provided with channels, a valve disposed in the casing, and means for limiting the movement of the valve
4. In a device of the character described the combination comprising a bottle, an expansible tube disposed in the neck

thereof, means for locking the tube in the neck, a valve casing disposed in the neck below the tube and provided with channels, a washer disposed between the tube and the valve casing, a valve disposed in the casing, and means for limiting the movement of the valve.
5. In a device of the character described the combination comprising a bottle, having an annular shoulder in the neck thereof, a gasket disposed on the shoulder, a valve casing disposed in the neck and provided with a flange adapted to rest on the gasket and provided with channels, an expansible tube disposed in the neck and adapted to lock the casing in position, a valve in the casing, and means for limiting the movement of the valve.
6. In a device of the character described the combination comprising a bottle, an expansible member disposed in the neck thereof and provided with a bifurcated wob, a valve casing disposed in the neck and locked in position by the expansible member and provided with an opening and with channels, a ball valve disposed in the casing and provided with a projection disposed in the opening of the web and provided with a stem disposed in the opening of the casing, and a washer disposed between the expansible member and the valve casing.

No. 100,289. Bottle Stopper. Bourhon de louteilles.


The International Specialties Company, assignee of George Kirkegaard, New York City, New York, U.S.A., 31st July, 1906; 6 years. Filed 14 th June, 1906. Reccipt No. 136.909.
Claim.-1. A bottle stopper comprising a metallic cap containing packing material provided with a depending annular flange and with holding fingers extending from and below said tlange, said holding fingers having inwardly directed lugs to engage the neck of the bottle and being stiffened or rein-
forced from their lower extremities upward throughout the depth of said flange, for the purpose described.
2. A bottle stopper comprising a metallic disc, an annular depending flange and a plurality of fingers extending from the flange, said fingers having embossed or impressed therein $U$ shaped ribs the arms of which extend substantially from the edge of the disc to and around the lower extremities of the fingers, for the purpose set forth.
3. A bottle stopper comprising a metallic cap containing packing material and having a number of depending fingers around its periphery, each finger having an inwardly extending lug for engaging the neck of the bottle and also strengthening ribs surrounding said lugs and extending upward to the cap. substantially as described
4. A bottle stopper comprising a disc having an annular depending flange, a number of fingers extending downward beyond said flange, embossed lugs at the lower ends of said fingers, an embossed rib extending around said lugs and upward to the edge of the disc and an embossed surface between the arms of said rib and above said lug, for the purpose set forth.
5. A bottle stopper comprising a metallic cap containing packing matorial, a number of fingers depending from sald cap, and having holding lugs formed on their inner surfaces, and a strencthening rib surrounding said holding lug and provided with a nub adapted to be engaged by a fastening tool or machine.
6. A hottle stopper comprising a sheet metal disc having a depending annular flange. integral depending holding fingers provided with reinforcing means extending from the lower ends of the fingors across the wilth of the flange to the disc, and a handle or tailpioce extending from one of the fingers, for the purpose set forth.
7. A bottle stoppor comprising a sheet metal cap containing parking material and having a depending flange, fingers depending from the lower edge of said flange and provided with a reinforcement extending from their inwer ends upward through the width or depth of the flange, one of said fingers having a tailpiece provided with a reinforcement extending throughout its lengih and continuing through the length of the finger to which it is attached and the width of the flange, for the purpose set forth.
8. A bottle stopper comprising a sheet metal cover for the mouth of the bottle and fingers extending from the edge of said cover and adapted to hold it upon the bottle, said fingers provided with reinforcing means extending into the body of the cover beyond the edge from which the fingers extend.

## No. 100,290. Suction Gas Making Machine.

l/urhille perre faite du gaz ì suction.


Edward William Anderson and Kynock, Limited, assignee of a half interest, Witton, England, 31st July. 1906; 6 years. Filed 27th March, 1906. Receipt No. 134,321.
Clain.-1. In suction gas producing plant the combination of a generator, a water vapourizer outside the said generator. a scrubber (the said parts being united by external connections) and an automatic regulator for supplying water to the vayourizer, substantially as described.
2. In suction gas producing plant the combination of a generator, a water vanourizer outside the said generator, a scrubber (the said parts being united by the external connections) an automatic regulator for supplying water to the vapourizer and a device for injecting water spray between the flre bars, subtantially as and for the purposes described.
3. In a suction gas producing plant a vapourizer having two concentric cylinders the inner cylinder being provided with an external spiral thread or channel down which the water to be vapourized flows, the heated gases from the generator passing through the said inner cylinder and heating the
same and the space between the two cylinders being connected with the atmosphere and with the furnace so that the water vapour generated can be drawn into the said furnace, substantially as described.
4. In suction gas producing apparatus the combination with a water vapourizer of a water regulator wherein a plunger or valve is carried by a flexible diaphragm which is operated during the suction strokes of the englne working in connection with the plant, substantially as described.

No. 100,291. Signal for Telephones.
Nigual ar tílíphone.


The Bell Telephone Company of Canada, Montreal, Quebec Canada, assignee of Merritt Scott Conner, Antwerp, Belgium, 31st July, 1906; 6 years. Filed 20th May, 1902. Receipt No. 96,201.
Claim.-1. The combination with telephone lines and a trunk line for uniting them, of a signal in the trunk line and a source of current in a bridge thereof at one terminal station; a repeating coil at the other terminal, said trunk line being severed and having its severed terminals united through the windings of the repeating coil to form two conductively separated but inductively continuous circuits, and a high resistance signal controlling magnet in the portion of the trunk line leading to the first mentioned office, the sald resistance belng sufficient to prevent the operation of the signal in the circuit therewith, a source of current and a relay magnet in the other portion of the trunk line adapted for connection with the called line, and a shunt of the high resistance signal controlling magnet controlled by said relay, as described.
2. The combination with telephone lines having switches adapted to close the line circuits while the telephones are in use, said lines entering different central offices, and a trunk line for uniting said line, a supervisory signal and a trunk line and a source of current in a bridge thereof at one of the offices, a repeating coll at the other office, the trunk line thereat being severed, the terminals of the wires leading to the first-mentioned station being united through one set of windings of the repeating coil, and the terminals of the wires adapted for connection with the called line being united through the other set of windings of the repeating coll, and a source of current and a relay in the last-mentioned portion of the trunk line, a high resistance magnet in the trunk line in circuit with the aforesaid supervisory signal, a clearing out signal controlled by said high resistance magnet, a shunt about said high resistance magnet, and an auxiliary winding of the magnet therein, said shunt being controlled by the relay in the other portion of the trunk circuit, substantially as described.
3. The combination with a trunk line having a source of energy, a signalling instrument and means for closing the circuit at one terminal station, o a high resistance signalling instrument bridged across the line at another terminal station, a telephone line, provided with a switch at the substation for closing the line, in connection with the trunk line, and a shunt circuit controlled by the switch at the telephone substation around the winding of said high resistance signalling instrument, whereby the signalling instrument at the first terminal station of the trunk line is responsive to the opening and closing of the switch at the subscriber's substation without interfering with the operation of the high resistance signalling instrument, substantially as described.
4. The combination with a connecting cord containing source of energy, a signalling instrument and a terminal plug, a trunk line terminating in a spring jack at the same station with the connecting cord, a plug at another station. a repeating coil having its windings interposed in the trunk line between sald plug and spring jack, a high resistance signalling intrument in circuit with the portion of the trunk line extending to said spring jack, a shunt circuit around said high resistance signalling instrument, and means for controlling said shunt to control the signalling instrument at the distant station of the trunk line, substantially as described.
5. The combination with a telephone line, of a trunk line and a switch for uniting said trunk line with the telephone line, a signalling instrument at one terminal of the trunk line, a source of current connected with the trunk line, a high resistance signalling instrument in a bridge of the trunk line at the other terminal thereof, a shunt about said high resistance signalling instrument, said shunt controlling the operation of the first-mentioned signalling instrument, and a switch at the substation of said line controlling said shunt.
6. The combination with a telephone line, of a trunk line a switch for uniting said trunk line with sald telephone line, a source of current in a bridge of the trunk line at one terminal thereof, a high resistance signalling instrument $r$ in a bridge of the trunk line at the other terminal, a signal instrument $l^{1}$ in said trunk line between the source of current and the signalling instrument $r$, a shunt around said high resistance signal instrument, a switch at the substation of said telephone line controlling said shunt, and a signalling instrument $s$ in the shunt, whereby both signalling instrument $l^{1}$ and 8 are excited when said shunt is closed.
7. The combination with a signalling circuit including a source of current, a relay $l^{l}$ and a switch for closing said circuit, signal $k^{1}$ and a circuit therefor, controlled by relay $l^{2}$, a high resistance relay $r$ included in said signalling circuit, a signal 0 , a circult therefor, controlled by sald high resistance relay, a shunt around the winding of said high resistance relay, a relay $s$ in said shunt, a signal $u$, a circuit therefor, controlled by said relay, a relay $q$ adapted when energlzed to close the shunt about relay $r$, a circuit for said relay $q$, and a switch controlling said circult, whereby upon the enclosure of the shunt about said high resistance relay, both relays $s$ and $b^{2}$ are excited to shunt out the signals associated therewith.
8. The combination with a telephone line, of a trunk line having a source of current conected therewith a switch for uniting said trunk line with said telephone line, a signal instrument at one terminal of the trunk line, a high resistance signalling instrument in the trunk line for controlling the operation of the first-mentioned signalling instrument, a shunt about said high resistance signalling instrument, and a switch at the substation for controlling said shunt.
9. The combination with telephone lines and a trunk line for unitting them, sa.s trunk line having a source of current connected therewith, of a signal in the trunk line at one terminal station, means for conductively separating said trunk line into inductively contlnuous parts, a high resistance signal controlling magnet in the trunk line, said resistance being sufficient to prevent the operation of said signal, a shunt of said magnet, and a relay in the trunk line adapted when said trunk line is connected with the called line to control said shunt.

No. 100,282. Epeod Trangmission Device.
Appareil de transmission de vitesse.


The International Speed Automobile Company, Hamilton, assiginee of Hubert Lutz, Stoney C:eek, both in Ontario, Canada, 31st July, 1906; 6 years. Filed 12th May, 1906. Recelpt No. 135.852 .
Claim.-1. In a friction power transmitting mechanism, a cone-shaped wheel formed with a series of variable annular recesses, a shaft to carry sald wheel, a friction drive wheel made to operate in the said recesses of the cone wheel and dvices for changing the fraction wheel from one recess to the other to -roduce variable speed as desired.
2. In a friction power transmitting mechanism, a coneshaped wheel formed with a series of varlable annular recesses, a shaft to cariy said wheel rotating in a frame, a friction drive wheel made to operate in the said recesses of
the cone wheel, and carried on a shaft, a movable arm connected pivotally to the said shaft and to another shaft carried by an arm attached to the frame of the device, and means to change the position of the friction drive wheel from one annular recess to another to vary speed as desired.
8. In a friction power transmitting mechanism, a coneshaped wheel formed with a series of annular variable sized recesses, a friction drive wheel made to operate in and impinge on any of the recesses of the cone-shaped wheel to vary speed, a reverse friction wheel made to operate and impinge on the largest recess of the cone-shaped wheel, devices for causing the friction drive wheel to impinge on the reverse wheel when a reverse motion is required to be given to the main driving shaft, and devices to push the friction drive wheel into any one of the annular recesses in the large cone-shaped wheel, to vary the speed from slow, medium or fast, as desired.
4. In a friction power transmitting mechanism a coneshaped wheel formed with a series of internal variable sized annular recesses, the said wheel carried on a shaft in bearings attached to the frame of the mechanism, a friction drive wheel made to operate in and impinge on any one of the recesses of the cone wheel, and carried on a shaft constructed with two universal joints, and connected to the driving shaft, devices for entering the drive wheel in the recesses of the cone wheel and devices for holding the drive wheel in frictional acallact with the walls of the recesses in the coneshaped wheel, to rotate a shaft to transmit power at variable speed.
5. In a friction power transmitting mechanism, a coneshaped wheel formed with a series of internal variable sized right angled recesses, the said wheel carried on a shaft in bearings attached to the frame of the mechanism, a friction drive wheel made to operate $\ln$ and Impinge on any one of the internal recesses of the cone friction wheel, and formed with a series of slots on its inner end, and a series of projections formed near the center of the cone-shaped recessed wheel, to engage with the slots in the friction drive wheel, to act as a clutch device to hold the two said wheels together when the small friction drive wheel is pushed to the center of the larger cone wheel, when operated by mechanism to produce a direct and fast speed.
6. In combination with an internal friction power transmitting mechanism, of the class specified, a movable arm journalled on a shaft and carrying a friction drive wheel on the same shaft, and made to operate in a cone-shaped recessed wheel, the opposite end of the said movable arm pivotally attached to a second shaft journalled on an arm attached to the frame, a lever pivoted to the frame and to the shaft of the friction drive wheel, to cause the said friction drive wheel to engage with any one of the recesses in the cone wheel, and a second lever to hold the said drive wheel in close contact with the recessed wheel to produce either slow, medium or fast speed and a reverse wheel carried on a shaft journalled to a bracket on the frame and to the shaft of the said movable arm which is connected to the shaft of the said friction drive wheel.

## No. 100,293. Wheel. Rove.

Berton H. Sille, William S. Conger and Stanley E. Carman, each an assignee of a fourth interest, all of Belleville, Ontario, Canada, 31st July, 1906; 6 years. Filed 27th April. 1906. Receipt No. 135,320 .

Olaim.-1. In a wheel the combination of a hub divided into two concentric portions, an annular pneumatic cushion substantially circular in cross section interposed between the two parts and secured to the inner part, the other part being provided with an acute $V$-shaped groove to engage the cushlon at each slde of the tread, substantially as described.
2. In a wheel the combination of a hub divided into two concentric portions, an annular pneumatic cushion substantially circular in cross section interposed between the two parts, one part being provided with an acute $V$-shaped groove, and side flanges on one part engaging the outer sides of the other part to prevent side play, substantially as described.
3. In a wheel the combination of an inner cylindrical hub having a central annular depression or groove formed therein, and an annular depression or groove at each side of the central groove, a pneumatic cushion having its inner side lying in said central groove and provided with side flanges ongaging the side grooves, clamping bands adapted to clamp the side flanges in the grooves, an outer hub grooved to engage the outer side of the pneumatic cushion and means for holding the parts of the hub in alignment, substantially as described.
4. In a wheel the combination of an inner cylindrical hub having a central annular depression or groove formed therein, and an annular depression or groove at each side of the central groove, a pneumatic cushion having its inner side lying in said central groove and provided with side flanges engaging the side grooves, clamping bands adapted to clamp
the side flanges in the grooves, an outer hub provided with a $V$-shaped groove to engage the outer side of the pneumatio

cushion, and means for holding the parts of the hub in alignment, substantially as described.
5. In a wheel the combination of an inner cylindrical hub having a central annular depression or groove formed therein, a pneumatic cushion having its inner sido lying in said central groove and provided with side fianges engaging the side grooves, clamping bands adapted to clamp the side flanges on the hub, an outer hub grooved to engage the outer side of the pneumatic cushion, and means for holding the parts of the hub in allgnment, substantially as described.
6. In a wheel the combination of an inner cylindrical hub having a central annular depression or groove formed therein. a pneumatic cushion having its inner side lying in said central groove and provided with side flanges engaging the side grooves, clamping bands adapted to clamp the side flanges on the hub, an outer hub provided with a V-shaped groove to engage the outer side of the pneumatic cushion, and means for holding the parts of the hub in allgnment, substantially as described.

No. 100,294. Clip Lor Motal Buildings.
Tenailles pour batisses on métal.


Sarah Eliza Pedlar, Oshawa, Ontario, Canada, assignee of William Goss, Chicago, Illinois, U.S.A., 31st July, 1906; 6 years. Filed 12th June, 1906. Receipt No. 136,811.
Claim.-1. The clip for suspending cellings, etc., from I or other beams consisting of the members 6 and 7 having means for interlocking them together.
2. The clip for suspending cellings, etc., from I or other beams, consisting of two members 6 and 7, the part 6 having a depending hanger portion and the part 7 having a tongue adapted to be entered and turned in said opening to effect a locking of the two members together.

ג0. 100,295. Beam Clamp. Crampon nour poutrcs.


Homer Thomas, assignee of William H. Dillon, both of Detroit, Michigan, U.S.A., 31st July, 1906; 6 years. Filed 20th June, 1906. Receipt No. 187,079.
Claim.-1. In building apparatus of the character described, the combination with an upright, of a transverse member supported thereon, and vertical mould supporting devices upon the transverse member provided with joist seats.
2. In building apparatus of the character described, the combination with an upright, of a transverse bar thereon, vertical mould supporting devices adjustably mounted upon the bar, and oppositely extending supporting members carried by said devices forming joist seats.
3. In building apparatus of the character described the combination with an upright, of a detachable cap therefor, a transverse bar mounted upon and having detachable connections with the cap, and adjustable mould supporting devices or members upon the bar.
4. In building apparatus of the character described the combination with an upright provided at its upper end with a vertical horizontally extending opening, of a transverse member detachably arranged within said opening and complementary mould supporting devices mounted upon said member for longitudinal adjustment.
5. In building apparatus of the character described the combination with a vertical post, of a longitudinally slotted cap detachably monnted upon the upper end, a horizontal $T$ bar arranged upon the cap with its web engaging the slot. securing devices engaging the cap and the bar web, and adjustable mould supporting members upon the T-bar.
6. In a building apparatus of the character described the combination with an upright, of a transverse member detachably mounted thereon, and mould supporting devices adjustably arranged upon said member.
7. In bullding apparatus of the character described, the combination with an upright, of a detachable cap thereon, a transverse member supported upon the cap, and mould supporting devices upon said member.
8. In building apparatus of the character described, the combination of a transverse member, and complementary nould supporting devices thereon, each provided with an outwardly extending seat.
9. In bullding apparatus of the character described, a mould supporting device comprising a main section, a brace sectlon therefor, and an intermediate member carried by the sections and forming a joist seat.
10. In building apparatus of the character described, a mould supporting device comprising a main upright section, an inclined brace section therefor, an intermediate seat member connecting the lower portions of the main and brace sections.
11. In bullding apparatus of the character described, the combination with an upright, of a cap upon its upper end, a transverse bar supporting and having detachable connectlons with the cap, and mould supporting devices upon said bar.
12. In building apparatus of the character described, the combination with an upright and a cap therefor comprising a top, sides, and ends formed of spaced angle sections extending beyond the top, the sections being arranged with the openings or spaces in alignment.
13. In bullding apparatus of the character described, a post cap formed from a single sheet of metal comprising a top, sides and ends having complementary spaced sections extending beyond the cap top.
14. In building apparatus of the character described, the combination with an upright, of a detachable sheet metal oap for its upper end comprising a top, sides and onds com-
pesed of spaced angle-shaped sections oxtending upwardly beyond the top, a transverse bar arranged between the cap extensions, and complementary mould supporting members mounted upon the bar for longitudinal adjustment.
No. 100,296. Bearing for Car Journal Boxes.
Coussinet de tourillon.


The Canadian Adjustable Bearing Company, Windsor, Ontario, Canada, assignee of James McHenry Hopkins, Chicago, Illinols, U.S.A., s1st July, 1906; 6 years. Filed 9th June, 1906. Recelpt No. 136,725.
Notb-This patent is a re-issue of No. 74,193, bearing date the twenty-fourth day of December, 1901.
Claim.-1. In a car journal bearing in combination, a brass having a fiat upper surface, and a key comprising an upper member adapted to recelve the bearing surface of a journal box and having a longitudinally concave lower face, and a lower member interposed between the upper member and the brass and having its contacting faces conforming thereto and being in sliding engagement therewith.
2. In a car journal bearing in combination with a brass and a key member adapted to so interlock and to so engage a journal box that neither is capable of material longitudinal movement, an intermediate key member having a fiat bottom face and a longitudinally convex top face, the faces of the two first-mentioned members which contact with such third member conforming thereto and being in sliding engagement therewth.
3. In a car journal bearing, the combination with a brass and a key member, each adapted to be fixed againat material longitudinal movement, of a second key member interposed directly between such two first-mentioned members and having a longitudinally convex face and being capable of froe langitudinal movement, the meeting faces of the three members conforming each to the other.
4. In a car journal bearing in combination, a brass and a wedge member adapted to vary their angular relation in vertical plane, and a slidable member Interposed therebetween, the wedge member being adapted to engage a journal box to prevent its forward movement, the brass heing adapted to engage a journal box to prevent is backwird movement, and the wedge and brass being inter-angaged to prevent the backward movement of the former and the forward movement of the latter.
5. In a car journal bearing in combination, a brass adapted tu engage the walls of a journal box to llmit its backward movement. a wedge member adapted to engage a journal box to limit its forward movement, such brass and wedge member interlocking intermediate of their ends to limit their forward and rearward movement respectively, but to permit them to change their angular relation longitudinally, and a slidable member interposed between the brass and wedge member.
6. In a car journal bearing in combination, a brass, a member slldable thereupon and having pendent lateral flanges, and having its upper face longitudinally convex, and a wedge member having its lower face concave complementary to the convex face of the slidable member and belng adapted to engage the top wall of a journal box.
7. In a car journal bearing in combination, a brass, a wedge member adapted to fit within the top of a journal box so as to. be incapable of angular movement relatively thereto, and a slidable member interposed between the brass and wedge member and engaging both to prevent their relative angular movement in a horizontal plane.
8. In combination, a car journal bearing, and a wedge device comprising an element capable of a rocking motion relat!ve to the bearing, such bearing hsving projecting lugs at its sides engaging the rocking wedge member.
9. In comblnation, a car journal bearing, and a wedge device comprising an element capable of a rocking motion relative to the bearing, such bearing having lateral flanges and lugs rising therefrom for engaging the rocking wedge member.
10. In combination, a car journal bearing, and a wedge device comprising a member capable of a rocking motion relative to the bearing, such bearing having an upstanding lug at each side for engaging the rocking wedge member.
11. In combination, a car journal bearing, and a wedge device comprising a member capable of a rocking motion relative to the bearing, such bearing having lateral box engaging lugs and upstanding lugs engaging the rocking wedge member.

No. 100,297. Window Sash. Châssis de fenêtre.


William E. Daugherty, Corpus Christi, Texas, U.S.A., 31st July, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,017.
Claim.-1. The combination of a sash frame having the glass recelving opening rabbeted, one side of the rabbeted portion being provided with a longitudinal groove, retaining strips fitting in sald grooves, and spring actuated plungers operating in the frame and engaging with recesses in the retaining strips.
2. The combination of a sash frame having the glass receiving opening rabbeted, one side of the rabbeted portion being provided with a longitudinal groove, said frame having outwardly extending openings in communication with said groove, retaining strips fitting in said groove, a plate fitting over the opening in the frame, a plunger operating in said opening and engaging with the retaining strips, said plunger being provided with a stem which passes through a perforation in the above-mentioned plate, and a spring interposed between sald plate and the plunger to hold the latter normally in engagement with the retaining strips.

No. 100,298. Pump. Pompe.


A1. F. Helsel, St. Mary's, Ohio, U.S.A., 31st July, 1906; 6 years. Filed 8th May, 1906. Receipt No. 135,681.
Claim.-1. A pump comprising a barrel having an inlet opening in its lower end and an outlet opening in its upper portion, a sucker in the barrel and a valve in the lower portion of the barrel, said valve comprising a disc adapted to cover the opening and a frame comprising crossbars secured at their point of crossing upon the disc, the end portlons of the bars being bent upwardly, and means in the path of upward movement of the frame to limit such movement.
2. A pump comprising a barrel having a frusto-conical lower end portion provided with an inlet opening in its buttom, a sucker in the barrel, the barrel having an outlet opening. a disc within the frusto-conical portion and adapted to cover the opening and a frame comprising crossbars secured at their point of crossing upon the disc, the end portions of the bars being bent upwardly and toward each other and arranged to contact with the wall of the frusto-conical portion and limit the upward movement of the disc.

No. 100,299. Valve for Organg and Pianos. Soupape pour orgues et pianos.


Oscar Herrman, Brown Station, New York, U.S.A., 31st July, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,252.
Claim.-1. In a device of the class described the combination of a foot piece having a foot receiving fulcrum and provided at opposite sides of the same with valves, and valve actuating mechanism projecting from the foot piece and arranged to be operated by the foot.
2. In a device of the cfass described the combination of a foot piece having a foot receiving fulcrum and provided at opposite sides of the same with valves, and valve actuating mechanism projecting from the foot plece and embodying a reciprocatable plunger.
3. In a device of the class described the combination of $n$ foot piece having a fulcrum, front and rear valves, and vertically reciprocatable plungers mounted on the foot piece and arranged to engage the valves.
4. In a device of the class described the combination of a foot plece having an upright fulcrum, valves, and valve operating mechanism arranged to be actuated by a horizontal oscillatory movement of the foot and embodying horizontally reciprocatable plungers.
5. In a device of the class described the combination of a foot plece having a foot receiving fulcrum and provided at opposite sides of the same with valves, and valve actuating mechanism projecting from the foot piece and embodying a reciprocatable plunger, and a movable plate or member arranged to be engaged by the foot for actuating the plunger.
6. In a device of the class described the combination of a foot plece having foot receiving fulcrum and provided at opposite sides of the same with valves, and valve actuating mechanism projecting from the foot piece and embodying a reciprocatable plunger, and a plate or member hinged to the foot piece and projecting therefrom at an angle.
7. In a device of the class described the combination of a foot piece having a fulcrum and provided in advance and in rear of the same with upright and horizontal foot receiving fulcrums, valves arranged in pairs, and valve operating mechanism embodying vertically and horizontally reciprocatable plungers.
8. In a device of the class described the combination of a foot piece provided with valves, a vertically reciprocatable plunger engaging one of the valves and arranged to be directly operated by the foot, a horizontally reciprocatable plunger engaging the other valve, and a movable plate or member arranged to be engaged by the foot for actuating the horizontally reciprocatable plunger.
9. In a device of the class described the combination of a foot piece having horizontal and upright fulcrums, valves arranged in pairs. vertically and horizontally recipr, catable plungers arranged to engage the valves, the vertically reciprocatable plunger being arranged to be directly ensaged br tho foot, and movable plates or members arranged to be engaged by the foot for actuating the horizontally reciprocatable plungers.
10. In a device of the class described the combination of a foot plece having an upright supporting portlon, a transverse fulcrum mounted on the foot plece. an upright fulcrum arranged at the upright supporting portion, front and rear valves ararnged in pairs, the members of each pair being located beneath the foot plece and at the outer face of the upright supporting portion respectively, verticaliy movable plungers guided on the foot piece and engaging the valves beneath the same and arranged to be directly operated by the foot, horizontally movable plungers engaging the valves of the upright supporting portion, and plates or members movably connected with the supporting portion and arranged to be engaged by the foot for actuating the horizontally movable plungers.

## No. 100,300. Threshing Machinc.

Machine d battre.


William Thomas Madill, Highfleld, Ontario, Canada, 31st July, 1906; 6 years. Filed 13th March, 1906. Recelpt No. 133,855.
Claim.-1. In a threshing machine the combination with the frame, drum and driving mechanism, of a platform hinged thereto and extending laterally therefrom, a plurality of endless carriers running longitudinally of sald platform and supported thereby, a plurality of band cutters operating between said endless carriers, uprights secured to said platform in proximity to one end thereof, bearings supported thereby at the top end thereof, a crank shaft having a plurality of crank and journalled in said bearings, a plurality of forks journalled on said cranks, means for guiding said forks, and means for driving said crank shaft, endless carriers and band cutters, as and for the purpose specified.
2. In a threshing machine the combination with the frame, drum and riving mechanism of a platform hinged thereto and extending laterally therefrom, a plurality of endless carriers running longitudinal of said platform and supported thereby, a plurality of band cutters operating between said endless carriers, uprights secured to said platform in proximity to one end thereof, bearings supported thereby at the top end thereof, a crank shaft having a plurality of cranks and journalled in sald bearings, a plurality of forks journalled on said cranks, a guide bar extending between said uprights intermediate of their length and engaging sald forks, and means for driving said crank shaft, endless carriers and band cutters, as and for the purpose specifled.
3. In a threshing machine the combination with the frame, drum and driving mechanism, of a platform hinged thereto and extending laterally therefrom and having a plurality of openings therethrough, a plurality of endless carriers running longitudinal of said platiorm and supported thereby partially above the srface thereof, a plurality of band cutters protruding through said openings in said platform between said endless carriers, uprights secured to sald platiorm in proximity to one end thereof, bearings supported thereby at the top end thereof, a crank shaft having a plurality of cranks and journalled in said bearings, a plurality of forks journalled on said cranks, a guide bar extending between said uprights intermed ate of their length and engaging said forks. and means for driving said crank shaft, endless carriers and band cutters, as and for the purpose specified.
4. In a threshing machine the combination with the frame, drum and driving mechanism, of a platform hinged thereto and extending laterally therefrom, and having a pair of side bars and a rigid top plate said plate having a plurality of openings therethrough, bearings supported by sald side bars. shafts journalled in said bearings and extending across said
platform under sald plate, a plurality of sprocket wheels mounted on said shafts, and extending through said openings, a plurality of chain carriers on sald sprockets, a plurality of band cutters mounted on another of said shafts and protruding through said openings between the aforesaid carriers, a plurality of reciprocating forks for governing the feed into said machine between said carriers and the machine, means for overating said governing forks, and means for driving the aforesaid carriers and band cutters, as and tor the purpose specified.
5. In a threshing machine the combination with the frame, drum and driving mechanism, of a platform hinged thereto and extending laterally therefrom and having a pair of side bars and a rigid top plate, said plate having a plurality of openings therethrough, a removable plate bridging the distance from the aforesaid plate into the machine, hinged bars secured to sald frame and said platform and supporting the latter, means attached to said frame for engaging sald bars, bearings supported by said side bars, shafts journalled in aaid bearings and extending across sald platform under said plate, a plurallty of sprocket wheels mounted on said shafts, and extending through said openings, a plurality of chain carriers on sald sprockets, a plurality of band cutters mounted on another of said shafts and protruding through said openings between the aforesaid carriers, a plurallty of reciprocating forks for governing the feed into said machine between said carriers and the machine, means for operating said governing forks, and means for driving the aforesaid carriers and band cutters, as and for the purpose specifled.
6. In a threshing machine the combination with the frame, drum and driving mechanism, of a platform hinged thereto and extending laterally therefrom and having a pair of side bars and a rigid top plate, said plate having a plurality of openings therethrough. a removable plate bridging the distance from the aforesaid plate into the machine, hinged bars secured to said frame and said platform and supporting the latter, means attached to said frame for engaging said bars, berings supported by said side bars, shafts journalled in said bearings and extending across said platform under said plate, a plurality of sprocket wheels mounted on said shafts and extending through said openings, a plurality of chain carriers on said shafts and extending through said openings between the aforesald carriers, a pair of uprights rising from said platform at each side thereof in proximity to the frame of the machine. bearings supported thereby at the top end thereof, a crank shaft having a plurality of cranks and journalled in said bearings, a plurality of forks journalled on the aforesald cranks, a guide bar extending between the sald uprights intermediate of their length having slots in which said forks slide, and sultable pulleys mounted on sald shafts connected by suitable belting and connected with said driving mechanism, as and for the purpose specified.

## No. 100,301. Papor Bag Machine.

Machine pour sars de papier.


Frederick E. Strasburg, Rumford Falls, Maine, U.S.A , 31st July, 1906; 6 years. Filed 9th April, 1906. Recelpt No. 134.782.

Claim.-1. The combination of a rotatable member having a cear fixed thercon, means on the rotatable member for gripping the upper plies of a bag blank, a driving gear, two floating gears connecting the driving gear and the gear of the rotatable member and means to move the floating gears to vary the speed of the rotatable member relative to the speed of the driving gear.
2. The combination of a shaft rotatable on ixed trunnions, means mounted on the shaft for gripping the upper plies of a bag blank, a gear fixed on the rotatable shaft, a driving gear connected to the rotatable shaft gear through two intermediate floating gears, and a cam actuated arm for moving the floating gears to vary the speed of the rotatable shaft gear relative to the driving gear.
3. The combination of a revoluble folding bed, means to grip a bag blank thereto, a rotatable shaft above the folding bed, means on the shaft for gripping the upper plles of a bag blank, a gear fixed on the rotatable shaft, a driving gear connected to the rotatable shaft gear through two intermediate floating gears, links to retain the gears respectively in mesh,
and means to move the floating gears to vary the speed of the rotatable shaft relative to the driving gear.
4. The combination of a revoluble folding bed, mounted for oscillation toward and away from its axis of revolution, means to grip a bag blank to the folding bed, a member rotatable on fixed trunnions above the folding bed, means mounted on the rotatable member for gripping a bag blank, a gear on the rotatable member, a driving gear connected with the gear of the rotatable member through two intermediate floating gears, links to maintain the gears respectively in mesh and a cam actuated arm connected to one of the foating gears to move the floating gears to vary the speed of the rotatable member relative to the driving gear.

## TRADE-MARKS

## Registered during the month of June, 1906, at the Department of Agriculture -Copyright and Trade-Mark Branch.

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10918. JAMES A. GILPIN, Toronto, Ont. Dry Batteries. Words: " Red
    Cross Dry Battery " on representation of a Red Cross.
    1st June, 1906.
10919. THE BIRMINGHAM SMALL ARMS COMPANY, LIMITED Armoury
    Road, Birmingham. Fngland. Small Arms. Represen-
    tation of three stacked Rifles. 1st June, }1906
10920. AVON HOSIERY, LIMITED, Stratford, Ont. Hosiery, Gloves, Mitts
    and Tuques, Words: "Avon Knit" and portrait of
    Shakespeare. 1st June, 1906.
10921. BERNARD TIMMERMAN, Utica, New-York, U.S.A. Calcium Carbide and other Carbides. Word : "Ethinit." Ist June, 1906.
10922. H. and T. KIRBY \& COMPANY, LIMITED, 14 Newman Street, Oxford Street, Lon'don, England, Glycerine Lozenges. Word. "Glycecol." 1st June, 1906.
10923. JOHN W. PECK \& COMPANY, LIMITED, Vancouver, British Columbia. General Trade Mark. Name: " Pecks," with letters: "ecks" in loop of large letter: "P." 2nd June, 1906.
10924. SIMONDS CANADA SAW COMPANY, LIMITED, Montreal, Que. Saws. Words : "Crescent-Ground." 2nd June, 1906.
10925. WILLIAM H. H. BOYLAN, Ann Arbor, Michigan, U.S.A. Leather Dressing. P.epresentation of the bottom of a shoe enclosed in one or more concentric circles. 2nd June, 1906.
10926. INTERNATIONAL TAKAMINE COMPANY, New York, N.Y., U.S.A. Koji, Moyashi, Diastase, and other ferments and converting agents. Word: "Taka." 2nd June, 1906.
10927. HENRY CHARLES BECKETT, Hamilton, Ont. Currants. Word : " Olymple." 4th June, 1906.
10928. HENRY CHARLES BECKETT, Hamilton, Ont. Currants. Word : " Minerva." 4th June, 1906.
10929. HENRY CHARLES BECKETT, Hamilton, Ont. Currants. Word : "Athena." 4th June, 1906.
10930. HENRY CHARLES BECKETT, Hamilton, Ont. Currants. Label bearing word: "Paradise," representation of Greclan Coat of Arms and name and words: "W. H. Glllard \& Co., Sole Agents for Canada." 4th June, 1906.
10931. HENRY CHARLl- BECKETT, Hamilton, Ont. Currants. Label bearing words : "Hay Castle,"' representation of Greclan Coat of Arms and name and words: "W. H. Gillard \& Co., Sole Agents for Canada." 4th June, 1906.
10932. THE MARTIN SENOUR COMPANY, LIMITED, Montreal, Que. Varnishes, Stains, Shellac and Fillers. Word : "Wood-Lac." 5th June, 1906 .
10933. THE GANDY BELT MANUFACTURING COMPANY, LIMITED, Wheatland Works, Seacombe, Chester County, England. Machinery Belting. Words : "The Original Red Belting." 5th June, 1906.
10934. J. Y. GRIFFIN \& COMPANY, LIMITED, Winnipeg, Man. Eggs. Words: "Cold Spring Farm Eggs." 5th June, 1906.
10935. J. Y. GRIFFIN \& COMPANY, LIMITED, Winnipeg, Man. Dairy Butter. Words: "Cold Spring Fresh Dairy." 5th June, 1906.
10936. J. Y. GRIFFIN \& COMPANY, LIMITED, Winnipeg, Man. Creamery Butter. Words : "Golden West Fancy Creamery." 5th June, 1906.
10937. THE AMALGAMATED DISTILLERS COMPANY, Montreal, Que. Scotch Whisky. Letters: "A.D.C." 6th June, 1906.
10938. THE AMALGAMATED DISTILLERS COMPANY, Montreal, Que. Scotch Whisky. Word: "Glengarry." bth June, 1906.
10939. THE CODVILLE, GEORGESON COMPANY, LIMITED, Winnipeg, Man. Teas, Coffees, Splces, Cream Tartar, Jelly Powders, Baking Powders, Flavouring Extracts, Fruit Sŷrups, Cake Icings and Icing Sugars. Words: "Wheat Sheaf" surmounting a Harvest Scenc. 6th June, 1906.
10940. WILLIAM CROFT \& SONS, Toronto, Ont. Smoking Pipes. Words : " Ring Brand." 6th June, 1906.
10941. DAVID JOHN DYSON, Winnipeg, Man. Tomato Catsup. Words and representation : " Red Cross." 6th June, 1906.
10942. THE CANADIAN MANUFACTURERS' ASSOCIATION, Toronto, Ont. Monthly Periodical. Words : "Industrial Canada." 7th June, 1906.
10943. THE AMERICAN BREWING COMPANY, St. Louis, Missouri, U.S.A. MaIt Liquors. Letters : "A B C." 7th June, 1906.

10,444. WM. R. WARNER \& COMPANY, Vergennes, Vermont, U.S.A. General Trade Mark. Word : "Azmola." 7th June, 1906.
10945. GEORGE STEVENS, Peterborough, Ont. Stevens' Lye. Reproduction of a picture of the Lift Lock at the City of Peterborough. 7th June, 1906.
11946. THE CANADIAN RUBBER COMPANY OF MONTREAL, LIMITED, Montreal, Que. Rubber Goods. Word : " Keystone." 7th June, 1906.
10947. P. P. RUSSELL, Grand Manan, Charlotte County, New Brunswick. Canned, Smoked, Pickled and Cured Fish. Word and representation : " Mermaid." 8th June, 1906.
10948. GALENA-SIGNAL OIL COMPANY, Franklin, Pennsylvania, U.S.A. Lubricating Oils. Word : "Galena" and representation of a Star enclosing the letter: "G." 8th June, 1906.
10949. GALENA-SIGNAL OIL COMPANY, Franklin, Pennsylvania, U.S.A. Lubricating Oils. Rep: wsentation of a Lantern. 8th June, 1906.

1!950. THE WHITEHALL PORTLAND CEMENT COMPANY, Cementon and Fhiladelphia, Pennsylvania, U.S.A. Portland Cement Word: "Whitehall." 8th June, 1906.
10951. THE TOM REED CIGAR COMPANY, Duluth, Minnesota, U.S.A. Cigars. Words : "Tom Reed." 8th June, 1906.
10952. JAMES WATSON \& COMPANY, LIMITED, Dundee, Scotland. Spirituous Liquors. Representation of a strip of parchment on bronze background and bearing words : "From the original receipt. Dundee, 5th of May, 1815," and Red Seal with Lion rampant. 9th June, 1906.
10953. JAMES WATSON \& COMPANY, LIMITED, Dundee, Scotland. Spirituous Liquors. Label bearing representation of a Shield with words: " No. 10." 9th June, 1906.
10954. JAMES WATSON \& COMPANY, LIMITED, Dundee, Scotland. Spirituous Liquors other than Whisky and particularly Rum. Label bearing representation of two slightly overlapping globes, and word: "Eclipse." 9th June, 1906.
10955. L. \& C. HARDTMUTH, Vienna and Budwels. Empire of AustroHungary; and London, England. Pencils. Word : "Pluto." 9th June, 1906.
10956. L. \& C. HARDTMUTH, Vienna and Budwels, Empire of AustroHungary; and London, England. Lead Pencils, Tracing Cloth, Materials for Artists' and Draughtsmen's use. Word: "Mephisto." 9th June, 1906.
10957. L. \& C. HARDTMUTH, Vienna and Budweis, Empire of AustroHungary; and London, England. India Rubber Pencil Erasers. Letter : "H" and representation of two Stars within a circle. 11th June, 1906.
10958. WINN \& COMPANY, Milton, Halton County, Ont. Boots and Shoes. Wreath enclosing the words:" "The Winner"; and words: "We Make them-Winn \& Co., Milton, Canada." 11th June, 1906.
10959. THE MONTREAL COTTON COMPANY, Valleyfield, Que. Antiseptic Bandages. Absorbent Cotton, Lint, etc. Representation of a Maple Leaf bearing initials and words: "M.C.Co., Made in Canada." 11th June, 1906.
10960. JOHN ALEXANDER TURNBULL, Winnipeg, Man. Preparation to be used as a Medicine for Horses, Cattle, Hogs and Poultry. Words: "Hackney Horse and Cattle Food" surmounting a picture of a Black Horse. 11th June, 1906.
10961. WASHBURN-CROSBY COMPANY, Minneapolis, Minnesota, U.S.A. Flour. Words : "Minneapolis Maid." 11th June, 1906.
10962. CHARLES RECKIN \& SONS, Wlarton, Ont. Flour. Device re words and representation : "Seven Star Flour." 12th June, 1906.
10963. THE CANADA CHEMICAL MANUFACTURING COMPANY, LIMITED London, Ont. Boller Compound. Word: "Bosalt." 12th June, 1906.
10964. THE BELL PIANO \& URGAN COMPANY, LIMITED, Guelph, Ont. Player Planos. Word: "Antonola." 12th' June, 1906.
10965. WELSBACH LIGHT COMPANY, Gloucester, New Jersey, U.S.A. Incandescent Mantles, Burners and Incandescent Lights, Lamps and Lamp Fittings. Word : "Reflex." 12th June, 1906.
10966. WELSBACH LIGHT COMPANY, Gloucester, New Jersey, U.8.A. Incandescent Mantles, Burners and Incandescent Lights. Lamps and Lamp Fittings. Shield surmounted by Eagle holding scroll bearing words : "The Shield of Quality." 18th June, 1906.
10967. UNITED STATES PEAT FUEL COMPANY, Chicago, Illinois, U.S.A. Artificial or Composition Fuel. Word: "Carbog." 13th June, 1906.
10968. THE DOVER, MANUFACTURING COMPANY, Canal Dover, Ohio, U.S.A., Sad Irons. Word : "Asbestos." 13th June, 1900.
10969. DAIMLER MOTOREN-GESELLSCHAFT, Unterturkhaim near Stuttgart, Kingdom of Wurtemberg, Germany. General Trade Mark. Letters : "D M G." 13th June, 1906.
10970. THE ALBERTA BISCUIT COMPANY, LIMITED, Calgary, Alberta. Chocolates, Candies, Confectioneries, Bread, Biscuits, Cakes and other Farinaceous compounds. Letters: "A.B.C." 18th June, 1906.
10971. THE ALBERTA BISCUIT COMPANY, LIMITED, Calgary, Alberta. Chocolates, Candies, Confectioneries, Bread, Blscults, Cakes and other Farinaceous compounds. Words : "Royal Blue." 13th June, 1906.
10972. THE EMPRESS MANUFACTURING COMPANY, Vancouver, British Columbia. Coffee, Splces, Extracts, Jams, Plckles and Sauces. Word: "Climax." 14th June, 1906.
10978. INNBG SMITH \& COMPANY, 88 High Street, Birmingham, England. A Liqueur. An oblong curved outline enclosing the figures of two Royal Lancers in full dress uniform, the Arms, and the words: "The Royal Lancer Liqueur"; also words: "Liqueur Renaissance." 14th June, 1906.
10974. INNBG SMITH \& COMPANY, 88 High Street, Birmingham, Fingland. Scotch Whiskey. Label bearing representation of the Scotch Thistle over which are printed the words: "The Scottish Glen Aldie "; and representation of a heart onclosing initials: "I. 'S." 14th June, 1906.
10975. THE B. HOUDE COMPANY, LIMITED, Quebec, Que. Tobaccos and Cigarettes. Word: "Casino" and representation of a Japanese performing on a tight rope. 14th June, 1906.
10976. Z. PAQUET, Quebec, Que. Ladies' Shoes. Word : "Paquerette." 15th June, 1906.
10977. Z. PAQUET, Quebec, Que. Gentlemen's Shoes. Word : "Paquet." 15th June, 1906.

1C978. THE ADAMS FURNITURE COMPANY OF TORONTO, LIMITED, Toronto, Ont. Mattresses. Word : "Featherfelt." 16th June, 1906.
10979. CROOK, BROWN \& COMPANY, Winnipeg, Man. Tea. Worde: "Canawella Tea." 15th June, 1906.
10980. THE ALBERT DICKINSON COMPANY, Chicago, Illinols, U.S.A. Grass and Field Seeds. Words : "Knight Brand" and representation of a Knight in ancient armour with letter "D" on the breast plate. 15th June, 1906.
1,981. THE J. B. WILLIAMS COMPANY, Glastonbury, Hartford County, Connecticut, U.S.A. Soap, especially Shaving Soap. Words : "Swiss Violet." 16th June, 1908.
10982. THE J. B. WILLIAMS COMPANY, Glastonbury, Hartford County, Connecticut, U.S.A. Soap, especially Shaving Soap. Words: " Travellers Favorite." 16th June, 1906.
10983. The J. B. WILLIAMS COMPANY, Glastonbury, Hartford County, Connecticut. U.S.A. Soap, especially Shaving Soap. Words : " Jersey Cream." 16th June, 1906.
10984. THE J. B. WILLIAMS COMPANY, Glastonbury, Hartford County, Connecticut, U.S.A. Soap, especially Shaving Soap. Word : " Luxury." 16th June, 1906.
10985. BIRDSHY SOMERS COMPANY, New York, N.Y, U.S.A. Corsets. Words: "La Reine." 18th June, 1906.
10986. CARBON PAPER AND RIBBON MANUFACTURING COMPANY. LIMITED, Toronto, Ont. Carbon Paper, Typewriter Ribbons and Typewriter Supplies. Word : " Peerless." 18th June, 1906.
10987. BORDEN'S CONDENSED MILK COMPANY, Jersey City, New Jersey, and New York, N.Y., U.S.A. Milk, Condensed Milk, Cream, Eraporated Cream and Cheese. Words: "Gold Seal Brand " on the representation of a Seal. 18th June, 1906.
10988. BORDEN'S CONDENSED MILK COMPANY, Jersey City, New Jersey, and New York, N.Y., U.S.A. Milk, Condensed Milk, Evaporated Cream, Butter and Cheese. Word. "Challenge." 18th June, 1906.
10989. ISAAC WISER, Prescott, Ont. Liquors, Whiskey, \&c. Label bearing representation of a bottle of Wiser's Canadian Red Letter Rye on a table with glass, books, flowers, \&c. and two gentlemen talking in the background, \&c. 18th June, 1906.
10990. EDWARD SKEANS, Toronto, Ont. General Trade Mark. Word : "Sunda." 19th June, 1906.
10991. THE CAPRON CHEMICAL COMPANY, Malone, Franklin County, New York, U.S.A. Tablets. Label bearing representation of a lady's head with breath lines projecting from the mouth on which are the words: "Pure Breath," letters: "P. B." and words : "Pure Breath Tablets." 19th June, 1906.
10922. CHARLES ALEXANDER DANTHON, dit GUSTAVE, Paris, France. Produits Pharmaceutiques. Etiquettes re" Pastllles Victorla." 19 juin 1906.
10998. THE JAMES MCCREADY COMPANY, LIMITED, Montreal, Que. Shoes. Word: "Doris." 19th June, 1906.
10994. THE SICHE GAS COMPANY, LIMITED, Toronto, Ont. General Trade Mark. Word : "Siche." 19th June, 1906.
10995. OLIVER SPANNER, Toronto, Ont. Pop Corn Fritters: Words: "Spanner's Celebrated Pop Corn Fritters." 20th June, 1906.
10998. GILBERT S. TROOP, Halifax, Nova Scotia. Fish: Letters: "H.F'. Co." 20th June, 1906.
10997. GILBERT S. TROOP, Halifax, Nova Scotia. Fish. Word : "Scotia." 20th June, 1906.
10998. GILBERT S. TROOP, Halifax, Nova Scotia. Fish. Word : "Chebucto." 20th June, 1906.
10999. ISAAC BLUMENSTIEL, Hamilton, Ont. Cigars. Label bearing words: "Music Master" and a plcture of David Warfeld the Actor. 21st June, 1906.
11000. J. A. SCRIVEN COMPANY, Borough of Manhattan, New York, N.Y., U.S.A, Underwear. A Strip of BuIf Colour interposed between two white portions of a garment. 21st June, 1906.
11001. NORDDEUTSCHE WOLLKAMMEREI \& KAMMGARNSPINNEREI, Bremen-Delmenhors, Germany. General Trade Mark. Word: "Sumatrol." 21st June, 1906.
11002. THE SOUTH BAY CANNING COMPANY, Port Milford, Township of South Maryburg, Ont. Canned Fruits and Vegetables. Label bearing words: "Lasso Brand" and representation of Cowboys mounted and throwing lassoes. 21st June, 1906.

11ب02. FREPERICK STEARNS \& COMPANY, Detroit, Michigan, U.S.A. General Trade Mark. Word : "Kasagra." 22nd June, 1908.
11004. R. DIETRICH \& COMPANY, Zurich, Switzerland. Pharmaceutical Preparations. Word: "Torosan." 22nd June, 1906.
11005. L. \& C. HARDTMUTH, Vienna and Budweis, Empire of Austro-Hungary ; and London, England. Lead Pencils, Tracing Cloth, Materials for Artists' and Draughtsmen's use. Word : " Koh-I-Noor." 22nd June, 1906.
11006. HARTLAND LAW \& HERBERT EDWARD LAW, Trading as THE VIAVI COMPANY, San Francisco, California, U.S.A., Chemical Substances prepared for use in Medicine and Pharmacy, Word : "Vlavi." 22nd June, 1906.
11007. LA SOCIETE BARBEAU \& PERRON, Montreal, Que. Boutilion Concentre. Mot : "Vita" an centre d'un soleil rayonnant. 23 juin 1906.
11008. WILLIAM JAMES URQUHART, Toronto, Ont. A preparation to be used as a Solvent and Remover of Paint and Varnish. Word : "Solvol." 23rd June, 1906.
11009. ARTHUR C. ROGERS \& J. N. FORREST, Toronto, Ont. Cloaks, Costumes, Coats and Skirts for Ladies' Wear. Words: "A Rogers Garment " enclosed in a diamond. 25th June, 1906.
11010. KINGEBURY FOOTWEAR COMPANY, Maisonneuve, Que. Boots and Shoes. Word : "Queensbury." 25th June, 1906.
11011. GHORGE MITCHELL MILLER, Winnipeg, Man. Cigars, Cigarettea, Tobacco and Tobacco Supplies. Words: "United Cigar Stores." 25th June, 1906.
11012. GBORGE CRADOCK, Bolton Lodge, Bolton Percy, Yorks, Finglend. General Trade Mark. Word: "Nufex." 25th June, 1906.
11018. DOROTHY DODD SHOE COMPANY, Boston, Massachusetts, and Montclair, New Jersey, U.S.A. Boots and Shoes. Shield bearing two capital letters: " \(D\) D" facing each other, the shield being surmounted by a crown and a Deer's head. 25th June, 1906.
11014. THE BUFFALO SPECIALTY COMPANY, Buffalo, New York, U.S.A. Preparations for Cleaning and Polishing Metal, Woodwork and enamelled surfaces. Words: "Liquid Veneer." 2sth June, 1906.
11015. THE IMPERIAL STEEL AND WIRE COMPANY, LIMITED, Collingwood, Ont. Nails. Words : "Carbon Coated." 26th June, 1906.
11016. THE C. E. MCKEEN COMPANY, Quebec, Que. Boots and Shoes. Words : " 20th Century Shoe." 26th June, 1906.
11017. THE DOMINION PHOTO SUPPLY COMPANY, Toronto, Ont. Photographic Preparations for the Developing, Toning and Fixing Photographic Paste, Films and Cameras. Word: "Perfecto." 26th June, 1506.
11018. THE HAMILTON COFFEE AND SPICE COMPANY, LIMITED, Hamilton, Ont. Baking Powder. Words and representation : "Red Bird." 26th June, 1906.
11019. CHARLES LEOPOLD PAPINEAU, Montreal, Que. Produits Chimiques. Une Vignette représentant un Paysan Canadien revetu iu costume national. 27 juin 1906.
11020. THE STARR MANUFACTURING COMPANY, LIMITED, Dartmouth, Nova Scotia. Sporting Goods, such as Skates, Hockey Sticks, \&c. Word : "Rex." 27th June, 1906.
11021. CHAUNCEY FREELAND YORK, Warrlorsmark, Pennsylvania, U.S.A. Salve or Ointment. Word : "Sa-Ru." 27th June, 1906.
11022. CHAUNCEY FREELAND YORK, Warrlorsmark, Pennaylvania, U.S.A. Salve for Tollet or Medicinal use. Word : "MA-LE-NA." 27th June, 1906.
11023. CHAUNCEY FREELAND YORK, Warriorsmark, Pennaylvania, U.S.A. Stomach and Liver Pills and Tablets. Word: "MA-LENA." 27th June, 1906.
11024. KINGSTON MILLING COMPANY, LIMITED, Kingston, Ont. Flour. Words and representation: "White Rose" enclosed in circular scroll bearing words: "City Flour Mills Fancy Patent." 27th June, 1906.
11025. KINGSTON MILLING COMPANY், LIMITED, Kingston, Ont. Flour, Word: "Standard" in a scroll printed through a sheaf of Golden Rod. 27th June, 1908.
11026. GOODERHAM \& WORTS, LIMITED, Toronto, Ont. Cattle Food. Words : "Standard Concentrated Cattle Food G. \& W." arranged in oval figure. 28 th June, 1906.
11027. FRANK B. PERKINS, Waterloo, Que. General Trade Marks. Monogram of the initials: "F B P" on a shleld. 28th June, 1906.
11028. FRANK B. PERKINS, Waterloo, Que. A Beverage : a temperance drink, nerve tonic and blood purifier. Word : "NoxieKola.' 28 th June, 1906.
11029. THE HULL OIL MANUFACTURING COMPANY, LIMITED, Hull, England. Oils and Soaps, Feeding Meals and Manures. Word: " Homco." 28th June, 1906.
11030. PHILIP J. BEAUCHAMP, Dauphin, Man. Medical Preparation. Words:
"Dr. Beauchamp's Chain Lightnlng." 28th June, 1906.
11031. THE DOMINION BREWERY COMPANY, LIMITED, Toronto, Ont. Ale and other Malt Liquors. An oblong lithographed white label bearing words: "White Label." 29th June, 1906.
11032. THE DOMINION BREWERY COMPANY, LIMITED, Toronto, Ont. Ale and other Malt Liquors. Words: "White Label." 29th June, 1906.
11033. THE AMERICAN PAD AND TEXTILE COMPANY, Greenteld, Ohio, U.S.A. General Trade Mark. Word : "Tapatco." 29th June, 1906.
11034. FREDERICK VICTOR CHALMERS, Westcourt, Lansdowne Road, West Worthing, Sussex, England. Tobacco, Cigars, Cigarettes and Snuffs. Word : "Jamavana." 30th June, 1906.
11035. THE GOLDSMITHS' STOCK COMPANY OF CANADA, LIMITED, Toronto, Ont. Watches, Watch Cases and Watch Movements. Word: "Princess."' 30th June, 1906.

\section*{INDUSTRIAL DESIGNS}

\section*{Registered during the month of June, 1906, at the Department of Agriculture--} Copyright and Trade-Mark Branch.
2457. RICHARD HEMSLEY. Montreal, Que. Napkin Ring ornamented with a continuous band of Maple Leaves. 9th June, 1906.
2458. THE D. MOORE COMPANY, LIMITED, Hamilton, Ont. Base Burning Self-feeding Heating Stove. 18th June, 1906.
2459. HONORE LEGER, Ottawa, Ont. Drapeau National Canadien, 26 Juin 1906.
2460. THE D. MOORE COMPANY, LIMITED, Hamilton, Ont. Hot Blast Wood Heating Stove. 29th June, 1906.
2461. ADOLPHE LOUIS CARON, Montreal, Que. Brooch or other article of Jewellery in the form of a Shield. 29th June, 1906.

\section*{COPYRIGHTS}

\section*{Entereds during the month of June, 1906, at the Department of AgricultureCopyright and Trade-Mark Branch. \\ 17256. RISING SUN. March and Two-Step. By Milton Farris. Arr. Chas Miller. James Halbert Dougherty, Loulsville, Ky., U.S.A. 1st June, 1906. \\ 17257. THE CHURCH OF CHRIST. By Rev. T. A. Watson, B.D. (Book. Second edition.) Thomas A. Watson, Thamesford, Ont., 18t June, 1306. \\ 17258. THE NEW REVERSIBLE DOMINION OF CANADA MAP. 1904-1906. The Scarboruogh Company, Hamllton, Ont., 1st June, 1905. \\ 17259. UNIVERSITY OF '1ORONTO. (Photo.) The Panoramic Camera Company of Canada, Toronto, Ont., 2nd June, 1906. \\ 17260. LES CONTES DU PERE RHAULT, which is now being preliminarily published in separate articles in "La Patrie" Humourous illustrations.) (Temporary Copyright.) La Compagnie de Publication La Patrie, Limitée, Montreal, Que., 2nd June, 1906.}
17261. LES ECHEVINS DU GREATER MONTREAL. 1906-1908. (Photo.) A. A. Massé, Montréal, Que., 2 juin 1906.
17262. CLOVER BLOSSOMS. Song. Words and Music by Floyd Thompson. Will Rossiter, Chicago, Ill., U.S.A. 4th June, 1906.
17263. MY LITTLE ALLIGATOR, or A Romance of the Nile. Song. Words and Music by William Randolph Nelson, Jr. Will Rossiter, Chicago, Ill., U.S.A., 4th June, 1906.
17264. WOULD YOU CARE IF WE WERE PARTED ? Song. Words and Music by W. R. Williams. Will Rossiter, Chicago, Ill., U.S.A., 4th June, -1906.
17265. HARMSWORTH SELF-EDUCATOR MAGAZIME, 7th June, 1906. No. 13. The Amalgamated Press, Limited, London, England, 4th June, 1906.
17266. THE AMERICAN PRINCESS. March. Two-step. By A. F. Reilly. Alexander F. Reilly, Toronto, Ont., 4th June, 1906.
17267. BEST PROMISSORY NOTE. Sermon by Rev. Frank De Witt Talmage, Los Angeles, Cal., U.S.A.. 3rd June, 1906. F. Diver, Toronto, Ont., 4th June, 1906.
27268. OF INTEREST TO COMMERCIAL TRAVELLERS. (Chart.) Eben Oliver Weber, Berlin, Ont., 4th June, 1906.
17269. VIKINGS OF THE PACIFIC. Now belng preliminarily published in separate articles in Harper's Monthly, Outing, and Leslle's Monthly. By Agnes C. Laut. (Book.) (Temporary Copyright.) Agnes C. Laut, Wassaic, N.Y., U.S.A., 4th June, 1906.
17270. BENEDICITE, OMNIA OPERA. No. 21. (In the Key of F.) By Albert Ham, Mus. Doc. F.R.C.O. (Music.) Albert Ham, Toronto, Ont., 5th June, 1906.
17271. FOLDER INSURANCE POLICY SPECIALTY. (Folder.) Harry E. Jameson, Toronto, Ont., 5th June, 1906.
17272. MAPLE LEAF, HAVING THEREON HEADS OF CANADIAN WILD ANIMALS. (Drawing.) Thomas Edward S. Davies, Ottawa, Ont., 5th June, 1906.
17273. THROUGH MOUNTAINS AND CANYONS - THE CANADIAN ROCKIES. (Book.) Wm. Notman and Son, Montreal, Que., 6th June, 1906.
17274. NEW MAP OF ST. JOHN, N.B., FOR 1906. Complled by G. Murdoch. Gordon Livingston, St. John, N.B., 6th June, 1906.
17275. 'TIS THE SPRING FEVER. Sermon by Rev. Frank De Witt Talmage, Los Angeles, Cal., U.S.A., June 10th, 1906. F. Diver, Toronto, Ont., 8th June 1906.
17276. THE OTTAWA DRIVEWAY, NEAR BANK STREET, SHOWING TEB SUMMER HOUSE AND PUMP ON THE RIDEAU CANAL BANK. (Post Card.) George R. Lancefleld, Ottawa, Ont. 9th June, 1906.
17277. BLACK RAVEN INDIAN. (Photo.) Byron Harmon, Banti, Alta., 11th June, 1906.

1:278. MUDDY STONE INDIAN. (Photo.) Byron Harmon, Banff, Alta., 11th June, 1906.
17279. BLACK RAVEN. (Photo.) Byron Harmon, Banff, Alta., 11th June, 1906.
17280. SILAS BIG WOMAN. (Photo.) Byron Harmon, Banff, Alta., 11th June 1906.
17281. JUMPING SHEEP INDIAN. (Photo.) Byron Harmon, Banff, Alta., 11th June, 1906.
17282. BEAVER TAIL INDIAN. (Photo.) Byron Harmon, Banff, Alta., 11th June, 1906.
17288. BOW FALLS, BANFF. (Photo.) Byron Harmon, Banff, Alta., 11th June, 1906.
17284. STONY INDIANS. (Photo.) Byron Harmon, Banff, Alta., 11th June, 1906.
17285. BIG ELK. (Photo.) Byron Harmon, Banff, Alta., 11th June, 1906.
17286. MINLTE WAGES AND COST ITEM TABLES. (Book.) John Henry Duke, Toronto, Ont., 11th June, 1906.
17287. OFFICE WORK, OR ACTUAL CANADIAN BUSINESS PROCEDURE. (Book.) The Commercial Text Book Company, Toronto, Ont., 11th June, 1906.
17288. CANADIAN LACROSSE ASSOCIATION CONSTITUTION RULES. (Book.) The Harold A. Wilson Company, Limited, Toronto, Ont., 12th June, 1906.
17289. OFFICERS OF THE 91st CANADIAN HIGHLANDERS. (Photo.) Alexander McKenzie Cunningham, Hamilton, Ont., 13th June, 1906.
17290. THE ENGINEERING JOURNAL OF CANADA. June 1906. (Book.) Archibald W. Smith and Partners, Limited, Toronto, Ont., 13th June, 1906.
17291. L'ANNUAIRE DES ADRESSES DE QUEBEC ET DE LEVIS. 10061907. Par Boulanger et Marcotte. (Livre.) Edouard Marcotte, faisant affaires sous la raison sociale de Boulanger et Marcotte, Québec, Qué., 13 juin 1906.
17292. THE HARDWARE MONTHLY OF CANADA. May, 1906. (Book.) Archibald W. Smith and Partners, Limited, Toronto, Ont., 13th June, 1906.
17293. THE BRITISH COLUMBIA LAW REPORTS. May, 1906. (Book.) The Law Society of British Columbia, Victoria, B.C., 13th June, 1906.
17294. OF INTEREST TO RETA 1 , SALESPEOPLE. (Chart.) Eben Oliver Weber, Berlin, Ont., 13th June, 1906.
17295. ROBINSON'S BOOK OF MODERN CONUNDRUMS. (Contáining over 1000 up-to-date Riddles.) McLeod and Allen, Toronto. Ontario, 14th June, 1906.
17296. OUR TWENTIETH CENTURY CANADA, or GLIMPSES OF THE WEST THRO' EASTERN EYES, which is being preliminary published in separate articles in the following papers: Toronto Star, Montreal Herald, Ottawa Journal, Kingston Whig, Brantford Expositor, and Chatham News. (Temporary Copyright.) Frank Yeigh, Toronto, Ont., 14th June, 1906.
17297. MISS CANADA. March. By W. J. Davis. J. L. Orme and Son, Ottawa, Ont., 14th June, 1906.
17298. THE CANADIAN ANNUAL REVIEW OF PUBLIC AFFAIRS, 1905. By J. Castell Hopkins, F.S.8. (Book.) The Annual Review Publishing Company, Limited, Toronto, Ont., 15th June, 1906.
17299. UNCLE REMUS STORIES. (The Creeturs go to the Barbacue.) (Pictures.) Canada Newspaper Syndicate, Limited, Montreal, Que., 15th June, 1906.
17300. GRAND WALTZ. LUCIA. (Sextette.) By Donizetti. Arr. by Floyd J. St. Clair. H. N. White, Cleveland, Ohio, U.S.A., 15th June, 1906.
17301. LECONS D'HYGIENE PRATIQUE. Par E. F Panneton, M.D. (Livre.) E. F. Panneton, Trois-Rivieres, Que., 16 juin 1906.
17302. MY WEEKLY. Saturday, 16th June, 1906. No. 1. (Book). The International Publications, Limited, Toronto, Ont., 16th June, 1906.
17303. LA CUISINE SANITAIRE ECONOMIQUE PRATIQUE. Par Mme M. H. A. (Livre.) Joseph-Gdouard Mercier, Lévis, Que., 18 juin 1906.
17304. A COMPENDIUM OF THE CHRISTIAN RELIGION. By Rev. T. M. Talbot. (Book.) (Second Edition.) Rev. T. Mason Talbot, Napinka, Man., 18th June, 1906.
17305. HARMSWORTH SELF-EDUCATOR MAGAZINE. June 21st, 1906. No. 14. Amalgamated Press, Limited, London, Eng., 19th June, 1906.
17306. HENDERSON'S VANCOUVER CITY DIRECTORY, 1906. Vol. XIII. Henderson Publishing Compauy, Limited, Vancouver, B.C., 19th June, 1906.
17307. IRISH LAKE. Lyric. By M. C. O'Donnell, Toronto, Ont., 19th June, 1906.
17308. COME UNDER THE PALM-ROOM TREE Song. Words and Musiby Grorge L. Spaulding. Will Rossiter, Chicago, Ill., U.S.A., 20th June, 1906.
17309. PUBLIC SCHOOL READERS PRIMFR. Part II. (Book.) The Canada Publishing Company, Limited. Toronto, Ont., 20th June, 1906.
17310. STONEY INDIAN BOYS. (Photo.) Byron Harmon, Banff, Alta., 20th June, 1906.
17311. STONEY INDIANS AT HOME (Photo.) Byron Harmon, Banff, Alta., 20th June, 1906.
17312. JOSEPH PEACEMAKER AND FAMILY. (Photo.) Byron Harmon, Banff, Alta., 20th June, 1906.
17313. BEAR CLAW AND SON. (Photo.) Byron Harmon, Banff, Alta., 20th June, 1906.
17314. GROUP OF STONEY INDIANS. (Photo.) Byron Harmon, Banfi, Alta., 20th June, 1906.
17316. A PRAYER OF LOVE. Poem. By Jean Blewett. Isabel Rutter, Toronto, Ont., 20th June, 1906.
17816. THE SPOILERS. By Rex E. Beach. (Book.) Poole Publishing Company, Limited, Toronto, Ont., 21st June, 1906.
17817. SONGS. EIGHT CLASSIC GEMS. With violin ob. Words and Music - by Arthur Uvedale. Arthur Uvedale, Toronto, Ont., 21st June, 1906.
17318. IDA VALSE. By Louis E. Payette. The Canadian -American Music Company, Limited, Toronto, Ont., 21st June, 1906.
17819. TABLEAU HISTORIQUE DE PAROISSE. Maximilien Coupal, \(S t\). Michel Archange, Que., 21 juin 1906.
17380. CANARIES VS. CHICKENS : or, Money in Canaries. (Book.) Cottam Bird Seed, London, Ont., 21st June, 1906.
17821. McGILL UNIVERSITY AND MOUNT ROYAL, MONTREAL. (Photo.) The Panoramic Camera Company of Canada, Toronto, Ont., 22nd June, 1906.
17322. QUEEN'S PARK AND THE PARLIAMENT BUILDINGS, TORONTO. (Photo.) The Panoramic Camera Company of Canada, Toronto, Ont., 22nd June, 1906.
17323. TORONTO HARBOUR AND BUSINESS DISTRICT. (Photo.) The Panoramic Camera- Company of Canada, Toronto, Ont., - 22nd June, 1906.
17324. CITY HALL AND NORTH-WEST TORONTO. (Photo.) The Panoramic Camera Company of Canada, Toronto, Ont., 22nd June, 1906.
17826. THE MAKERS OF CANADA. GEORGE BROWN. By John Lewis. (Book.) Morang and Company, Limited, Toronto, Ont., 22nd June, 1906.
17326. CORRECT STYLES IN FALL OVERCOATS. (Plcture.) The Lowndes Company, Limited, Toronto, Ont., 22nd June, 1906.
17327. OFFICEAL TELEPHONE DIRECTORY, DISTRICT OF QUEBEC, JUNE, 1906. The Bell Telephone Company of Canada, Limited, Montreal, Que., 22nd June, 1906.
17888. ALPEABFITICAL CHORD DIRECTOR. (Chart.) Agnes Guerin, Montreal, Que., 22nd June, 1906.
17389. BUSINBES LETTER WRITING AND FOLLOW-UP SYSTEM. By E. Warner. (Book.) Edgar Warner, Toronto, Ont., 23rd June, 1906.
17380. HOMEWOOD. (Photo.) Wood and Company, Ingersoll, Ont., 23rd June, 1906.
17381. UPPER DAM, THAMES RIVERR. (Photo.) Wood and Company, Ingersoll, Ont., 23rd June, 1906.
17332. CEMETERY ROAD, KING HIRAM ST. (Photo.) Wood and Company. Ingersoll, Ont., 23rd June, 1906.
17333. MUSIC MADE EASY. A piano-forte Tutor on a New Plan consisting of a Series of New and Carefully Graded Exercises, Arranged and Composed by J. Lascelles Graham, F.E.I.S. Anglo-Canadian Music Publishers' Association, Limited, London, England, 25th June, 1906.
17334. HARDWARE MONTHLY OF CANADA. June, 1906. (Book.) Archd. W. Smith and Partners, Limited, Toronto, Ont., 25th June, 1906.

17335 LE SAINT-LAURENT HISTORIQUE, LEGENDAIRE ET TOPOGRAPHIQUE, DE MONTREAL A CACOUNA ET A CHICOUTIMI SUR LE SAGUENAY. Par Alphonse Leclaire. (Livre.) Alphonse Leclaire, Montreal, Que., 25 Juin 1906.
17336. HISTORICAL, LEGENDARY AND TOPOGRAPHICAL GUIDE ALONG THE SAINT LAWRENCE FROM MONTREAL TO CHICOUTIMI ON THE SAGUENAY AND TO CACOUNA. By Alphonse Leclaire. (Book.) Alphonse Leclaire, Montreal, Que., 25th June, 1906.
17337 SOVEREIGN RADIATORS CATALOGUE F. 1905-6. (Book.) TaylorForbes Company, Limited, Guelph, Ont., 25th June, 1906.
17338. THE CANADIAN INVESTOR. June, 1906. By Herbert S. Pringle. (Book.) Herbert S. Pringle, Melita, Man., 25th June, 1906.
17339. BABY CLOVER. (Song.) Words by Rachel Barton Butler. Music by Charles Willeby. The John Church Company, Cincirnati, Ohio, U.S.A., 25th June, 1906.
17840. FALLEN. Words by Grant Balfour. Music by Fay G. Stanbury. (Fairy Morgan.) James Miller Grant, Toronto, Ont., 25th June, 1906.
17341. WHEN THE HARVEST GLEANERS SANG A SONG OF HOME. (Song.) Words and Music by Harry A. Edwards. Harry H. Sparks, Toronto, Ont., 26th June. 1906.
17342. HE DIED IN SAN FRANCISCO. (Song.) Words by Samuel A. White. Music by Edwin Willis. Harry H. Sparks, Toronto, Ont., 26th June, 1906.
17343. UNDER THE PALMS. Waltzes. By F. H. Losey, Op. 209. Vandersloot Music Publishing Company, Williamsport, Penn., U.S.A., 27th June, 1906.
17344. PARADE OF THE HUMMING BIRD. March Two-Step. By F. H. Losey, Op. 207. Vandersloot Music Publishing Company, Williameport, Penn., U.S.A., 27th June, 1906.
17345. JOLLY SWEETHEARTS. Intermezzo Two-Step. F. H. Losey, Op. 206. Vandersloot Music Publishing Company, Williamsport, Penn., U.S.A., 27th June, 1906.
17346. CHART OF THE RELATIVE POSITIONS IN LATITUDE OF THE NATIONS OF EUROPE AND PROVINCES OF CANADA, WITH CHIEF CITIES THEREOF. James Richardson Roaf, Toronto, Ont., 27th June, 1906.
17347: DIRECTIONS FOR USING FLEISCHMANN'S COMPRESSED YEAST. (Book.) The Fleischmann Company, Toronto, Ont., 27th June, 1906.
17348. SOVEREIGN BOILERS FOR HOT WATER AND STEAM. Catalogue G. 1906. (Book.) Taylor Forbes Company, Limited, Guelph, Ont., 28th June, 1906.
17349. THE IMPROVED RESIDENTIAL SURVEY SYSTEM. (Book.) Edward C. Hill, Toronto, Ont., 28th June, 1906.
17350. MELODY OF SONG. (For Piano.) By Sidney Talbot, Op. 3. Sidney Talbot, Victoria, B.C., 28th June, 1906.
17351. PEMBROKE STREET, LOOKING WEST FROM PETER STREET. (Photo.) M. E. O'Gorman, Pembroke, Ont., 28th June, 1906.
17352. REGISTRY OFFICE, PEMBROKE, ONT. (Photo.) M. E. O'Gorman, Pembroke, Ont., 28th June, 1906.
17353. COURT HOUSE, PEMBROKE, ONT. (Photo.) M. E. O'Gorman, Pembroke, Ont., 28th June, 1906.
17354. DON'T DO THAT. (Song.) By Pete Detzel and F. H. Losey. Vandersloot Music Publishing Company, Williamsport, Penn., U.S.A., 29th June, 1906.
17355. THE CANADIAN MAGAZINE. July, 1906. The Ontario Publishing Company, Limited, Toronto, Ont., 29th June, 1906.
17356. UNCLE REMUS. BRER RABBIT AND THE PARTRIDGE NEST. (Pictures.) The Canada Newspaper Syndicate, Limited, Montreal, Que., 30th June, 1906.
17357. HARMSWORTH SELF-EDUCATOR MAGAZINE. July, 5, 1906. The Amalgamated Press, Limited, London, Eng., 30th June, 1906.


Vol. XXXIV.-No. 8.
AUGUST 31st, 1906.
Price freo by post in Canada and the \(\{\) SINGLE NUMBERS, - - 20Cts.

\section*{NOTICE.}

All solicitors, agents or attorncys who, in circulars or advertiscments, or othervise, refer to the Commisaioner or Deputy Commis. sioner of Patents, or to any other official of the Patent Office, for cvidence of their professional standing, do so without authority.

\section*{INVENTIONS PATENTED.}

SOTF.-Patents are granted for 18 yeara. The term of yoars for which the fee has been pald, is given after the date of the patent.

No. 100,302. Envelope. Enceloppe.


Willam Swain Brown, Burghlll, Ohio, U.S.A., 7th August, 1906. Receipt No. 137,254 .

Claim.-1. The combination of an envelope comprising a back and a front, the back being formed with a slit while the front is provided with a fiap having a tongue which is adapted to be thrust through the slit in the back of the envelope and which is provided with inwardly projecting members, and a strip extending across the slit in the back of the envelope and adapted to be engaged by the inwardly projecti'ig members upon the tongue when the latter is thrust through the slit.
2. The combination of an envelope comprising a back and a front, the back being formed with a slit while the front is provided with a flap having a tongue which is adapted to be thrust through the before-mentioned slit in the back, the extremity of the tongue being provided with rearwardly bent flaps, and a strip extending across the before-mentioned slit in the back of the envelope and adapted to engage with the tefore-mentioned rearwardly bent flap at the extremity of the tongue when the latter is thrust through the slit.
3. The combination of an envelope comprising a back and front, the back being provided with a slit while the fron is provided with a flap having a tongue which is adapted to be thrust through the before-mentioned slit in the back, the corners of the tongue being bent backwardly upon themselves, and a strip extending across the slit in the back of the envelope and adapted to engage the rearwardly bent corners of the before-mentioned tongue when the latter is thrust through the slit in the back of the envelope.

No. 100,303. Envelope. Enveloppe.


Christian Liekefett, Sohlde, near Hoheneggelsen, Hanover, Germany, 7th August, 1906; 6 years. Flled 25th June, 1906 Receipt No. 137,254.
Cialm.-An envelope comprising a central portion, a portion, a back portion, adhesive flaps adapted to secure said front and back portions, and a closing flap integral with one of the latter and adapted to be folded over and secured to: the other of sald portions at the part where the postage stamp is usually affixed, substantially as described.
2. A postal envelope or wrapper comprising a tront portion, a back portion, adhesive flaps integral with the front portion for securing together sald front and back portions, and a closing flap integral with said back portion and adapted to be folded over and secured to the front portion at a part thereof where the postage stamp is usually amred, substantially as described.

No. 100,304. Envelope. Enveloppe.

julius W. Thomas, Hendersonville, North Carolina, U.S.A., 7th August, 1906; 6 years. Filed 25th June, 1906. Recelpt No. 137,260 .
Claim.-An envelope comprising a central portion, a portion connected to the lower edge of the central portion
and folded hereupon, and portions connected to the ends of the central portion, one of said end portions being folded upon the second-named portion and gummed at its lower and il:ner portions thereto, the other end portion being folded upon the first-named end portion and gummed thereto at its and and lower edge portions, and a closing flap carried by the upper edge of the central portion and extending over the outer surface of the second-named end portion, sald closing flap and adjacent portions of the envelope being adapted to receive a seal.

No. 100,305. Envelope. Enveloppc.


Robert William Vail, New York City, New York, U.S.A., 7th
August, 1906 ; 6 years. Filed 25th June, 1906. Receipt No. 137,257.
Claim.-1. An improved safety envelope of the class described, provided at its meeting portions with projecting \(r\) 'dges adapted to relatively register and overlap, and having the portion within said ridges cut away to form open portions or spaces and intervening projecting portions or strips adapted to be enclosed within the mass of a plastic sealing material, substantially as and for the purpose set forth.
2. An improved safety envelope of the class described, provided at its meeting portions with outwardly projecting ridges of approximately annular contour adapted to relatively register and overlap, and having the portion of the paper within said ridges cut away to form open portions or spaces and intervening projecting portions or strips adapted to be enclosed within the mass of a plastic sealing material, substantially as and for the purpose set forth.
3. An improved safety envelope of the class described, provided at its meeting portions with projecting ridges adapted to relatively register and overlap, and having the portion within said ridges cut away to form open portions or spaces and projecting tongues adapted to be enclosed within the mass of a plastic sealing material, substantially as and for the purpose set forth.
4. An improved safety envelope of the class described, provided at its meeting portions with outwardly projecting ridges of approximately annular contour adapted to relatively register and overlap, and having the portion within said ridges cut away to form open portions or spaces and projecting tongues adapted to be enclosed within the mass of a plastic sealing material, substantially as and for the purpose set forth.
5. An improved safety envelope of the class described, provided at its meeting portions with projecting ridges adapted to relatively register and overlap, and having the portion within said ridges cut away to form open portions or spaces and projecting tongues having outwardly turned edges, whereby said tongues are adapted to be enclosed within the mass of a plastic sealing material. substantially as and for the purpose set forth.
6. An improved safety envelope of the class described, provided at its meeting portions with outwardly projecting ridges of approximately annular contour adapted to relatively register and overlap, and having the portion within said ridges cut away to form open portions or spaces and projecting tongues, the series of tongues upon the respective meeting parts having the edges turned outwardly in a corresponding relative manner with respect to the succession of the tongues forming the complete series when the ridges meet and register, whereby said tongues are adapted to be enclosed within the mass of a plastic sealing material, substantially as and for the purpose set forth.
7. An improved safety envelope of the class described, having at meeting portions of its surfaces relatively registering open portions or spaces forming intervening projecting portions or strips adapted to be enclosed within the mass of a plastic sealing material, substantially as and for the purpose set forth.
8. An improved safety envelope of the class described, having at meeting portions of its surfaces relatively regis-
tering open portions or spaces forming intervening projecting portions or strips adapted to be enclosed within the mass of a plastic sealing material, and provided with a protective strip or flap underlying said open portions, substantially as and for the purpose set forth.
9. An improved safety envelope of the class described. having a portion of its surface provided with openings through which the mass of a plastic sealing material is adapted to pass, and provided with a protective strip or flap underlying said openings, substantiaily as and for the purpose set forth.
10. An improved safety envelope of the class described, having a portion of its surface provided with openings through which the mass of a plastic sealing material is adapted to pass, and provided with a protective strip or flap of absorbent material underlying said openings and adapted to be adhesively engaged by said plastic material, substantially as and for the purpose set forth.
11. An improved safety envelope of the class described, having a portion of its surface provided with openings forming intervening portions of strips adapted to be enclosed by the mass of a plastic sealing material, substantially as and for the purpose set forth.
12. An improved safety envelope of the class described, having a portion of its surface open, and provided with strips or portions projecting within said open portions and adapted to be enclosed within the mass of a plastic sealing material, substantially as and for the purpose set forth.
13. An improved safety envelope of the class described, having a portion of its surface open, and provided with tongues projecting in said open portion and adapted to be enclosed within the mass of a plastic sealing material, substantially as and for the purpose set forth.
14. An improved safety envelope of the class described, having a portion or its surface open, and provided with tongues projecting in said open portion and having turned edges, said tongues being adapted to be enclosed within the mas of a plastic sealing material, substantially as and for the purpose set forth.
15. An improved safety envelope of the class described. having a portion of its surface open, and provided with strips or portions projecting in sald open portions and adapted to be poclosed within the mass of a plastic sealing material, said open and projecting portions being surrounded by an outwardly projecting ridge, substantially as and for the purpose set forth.
16. An improved safety envelope of the class described. having a portion of its surface open and provided with a raised portion surrounding said open portion and forming a cup for containing a mass of plastic sealing material, substantially as and for the purpose set forth.
17. An improved safety envelope of the class described. having a portion of its surface open and having strips or portions projecting within said open portion and aidutet to be enclosed within the mass of a plastic sealing material, and provided with a raised portion surrounding said open and projecting portions and forming a cup for containing a mass of plastic sealing material, substantially as and for the purpose set forth.
18. An improved safety envelope of the class described. provided in its back sheet and sealing flap with relatively registering open portions, and having strips or portions projecting in said open portions, whereby openings are provided relatively extending through said back sheet and sealing flap for the passage of a plastic sealing material under and around said projecting strips or portions, substantially as and for the purpose set forth.
19. An improved safety envelope of the class described, having a portion of its surface provided with a raised portion or ridge forming an outside cup for containing a mass of plastic sealing material, substantially as and for the purpose set forth.
20 . An improved safety envelope of the class described, having a portion of its surface open, and provided with a protective strip or flap of absorbent material underlying said open portion and adapted to be adhesively engaged by the mass of a plastic sealing material, substantially as and for the purpose set forth.
21. An improved safety envelope of the class described. having a portion of its surface provided with a raised portion or ridge, and provided with a stiffening plate or strip underlying said raised portion and having a projection entering the latter, substantially as and for the purpose set forth.
22. An improved safety envelope of the cless described, having a portion of its surface prorided with a raised portion or ridge, and provided with a stiffening plate or strip underlying said raised portion and having a projection entering the latter and with means for securing said stiffening plate or strip to the interior surface of the envelope portion. substantially as and for the purpose set forth.
23. An improved safety envelope of the class described. having a portion of its surface open and provided with a raised portion or ridge outside said open portion, said open
portion being adapted to contain the mass of a plastic sealing material, and provided with a stiffening plate or strip underlying said raised portion and having a projection entering the latter, and provided with strip or flap of absorbent material underlying said open portion and securing said stiffening plate or strip in position and adapted to be adhesively engaged by said plastic material, substantially as and for the purpose set forth.
24. An improved salety envelope of the class described. having a portion of its surface open and provided with a raised portion or ridge outside said open portion, sald open portion being adapted to receive the mass of a plastic sealing material, and provided with a stiffening plate or strip underlying said raised portion and having a projection entering the latter and a projection entering the open portion and adapted to be engaged by the mass of said plastic sealing material, substantially as and for the purpose set forth.

\section*{No. 100,306. Railway Signal.}

Eignal de chemin de for.


Nicholas Erschens, Elkton, North Dakota. U.S.A., 7 th August, 1906; 6 years. Filed 17th July, 1906. Receipt No. 137, 917.

Chaim.-In a railroad signal apparatus, main rails and crossing ralls, a rock shaft disposed between the main rails upon opposite sides of the crossing rails, each shaft including a projection, a pivoted shaft arranged between one of the rock shafts and the crossing, the pivoted shaft having an arm sccured thereto, a vertical shaft arranged adjacent the main and crossing rails, a flexible connection between the aforesaid arm and the vertical shaft, signalling elements associated with the vertical shaft, and means constructed and arranged to operate said signalling elements when either of the rock shafts is rocked.

No. 100,307. Railway Switch.
Aiguille de chemin de fer.


Ernest Fish Greene, Silver Creek, New York, U.S.A., 7th August, 1906; 6 years. Filed 17th July, 1906. Receipt No. 137,895.
claim.-1. The combination of the main track, the switch rails, means for automatically closing the switch rails, a manual shifting device for the last-named ralls, a coupling connecting the switch rails with said shifting device, a trip device connected with said coupling, and automatic setting setting or projecting means for the trip device constructed and arranged to act upon said coupling when the switch is moved from its closed to its open position, whereby the trip device is projected through the medium of the coupling, substantially as set forth.
2. The combination of the main track, the switch rails means for automatically closing the switch rails, a manual shifting device for the last-named rails, a coupling bolt detachably connceting the switch rails with sald shifting device and taking part in the movements of the switch ralls, a trip device connected with said bolt and arranged to be operated by a train on the main track, a spring applied to sald bolt and acting to retract the trip device, and automatic setting or projecting means for the trip device constructed and arranged to act upon said coupling bolt when the switch is moved from its closed to its open position, substantially as set forth.
3. The combination of the main track, the switch rails, means for automatically closing the switch ralls, a shifting device for the last-named rails, a coupling connecting the switch rails with said shifting device, a trip device connected with sald coupling and adapted to be operated by a train on the main track, and a flxed cam arranged to be engaged by the coupling when the switch is opened for automatically setting the trip device, substantially as set forth.
4. The combination of the main track, the switch ralls, a snring for closing said ralls, a manual switch shifting device, a connection between sald shifting device and the switch rails consisting of a sleeve or socket connected with one of said parts and a rod connected with the other part and entering the socket, a sliding bolt for coupling said rod and socket movable with the switch ralls, a trip device for withdrawing sald bolt arranged to be operated by a train on the main track, and a stationary cam arranged to be engaged by said bolt when the switch is openod for shifting the bolt lengthwise and setting the trip device, substantially ar set forth.
5. The combination of the main track, the switch ralls, a snring for closing said ralls, a manual switch shifting device, a connection between said shifting device and the switch rails consisting of a sleeve or socket oonnected with one of said parts and a rod connected with the other part and entering the socket, a sliding bolt for coupling said rod and socket movable with the switch rails, a trip device connected with said bolt and arranged to be operated by a train on the main track, and a fixed cam extending into said sleeve and arranged to shift the coupling bolt rearwardly when the switch is moved to its open position, substantially as set forth.
6. The combination of the main track, the switch rails, a spring for closing said ralls, a manual switch shlfting device, a connection between said shifting device and the switch rails consisting of a sleeve or socket connected with one of said parts and a rod connected with the other par: and entering the socket, a sliding bolt for coupling sald rod and socket movable with said slecve, a spring tending to move said bolt forwardly, a trip device for withdrawing the bolt arranged to be operated by a train on the main track, and a fixed cam extending through the side of said slecve and having an oblique face over which the front end of the coubling bolt rides when shifted laterally in opening the switch, substantially as set forth.
7. The combination of the main track, the switch rails. a spring for closing said rails, a manual switch shifting device, a connection between said shifting device and the switch rails consisting of a sleeve or socket connected with one of said parts and a rod connected with the other part and entering the socket, sald rod having a plurallty of bolt holes either of which is adapted to register with a hole of the sleeve, a spring pressed coupling bolt for the sleeve and the rod adapted to engage one of the holes of gaid rod in one position of the switch ralls and the other hole thereof in another position of said rails, and an actuating device connected with said bolt and arranged to be tripped by a train on the maln track, substantially as set forth.
8. The combination of the main track, the switch rails. means for automatically closing the switch ralls, a manual shifting device for the last-named ralls, a coupling connect ing the switch rails with said shifting device, a trip lever arranged to be actuated by a train on the main track, a link connected at one end with said coupling and having its opposite end attached to said lever by a pin and slot connection. and a spring applied to sald link and tending to swing salt lever to its operative position, substantially as set forth.

\section*{No. 100,308. Rail Joint. Joint de rails.}

Dennis Francis Kelly, Chicago, Illinols, U.S.A., 7th August 1906; 6 years. Filed 18th July, 1905. Receipt No. 137,932. Claim.-1. The combination with a rail end having the web thereof extended longitudinally beyond the head, of an abutting rail and having its web slotted longitudinally beneath the head and opening through the botom of the rail and adapted to recelve therein said extended web.
2. In a rail joint the combination with a rail end having the web thereof extended longitudinally beyond the ends of the head and flange and the ends of the flange and web being out of alignment with each other, of an abutting rail and
having a longitudinal slot in its web opening downwardly from the rail head through the bottom of the rail and adapted to recelve the extended web of the other rail end.

3. In a device of the class described the combination with a rail end having its head and flange ending at different points and its web extended beyond said head and flange, of an abutting rail end having its head and flange ending at different points and its web slotted to receive therein said extended web.
4. In a device of the class described the combination with a rail end having its head, web and flange terminating at different points on the rail, of an abutting rail and having downwardly opening, central slot therein adapted to receive the web of the other rall.
5. In a device of the class described the combination with a rail end having its web extended longitudinally and of a width to extend from the rail head to the bottom of the rail and having its head and flange terminating at points out of vertical alignment, of an abutting rail end having a longitudinl, downwardly opening slot in the web thereof extending from the end of the rail rearwardly beyond the ends of its head and flange and adapted to receive said extended web
6. In a device of the class described the combination with a rall end having its web extended beyond its head and its flanfe terminating intermediate the ends of the head and web, of an abutting rail end having its flange cut away for a portion of its length and its web slot ted to receive said extended web.
7. In a device of the class described the combination with a rail end having its head and web extended beyond the end of its flange and having a downwardly opening slot extending longitudinally of the web from the end thereof to beyond the end of the flange, of an abutting rall end having its web extending beyond its head, a distance approximately enual to the length of said slot, and its flange terminating intermediate the ends of its head and web.
8. In a device of the class described the combination with a rail end having a thickened web provided with a downwardly opening longitudinal slot and having its base cut away for a portion of the length of said slot, of an abutting rail and having a longitudinally extended web adapted to seat in said slot and having its flange terminating intermediate the ends of sald web and adapted to support the slotted web thereon.
9. The combination with a rall thickened at one end and having a central slot cut the entire length of the thickened portion and opening through the base of the rail, of an abutting rail having a central outwardly projecting web thereon adapted to fit in said slot.
10. A rail joint comprising the abutting ends of two rails one being thickened and having the flanges thereof cut away for a part of its length to provide parallel webs, a longitudinal slot extending the entire length of the thickened end. and a central bar or web formed on the abutting rail end of a height to extend from the bottom of the rail to the rall head and fitting in said slot.
11. In a device of the class described, a rail having its read and flanges cut away for a distance from one end forming a central longitudinally projecting web, an abutting rail having a thickened end slotted the entire length thereof and the flange cut away from a part of the thickened portion forming a pair of webs, the webs of each rail end being adapted to complimentally fit the web or slot of the abutting rail end.
12. In a device of the class described, the combination with
a rail having a thlckened web portion at one end thereof, a
recess therein opening through the rail base and aflording longitudinal parallel bars on said end of a width equal to the width of the rail web and a central longitudinal bar on the other end extending outwardly therefrom and adapted to seat in the recess of an abutting rail.
13. In a rail joint the combination with the abutting rail ends having the ends of their heads and flanges cut out of alignment transversely of the rail, of a central bar on one of sald ends adapted to extend into a recess beneath the rail head in the abutting end and parallel lateral bars on the abutting end adapted to straddle the bar of the aforesaid end.

No. 100,309. Car Conpler. Attelage de chars.


Lewis C. Cary, Chicago, Illinois, U.S.A., 7th August, 1906; 6 years. Filed 16th July, 1906. Receipt No. 137,850.
Claim.-1. In a car coupling a head comprising two jaws positioned one above the other, with inclined engaging faces, an integral rib on the back of each jaw, means for locking said head to an opposing head and a releasing heel for unlecking the heads.
2. In a car coupling a head comprising two jaws having inclined engaging faces, an integral rib on the back of each jaw, a jaw bearing abutment, means for coupling said head to an opposing head, and a releasing heel for uncoupling said heads.
3. In a car coupling a head comprising two jaws normally positioned one above the other with inclined engaging faces, an integral rib on the back of each jaw, a jaw bearing abutment with lateral arms extending therefrom, means for coupling said head to an opposing head, and means for uncoupling said heads.
4. In a car coupling a head comprising two jaws triangular in form and having inclined engaging faces, an integral rib on the back of each jaw, a bearing abutment near the rear of said jaws with lateral arms extending therefrom, pushing surfaces on the forward ends of said jaws, means for coupling said head to an opposing head and means for uncoupling said heads.
5. In a car coupling a head comprising two jaws normally fositioned one above the other with inclined engaging faces, an integral rib on the back of each jaw, a jaw bearing abutment with arms extending laterally therefrom, a pushing surface on the forward end of each jaw, a spring pressed \({ }^{\text {c }}\) ccupling lever for coupling sald head to an opposing head. and means for uncoupling said heads.
6. In a car coupling a head comprising two jaws with inclined engaging faces, an integral rib on the back of each Jaw, a bearing abutment with arms extending laterally therefrom, forward extensions on said jaw adapted to be inserted between said inclined faces and said arms to prevent lateral novement of the jaws, a pushing surface on the forward end of each jaw, a spring pressed coupling lever and a releasing reel for uncoupling sald head.
7. In a car coupling a head comprising two jaws normally positioned one above the other with inclined engaging faces, an integral rib on the back of each jaw, a bearing abutment with arms extending laterally therefrom, a spring pressed pivoted coupling lever for coupling said head to an opposing head, and a releasing heel for uncoupling said heads.

\section*{No. 100,310. Car Door. Porte de chars.}

Richard Hall, Kenora, Ontario, Canada, 7th August, 1906; 6 years. Filed 13th July, 1906. Recelpt No. 137,767.
Claim.-1. In a car door, auxillary door jambs, means for locking the jambs in position, and a door suspended from the car adapted to co-operate with the jambs.
2. In a car door, a lower door, flexible connections suspending the door from some suitable point of the car, and means whereby said door may be carried to an elevated pcsition and locked thereat.
3. In a car door, a lower door, an upper door co-operating with the lower door, means for suspending the lower door

from some suitable point of the car, and means whereby both of sald doors may be carried to an elevated position and held thereat.
4. In a car door, auxiliary door jambs pivoted in the door opening, means for locking the door jambs in position, and a door adapted to be locked against the jambs.
5. In a car door, auxiliary door jambs pivoted to the sides of the door opening, means for locking the jambs in position, a door adapted to contact with the jambs, flexible connections suspending the door from some suitable point of the car, and means whereby the door may be carricd to an elevated position and secured thereat.
6. In a car door, auxiliary door jambs pivoted to the sides of the door opening, means for locking the jambs in position, a door adapted to contact with the jambs, a second and upper door co-operating with the first, and means whereby both of said doors may be carrled to an elevated whereby both of saition and secured thereat.
7. In a car door, auxiliary door jambs pivoted to the sides of the door opening, means for locking the door in contact with the jambs, flexible connections suspending the door from suitable point of the same, and means whereby the door may be carried to an elevated position and secured thereat.
8. In a car door, door jambs, means for locking the door in contact therewith, flexible connections supporting the door, means whereby when the flexible connections are wound about the door. the latter is carried to an elevated position, and means for securing the door thereat.
9. In a car door, door jambs, a lower door adapted to contact therewith, flexible connections suspending the door, an upper door adapted to lie flat against the lower door, and guiding rods suspending the upper door.
10. In a car door, door posts, door jambs fixed to the inside of the posts, rounded corners on the door jambs. a second set of door jambs carried by the door posts, a lower door contacting with the second set of door jambs, an upper door contacting with said first-mentioned jambs, and means fixed to one of said doors for closing the openings due to said rounded corners.
11. In a car door, an auxiliary door jamb pivoted at each side of the door opening, hooks for holding the jambs in locked position, a door adapted to contact with the door jambs, and means for swinging the hooks to release the jambs and door.
12. In a car door, pivotally mounted door jambs, hooks for locking the door jambs in nosition, a door co-operating with the jambs, and means for simultaneously swinging the hooks to release the jambs and door.
13. In a car door, pivotally mounted door jambs, hooks for holding the door jambs in position. a door co-operating with the jambs, means for simultancously swinging the hooks to release the jambs and door, and means for locking the hooks.
14. In a car door, pivotally mounted door jambs, hooks for locking the door jambs in position, a door co-operating with the jambs, means for drawing the door against the jambs, and means for simultaneously swinging the hooks whereby the jambs and door are released.
15. In a car door, pivotally mounted door jambs, means for locking the door jambs in position, means for simultaneously operating sald locking means, a door co-operating with the jambs, flexible connections by which the door is suspended, and means whereby the door can be carrled to an elevated position and secured thereat.
16. In a car door, door jambs, a door co-operating therewith, flexible connections for suspending the door, a hook connected to the door, and a turn buckle carried by the hook for locking the door against the jambs.
17. In a car door, pivotally mounted door jambs, hooks for engaging the lower ends of the jambs to hold them in position, a door co-operating with the jambs, vertical shafts fixed to the hooks, and links connected to the shafts and to each other, whereby as they are operated the hooks simultaneously release the jambs.
18. In a car door. pivotally mounted door jambs, hooks for locking the jambs in position, a door co-operating with the jambs, flexible connections for suspending the door, a metal plate secured to the floor of the car, a hook attached to the door, and a turn buckle for adjusting the hook whereby the latter may be engaged under the plate and force the door against the jambs.
19. In a car door, pivotally mounted door jambs, a door co-operating with the jambs, hooks for locking the door jambs in position, vertical shafts fixed to the hooks, arms fixed to the vertical shafts, links pivotally connected to the arms and to each other, and a slotted bracket for guiding the links whereby when the links are operated the hooks are simultaneously swung to release the door jambs and the door.

Nc. 100,311. Car Door Clomure.
Fermeture de porte de chars.


Clarence Edward Roe, Winnipeg, and James Collinson, Souris, both in Manitoba, Canada, co-inventors, 7th August, 1906; 6 years. Filed 16th July, 1906. Receipt No. 137,866.
Claim.-1. A device of the class described comprising a door, a bar rigidly secured thereto, a gulde for sald bar, a centrally pivoted lever attached to said bar, and means for locking said lever in position.
2. The combination with a car door of a sllding bar secured thereto, a guide for sald bar, a centrally pivoted lever attached to sald bar by means of a pin operating in a slot in said lever, and means for locking said lever in position. 3. The combination with a car door of a sliding bar rigidly secured thereto, a guide for said bar, a centrally pivoted lever co-operating with said bar by means of a pin operating in a slot in sald lever, and means for automatically locking said door in closed position.
4. The combination with a car door of a sliding bar rigidly secured thereto, a gulde for sald bar, a centrally pivoted lever provided with a longitudinal end slot, a pin in the sliding bar operating in said slot, whereby said lever is capable of arcuate motion, and means for automatically locking said door in closed position.
5. The combination with a car door of a sliding bar secured thereto. a guide for said bar, a centrally plvoted lewar provided at its pivotal point with a longitudinal slot, a second slot in the end of said lever co-operating with a pin in said sliding bar, and means for automatically locking said door in closed position.

\section*{No. 100,312. Derailer. Itéraillcur.}

Thomas W. Linn and John H. Patrick, both of Clymers, Indiana. C.S.A.. ith August. 1906; 6 years. Filed 16th July. 1306. Rerotpt No. 137.877.

Claim.-1. The combination of a slideway, a derailing member mounted to slide on sald slideway, and means on said derailing member for clearing sald slideway of abstructions. 2. The combination with a deralling memuer adapted to move in a path toward and from a track rail, of means con-
nected with said derailing member for clearing said path of obstructions.

3. The combination of a slideway, a derailing member, and slides on said derailing member engaging said slideway, said slides being formed with cutting edges at their forward ends.
4. The combination of a slideway, a derailing member, and slides on said derailing member engaging said slideway, said slldes being formed with cutting edges, and a shield attached to said derailing member.
5. The combination of a slideway, a derailing member adapted to slide on said slideway, said derailing member being formed with a notch, a bracket, and an oar on said bracket adapted to engage said notch, said slideway being secured at one side of a track rail and said bracket being secured on the opposite side of said track rail.
6. The combination of a base, a slideway formed thereon, a derailing member riounted to slide on said slideway, a bar connected to said cerailing member, said har being formed with a slot, a locking pin adapted to engage said slot, an angle lever, one arm of said lever being connected with said bar, and the other arm of said lever being connected with said locking pin, and means for operating said angle lever
7. The combination of a base, a slideway formed thereon, a derailing member, slides on said derailing member engaging said slideway, said slides being formed with cutting edges, a bar connected to said derailing member. said bar being formed with a slot, a locking pin adapted to engage said slot, an angle lever mounted on said base, one arm of said lever being connected with said bar. and the other arm of said lever being connected with said locking pin, and means for operating said angle lever.
8. The combination of a base, a slideway formed thereon, a derailing member, slides on said derailing member engaging said slideway, said slides being formed with cutting edges, a shield attached to said derailing member, a bar conneeted to said deratling member, sald bar being formed with a slot, a locking pin adapted to engage said slot, an angle lever mounted on said base, one arm of said lever being connected with said bar, and the other arm of said lever being connected with said locking pin, and means for operating said argle lever.
9. A derailing member mounted to slide, means on one side of a rail for moving said derailing member into and out of active position, and means on the opposite side of said rail for holding said member in its active position against displacement along said rall.
10. A derailing member adapted to be moved into and out of active position, and a locking member acting automatically to lock said derailing member when the latter is moved out of active position.

\section*{No. 100,313. Car Conpler. Attelage de chars.}

Joseph Melland-Smith, London, England, 7th August, 1906; 6 years. Filed 13th July, 1306. Receipt No. 137,768.
Claim.-1. Coupling apparatus for railway and other vehicles comprising a coupling bar mounted to rotate in bearings carried by or forming a drawhead of the vehicle, a coupling hook for engaging a corresponding device on an adjacent vehicle, mounted to rotate to a limited extent on such bar, and a device adapted to hold said roupling hook in its coupling position, such device being adapted to be operated by the coupling bar in such a manner that upon rotating the coupling bar the hook is moved into its operative position and the holding device is broughe into operation. whilst to place the hook in its inoperative position rotation of the coupling bar first actuates the catch to release the hook and then moves the hook in the desired manner, substantially as hereinbefore described.
2. Coupling apparatus, according to the previous claim, in which the holding device comprises a cranked bar mounted

to rotate in bearings fixed to or formed in one with the bearings of the coupling bar, and provided with a pinion or pinions that gears or gear with a corresponding pinion or pinions on the coupling shaft, the pinions of the cranked bar beng connected thereto by a clutch so constructed and arranged that the pinions turn loosely on the shaft to a limited extent, substantially as hereinbefore described, for the purpose specified.
3. Coupling apparatus acording to claim 1, in which, when the coupling hook is in its operative positon, the couplng bar is locked against rotation in a direction to move the hook out of such position by a device adapted to be actuated by a spring pressed handle or key with which the coupling bar is furnished, substantially as hereinbefore described.
4. Coupling apparatus, according to claim 2, wherein when the coupling hook is in its operative position, a device adapted to be actuated by a spring pressed handle or key with which the coupling bar is furnished, engages and locks either the coupling bar or the cranked bar so that the coupling bar is prevented from rotation in a direction to move the hook out of its operating position, and the caanked bar is prevented from rotation in a direction to free the hook, substantially as hereinbefore described.
5. Coupling apparatus for railway and other vehicles comprising three transversely arranged bars mounted to rotate in brarings carried by or constituting a drawhead of the vehicle, a coupling hook for engaging the corresponding device on an adjacent vehicle mounted on one of such bars. alld adapted to be engaged when in its coupling position by a suitably formed portion of another of such bars, which is connected by gearing with the coupling hook bar, locking means on the third of such bars adapted to engage a part connected to cither of the other two bars, and thereby prevent their rotation, operating means for the coupling hook bar and means connected to said coupling bar operating means whereby the third bar is so actuated as to release the locking means, substantially as hereinbefore described.
6. Coupling apparatus according to claim 1 in which the coupling hook is rigidly fixed to or formed in one with an arm mounted so as to be capable of limited rotary movement upon the coupling bar, and which arm is adapted, when the coupling hook is in its operative position, to be engaged by an appropriately cranked portion of another bar geared to the coupling bar and mounted to rotate in bearings fixed to and formed in one with the bearings of the coupling bar, substantially as hereinbefore described.
7. Coupling apparatus according to claim 5 in which the three transverse bars are mounted to rotate in three bearings flxed to the vehicle draw bars, the coupling hook being mounted on the coupling bar between the middle bearing and an outer one thereof, whilst at the other side of and between such middle bearing and the other outer bearing a bracket mounted on two of the transverse bars carries a coupling link that projects away from the vehicle and which is so arranged that it can rise or fall and can move laterally tc a desirable limited extent, substantially as herelnbefore described.
8. Coupling apparatus according to the preceding claim in which the central draw bar is connected at its inner end ty a pivot to a double strap or buckle through which the draw bar spring passes, and the inner end of each of the two outer draw bars is furnished with a pin passing through a curved slot in the end portion of a crosshead which is mounted to turn on a centrally arranged pisot pin connecting the crosshead to the middle draw bar, substantially as hereinbefcre describel.
9. Coupling apparatus, according to claim 5 , in which the locking means comprise spring pressed pawls fixed to the third or locking bar adapted to engage clutch teeth fixed to either of the other bars, substantially as hereinbefore described.
10. Coupling apparatus, according to claim 5 , in which the coupling bar is furnished with a lever having a spring key adapted to so actuate a lever fixed to the third bar as to rclease the locking means thereon, whilst the coupling hook i'; being moved into its inoperative position, substantially as hereinbefore described.
11. The combination and arrangement of parts constituting the improved coupling apparatus, constructed and operating substantially as hereinbefore described with reference to and shown in the accompanying drawings.

No. 100,314. Track Fastener. Attache de voie.


Frank Smith, Lindsey, Ohio, U.S.A., 7th August, 1906 ; 6 years. Filed 17 th July, 1906. Receipt No. 137,920.
Claim.-1. In combination with a tie, a pair of chair plates provided with means at their outer ends for engaging the outer flanges of the rails and slotted longitudinally at points within the rails, an adjusting reversely threaded bolt connecting the inner ends of these chair plates, lock nuts on this bolt, a slotted clamp plate on each chair plate and provided with a lip engaging the inner flange of the rail, a short bolt clamping each pair of plates together, and a longer bolt clamping each pair of plates together and to the tie, substantially as set forth.
2. In combination with a tie, a pair of chair plates resting on the tie and adapted to support the rails and provided at their outer ends with means engaging the outer flanges of the ralls, each of these plates being slotted at a point inside \(0^{\prime}\) the rall, means for adjustably connecting the inner ends of these plates, whereby they may be drawn together or spread apart, a clamp plate upon each chair plate, means for anchoring both plates to the tie, and means for clamping each pair of plates together, substantially as described.

No. 100,315. Railway Track Flanger.
Appareil d rebord de rails de chemin de fer.


Thomas Hoar, Truro, Nova Scotla, Canada, 7th August, 1906 6 years. Filed 27 th June, 1906. Receipt No. 137,346.
Claim.-1. In a device for operating rallroad track flangers a compound lever having an operating lever at each end in combination with the stands \(i\) iand the flanger arms \(A A\), substantially as described.
2. In a device for operating rallroad track flangers, the combination of the locking bolt \(g\) having arms \(h h\), the lock stand \(i\), , with the \(\operatorname{trlp}\) lever \(;\) having the arms \(l\) and \(k k\) ? substantially as described and set forth.
3. A device for operating railroad car flanges comprising a compound lever composed of the arms \(a\) and \(b\) and the joint ring \(r\), the levers \(f f\), the trip lever \(\boldsymbol{j}\) having arms \(D\) and \(k k\), the locking bolt \(!\) adapted to engage with lever \(j\), the lock stands \(i\) adapted to carry said lever \(j\) and the locking bolt \(!\) in combination with the flanger arms \(\Lambda \Lambda_{\text {, }}\) substantially as described and for the purpose spicified.

\section*{No. 100,316. Air Brake Coupler.}

Joint de frcin à air.


Frank Hatfield Rutherford, Chicago, Illinols, U.S.A., 7th August, 1906; 6 years. Filed 19th July, 1906. Recelpt No. 137,962.
Claim.-1. An automatic coupler for air brakes comprising a longitudinally movable coupler head having a limited movement oblique to the line of draft, and a longitudinally reciprocal plunger normally pressing forward against the rear end of the said coupler head
2. An automatic coupler for air brakes comprising a longitudinally yielding coupler head having a limited movement oblique to the line of draft, a hanging supporting frame for said coupler in which the forward movement of said coupler head is limited, and a longitudinally reciprocal plunger norn:ally engaging and pressing forward against the rear end of said coupler head.
3. An automatic coupler for air brakes coinprising a longitudinally yielding coupler head having a limited movement oblique to the line of draft, a hanging supporting frame for said coupler in which the forward movement of said coupler head is limited, and a longitudinally reciprocal plunger nornially engaging and pressing forward against the rear end of said coupler head at a point back of said supporting frame.
4. An automatic coupler for air brakes comprising a longitudinally yielding coupler head winich is capable of a llmited movement oblique to the line of draft and having a transverse flange on its rear end, a hanging supporting irame having an opening therein through which said head is insfrted until the flanged end thereof engages said supporting frame, and a longitudinally reciprocal plunger normally rressing forward agalnst the rear end of said coupler head.
5. An automatic coupler for air brakes comprising a longitudinally movable coupler head having a limited movement oblique to the line of draft, and a longitudinally reciprocal Hunger having its forward end removably connected to and normally pressing forward agalnst the rear end of the said coupler head.
6. An automatic coupler for air brakes comprising a longitudinally ylelding coupler head having a limited movement oblique to the line of draft, a hanging supporting frame for caid coupler in which the forward movement of said coupler head is limited, and a longitudinally reciprocal plunger having its forward end removably connected to and normally engaging and pressing forward against the rear end of said coupler head.
7. An automatic coupler for air brakes comprising a longitudinally yielding coupler head having a limited movement cblique to the line of draft, a hanging supporting frame for said coupler in which the forward movement of said coupler head is limited, and a longitudinally reciprocal plunger hav ing its forward end removably connected to and normally engaging and pressing forward against the rear end of said coupler head at a point back of said supporting frame.
8. An automatic coupler for air brakes comprising a longitudinally yielding coupler head which is canable of a limited movement oblique to the line of draft and having a trans verse flange on its rear end, a hanging supporting frame
having an opening therein through which said head is inserted until the flanged end thereof engages said supporting frame, and a longitudinally reciprocal plunger having its forward end removably connected to and normally pressing forward against the rear end of said coupler head.
9. An automatic coupler for air brakes comprising a longitudinally yielding coupler head having a limited movement oblique to its line of draft, a longitudinally reciprocal plunger engaging the rear end of said coupler head and a spring normally pressing said plunger forward against said coupler.
10. An automatic coupler for air brakes comprising a longitudinally yielding coupler head having a limited movement oblique to the line of draft, a hanging supporting frame for said coupler in which the forward movement of said coupler head is limited, a longitudinally reciprocal plunger normally engaging and pressing forward against the rear end of said coupler head, and a spring normally thrusting said plunger forward.
11. An automatic coupler for air brakes comprising a longitudinally yielding coupler head having a limited movement oblique to the line of draft, a hanging supporting frame for said coupler in which the forward movement of said coupler head is limited, a longitudinally reciprocal plunger normally engaging and pressing forward against the rear end of said coupler head at a point back of said supporting frame, and a spring normally thrusting said plunger forward.
12. An automatic coupler for air brakes comprising a longitudinally yielding coupler head which is capable of a limited movement oblique to the line of draft and having a transverse flange on its rear end, a hanging supporting frame having an opening therein through which said head is inserted until the flanged end thereof engages said supporting frame, a longitudinally reciprocal plunger normally pressing forward against the rear end of said coupler head and a spring normally thrusting said plunger forward.
13. An automatic coupler for air brakes comprising a longitudinally movable coupler head having a limited movement oblique to the line of draft, a longitudinally reciprocal plunger having its forward end removably connected to and normally pressing forward against the rear end of the said coupler head, and a spring normally thrusting said plunger forward.
14. An automatic coupler for air brakes comprising a longitudinally yielding coupler head having a limited movement oblique to the line of draft, a hanging supporting frame for said coupler in which the formard movement of said coupler head is limited, a longitudinally reciprocal plunger having its forward end removably connected to and normally engaging and pressing forward against the rear end of said coupler head and a spring normally thrusting said plunger forward.
15. An automatic coupler for air brakes comprising a longitudinally movable coupler head having a limited movement oblique to the line of draft, a longitudinally reciprocal plunger normally pressing forward against the rear end of the said coupler head and a longitudinally reciprocal carrier tied to the car coupler by which said coupler body and plunger are sustained.
16. An automatic coupler for air brakes comprising a longitudinally yielding coupler head having a limited movement oblique to the line of draft, a hanging supporting frame for said coupler in which the forward movement of said coupler head is limited, a longitudinally reciprocal plunger normally engaging and pressing forward against the rear end of said coupler head and a longitudinally reciprocal carrier movably tied to the car coupler of the car which sustains said ccupler body, hanging supporting frame and plunger.
17. An automatic coupler for air brakes comprising a longitudinally movable coupler head having a limited movement oblique to the line of draft, a longitudinally reciprocal plunger having its forward end removably connected to and normally pressing forward against the rear end of the said coupler head, and a longitudinally reciprocal carrier suitably tied to the car coupler by which said coupler body and plunger are sustained.
18. An automatic coupler for air brakes comprising a longitudinally yielding coupler head having a limited movement oblique to the line of draft, a hanging supporting frame for said coupler in which the forward movement of said coupler head is limited, a longitudinally reciprocal plunger normally engaging and pressing forward against the rear end of said coupler head, a spring normally thrusting said plunger forward and a longitudinally reciprocal carrier suitably tied to the car coupler by which said coupler body and plunger are sustained.
19. An automatic coupler for air brakes comprising a coupler head having a longitudinally disposed passage extending rearwardly from the engaging face thereof and having a laterally elongated arched mouth.
20. An automatic coupler for air brakes comprising a coupler head having a longitudinally disposed passage extending rearwardly from the engaging face thereof and having a laterally elongated arched mouth and a gasket inserted in and conforming to the shape of said mouth.
21. An automatic coupler for air brakes comprising a coupler head having a longitudinally disposed passage extending rearwardly from the engaging face thereof and having a laterally elongated curved mouth both the upper and lower edges of which conform to the arc of the circle.
22. An automatic coupler for air brakes comprising a coupler head having a longitudinally disposed passage extending rearwardly from the engaging face thereof and having a laterally elongated curved mouth both the upper and lower edges of which conform to the arc of a circle and a gasket seated in and conforming in shape to the edges of said mouth.
23. An automatic coupler for air brakes comprising a coupler head having a longitudinally disposed passage extending rearwardly from the engaging face thereof and having a laterally elongated curved mouth both the upper and lower rabbeted edges of which conform to the arc of a circle and a gasket seated in and conforming in shape to the rabbeted edges of said mouth.
24. An automatic coupler for air brakes comprising a coupler head having a longitudinally disposed passage extending rearwardly and obliquely from the engaging face thereof, a stub projecting from the longitudinal side of said coupler with the bore of which said passage connects, and the bore of an emergency passage communicating with said stub at an angle to the axis of said passage and a valve at the point of intersection of said emergency passage.
25. An automatic coupler for air brakes comprising a coupler head having a longitudinally disposed passage extending rearwardly and obliquely from the engaging face to the longitudinal side of the same, an emergency passage tapping said first-mentioned passage at a suitable angle, and a suitable two-way valve at the point of intersection of said passages.
26. An automatic coupler for air brakes comprising a coupler head having a longitudinally disposed passage extending rearwardly and obliquely from the engaging face to the longitudinal side of the same, an emergency passage tapping said first-mentioned passage at a suitable angle, and a suitable two-way valve at the point of intersection of said passage whose axis is transverse to said coupler head.
27. An automatic coupler for air brakes comprising a coupler head having a longitudinally disposed passage extending rearwardly and obliquely from the engaging face to the longitudinal side of the same, an emergency passage tapping said first-mentioned passage at a suitable angle, a suitable two-way valve at the point of intersection of said passage whose axis is transverse to said coupler head and a spindle therefor extending transversely through said body and having means on its extremity for turning it.
28. An automatic coupler for air brakes comprising a coupler head having a plurality of longitudinally disposed passages extending rearwardly from the engaging face thereof and having laterally elongated arched mouths.
29. An automatic coupler for air brakes comprising a coupler head having a plurality of longitudinally disposed rassages extending rearwardly from the engaging face thereof and having laterally elongated arched mouths and a gasket inserted in and conforming to the shape of each mouth.
30. An automatic coupler for air brakes comprising a coupler head having a plurality of longitudinally disposed passages extending rearwardly from the engaging face thereof and having laterally elongated curved mouths both the upper and lower edges of which conform to the arc of a circle.
31. An automatic coupler for air brakes comprising a coupler head having a plurality of longitudinally disposed passages the mouths of which in the engaging face of the coupler are arranged one above the other end and are elongated laterally and conform in curvature to the arc of a circle.
32. An automatic coupler for car brakes comprising a coupler head having a plurality of longitudinally disposed passages arranged one above the other and extending rearwardly and obliquely from the engaging face of the coupler, some of which passages are deflected to one side and some to the other.
33. An automatic coupler for air brakes comprising a coupler head having a plurality of longitudinally disposed passages arranged one above the other and extending rearwardly and obliquely from the engaging face of the coupler, some of which passages are deflected to one side and some to the other, emergency passages extending at an angle into said first-mentioned passages and transverse valves intersecting the point of intersection of said passages.
34. An automatic coupler for car brakes comprising a coupler head having a plurality of longitudinally disposed passages arranged one above the other and extending rearwardly and obliquely from the engaging face of the coupler, some of which passages are deflected to one side and some to the other, emergency passages extending at an angle into said first-mentioned passages and transverse valves intersecting the points of intersection of said passages and
spindles extending transversely through said coupler head beyond the sides thereof and means for turning said spindles.
35. An automatic coupler for car brakes comprising a coupler head having a plurality of longitudinally disposed passages of unequal length arranged one above the other and extending rearwardly and obliquely from the engaging face of the coupler, some of which passages are deflected to one side and some to the other.
36. An automatic coupler for car brakes comprising a coupler head having a plurality of longitudinally disposed passages of unequal length arranged one above the other and extending rearwardly and obliquely from the engaging face of the coupler, some of which passages are deflected to one side and some to the other, emergency passages extending at an angle into said first-mentioned passages and transverse valves intersecting the point of intersection of said passages.
37. An automatic coupler for car brakes comprising a coupler head having a plurality of longitudinally disposed passages of unequal length arranged one above the other and extending rearwardly and obliquely from the engaging face of the coupler, some of which passages are deflected to one side and some to the other, emergency passages extending at an angle into said first-mentioned passages and transverse valves intersecting the points of intersection of said passages and spindles extending transversely through said coupler head and beyond the sides thereof and means for truning said spindles.
38. An automatic train pipe coupler for cars, having a flat engaging face, a portion of which is depressed, longitudinally disposed passages extending from the depressed surface of said engaging face, and gaskets for the mouths of said passages secured in place by said plate.
39. An automatic train pipe coupler for cars, having a flat engaging face, a portion of which is depressed, longitudinally disposed passages having rabbeted mouths and extending from the depressed surface of said engaging face, and gaskets for the rabbetted mouths of said passages secured in place by said plate.
40. An automatic train pipe coupler having a flat engaging face, longitudinally disposed passages extending back from said engaging faces, gaskets for the mouths of said passages, and means for retaining said gaskets in place.
41. An automatic train pipe coupling having a flat engaging face, and having a longitudinal passage extending back from said engaging lace, a gasket for the mouth of said passage, and a spring for holding the gasket in place.
42. An automatic train pipe coupling having a flat engaging face, and having a longitudinal passage extending back from said engaging face, a gasket for the mouth of said passage, and an M-shaped spring for holding the gasket in place.

No. 100,317. Fluid Brake. Frein à fluide.


Richard Dulany Whiting, New York City, New York, U.S.A.e 7th August, 1906; 6 years. Filed 14th July, 1906. Receipt No. 137,834 .
Claim.-1. In an air brake system means for the application of continuous normal pressures and intermittont excessive pressures.
2. In an air brake system means for applying a continuous and normal pressure and means for automatically applying and relieving excessive pressures.
3. In a fluid brake means for applying a constant and predetermined pressure upon the brake shoe, means for determining the amount of said predetermined pressure, and means for providing a pressure in excess of said amount and which when employed is applied with an automatic intermittent action.
4. In a fluid brake the combination of means for applying normal or predetermined brake shoe pressures, means for
applying excess pressures and means for automatically relieving said excess pressures, as and for the purposes sot forth.
5. In a fluid brake the combination of means for applying normal or predetermined brake shoe pressures, means for intermittently applying excess and relieving pressures and means for adjusting the point of entrance of the relleving pressures, as and for the purposes set forth.
6. In a fluid brake the combination of means for applying normal or predetermined brake shoe pressures, means for applying excess pressures, means for applying relleving pressures and means for automatically maintaining normal and predetermined pressures and the intermittent excess pressures at the same time, as and for the purposes set forth.
7. In a fluid brake the combination of means for applying normal or predetermined brake shoe pressures and means for applying intermittent excess pressures at the same time, with means for intermittently relleving sald excess pressures, and means for adjusting the point of entrance of said intermittent relleving pressure, as and for the purpose set forth.
8. In an air brake having an air brake cylinder the combination of means for applying normal or intermittent and excessive brake shoe pressures, means for applying intermittent counter pressures, and means for exhausting said counter pressures, as and for the purposes sct forth.
9. In an air brake the combination of a brake cylinder arranged to receive and transmit normal and excessive brake shoe pressures upon one side of the piston or diaphragm, means for applying relieving pressures upon the opposite side of the piston or diaphragm and means for intermittently exhausting said relieving pressures and re-applying the excess pressures, as and for the purposes set forth.
10. In an air brake the combination of a brake cylinder adapted to receive and transmit normal and excessive brake shoe pressures at one end and counter or relieving pressures at its other end, and means during the continuance of the excess pressure of maintaining an intermittent counter pressure in said cylinder, and means for exhausting the counter pressure, as set forth.
11. In an air brake the combination of a brake cylinder adapted to receive and transmit normal and excessive brake shoe pressures at one end, and relieving pressures at itd other end, means for conveying said air pressures and means for intermittently exhausting the relieving pressure independent of the other pressures, as and for the purposes sei forth.
12. In an air brake the combination of the brake cylinder and a source of air pressure supply, connections from said source of supply to both ends of said cylinder, means upon the forward connection for Introducing normal and excessive pressures and means upon the rear connection for introducing and exhausting by an intermittent action a relieving or countervailing pressure, substantially as and for the purposes set forth.
13. In an air brake the combination of the brake cylinder and a source of air pressure supply, connections from said source of supply to opposite sides of the piston or diaphragm, means for introducing normal and excessive pressures upon one side of said piston and relieving pressures upon the other side with an oscillator and exhaust for effecting an intermittent action in said relief, substantially as and for the purposes set forth.
14. In an air brake the combination of a brake cylinder, a source of air pressure supply, connections from the said source of supply to both the forward end and the rear end of the cylinder, a relief valve in the rear ead connection, and means in said connection between the relieving valve and the rear end of the cylinder for providing an intermittent action of the relieving pressures, as and for the purfoses set forth.
15. In an air brake the combination of a brake cylinder, a source of air pressure supply, connections from the said source of supply to both the forward end and the rear ond of the said cylinder, a rellef valve in the rear end connection. and means in said connection between relieving valve and the rear end of the cylinder for providing an intermittent action to the relieving pressures, sald means consisting of reducing valve, an oscillator, a cut-off valve, and an exhaust, all arranged substantlally as and for the purposes set forth.

\section*{No. 100,318. Boz. Boite.}

Jonathan B. Climo, Detrolt, Michigan, U.S.A., 7th August. 1906; 6 years. Filed 7th July, 1906. Recetpt No. 137,602.
C'laim.-1. A box consisting of a circular bottom, hoops and sides formed of two or more sections of veneer having overlapping edges and with the grain of the wooa running longitudinally of the box.
2. A box consisting of a circular bottom, an outside bottom hoop, sldes formed of sections of thin material with
overlapping edges and with the lower ends of the sections claimed betwen the edge of the bottom and said hoop, and

an outer hoop secured to said sections near their upper ends.
3. A cheese box consisting of a circular bottom, an outside bottom hoop of greater diameter than the diameter of said bottom, a body formed of curved sections with their edges overlapping and their lower ends clamped between the bottom hoop and the edge of said bottom, nails or rivets for securing the overlapping edges together, an outside top hoop secured to the body at a distance from its upper edge, and a top having a rim to receive the upper end of the body and engage the top hoop.
4. The combination with sections of thin material adapted to form the body of a circular box, of a curved seat for sald sections adapted to give said sections the desired form when placed therein.
5. The combination with sections of thin material adapted to form the body of a cheese box, of a rack for said sections having a curved seat the radius of which is equal to that of the radius of the box, the body of which the sections are designed to form.
6. The combination with veneer sections the grain of which extends longitudinally thereof and which are adapted to form the body of a cheese box, of a rack having a base formed with a curved seat into which said sections are adapted to be laid to give the same the desired curve, and standards extending upward from the base to engage the edges of the veneer sections and hold the same in place.

No. 100,319. Elevator. Elévateur.


Augustus Danlel Gable and John Brickley, co-inventors, both of Shenandoah, Pennsylvania, U.S.A., 7th August. 1906; 6 years. Filed 12th July, 1906. Recelpt No. 137,741.
Claim.-A safety device for elevators comprising a suitable cab or cage, spring actuating rotatable shafts, pulleys upon said shafts between the side walls of the cab or cage, flexible connections engaging the pulleys, pulleys upon the outer ends of the shafts, grooved cam brackets arranged in vertical pairs upon each side of the walls of the cab or cage, clutches arranged in pairs at the upper and lower ends of the cab or cage upon both sides thereof, each pair of said clutches being connected with each other and the several pairs to the pulleys upon the ends of the rotatable shafts whereby the clutches will operate simultaneously, substantially as and for the purpose set forth.

No. 100,320. Mould for Concrete. Moule pour beton.


Paul T. C. Dumais, Hull, Quebec, Canada, 7th August, 1906; 6 years. Filed 16th May, 1906. Receipt No. 135,965.
Claim.-1. In a mould for concrete construction the combination comprising side plates, bolts adapted to secure the side plates together, and sleeves disposed on the bolts intermediate of the side plates.
2. In a mould for concrete construction the combination comprising side plates, bolts adapted to secure the side plates together, and sleeves of tarred paper disposed on the bolts intermediate of the side plates.
3. In a mould for concrete construction the combination comprising an end section, composed of plates adjustably held together, end plates secured on said plates, and side sections comprising plates having curved ends adapted to engage said end plates.
4. In a mould for concrete construction the combination comprising end sections composed of side walls adjustably held together, reinforcing strips secured to the side walls and provided with recesses, and end plates disposed in the recesses and secured to the side walls, and side sections comprising side walls having curved ends adapted to engage said end plates.

No. 100,321. Station Indicator.

\section*{Indicateur de station.}


Jock Bedell Henderson and Jock Lee Henderson, both of Williamstown, West Virginia, U.S.A., 7th August, 1906; 6 years. Filed 11th July, 1906. Recejpt No. 137,702.
Claim.- 1 . A station indicator comprising spring wound drums, a belt having its ends secured to said drums, a drum intermediate said drums, and over which said belt passes, means carried by said intermediate drum for driving the belt, a worm gear carried by said drum, a shaft adjacent said worm gear, a worm gear carried by said shaft and meshing with the worm gear, a large bevelled gear adjacent the opposite end of said shafts. bevelled gears rotatably mounted upon said shaft and meshing with opposite sides of said bevelled gear and held against longitudinal movement upon the shaft, a clutch slidably mounted on said shaft between the gears and held against rotation, said clutch having a reduced central portion and an intermediately pivoted lever having its upper end bifurcated and resting in said reduced central portion of the clutch, means for holding the lower end of said lever in its adjusted position, the outer periphery of said large bevelled gear having ratchet teeth. a lever pivoted on the shaft of said large gear, a pawl carried by the lever and normally held in engagement with the ratchet teeth carried by the large bevelled gear and means for normally holding the lever in an upward position.
2. A station indicator comprising a belt, a drum over which said belt passes, a worm gear carried by said drum, a worm meshing with said worm gear, and adapted to drive the worm gear in either direction, and means carried by the opposite end of the drum for rotating it in either direction independent of the worm, the pitch of the worm and worm gear being such that the worm'can be driven by said worm gear.
3. A station indicator comprising a belt, a drum over which said belt passes, a worm gear carried by said drum, a worm meshing with said worm gear and adapted to drive the worm gear, means carried by the drum for rotating the same, and the pitch of the worm and worm gear being such that the worm can be driven by the worm gear, a shaft carried by the worm and a lever adapted to indirectly operate said shaft in either direction, whereby the drum may be driven in either direction.
4. A station indicator comprising a belt, a drum over which sald belt passes, a worm gear carried by one end of said drum, a worm meshing with sald worm gear, and adapted to drive the worm gear in either direction, a shaft carried by the opposite end of said carrying worm gear, and having its outer end squared to receive a key for rotating the drum in either direction, and the pitch of the worm and worm gear being such that the worm can be driven by said worm gear.

No. 100,322. Underwaist. Transparent.


Edward Henry Horwood, Hoboken, New Jersey, U.S.A., 7th August, 1906; 6 years. Filed 14th July, 1906. Recelpt No. 137,835.
Claim.-An underwaist comprising a back and front formed of two sections, and side sections, each side section being formed of outer subsections and an intermediate subsection, each outer subsection being formed of duplicate members having duplicate extenslons to constitute shoulder straps and the sides and lower side portions of the armholes, the intermediate subsections being formed of a single member whose upper edge constitutes the armpit edge of an armhole, the said single subsection extending otherwise the length of the outer subsections, the outer subsections of the side sections having their body extensions stitched together and their opposite longitudinal edges stltched to the intermediate subsections, the said side sections being also stitched directly to the back and front sections, whereby to reinforce the armhole and side portions of the garment below the armholes and provide for a thin portion beneath the armpit sections of the armholes and corresponding portions of the sides of the garment, for the purpose set forth, said thin portions of the side sections of the garment belng between the reinforced portions.

\section*{No. 100,323. Hydro-Carbon Burner. Bruleur d hydro-carbure.}

John Atkinson Hunt, Boston. Massachusetts, U.S.A., 7th August, 1906; 6 years. Filed 16th July, 1906. Receipt No. 137,867.
Claim.-1. A hydro-carbon burner comprising comparatively parallel tubes of relatively small diameter, a relatively larger mixing chamber to which said tubes are connected, both tubes entering the same end of sald chamber, a vapour discharge tube extending from sald mixing chamber on the same side as and below the point of entry of said parallel tubes, and oil and water connections for said tubes.
2. A hydro-carbon burner comprising comparatively parallel tubes of relatively small diameter, a relatively larger mixing chamber to which said tubes are connected, both tubes entering the same end of said chamber, a second
pair of comparatively parallel tubes lying about said firstmentioned tubes and connected thereto at one end, sald

tubes at their opposite end passing over the top of said mixing chamber, a vapour discharge tube extending from said mixing chamber on the same side as and below the point of entry of said parallel tubes, and oil and water connections for said tubes.
3. A hydro-carbon burner comprising comparatively parallel tubes of relatively small diameter, a relatively larger mixing chamber to which said tubes are connected, both tubes entering the same end of said chamber, a second pair of tubes substantially parallel located above said firstmentioned tubes and connected at one end therewith, said last-mentioned tubes passing over the top of said mixing chember, a vapour discharge extending from said mixing chamber near its bottom on the same side as and below the point of entry of said parallel tubes, and oll and water connections for said tubes.
4. A hydro-carbon burner comprising comparatively parrallel tubes of relatively small diameter, a relatively larger mixing chamber, said tubes being connected to said chamber and entering the same at the same end, a second pair of relatively parallel tubes lying above said first-mentioned tubes and connected thereto at one end and at their opposite end passing over said mixing chamber, a shallow pan in which said burner stands, a vayour discharge tube extending from said mixing chamber near its bottom on the same side as the point of entry of said tubes, a drain vent in said burner, and oil and water connections for said tubes.
5. In a hydro-carbon burner, a source of supply, a feeder consisting of a chamber connecting with the vapourizing pipes, and a valve controlled gravity feed connecting said feeder with sald source of supply.
6. In a hydro-carbon burner, a source of supply, a feeder consisting of a transparent chamber connecting with the vapourizing pipes, and a valve controlled gravity feed connecting said feeder with said source of supply.
7. In a hydro-carbon burner, oll and water vapourizing tubes each having a plurality of turns, each turn being slightly staggered from the vertical alternately in opposite directions.
8. In a hydro-carbon burner having oil and water vapourizers. a chamber having substantially sloping surfaces disposed in opposite directions on its upper side, and similarly disposed turns in said vapourizers adjacent to said surfaces.

No. 100,324. Teapot. Théicre.


William Boyd Irwin, Peterboro, Ontario, Canada, 7th August, 1906; 6 years. Filed 5th July, 1906. Receipt Nos. 134,820 and 137,549 .
Claim.-The combination in a teaput, of a perforated cylinder, piston and piston rod, all substantially as set forth.

No. 100,325. Loader. Chargeur.


Le Grand Kniffin, Chicago, Illinois, U.S.A., 7th August, 1906; 6 years. Filed 12th July, 1906. Receipt No. 137,746.
Claim.-1. The combination with a wheeled axle, of two upwardly extending bars mounted thereon and spaced apart, a chute located between the upwardly extending bars, and means on the upwardly extending bars and chute to elevate the latter.
2. The combination with a wheeled axle, of a chute adapted to be elevated therefrom to an inclined position and having in its upper end an opening, of stops or bearings on the upper portion of the chute, and a carrier adapted to travel thereon and having bearings or stops to engage those of the chute, whereby the carrier will be partially rotated or tilted to discharge its load through said opening and its further progress prevented.
3. The combination with a wheeled axle, of a chute mounted thereon between the wheels and having near one of its ends an opening between its sides, stops or bearings on the upper portion of the chute, means to elevate the same from the axle, a carrier adapted to travel thereon and having stops or bearings to engage those on the chute, whereby the carrier will be partially rotated or tilted to discharge its load through said opening and its further progress prevented.
4. The combination with a wheeled axle, of a chute mounted thereon between the wheels and having near one of its ends an opening between its sides, stops or bearings on the upper portion of the chute, means to elevate the same from the axle, a carrier having stops or bearings to engage those on the chute, and means to cause the carrier to travel on the chute and to be tilted when the bearings of the carrier engage those of the chute, substantially as described.
5 . The combination with a wheeled axle, of a chute mounted thereon between the wheels and having near one of its ends an opening between its sides, stops or bearings on the upper portion of the chute, means to elevate the same from the axle, a crosspiece at the upper end of said opening, a carrier adapted to travel thereon and having stops or bearings to engage those on the chute, whereby the carrier in its movement will be partially rotated or tilted to discharge its load through said opening and its further progress prevented, substantially as described.
6. The combination with a wheeled axle, of two upwardly extending bars mounted thereon and spaced apart, a chute lceated between the upwardly extending bars, brace bars pivotally secured at one of their ends to one portion of the chute and at their other ends to the axle, and means on said bars and chute to elevate the latter.
7. The combination with a chute adapted to be elevated to an inclined position and having in its upper portion an opening, of curved stops or bearings on the upper portion of the chute, and a carrier adapted to travel thereon and having laterally projecting bearings or stops to engage those of the chute, whereby the carrier will be partially rotated or tilted to discharge its load through said opening and its further progress prevented.
8. The combination with a wheeled chute having in fits upper end an opening, of means to elevate the same, curved stops or bearings on the upper portion of the chute, thes openings of said stops being presented toward the lower portion of the chute, an upwardly extending crosspiece at the upper end of the chute, and a carrier adapted to travel on the chute and having laterally projecting bearings or stops to engage those of the chute, whereby the carrier will be partially rotated or tilted to discharge is load through said opening and its further progress and rotation will be prevented.
9. The combination with a wheeled axle, of a chute mounted thereon, means to elevate the latter from the axle, and a pair of downwardly extending and spaced apart projections stcured to each side of the upper portion of the chute to engage one side of the wagon body, substantially as described.
10. The combination with a wheeled axle, of a chute mounted thereon, means to elevate the latter from the axle, a pair of downwardly extending and spaced apart projections lacated at each side of the chute, and a block swivelled on the lower surface of the bottom of the chute near each pair of said projections, substantially as described.
11. The combination with a wheeled axle, of two upwardly extending bars mounted thereon and spaced apart, a crosstar uniting said upwardly extending bars, a chute located between the upwardly extending bars and normally resting co the said crossbar and loosely connected to the axle, and means on the upwardly extending bars and chute to elevate the latter, substantially as described.
12. The combination with a wheeled axle, of two upwardly extending bars mounted thereon and spaced apart, one of said bars being provided with a rack, a crossbar uniting said upwardly extending bars, a chute located between the upwardly extending bars and normally resting on the said crossbar and loosely connected to the axle, a pinion jourralled on the chute to engage the rack on one of the upwardly extending bars, and means to turn said pinion, substantially as described.
13. The combination with a wheeled axle, of two upwardly extending rack bars mounted thereon and spaced apart, a cıossbar uniting said rack bars, a chute located between the rack bars and normally resting on the crossbar and loosely connected to the axle, pinions journalled on the sides of the chute to engage the rack bars, means to rotate said pinions, and an anti-friction roller journalled on each side of the chute near the rack bars, substantially as described.
14. The combination with a wheeled axle, of two upwardly €xtending rack bars mounted thereon and spaced apart, a crossbar uniting the rack bars, a chute located between the rack bars, brace bars pivotally secured at one of their ends to the rear portion of the chute and at their other ends oo the axle, pinions journalled on each side of the chute to engage the rack bars, means to rotate the pinions', and an anti-friction roller journalled on each side of the chute near the rack bars, substantially as described.
15. The combination with a wheeled axle, of two upwardly extending bars mounted thereon and spaced apart, a chute lecated between said bars and having near one of its ends ar opening between its sides, curved stops or bearings on the upper portion of the chute at each of its sides, means on the upwardly extending bars and chute to elevate the latter, Vrace bars pivotally secured at one of their ends to one portion of the chute and at their other ends to the axle, a carr:er adapted to travel on the chute and having laterally projecting bearings or stops on its sides to engage those of the chute whereby the carrier will be partially rotated or tilted to discharge its load through said opening and its further progress prevented.
16. The combination with a wheeled axle, of two upwardly extending bars mounted thereon and spaced apart, one of said bars being provided with a rack, a chute located between the upwardly extending bars, a stop or bearing on the upper portion at each side of the chute, brace bars pivotally secured at one of their ends to the rear portion of the chute and at their other ends to the axle, a pinion journalled on the chute to engage the rack on one of the upwardly extending bars, and a carrier adapted to travel on the chute and having stops or bearings to engage those of the chute whereby the carrier will be partially rotated or tilted to discharge its load and its further progress prevented.

No. 100,326. Shirt. Chemise.
Nilton Paul Magly. Cincinnati, Ohio, U.S.A., 7th August, 1906; 6 years. Filed 16th July, 1905. Receipt No. 137,849.
Claim.-1. A shirt having a bosom portion formed from soft and thin material and provided with a front slit or opening extended down said bosom portion and provided with fastening devices, the upper part of said bosom portion being provided upon its outer side with stiffened or thickened parts extended around the neck of the shirt and upon the shoulder portions thereof and having their sides extended from said shoulder portions of the shirt downward to the edges of said front slit or opening with their lower ends above the fastening devices for said slit or opening, substantially as set forth.
2. A shirt having a bosom portion formed from soft and thin material and provided with a front slit or opening extended down said bosom portion and provided with fastening devices, one edge of said slit or opening being provided with a facing strip or reinforce, and the upper part of said bosom portion being provided upon its outer side with stiffened or thickened parts extended around the neck of the shirt and
upon the shoulder portions thereof and having their sides extended from said shoulder portions downward and diagon-

ally toward each other and to the edges of said front slit or opening with their lower ends above the fastening devices for said slit or opening, substantially as set forth.

No. 100,327. Earrow. Herse.


Hiram Rowan, Livermore, Kentuckey. U.S.A., 7 th August,
1906; 6 years. Filed 17th July, 1906. Receipt No. 137,921
Claim.-In a harrow the combination with a draft beam, of a pair of front and rear harrow bars at each side of the beam and loosely trailing therefrom, each pair of bars having corresponding upright perforations in the top thereof, substantially U-shaped links having their sides loosely and removably received in the respective openings to maintain the bars spaced, and an adjustable spacing ionnection between the rear bars

No. 100,328. Clothes Drainer. I'ordeuse.


Franklin Plerce Sager, Maplewood, Ohio, U.S.A., 7th August, 1306; 6 years. Field 16th July, 1906. Receipt No. 137.863
claim.-The combination with a wash boller having handles at its ends, of a perforated receptacle within the boiler, provided with bails, a lever having a hook at one end for en-
gaging the bails of the receptacle, a fulcrum bar plvoted to the lever intermediate of its ends, said bar having a fork end formed of three members for engaging the upper edge of the boiler, and a rod pivoted to the lever at one side of the fulcrum bar, and having a hook at its end adapted to one of the handles of the boiler, substantially as shown and described.
No. 100,329. Stocking. Has.


George Sturgess, Mablethorpe, Lincolnshire, England, 7th August, 1906; 6 years. Filed 18th July, 1906. Receipt No. 137,934
Claim.-1. The method of knitting a patterned or shaped seamless fabric consisting in knitting a circular course of loops from which a wale or wales are omitted with their end loops suspended from their needles so that they may be drawn from the cast off course and linked to neighbouring loops of a succeeding circular course whereby the braking strain imposed upon the thread, by the action of transferring is reduced.
2. The method of knitting a patterned or shaped seamless fabric consisting in suspending a wale or wales of loops while a shorter course or courses are knitted and then transferring the suspended wales to neighbouring wales of a sucreeding course of loops.
3. A seamless hose having the leg and foot patterned in wales of plain and wales of ribbed loops in which all the ribbed wales are fashioned out or withdrawn leaving terminating courses built up of plain loops only.
4. A seamless knitted fabric in which loop wales are linked to neighbouring loop wales the transferred loop of which is crossed by a miss-stich bar of thread, of an intervening course built up of fewer loops and consequently of a shorter circle of thread than the course from which loops have been transferred.
5. A seamless knitted fabric having a loop wale of one circular course of loops carried across and linked to a loop wale, of another circular course of loops on the other side of an intervening circular course of loops.
6. A stocking having an clastic garter band or bands mor closely knitted and of a narrower pattern of rib than the fabric. of which the leg is comprised, to make it self-sup porting.
7. A stocking having two elastic garter bands more closely knitted and of a narrow or pattern of rib the fabric of which the leg is comprised, so that in wear the bands roll over cach other and make it self-supporting.

No. 100,330. Washing Machine. Machine d laver


Martin L. Winegarden, Corralltos, California. U.S.A., 7th August. 1906; 6 years. Filed 16th July, 1906. Receipt No. 137.861.
Claim.--1. A washing machine comprising a tub. opposed rubbers at the ends of the tub, dashers intermediate of the
rubbers having oppositely disposed extending overlapping portions, and oscillating arms having flared lower ends and pivotally mounted at an intermediate point to the tub, said arms having pintles upon which the extended portions of the dashers are pivotally connected.
2. A washing machine comprising a tub, opposed substantially vertical rubbers hinged at the end portions of the tub, oppositely facing dashers located between the rubbers having oppositely disposed extending overlapping portions, and oscillating arms having flared lower ends and pivotally mounted at an intermediate point to the tub, said arms having pintles upon which the extremitles of the extended portlons of the dashers are pivotally connected, said dashers having stepped surfaces opposing corresponding surfaces on the rubbers.
3. A washing machine comprising a tub, opposed substantially vertical rubbers in the ends of the tub, said rubbers being pivoted at their upper ends and being spring pressed at the lower portions, oppositely facing dashers located between the rubbers having oppositely disposed extending overlapping portions, and oscillating arms having flared lower ends and pivotally mounted at an intermediate point to the tub, said arms having pintles upon which the extremities of the extended portions of the dashers are pivotally connected, said dashers and rubbers each comprising end casting and connecting slats forming a stepped surface.

No. 100,331. Windlass. Treuil.


Jasper A. Woodworth, Jackson, Michigan, U.S.A., 7th August, 1906; 6 years. Filed 17th July, 1906. Receipt No. 137,918.
Claim.-1. In a windlass, the combination of a supporting frame, runners or shoes therefor, a scraper in the bottom of said frame, a transversely arranged axle, a driving wheel. having a groove in the periphery thereof, mounted on said axle, winding drums on the axle to each side of said whecls. a driving cable for said driving wheel, a guide for said cable supported on said frame opposite said wheel, a draft chain. an anchor chain, means for detachably connecting said chains, a tackle consisting of a pulley block F having a sheave \(f\) on its rear end and a pair of sheaves \(f^{1}\) at the sides thereof, a pulley block \(G\) having sheaves \(g\) and \(g^{1}\) arranged in pairs at the sides thereof, a tackle cable \(L\) passed over said sheave \(f\) of the block \(F\), thence rearwardly over the sheaves \(g^{1}\) of the block \(G\), thence forwardly over the sheaves \(f^{1}\) of the block F, thence rearwardly over the sheaves \(g\) of the block \(G\), and thence forwardly to the winding drums at each side of the driving wheel, said pulley blocks being of a greater width than said wheel, and a vertical guide roller arranged or said frame opposite said driving wheel to prevent the tackle cables from being drawn across the edges of said wheel, all co-acting for the purpose specified.
2. In a windlass, the combination of a supporting frame, runners or shoes therefor, a scraper in the bottom of said frame, a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle, winding drums on the axle to each side of said wheel, a draft chain, an anchor chain, means for detachably connecting said chains, a tackle consisting of a pulley block \(F\) having a sheave \(t\) on its rear end and a pair of sheaves \(f^{1}\) at the sides thereof, a pulley block \(G\) having sheaves \(g\) and \(g^{1}\) arranged in pairs at the sides thereof, a tackle cable L passed over sald sheave \(f\) of the block \(F\), thence rearwardly over the sheaves \(g^{1}\) of the block \(G\), thence forwardly over the sheaves \(f^{2}\) of the block \(F\), thence rearwardly over the sheaves \(y\) of the block \(G\), and thence forwardly to the winding drums at each side of the driving wheel, said pulley blocks being of a greater width than said wheel, and a vertical guide roller aranged on said frame opposite said driving wheel to prevent the tackle cables from being drawn across the edges of sald wheel, all co-acting for the purpose specified.
3. In a windlass, the combination of a supporting frame, runners or shoes therefor, a scraper in the bottom of said frame, a transversely arranged axle, a driving wheel having a groove in the perlphery thereof, mounted on said axle, winding drums on the axle to each side of said wheel, a driving cable for said driving wheel, a guide for said cable supported on said frame opposite said wheel, a draft chain, an anchor chain, means for detachably connecting said chains, a tackle consisting of a pulley block \(F\) having a sheave \(f\) on its rear end and a pair of sheaves \(f^{1}\) at the sides thereof, a l, ulley block \(G\) having sheaves \(g\) and \(g^{1}\) arranged in pairs at the sides thereof, and a tackle cable \(L\) passed over said sheave \(f\) of the block \(F\), thence rearwardly over the sheaves \(g^{1}\) of the block G, thence forwardly over the sheaves \(f^{1}\) of the block G, thence forwardly over the sheaves \(f\) of the block \(F\), thence rearwardly over the sheaves \(g\) of the block G. and thence forwardly to the winding drums at each side or the driving wheel, said pulley block being of a greater width than said wheel, all co-acting for the purpose specified.
4. In a windlass, the combination of a supporting frame. runners or shoes therefor, a scraper in the bottom of said frame, a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle, winding drums on the axle to each side of said wheel, a driving cable for said driving wheel, a draft chain, an anchor chain, means for detachably connecting said chains. a tackle consisting of a pulley block \(F\) having a sheave \(f\) on its rear end and a pair of sheaves \(f^{1}\) at the sides thereof, a pulley block \(G\) having sheaves \(g\) and \(g^{1}\) arranged in pairs at the sides thereof, and a tackle cable \(L\) passed over sald sheave \(f\) of the block \(F\), thence rearwardly over the sheaves \(g\) of the block \(G\), thence forwardly over the sheaves \(f\) of the block \(F\), thence rearwardly over the sheaving \(g\) of the block \(G\), and thence forwardly to the winding drums at each side of the driving wheel, said pulley blocks being of a greater width than said wheel, all co-acting for the purpose specifled.
5. In a windlass, the combination of a supporting frame, runners or shoes therefor, a transversely arranged axle. a driving wheel having a groove in the periphery thereof mounted on said axle, winding drums on the axle to each side of said wheel, a driving cable for said driving wheel, a guide for said cable supported on said frame opposite said wheel, a draft chain. an anchor chain, means for detachably connecting said chains, a tackle consisting of a pulley block \(F\) having a sheave \(f\) on its rear end and a pair of sheaves \(f^{2}\) at the sides thereof, a pulley block G having sheaves \(g\) and \(\sigma^{\prime}\) arranged in pairs at the sides thereof, a tackle cable \(L\) passed over the said sheave \(f\) of the block \(G\), thence rearwardly over the sheaves \(g^{1}\) of the block \(G\), thence forwardly over the sheaves \(f^{1}\) of the block \(F\), thence rearwardly over the sheaves \(g\) of the block G. and thence forwardly to the winding drums at each side of the driving wheel, said pulley blocks being of a greater width than said wheel, and a vertical guide roller arranged on said frame opposite said driving wheel to prevent the tackle cables from Deing drawn across the edges of said wheel, all co-acting for the purpose specified.
6. In a windlass, the combination of a supporting frame. runners or shoes therefor, a transversely arranged axle, a driving wheel, having a groove in the periphery thereof, mounted on said axle, a driving cable for said driving wheel, a draft chain, an anchor chain, means for detachably connecting said chains, a tackle consisting of a pulley block \(F\) having a sheave \(f\) on its rear end and a pair of sheaves \(f^{1}\) at the sides thereof, a pulley block \(G\) having sheaves \(g\) and \(g^{1}\) arranged in pairs at the sides thereof, a tackle cable \(L\) passed over said sheave \(f\) of the block \(F\), thence rearwardly over the sheaves \(g^{1}\) of the block \(G\), thence forwardly over the sheaves \(f^{1}\) of the block \(F\), thence rearwardly over the sheaves a of the block \(G\), and thence forwardly to the winding drums at each side of the driving wheel, said pulley blocks belng of a greater width than said wheel, and a vertical guide roller arranged on said frame opposite said driving wheel to prevent the tackle cables from being drawn across the edges of said wheel, all co-acting for the purpose specified.
7. In a vindlass, the combination of a supporting frame, runners or shoes therefor, a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle, winding drums on the axle to each side of said wheel, a driving cable for said driving wheel, a Guide for said cable supported on said frame opposite said wheel, a draft chain, an anchor chain, means for detachably connecting said chains, a tackle consisting of a pulley block F , having a sheave \(f\) on its rear end and a pair of sheaves \(f\) ' at the sides thereof, a pulley block \(G\) having sheaves \(g\) and \(?^{1}\) arranged in pairs at the sides thereof, and a tackle cable passed over said sheave \(f\) of the block \(F\), thence rearWardly over the sheaves \(g^{1}\) of the block \(G\), thence forwardly over the sheaves \(f^{1}\) of the block \(F\), thence rearwardly over the sheaves ! of the block G, and thence forwardly to the winding drums at each side of the driving wheel, said pulley
blocks being of a greater width than said wheel, all co-acting for the purpose specified.
8. In a windlass the combination of a supporting frame, runners or shoes therefor, a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle, winding drums on the axle to each side of said wheel, a driving cable for sald driving wheel, a draft chain, an anchor chain, means for detachably connecting said chains, a tackle consisting of a pulley block \(F\) having a sheave \(f\) on its rear end and a pair of sheaves \(f^{1}\) at the sides therof, a phlley block \(G\) having sheaves \(g\) and \(g^{1}\) arranged in pairs at the sides thereof, and a tackle cable L, passed over sald sheave \(f\) of the block \(F\), thence rearwardly over the sheaves \(g^{1}\) of the block \(G\), thence forwardly over the sheaves \(g\) of the block \(G\), and thence forwardly to the winding drums at each side of the driving wheel, sald pulley blocks being of a greater width than said wheel, all ro-acting for the purpose specified.
9. In a windlass the combination of a supporting frame, a scraper carried thereby, a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle, winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, a guide for said cable supported on said frame opposite said wheel, draft rods secured to the sides of the said frame, a draft chain secured to the forward ends of sald draft rods, means for detachably connecting said chains, an anchor "hain, a cross chain to which said anchor chain is secured by suitable pulleys, a tackle consisting of a pair of pulley blocks, one of which is connected to the rear ends of said draft rods and the other to the object to be moved, a tackle cable, and a vertical guide roller arranged in said frame opposite said driving wheel to prevent the tackle cables from being drawn across the edges of said wheel, all co-acting for the purpose specified.
10. In a windlass the combination of a supporting frame, a scraper carried thereby, a transversely arranged axle, a driving wheel having a groove in the periphery thereof, mounted on said axle, winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, draft rods secured to the sides of said frame, a draft chain secured to the forward ends of said draft rods, means for detachably connecting said chains, an anchor chain, a cross chain to which said anchor chain is secured by suitable pulleys, a tackle consisting of a pair of pulley blocks, one of which is secured to the rear ends of said draft rods and the other to the object to be moved, a tackle cable, and a vertical guide roller arranged in said frame opposite said driving wheel to prevent the tackle cables from being drawn across the edges of said wheel, all co-acting for the purpose specified.
11. In a windlass the combination of a supporting frame, a scraper carried thereby, a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle, winding drums on said axle, to each side of said wheel, a driving cable for sald driving wheel, a guide for said cable supported on said frame opposite said wheel, draft rods secured to the sides of sald frame, a draft chain secured to the forward ends of said draft rods, means for detachably connecting said chains, an anchor chain, a cross chain to which said anchor chain is secured by suitable pulleys, a tackle consisting of a pair of pulley blocks, one of which is connected to the rear ends of said draft rods and the other to the object to be moved, a tackle cable, all co-acting for the purpose specifled.
12. In a windlass the combination of a supporting frame, a scraper carrled thereby, a transversely arranged axle, a driving wheel, having a groove in the periphery thereof, mounted on said axle, winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, draft rods secured to the sides of sald frame, a draft chain secured to the forward ends of said draft rods, means for detachably connecting said chains, an anchor chain, a cross chain to which said anchor chain is secured by suitable pulleys, and a tackle consisting of a pair of pulley blocks, one of which is connected to the rear ends of said draft rods and the other to the object to be moved, all co-acting for the purpose specified.
13. In a windlass the combination of a supporting frame, a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle. winding drums on said axle to each side of said wherl. a driving cable for said driving wheel, a guide for said cable supported on said frame opposite said wheel, draft rods secured to the sides of said frame, a draft chain secured to the forward ends of said draft rods. means for detachably connecting said chain, an anchor chain, a cross chain to which said anchor chain is secured by sultable pulleys, a tackle consisting of a pair of pulley blocks, one of which is connected to the rear ends of said draft rods and the other to the object to be moved, a tackle cable. and a vortical guide roller arranged in said frame opposite said driving wheel to prevent the tackle cables from being
drawn across the edges of said wheel, all co-acting for the purpose specified.
14. In a windlass the combination of a supporting frame. a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle. winding drums on said axle to vach side of said wheel, a driving cable for said driving wheel, draft rods secured to the sides of sald frame, a draft chain secured to the forward ends of said draft rods, means for detachably connect ing said chains, an anchor chain, a cross chain to which sald anchor chain is secured by suitable nulleys, a tackle consisting of a pair of pulley blocks, one of which is connected to the rear ends of said draft rods and the other to the object to be moved, a tackle cable and a vertical guide roller arranged in said frame opposite said driving wheel to provent the tackle cables from being drawn across the edges of said wheel, all co-acting for the purpose specified.
15. In a windlass the combination of a supporting frame. a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on sald axle. winding drums on sald axle to each side of said wheel, a driving cable for sald driving wheel, a gulde for said cable supported on said frame opposite said wheel, draft rods secured to the sides of said frame, a draft chain secured to the forward ends of said draft rods, means for detachably connecting said chains, an anchor chain is secured by suitable pulleys, a tackle consisting of a pair of pulley blocks one of which is connected to the rear ends of said draft rods and the other to the object to be moved, and a tackle cable, all co-acting for the purpose specified.
16. In a windlass the combination of a supporting frame. a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle. winding drums on said axle, to each side of said wheel, a driving cable for sald driving wheel, draft rods secured to the sides of said frame, a draft chain secured to the forward ends of said draft rods, means for detachably connecting said chains, an anchor chain, a cross chain to which said anchor chain is secured by suitable pulleys, a tackle consisting of a pair of pulley blocks, one of which is connected to the rear ends of said draft rods and the other to the object to be moved, and a tackle cable, all co-acting for the purpose specified.
17. In a windlass the combination of a supporting frame, a scraper carried thereby, a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle, winding drums on said axle, to each side of said wheel, a driving cable for said driving wheel, a guide for said cable supported on said frame opposite said wheel, draft rods secured to the sides of said frame, a draft chain secured to the forward ends of said draft rods, means for detachably connecting said chains, an anchor chain, a tackle consisting of a pair of pulley blocks, one of which is connected to the rear ends of said draft rods and the other to the object to be moved, a tackle cable, and a vertical guide roller arranged in said frame opposite said driving wheel to prevent the tackle cables from being drawn across the edges of sald wheel, all co-acting for the purpose specified.
18. In a windlass the combination of a supporting frame, a scraper carried thereby, a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle, winding drums on said axle, to each side of said wheel, a driving cable for said driving wheel, draft rods secured to the sides of sald frame, a draft chain secured to the forward ends of said draft rods, means of detachably connecting said chains, an anchor chain, a tackle consisting of a pair of pulley blocks, one of which is connected to the rear ends of said draft rods and the other to the object to be moved, a tackle cable, and a vertical guide roller arranged in said frame opposite said driving wheel to prevent the tackle cables from being drawn across the edges of said wheel, all co-acting for the purpose specified.
19. In a windlass the combination of a supporting frame a scraper carried thereby, a transversely arranged axle, a driving wheel having a groove in the periphery thereot mounted on said axle, winding drums on said axle to each side of said wheel, a driving cable for sald driving wheel, a guide for said cable supported on said frame opposite said wheel, draft rods secured to the sides of sald frame, a draft chain secured to the forward ends of said draft rods. means for detachably connecting said chains, an anchor chain, a tackle consisting of a pair of pulley blocks, onnof which is connected to the rear ends of said draft rods and the other to the object to be moved, and a tackle cable. all co-acting for the purpose specifled.
20. In a windlass the combination of a supporting frame. a scraper carried thereby, a transversely arranged axle, a driver wheel having a groove in the periphery thereof mounted on said axle, winding drums on said axle, to each slde of said wheel, a driving cable for said driving wheel. uraft rods secured to the sides of sald frame, a draft chain securml to the forward ents of said draft rods. means for de-
tachably connecting said chains, an anchor chain. a tackle consisting of a pair of pulley blocks, one of which is connected to the rear ends of said draft rods and the other to the object to be moved, and a tackle cable, all co-acting for the purpose specified.
21. In a windlass the combination of a supporting frame, a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle, winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, a guide for said cable supported on said frame opposite said wheel, draft rods secured to the sides of said frame, a draft chain secured to the forward ends of said draft rods, means for detachably connecting said chains, an anchor chain, a tackle consisting of a pair of pulley blocks one of which is connected to the rear ends of said draft rods and the other to the object to be moved, a tackle cable, and a vertical guide roller arranged in said frame npposite said driving wheel to prevent the tackle cables from being drawn across the edges of said wheel, all co-acting for the purpose specified.
22. In a windlass the combination of a supporting frame, a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle, winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, draft rods secured to the sides of said frame, a draft chain secured to the forward ends of said draft rods, means for detachably connecting said chain, an anchor chain, a tackle consisting of a pair of pulley blocks, one of which is connected to the rear ends of said draft rods and the other to the object to be moved, a tackle cable and a vertical guide roller arranged in said frame opposite said driving wheel to prevent the tackle cables from being drawn across the edges of said wheel, all co-acting for the purpose specified.
23. In a windlass the combination of a supporting frame. a transversely arranged axle, a driving wheel having a groove in the periphery thereof mounted on said axle, winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, a guide for said cable supported on said frame opposite said wheel, draft rods sceured to the sides of said frame, a draft chain secured to the forward ends of said draft rods, means for detachably connecting said chains, an anchor chain, a tackle consisting of a pair of pulley blocks one of which is connccted to the rear ends of said draft rods, and the other to the object to be moved, a tackle cable, and a vertical guide roller arranged in said frame opposite said driving wheel to prevent the tackle cables from being drawn across the edges of said wheels, all co-acting for the purpose specified.
24. In a windlass the combination of a supporting frame, a transversely arranged axle. a driving wheel having a groove in the periphery thereof mounted on said axle. winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, draft rods secured to the sides of said frame a draft chain secured to the forward ends of said draft rods, means for detachably connecting said chains. an anchor chain, a tackle consisting of a pair of pulley blocks one of which is connected to the rear ends of said draft rods and the other to the object to be moved, and a tackle cable, all co-acting for the purpose specifled.
25 . In a windlass the combination of a supporting frame, a scraper carried thereby, a transversely arranged axle, a driving wheel, having a peripheral groove, mounted on said axle, winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, a draft chain, a grappling hook for the said draft chain, an anchor chain, and a cross chain to which said anchor chain is sceured by a suitable pulley, for the purpose specified.
26. In a windlass the combination of a supporting frame, a scraper carried thereby, a transversely arranged axle, a driving wheel having a peripheral groove mounterl on said axle, winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, a draft chain, a grappling hook for the said draft chain, an anchor chain, for the purpose specified.
27. In a windlass the combination of a supporting frame, a scraper carried thereby, a transversely arranged axle, a driving wheel having a peripheral groove mounted on said axle. winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, a draft chain, an anchor chain, means for detachably connecting said chains, and a cross chain to which said anchor chain is secured by a sultable pulley, for the purpose specified.
28 . In a windlass the combination of a supporting frame, a seraper carried thereby, a transversely arranged axle, a driving wheel having a peripheral groove mounted on said axle, winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, a draft chain, an anchor chain, and means for detachably connecting said chains, for the purpose specified.
29. In a windlass the combination of a supporting frame, a transversely arranged axle, a driving wheel having a peripheral groove mounted on said axle, winding drums on said axle to each side of said wheel, a driving cable for said driv-
ing wheel, a draft chain for said supporting frame, a grappling hook for the said draft chain, an anchor chain, and a cross chain to which said anchor chain is secured by a suitable pulley, for the purpose specifled.
30. In a windlass the combination of a supporting frame, a transverscly arranged axle, a driving wheel having a peripheral groove mounted on sald axle, winding drums on said axle to each side of said wheel. a driving cable for said driving wheel, a draft chain for said supporting frame, a grappling hook for the said draft chain, an anchor chain, for the purpose specified.
31. In a windlass the combination of a supporting frame, a transversely arranged axle, a driving wheel having a peripheral groove mounted on said axle, winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, a draft chain for said supporting frame, an anchor chain, means for detachably connecting said chains, and a cross chain to which said anchor chain is secured by a suitab!e pulley, for the purpose specified.
32. In a windlass the combination of a supporting frame, a transversely arranged axle, a driving wheel having a peripheral groove mounted on said axle, winding drums on said axle to each side of said wheel, a driving cable for said driving wheel, a draft chain for said supporting frame, an anchor chain, and means for detachably connecting said chains, for the purpose specified.
33. In a windlass the combination of a supporting frame. an axle, a driving wheel having a groove in its periphery mounted on said axle, drums on said axle to each side of said wheel, a cable for sald driving wheel, a guide for the said cable supported on said frame opposite said wheel, a tackle consisting of a pulley block \(F\) having a sheave \(f\) on its rear end and a pair of sheaves \(f^{2}\) at the sides thereof, a pulley block \(G\) having sheaves \(g\) and \(g^{1}\) arranged in pairs at the sides thereof, a tackle cable \(L\) passed over said sheave \(f\) of the block \(F\), thence rearwardly over the sheaves \(g^{2}\) of the block \(G\), thence forwardly over the sheaves \(f\) of the block, F. thence rearwardiy over the sheaves \(g\) of the block G, and thence forwardly to the winding drums at each side of the driving wheel, said pulley blocks being a greater width than said wheel, and a vertical guide roller arranged in said frame opposite said driving wheel to prevent the tackle cables from being drawn across the edges of said wheel, all co-acting for the purpose specified.
34. In a windlass the combination of a supporting frame. an axle, a driving wheel having a groove in its periphery mounted on said axle, drums on said axle to each side of said wheel, a cable for said driving wheel, a tackle consisting of a pulley bock \(F\) having a sheave \(f\) on its rear end and a pair of sheaves \(f^{1}\) at the sides thereof, a pulley block \(G\) having sheaves ! and \(!^{1}\) arranged in pairs at the sides thereof, a tackle cable \(L\) passed over the said sheave \(f\) of the block F, thence rearwardly over the sheaves \(g^{1}\) of the block G. thence forwardly over the sheaves \(f^{1}\) of the block \(F\), thence rearwardly over the sheaves \(g\) of the block \(G\), and thence forwardly to the winding drums at each side of the driving wheel, said pulley blocks being of a greater width than said wheel, and a vertical guide roller arrafged in said frame opposite said driving wheel to prevent the tackle cables from being drawn across the edges of said wheel, all co-acting for the purpose specified.
35 . In a windlass the combination of a supporting frame, an axle, a driving wheel having a groove in its periphery mounted on said axle, drums on said axle to each side of said wheel, a cable for said driving wheel, a guide for the said cable supported on said frame opposite said wheel, a tackle consisting of a pulley block \(F\) having a sheave \(f\) on its rear end and a pair of sheaves \(f^{1}\) at the sides thereof, a pulley block \(G\) having sheaves \(y\) and \(g^{1}\) arranged in pairs at the sides thereof, a tackle cable L passed over said sheave \(f\) of the block \(F\), thence rearwardly over the sheaves \(g^{1}\) of the block \(G\), thence forwardly over the sheaves \(f^{2}\) of the block \(F\), thence rearwardly over the sheaves \(g\) of the block \(G\), and thence forwardly to the winding drums at each side of the driving wheel, said pulley blocks being of greater width than said whecl. all co-acting for the purpose specified.
36. In a windlass the combination of a supporting frame, an axle, a driving wheel having a groove in its periphery mounted on said axle, drums on said axle to each side of said wheel, a cable for said driving wheel, a tackle consisting of a pulley block \(F\) having a sheave \(f\) on its rear end and a pair of sheaves \(f^{1}\) at the sides thereof, a pulley block \(G\) having sheaves \(!\) and \(g^{1}\) arranged in pairs at the sides thereof, a tackle cable \(L\) passed over said sheeve \(f\) of the block \(F\), thence rrarwardly over the sheaves \(g^{1}\) of the block G, thence forwardiy over the sheaves \(f^{1}\) of the block \(F\). thence rearwardly over the sheaves \(g\) of the block \(G\), anil thence forwardly to the winding drums at each side of the driving wheel, said pulley blocks being of greater width than said wheel, all co-acting for the purpose specifled.
37. In a windlass the combination of a supporting frame. a scraper, carricd thereby, a winding drum, a draft chain secured to said frame, a cam-shaped grappling book for said
draft chain, an anchor chain, a cross chain to which said anchor chain is secured by a suitable pulley, and a suitable tackle, co-acting for the purpose specified.
38. In a windlass the combination of a supporting frame, a scraper carried thereby, a winding drum, a draft chain secured to sald frame, an anchor chain, means for detachably connecting sald chains, a cross chain to which said anchor chain is secured by a suitable pulley, and a suitable tackle, co-acting for the purpose specified.
39. In a windlass the combination of a supporting frame, a scraper carried thereby, a winding drum, a draft chain secured to said frame, a cam-shaped grappling hook for said draft chain, an anchor chain, and a suitable tackle, co-acting for the purpose specified.
40. In a windlass the combination of a supporting frame, a scraper carried thereby, a winding drum, a draft chain secured to said frame, an anchor chain, means for detachably connecting said chains, and a suitable tackle, co-acting for the purpose specified.
41. In a windlass the combination of a frame, an axle, a drum on said axle, a driving wheel on said axle, a cable, holes through said wheel adapted to receive said cable which is passed through three at least of said holes and its end slinned under the loop formed in said cable thereby, so that it is clamped by sald loop against the face of the wheel, as specifled.

\section*{No. 100,332. Current Bectifier.}

Rectificateur de courant.


The Cooper Hewitt Electric Company, New York City, New York, U.s.A., assignee of Percy H. Thomas, Montclair, New Jersey, U.S.A., 7th August, 1906; 6 years. Flled 1st May, 1905. Receipt No. 124,756.
Claim.-1. The combination of an exhausted chamber. a gas or vapour therein, a negative electrode, one or more positive electrodes presenting surfaces within the chamber, at least one of which consists of an inclosed fluid column having an approximately level surface, and means for continuously supply fresh fluid to said column or columns, and an outlet for excess fluid permitting a flow of fluid from said exhausted chamber.
2. The combination of an enclosing chamber, a gas 'or vapour within the same, a negative electrode, one or more positive electrodes within the chamber, consisting of columns of conducting fluid extending from points without the chamber, means for replenishing said columns, and means for withdrawing from the chamber the excess of fluid and simultaneously pumplag out the chamber by the action of the outflowing fluid.
3. The combination of an enclosing chamber, a gas or vapour therein, two or more tubular extensions of said chamber, conducting fluids having definite surfaces and sealing said extensions and constituting electrodes, a supplemental extension and means for causing a flow of fluid through one or more of the electrode extensions into the chamber and through the supplemental extension out from sald chamber.
4. The combination of an enclosing chamber, a gas or vapour therein, tubular extensions of sald chamber. conductIng fluld having definite surfaces and sealing said extensions and constituting electrodes, a supplemental extension, means for causing a flow of fluid through one or more of the electrode extensions into the chamber and through the supplemental extension out from sald chamber, and means for cooling the fluid so withdrawn.
5. The combination of an enclosing chamber, a gas or vapour therein, tubular extensions of said chamber, conducting fluids having definite surfaces and sealing said exlensions and constituting electrodes, an additional extension and means for causing a flow of fluid through one of the electrode extensions into the chamber and through the additional extension out from said chamber, means for cooling the fluid so withdrawn, and means for causing the cooled Huid to return to the chamber.
6. Means for cooling and exhausting a gas or vapour chamber containing one or more fluid electrodes presenting to the path a substantially level surface, consisting of means for supplying fluid thereto through sald fluid electrode or electrodes, means for causing a circulation of the fluid through the chamber, and an independent outlet for withdrawing the same from the chamber.
7. A curreint rectifier comprising two fluid electrodes, an enclosing gas or vapour, said electrodes comprising columns of mercury held in the proper position by atmospheric pressure, and an outlet for excess mercury sealed by a column of mercury of such height as to bring its surface under atmospheric pressure outside the main body of the chamber.
8. The combination of an enclosing chamber, a conducting gas or vapour therein, one or more fluid electrodes presenting to the vapour path a substantially level surface within the chamber, an exit tube from the chamber, and positive means for causing a circulation of the fluid Into and out of the chamber.
9. As a means for cooling and exhausting a gas or vapour electric apparatus, a conducting fluid presenting to the vapour path a substantially level surface constituting one of the electrodes of the apparatus and terminating outside the enclosing chamber thereof, means for causing a circulation of the fluid and means for withdrawing by such circulation a portion of the gas or vapour.
10. The combination with an enclosing chamber and a conducting gas or vapour therein, of tubular extensions of the said chamber, and fluid electrodes within the said extensions presenting to the vapour path a substantially level surface, the said fluid electrodes being exposed to external pressure, and having their outer terminals connected through a suitable pump and exhausting devices interposed in the circuit.

\section*{No. 100,333. Ham Compresaing Machine.} Machine d compressor le jambon.


Giovanni Mongardi and Henry Fiorentine, assignee of a half interest, both of Boston, Massachusetts, U.S.A., 7th August, 1906; 6 years. Filed 16th July, 1906. Receipt No. 137,842.
Claim.-1. A meat compressing machine comprising a fixed standard terminating in a fixed jaw, compressing lever pivoted below said jaw, and having a jaw movable toward and from the fixed jaw, said standard and lever being separated by a space which is overhung by the said jaws when they are brought together, a fexible jacket adapted to occupy said space, and having ears adapted to engage sald jaws, and mechanism for moving said lever to contract the jacket and compress its contents.
2. A meat compressing machine comprising a fixed standard terminating in a fixed jaw, a compressing lever pivoted below said jaw, and having a jaw movable toward and from the fixed Jaw, said standard and lever being separated by a space which is overhung by the sald jaws when thes arc
brought together, a flexible jacket adapted to occupy said space, and having ears adapted to engage said jaws, mechanism for moving said lever toward the standard to contract the jacket, and means for automatically retracting the lever to release the jacket.
3. A meat compressing machine comprising a fixed stan dard terminating in a fixed jaw, a compressing lever pivoted below said jaw, and having a jaw movable toward and from the fixed jaw, said standard and lever being separated by a space which is overhung by the said jaws when they are trought together, a flexible compressor attached at its ends to said jaws, and occupying said space, a flexible jacket adapted to be detachably inserted in the compressor, and provided with means for adjustably connecting its edges, and mechanism for moving the lever to contract the compressor and jacket.
4. A meat compressing machine comprising a fixed standard terminating in a fixed jaw, a compressing lever pivoted below said jaw, and having a jaw movable toward and from the fixed jaw, said standard and lever being separated by a space which is overhung by the said jaws when they are brought together, a treadle lever connected with the compressing lever, and a retracting spring connected with the treadle lever.
5. In a meat compressing machine, a flexible curved jacket having jaw-engaging ears at its opposite edges, chains attached to one of said edges, and slotted ears attached to the opposite edge, and adapted to engage links of said chains.
6. In a meat compressing machine, a flexible curved jacket having jaw-engaging ears at its opposite edges, and means for adjustably securing said edges together to maintain the jacket in a contracted condition.

No. 100,344. Driving Gear.
Engrenage de mise en mouvement.


The Montreal Pipe Foundry Company, assignee of William Duncan, both of Montreal, Quebec, Canada, 7th August, 1906; 6 years. Filed 20th May, 1904. Receipt No. 115,494.
Olaim.-1. The combination with a driving and a driven member, of a circular rigid member of constant diameter, ar adjustable internal gear mounted within the said circular rigid member concentric thereto and a carrying member the irternal gear and carrying member being one revoluble relatively to the other and having a rotative connection with one of the first-mentioned members, a central gear having a rotative connection with the other of said first-mentioned members, and a series of gears carried by said carrying member between and in bearing relation with the said central gear and internal gear, substantially as described and for the purpose set forth.
2. The combination with a driving and a driven shaft member, of an adjustable internal gear, and a carrying member one revoluble relatively to the other and having a rotative connection with one of the members, a central gear having a rotative connection with the other member, and a series of gears adjustably carried by said carrying member between and in bearing relation with the said central gear and internal gear, substantially as described and for the purpose set forth.
3. The combination with a driving and a driven shaft member, of a circular rigid member of constant diameter, and adjustable internal gear mounted within the sald clrcular rigid member concentric thereto, means securing said interral gear against rotation, a carrying member having a rotative connected with one of the shaft members, a gear located centrally of said internal gear and having a rotative connection with the other shaft member, a series of gears carried by said carrying member between and in bearing relation with the said central gear and internal gear, substanthally as described and for the purpose set forth.
4. The combination with a driving and a driven shaft member, of an adjustable internal gear, means securing said internal gear against movement, a carrying member having a rotative connection with one of the shaft members, a gear located centrally of said internal gear and having a rotative connection with the other shaft member, a series of gears adjustably carried by said carrying member between and in bearing relation with the said central gear and internal gear, substantially as described and for the purpose set forth.
5. The combination with a driving and a driven shaft member, of a circular rigid member of constant diameter, an internal gear mounted within the said circular rigid member concentric thereto, and a carrying member, the interna gear and carrying member being one revoluble relatively to the other and having a rotative connection with one of the shaft members, said internal gear consisting of a cylindrical rnember of variable diameter, a gear located centrally of said internal gear and having a rotative connection with the other shaft member, a series of gears carried by sald carrying, member and in bearing relation with the said central gear and internal gear, substantially as described and for the purpose set forth.
6. The combination with a driving and a driven shaft member, of an internal gear, and a carrying member, one revoluble relatively to the other and having a rotative connection with one of the shaft members, said internal gear consisting of a cylindrical member of variable diameter, a gear located centrally of said internal gear and having a rotative connection with the other shaft member, a series of gears carried by said carrying member and in bearing relation with the said central gear and internal gear, and means whereby the said series of gears are adjusted relatively to the central gear, substantially as described and for the purpose set forth.
7. The combination with a driving and a driven member, of an internal gear and a carrying member, one revoluble celatively to the other and having a rotative connection with one of the first-mentioned members, said internal gear consisting of a series of split rings arranged in cylindrical form and adjustable circumferentially relatively to one another, means preventing the displacement of the said rings radially relatuely to one another, means whereby the diameter of the said rings is reduced, a central gear having a rotative connection with the other shaft member, and a series of gears carried by said carrying member between and in bearing relation with the said central gear and internal gear, substantially as described and for the purpose set forth.
8. The combination with a shaft and a sleeve rotatably mounted upon said shaft, of an internal gear and a carrying member, one revoluble relatively to the other and having a rotative connection with the said shaft, means whereby the said internal gear is reduced in diamoter, a series of gears adjustably carried by said carrying member between and in bearing relation with the said sleeve and internal gear, substantially as described and for the purpose set forth.
9. The combination with a shaft and a sleeve rotatably mounted thereon, of a carrying member secured rigidly to said shaft, a series of eccentric spindles carried by said carrying member, a series of friction gears or rollers carried by said spindles, means whereby the said spindles are automatically adjusted to bring the said friction gears or rollers into tight contact with the said sleeve, an internal friction gear encircling the said series of friction gears or rcllers, means whereby the said internal gear is reduced in diameter to bear tightly upon the said friction gears or rollers, and means whereby the said internal gear is secured against rotation, substantially as described and for the purpose set forth.
10. The combination with a shaft and a sleeve rotatabls mounted thereon, of a carrying member secured rigidly to the said shaft, a series of eccentriv spindles carried by said carrying member, a series of friction gears or rollers mounted rotatably upon said spindle, means for adjustably rotating said spindles to bring the said friction gears or rollers into tight contact with said sleeve, a second carrying member encircling the said shaft, a serles of eccentric spindles carried by sald second carrying member and extending parallel to the friction gears or rollers, an internal gear having a frictional inner surface encircling the said series of friction gears or rollers between the latter and the last-mentioned series of eccentric spindles, said internal gear being reduceable in diameter, means whereby said last-mentioned series of eccentric spindles are rotatably adjusted to reduce the diameter of the sald gear, and means whereby the said second-mentioned carrying mem ber is retained against rotation, substantially as described and for the purpose set forth.
11. The combination with a shaft and a sleeve rotatably mounted thereon, of a carrying member secured rigidly to the said shaft, a series of eccentric spindles carried bs the said carrying member, a series of friction gears or rollers
mounted rotatably upon said spindles, means for adjustably rotating the said spindles to cause the said friction gears or rollers to bear tightly upon the said sleeve, a second carrying member encircling the said shaft, a series of eccentric spindles carried by said second carrying member and extending parallel to the friction gears or rollers, a yielding internal friction gear encircling the said series of friction gears or rollers between the latter and the lastmentioned series of eccentric spindles. a series of quadrantal gears mounted upon the said last-mentioned series of spindles, a gear mounted concentrically to the shaft and intermeshing with the said quadrantal gears and means for rotating sald last-mentioned gear, for the purpose set forth
12. The combination with a shaft and a sleeve rotatably mounted thereon, of a carrying member consisting of a plate formed with a hub, and an annular plate disposed apart from the said first-mentioned plate and parallel thereto, means rigidly securing said plates together, means rigidly securing the carrying member thus formed to the shaft, a series of eccentric spindles mounted at their ends in the plates of the said carrying member, a series of iriction gears or rollers mounted upon said eccentric spindles, means whereby the said eccentric spindles are rotatably adjusted to cause the said friction gears or rollers to bear tighly upon the sleeve, a second carrying member encircling the said shaft and consisting of a frame plate a sleeve formed in one therewith and constituting a bearing for said shaft, such bearing plate having a fiange formed thereon concentric to the said shaft and encircling the hub of the first-mentioned carrying member and the said first-mentioned carrying member having an enclosing cylindrical part and a serles of friction gears or rollers carried thereby and carricd rigidly by the periphery of the said irame plate, a radial flange formed in one with the interior of the said cylindrical part and coinciding with the plate of the firstmentioned carrying member which is adjacent to the frame plate, a series of split rings arranged in cylindrical form and encircling the first-mentioned carrying member and the friction gears or rollers carried thereby in close proximity to the latter, an annular frame plate secured to the said eylindrical part and coinciding with the annular frame plate of said first-mentioned carrying member, a series of eccentric spindles bearing in the sald second-mentioned carrying member and extending between the cylindrical part and the split ring, a series of quadrantal gears mounted rigidly upon said spindles, a gear rotatably mounted upon the sleeve and forming a part of the second carrying member, said gear intermeshing with the quadrantal gears, and means whereby said gear is rotated, subtantially as described and for the purpose set forth.
13. The combination with a shaft and a sleeve rotatably mounted thereon, of a carrying member secured rigidly to the said shaft, a series of eccentric spindles carried by the said carrying member and each having an oil duct extending from one end thereof to the perimeter, a series of friction gears or rollers mounted rotatably upon said spindles means for adjustably rotating the said spindles to cause the said friction gears or rollers to bear tightly upon the sald sleeve, an oil chamber carried by said carrying member and having the said oil ducts communicating therewith, means whereby oil is caused to fiow under pressure from said chamber through said ducts, a second carrying member encircling the said shaft, a series of eccentric spindles carried by said second carrying member and extending parallel to the friction gears or rollers, a yielding internal friction gear encircling the said series of friction gears or rollers between the latter and the last-mentioned series of eccentric spindles, a series of quadrantal gears mounted upon the said last-mentioned series of spindles, a gear mounted concentrically to the shaft and intermeshing with the said quadrantal gears, and means for rotating said last-mentloned gear, for the purpose set forth.

\section*{No. 100,335. Seed Planter. Oultivateur de graince.}

The Farley Planter and Manufacturing Company, assignee of John Clopton Farley, both of Klowa, Indian Territory, U.S.A., 7th August, 1906; 6 years. Filed 16th July, 1906. Receipt No. 137,837.
Claim.-1. The combination substantially as herein described, of the main irame having the side beams or bars and the intermediate axle journalled to the main frame, the wheels on the axle, the scraper blocks for engaging said wheels, the shafts supporting sald scraper blocks and having the projecting crank arm, the lever pivoted to the main frame, and connected with the crank arm, means for securing the lever in any desired adjustment, the seat, the supporting bars for said seat adjustable along the intermediate bars of the main frame, the tongue, the links connecting the tongue with the main frame and pivoted at their respective onds to such parts, the lever connecting the tongue and main frame and pivoted to both said parts, means for securing the lever in any desired adjustment, the seed boxes, the slide
having means for operating the seed boxes step-by-step, the lever pivoted between its ends and having its front end con-

nected with the slide, a lateral arm on the rear portion of the lever and adjustable along the same, a spring for operating the lever in one direction, the cam wheel having cam blocks arranged in a plurality of series for operating upon the lateral arm of the lever and clutch mechanism for throwing the cam wheel into and out of action, substantially as set forth.
2. The combination substantially as herein described, of the main frame, the tongue, the front and rear links plvoted at their opposite ends to the tongue and to the main frame means for adjusting the tongue relatively to the main frame the seed boxes, the dropping mechanism including a reciprocating slide and a lever pivoted between its ends and connected at one end with the slide and a wheel having cams for operating the slide, substantially as set forth
3. The combination with the main frame and means for dropping the seed, of a tongue, the front and rear links pivoted to the main frame and to the tongue and means for adjusting the tongue and main frame relatively, substantially as set forth.
4. The combination with the main frame, the tongue, the links pivoted at their opposite ends to the tongue and main frame and a lever plvoted to the main frame and to the tongue for adjusting said parts relatively and having a slid ing movement at one of said pivotal connections, substantially as set forth.
5. The combination of a main frame, the tongue, links pivoted at their opposite ends to the tongue and main frame, means for adjusting the tongue and main frame relatively the dropping mechanism including a slide, a lever pivoted between its ends and connected at one end with the sllde and a wheel having cams operating upon the said lever, substantially as set forth.
6. The combination of a main frame, a dropping mechanism including a slide, a lever pivoted between its ends and arranged at one end to operate the slide and a wheel having cams operating upon the other end of the lever, substantially as set forth.
7. The combination of a main frame and a dropping mech anism having a slide, a lever pivoted between its ends and connected at one end with the slide and having at its other end a lateral arm, substantially as set forth.
8. The combination of a seed box having its bottom pro ided with a series of pockets and a shaft about which said box revolves, a cover plate secured to said shaft and projecting over the path of the pocket and vertically above the discharge from said pocket, a ratchet wheel in connection with the bottom of the seed boxes, a slide having a pawl en aging said ratchet wheel, a lever pivoted between its onds and operating upon the other end of the lever, substantially as set forth.
9. The combination in a seed planting machine with the dropping mechanlsm, of a lever for operating the same and having a lateral arm adjustable along the lever and means for securing it in different adjustments and a cam wheel having a plurality of concentric series of cams arranged to operate upon the said lever, substantially as set forth.

No. 100,336. Bandle. Paquet.
James Franklin Craft and Nathaniel M. Jones, assignee of a half interest, both of Lincoln, Maine, U.S.A., 7th August, 1906; 6 Jears. Filed 17th April, 1906. Receipt No. 134,942.
Claim.-1. An article of manufacture consisting of a strip of flexible compressible material formed into a stifl roll. a
tongue formed on the outermost convolution of the roll, the next adjacent convolution having an opening, and the

tongue being passed through the opening, tucked under the adjacent convolution, and caused by the stiffness of the roll to indent the adjacent surfaces between which it lies.
2. A stiff roll of flexible fibrous compressible material having an integral tongue formed on one convolution extended through an opening in and extended under the adjacent convolution, the said tongue indenting the adjacent surfaces between which it lies.
3. A stiff roll of flexible compressible fibrous material having an integral tongue formed on one convolution extended through an opening in the adjacent inner convolution, and doubled back and extended under such inner convolution, the said tongue indenting the adjacent surfaces between which it lies.
4. A self-secured package of flexible compressible materlal consisting of a strip of such material gathered into a compact stiff bundle surrounded by an integral enveloping portion of the strip, a tongue formed integrally on said enveloping portion and passed through a registering opening in an adjacent interior portion or ply of the parkage, being turned backwardly under said interior portion, the said tongue being caused by the stiffness of the body to indent the adjacent surfaces between which it lies.
5. A self-secured package of flexible compressible material consisting of a strip of such material gathered into a compact stiff bundle surrounded by an integral enveloping portion of the strip, a tongue formed integrally on said enveloping portion and passed through a registering opening in an adjacent interior portion or ply of the package, the tongue and opening being formed simultaneously by converging slits cut in the outer surface of the package, and the tongue doubled upon itself and tucked under said adjacent portion, the tongue being caused by the stiffness of the body to indent the adjacent surfaces between which it lies.

No. 100,337. Envelope. Enceloppe.


Athol George Robertson and Joseph Edwin Alston, assignee of a half interest, both of Toronto, Ontario, Canada, 7th August, 1906; 6 years. Filed 19th April, 1906. Receipt Nos. 135,057 and 135,072 .
Claim.-1. As a new article of manufacture, a pictorial letter envelope having at the inside of the front a pictorial representation from which the flaps are designed to be severed after the envelope has been used, as and for the purpose specified.
2. As a new article of manufacture, a pictorial letter envelope baving at the inside of the front a pictorial representation from which the flaps are designed to be severed after the envelope has been used, and lines of perforations or the four folded edges of the envelope, as and for the purpose specjfied.

No. 100,338. Electric Plant for the Eynthotical Production of Nitric Products by Means of Discharges of Plectricity in Gaseous Mixtures.
Appareil électrique pour obtenir des produits nitriques au moyen de décharges électriques dans les mélanges gazeux.


Joseph von Kowalski and Ignacy Moscicki, co-Inventors. both of Fribourg. Switzerland, 7th August, 1906; 6 years. Filed 29th December, 1903. Receipt No. 111,309.
Claim.-1. In an electric current installation for obtaining nitric compounds from mixtures of gas by discharges of high tension alternating currents, the combination with discharging electrodes inserted in parallel in a high tension induced circuit, of a condenser and a choking coil coupled in series therewith.
2. In an electric current installation for obtaining nitric compounds from mixtures of gas by discharges of high tension alternating currents, the combination with discharging sections arranged in groups and each comprising discharging electrodes inserted in parallel in a high tension induced circuit, a condenser. and a choking coil, of a choking coll common to each group, and which by its great inductive resistance prevents the oscillations of high frequency, which are produced in the closing circuits in each case by two discharging sections with condensers and small choking coils, from being propagated beyond those circuits.

No. 100,339. Electrical Eafety Device. Appareil électrique de sûrete.


Elwood Bigelow Hosmer and William Norman Dietrich, coinventors, both of Montreal, Quebec, Canada, 7th August, 1906; 6 years. Filed 28th June, 1902. Receipt No. \(97,232\). Claim.-1. The combination with a metallic electric circuit to be protected, including a switch and means for releasing aid switch, and an additional circuit permanently in shunt with said metallic circuit and having a permanent ground connection, said additional circuit including an electro-magrict and an armature within the magnetic fleld of said magnet, of mechanical means acted upon by said armature and acting directly upon said means for releasing said switch and opening the circuit to be protected, for the purpose set forth.
2. The combination with an electric circuit to be protected, of an electric safety device comprising an additional circuit shunt with said circuit, said additional circuit including two electro-magnets the relative positions whereof are changeable, means co-acting with said electro-magnets and actuated upon the said change of position for opening the sald circuit to be protected and a permanent ground connection connected to said shunt circuit, for the purpose set forth.
3. The combination with an electric circult to be protected and means for opening said circuit, of an electric safety device comprising a pair of oppositely wound electromagnets a short distance apart and in line with one another, an oscillatory armature pivotally mounted between the adjacent poles of said electro-magnets and having colls wound oppositely to one another upon the ends thereof, a wire connecting the outer terminal of one of the colls of sald pair of electro-magnets to one terminal of the circuit tc. be protected, a slack wire connecting the opposite terminal of said last-mentioned coil to the outer terminal of the coll wound oppositely thereto upon one end of the armature, a wire connecting the opposite terminal of the last-mentioned coll to the adjacent terminal of the coil upon the other end of said armature, a slack wire conrecting the opposite terminal of the last-mentioned coil to one terminal of the other coil of said pair of electromagnets, a wire connecting the opposite terminal of said last-mentioned coll to the other terminal of the circult, and means whereby the oscillation of said armature will cause the circuit opening means to open the circuit, substantially as described and for the purpose set forth.
4. The combination with an electric circuit to be protected and means for opening said circuit, of an electric safety device comprising a pair of oppositely wound electromagnets a short distance apart and in line with one another, an oscillatory armature pivotally mounted between the adjucent poles of said electro-magnets and having coils wound oppositely to one another upon the ends therenf, a wire connecting the outer terminal of one of the coils of sald pair of electro-magnets to one terminal of the circuit to be protected, a slack wire connecting the opposite terminal of said last-mentioned coil to the outer terminal of the coil wound oppositely thereto upon one end of the armature, a wire connecting the opposite terminal of the last-mentioned coll to the adjacent terminal of the coil upon the other end of said armature, a grounded wire connected to this last-mentioned wire midway of its length, a slack wire connecting the opposite terminal of the last-mentioned coll to one terminal of the other coil of said pair of elec-tro-magnets, a wire connecting the opposite terminal of sald last-mentioned coil to the terminal of the circuit. and means whereby the oscillation of sald armature will cause the circuit opening means to open the circuit, substantially as described and for the purpose set forth.
5. The combination with an electric circuit and the switch arm, of a spring actuated multi-polar switch included in said circuit, of a latch having a ateral projection, said latch being pivotally connected to the frame of the switeh said circuit, of a latch having a material projection, said arm and to engage the switch arm and retain same in its closed position, a spring tending to disengage said latch from the switch arm, a detent in the form of a lever fulcrumed near one end to the frame of the switch, the end of the short arm of sald lever being concentric to its fulcrum point and engaging sald lateral projection when the long arm of sald lever is raised and retaining same against said lastmentioned spring in engagement with the switch arm, a support for retaining said long arm in its raised position, and electrical means for displacing said support and operated upon emergency by the current traversing said circuit, substantially as described and for the purpose set forth.

\section*{INo. 100,340. Post Driver.}

\section*{Machine d enfoncer les poteaux.}

James Brown and Charley Albert Edwards, co-inventors, both of Birds' Hill, Manitoba, Canada, 7th August, 1906; 6 years. Flled 23rd June, 1906. Receipt No. 137,195.
Clasm.-1. In a post driving machine the combination with the base of a set of vertical uprights. a set of arms extendIng between the upper extremities of the uprights and the rear of the base, a cross arm between the uprights, a drum pivotally supported from and between the set of arms, a weighted member slidably supported between the uprights, a pulley supported from the cross arm, flexible means connecting the drum through the pulley to the weighted member. and means for controlling the rotation of the drum, as and for the purpose specfied.
2. In a post driving machine the combination with the base of two vertical uprights, a cross arm at the top and between the uprights, reinforcing rods extending obliquely between the uprights and the base, a pulley on the cross
arm, a weighted member slidable between the uprights, a drum pivotally supported between the oblique rods, flexible

means connecting the drum through the pulley to the weighted member, a gear wheel rigid with the drum, a cross rod in juxtaposition to the drum, a loose pinion on the rod and in mesh with the gear wheel, means for rotating the rod and means for throwing the pinion into and out of rotation with the rod, as and for the purpose specifled.
3. In a post driving machine a set of horizontal main base members, a set of cross arms extending between the horizontal members, a set of vertical uprights secured to the extending ends of the horizontal members, a cross arin between the uprights, oblique reinforcing rods between the upright and horizontal members, a weighted member slidable between the uprights, a pulley on the cross arm, and means for raising and dropping the weighted member, as and for the purpose specifled.
4. In a device of the class described the combination with an L-shaped duplicate skeleton frame work of reinforcing rods passing between the upright and horizontal members, and cross rods between the opposing L-shaped members, a weighted member between the vertical arms, a drum dependent from the reinforcing rods and pivoted therebetween, and means regulated through the drum for lifting and dropping the weighted member, as and for the purpose specifled.
5. In a device of the class described the combination with the horizontal, the vertical, and the oblique members of the frame work of an upper and a lower set of similar opposing flanged sleeves secured upon the oblique members, a shaft extending within bearings formed in the upper set of flanged sleeves, a drum upon the shaft and rotatable therewith, a geer wheel secured to the drum, a cross shaft bearing within the flanges of the lower set of sleeves, a pinion rotatable upon the shaft and in mesh with the gear wheel, a driving clutch secured to the pinion, an engaging clutch feathered on the shaft, a crank to the shaft, and means for throwing the feathered clutch into and out of engagement with the drive clutch, a welghted member slidable between the vertical members and means connecting the drum with the weighted members, as and for the purpose specified.

No. 100,341. Process of Treating Material by Means of Heat.
Procílé pour le traitement de matietres au moyon de la ohalour.


William B. Dennis, Blackbutte, Oregon, U. S. A., 7th August, 1906; 6 years. Filed 21st May, 1906. Receipt No. 136,138.
Claim.-1. The process of treating materials by the aid of heat, which consists in causing the material and tho
heating medium to travel from the cooler part of the apparatus to a hotter part thereof at rates of travel independent of each other, substantially as described.
2. The process of treating materials by the aid of heat, which consists in causing the material and the heating medium to travel in the same general direction under the influence of separate motive agencies, and always from a cooler part of the apparatus to a hotter part thereof, and to be discharged from the hottest part of said apparatus, substantially as described.
3. The process of treating materials by the aid of heat, which consists in causing the material and the heating medium to travel in the same general direction, and always from a cooler part of the apparatus to a hotter part thereof, the material treated travelling at a lower velocity than the velocity of the heating medium, substantially as described.
4. The process of treating materials by the aid of heat, which consists in causing the material and the heating medium to travel in the same general direction, but in intersecting paths and always from a cooler part of the apparatus to a hotter part thereof, substantially as described.
5. The process of treating materials by the aid of heat, which consists in dividing the material into units, heating each unit separately and causing the material and fuel gas to always travel from a cooler part of the furnace to a hotter part thereof, until the material is fully treated, substantially as described.
6. The process of treating materials by the ald of heat, which consists in dividing the material into units, heating each unit separately at a regulated temperature, and causing the material always to travel from a cooler part of the furnace to hotter part thereof, untll it is fully treated, and to be finally discharged from the hottest part thereof, substantially as described.
7. The process of treating materials by the aid of heat, which consists in dividing the material into units, passing a current of fuel gas and air over the units and supplying an additional amount of fuel gas and air to each unit after the first, and causing the material and fuel gas to travel always from a cooler portion of the furnace to a hotter portion thereof, substantially as described.
8. The process of treating materials by the aid of heat, which consists in preliminary drying and heating the material in successive chambers each of which is hotter than the preceding, and causing the partially heated material and the heating medlum to travel in the same general direction, and always from the cooler part of the furnace te a hotter part thereof, substantially as described.
9. The process of treating materials by the aid of heat, which consists in dividing the material into units, subjecting said units to successively increasing temperatures, said temperatures being each regulated to a suitable economic mean. and causing said ore and the heating medium to travel in the same general direction, and always from a cooler part of the furnace to a hotter part thereof, and to be finally discharged from the hottest part of said furnace, substantially as described.
10. The process of treating materials by the aid of heat, which consists in dividing the material into units, subjecting each unit to the action of heated fuel gas mixed with heater air, regulating the temperature of the gases supplied to each unit, and causing said gases and the ore to travel in the same general direction and always from a cooler portion of the furnace to a hotter portion thereof, and to be finally discharged from the hottest part of said furnace, substantially as described.
11. The process of treating materials by the aid of heat, which consists in dividing the material into units, subjecting said units successively to increasing degrees of heat by causing a current of fuel gas and air to pass thereover, and adding to sald current at intervals an additional supply of fuel gas and air, the ore moving always from a cooler portion of the furnace to a hotter portion thereof, and being discharged from the hottest part of said furnace, and finally passing the gas current through a superheated chamber, substantially as described.
12. The process of treating materials by the aid of heat,, which consist in dividing the material into units, causing a current of pure hot fuel gas mixed with heated air to pass over each unit in succession, adding successive increments of fuel gas and air to the gas current at intervals, passing the gas current through a superheater combustion chamber and collecting the dust from said current, substantially as described.
13. The process of treating materials by the aid of heat. which consists in preliminary heating the same by radiation from the escaping gas current, dividing the mass into units, causing a current of fuel gas and air to pass over said units successively, and adding to said current at intervals sucessive increments of fuel gas and air, causing the ore and the fuel gas to travel in the same general direction and always
from a cooler part of the furnace to a hotter part thereof, and to be discharged from the hottest part of said furnace, passing the gas current through a combustion superheated chamber, separating the dust therefrom, and finally cooling the treated ore, substantially as described.
14. The process of producing fuel gas, which consists in burning said fuel gradually, dividing it into a series of zones of oxidation gradually and steadily increasing in temperature, and admitting to each zone a measured volume of air proportioned to the temperature of the fuel in such zone, and just sufficient for the purpose of oxidation in said zone, substantially as described.
15. The process of producing pure fuel gas, which consists in burning fuel gradually, dividing it into a series of zones of oxidation gradually and steadily Increasing in temperature, admitting to each zone a measured volume of alr proportioned to the temperature of the fuel in such zone, and just sufficient for the purpose of oxidation in said zone, and compelling the products of combustion to flow from each zone of oxidation into and through the succeeding zones, substantially as described.
16. The process of producing gas, which consists in burning fuel gradually, dividing it into a series of zones of oxidation gradually, and steadily increasing in temperature, admitting to each zone a measured volume of air proportioned to the temperature of the fuel in such zone, and just sufficient for the purpose of oxidation of sald zone, compelling the products of combustion to flow from each zone into and through the succeeding zones always in the line of progression towards zones of more advanced oxidation, and finally causing the gas produced to travel through a reducing zone, in the presence of heated carbon, substantially as described.
17. In an apparatus of the character described, the combination of a furnace having the part adapted to receive the material under treatment divided into chambers, and means for causing said material to move successively from chamber to chamber, said receiving part being supplied with current of heat moving in the same general direction with the travel of the material under treatment, substantially as described
18. In an apparatus of the character described, the combination of a furnace having its ore receptacle divided into chambers, and provided with means for causing a current of fuel gas and air in regulated quantities to flow through said chambers in the same general direction as the ore travels, substantially as described.
19. In an apparatus of the character described, the combination of a furnace having the receptacle for the material under treatment divided into a series of chambers, means for causing the material under treatment to move successively from chamber to chamber at intervals, said furnace being supplied with a current of fuel gas and heated air under control, said current moving transversely through said chambers, but in the same general direction of the travel of the material under treatment, and said furnace being provided with means whereby each chamber of the series is supplied with a fresh increment of fuel gas and heated air under control, substantially as described.
20. In an apparatus of the character described, the comoination of a furnace having its ore receptacle divided into a series of zones, means for causing a heat bearing current to flow in regulated quantities through said series of zones. said furnace being provided with means whereby sald heat bearing current is augmented under control, in successive zones in the general direction of the ore travel, and said furnace being provided with means whereby ore is caused to move at intervals from zone to zone, but always from a cooler to a hotter zone, substantially as described.
21. In an apparatus of the character described, the combination of a furnace divided into zones, means for transferring the ore from zone to zone at intervals, said furnace having a series of primary and secondary combustion chambers located on opposite sides of sald zones, and means for supplying fuel gas and air to said primary combustion chambers, substantially as described.
22. In an apparatus of the character described, the combination of a furnace divided Into zones, means for permitting the ore to pass from one zone to the next in succession, said furnace having a series of primary and secondary combustion chambers on each side of said zones and in line therewith, the primary chambers in one series being located opposite to the secondary chambers of the other series. and each secondary chamber communicating with the primary chamber just next to it, and means for supplying heat to said primary chambers, substantially as described.
23. In an apparatus of the character described, the combination of a furnace divided into zones and having movable floors for said zones, whereby the ore is allowed to pass from zone to zone at the proper time, said furnace being provided with a double series of alternately arranged primary and secondary combustion chambers in line with said zones, and on opposite sides thereof. the primary
chambers of one series being located opposite to the secondary zones of the other series, and the secondary chambers of each series communicating respectively with the primary chambers next to them, and means for supplying heat to said primary chambers, substantially as described.
24. In an apparatus of the character described, the combination of a furnace provided with floors, dividing it into zones, said floors being partly composed of swinging grate bars, means for operating all the movable grate bars of one floor simultaneously, said furnace being provided with a double series of primary and secondary combustion chambers, located on either side of said zones in line therewith, the primary chambers of one serles being located opposite the secondary chambers of the other series and means for supplying regulated quantities of fuel gas and air to each of said primary chambers, substantially as des--ribed.
25. In an apparatus of the character described, the combination of furnace floors composed of stationary grate bars and pivoted grate bars dividing said furnace into zones, means for operating all the pivoted grate bars of one floor simultaneously, said furnace having a series of primary and secondary combustion chambers on either side of said zones, and in line therewith, and also provided with inlets from said chambers to sai dzones, said inlets increasing in size from the upper set downwards, and means for delivering a mixture of fuel gas and heated air to each of said primary chambers, substantially as described.
26. In an apparatus of the character described, the comblration of a furnace having external and internal walls, the latter forming an ore tower, fioors dividing sald ore tower into zones, a series of alternately arranged superposed primary and secondary chambers located on either side of said zones in line therewith, inlets between said zones and the chambers opposite them, air flues located one in proximity to each of said series, gas flues, and inlets from said gas flues and air fiues into each of said primary combustion chambers, with means for supplying fuel gas to said gas flues, substantially as described.
27. In an apparatus of the character described, the combination of a furnace having a central ore tower, floors dividing said ore tower into zones, a series of primary and secondary combustion chambers located on either side of said zones, in line with each other and said zones, the secondary chambers of one series communicating respectively with the primary chambers just next to them, valved air flues and gas flues communicating with said primary chambers, a final superheating chamber through which all of the gases pass, dust collecting chambers, and means for supplying fuel gas to sald gas flues, substantially as described.
28. In an apparatus of the character described, the combination of a furnace having a central ore tower divided into zones by floors adapted to allow the ore to pass from one to the other at intervals, a series of primary and secondary superposed alternately arranged combustion chambers located on either side of a nortion of sald ore tower, and opposite to and in line with said zones, the primary combustion chambers of one series being located opposite the secondary combustion chambers of the other series, and the secondary combustion chambers of each series communicating respectively with the primary combustion immediately below them, air flues located one in proximity to each of said series of combustion chambers, inlets between said zones and said combustion chambers, gas flues, valved passages between said gas flues and air flues and said primary combustion chambers, a final superheatIng chamber, dust collecting chambers, means for preliminary heating the ore in the upper zones, some of said zones acting as cooling zones, and means for supplying fuel gas to said gas flues, substantially as described.
29. In an apparatus of the character described, the combination of a furnace provided with a hopper and a central ore tower, said ore tower being divided into zones by floors, which permit the ore to pass from one floor to another at the proper times, a spent ore chamber underneath sald ore tower, a series of alternately arranged primary and secondary combustion chambers arranged in proximity to some of the zones in said ore tower on either side thereof, and in line therewith, inlets connecting said zones with the corresponding combustion chambers, the primary combustion chambers of one serles being located opposite to the secondary combustion chambers of the other series, and the secondary combustion chambers of each series communicating respectively with the primary combustion chambers just below them, air flues and gas flues located one in proximity to each of said series of primary and secondary combustion chambers, valved passages connecting said air flues and gas flues with the primary combustion chambers of each series, a final superheating chamber, dust collecting chambers, means for preliminary heating
the ore in the upper zodes of the ore tower, and means for supplying gas to said gas flues, substantially as described.
30. In an apparatus of the character described, the combination of a furnace provided with a central ore tower and a valved hopper, said ore tower being divided into zones by floors adapted to permit the ore to pass from floor to floot at proper times, a series of primary and secondary combustion chambers located on either side of some of said zones, and in line therewith, inlets increasing in size from the top downwards connecting said zones with the combustion chambers opposite them, the secondary combustion chambers of one series being located opposite the primary combustion chamber of the other series, and the secondary combustion chamber of each series communicating respec tively with primary combustion chambers next to them gas flues and air flues located in proximity to each of said series of combustion chambers, valved passages connecting said air flues and said gas flues with the primary combustion chambers of each series, some of said zones acting as cooling zones, a flnal super-heating chamber, means for introducing fuel gas and air into said heating chambers, a series of dust collecting chambers, means for preliminarily heating the ore in the upper zones of the furnace, and a spent ore pit, with a conveyer for discharging the treated ore, and means for supplying fuel to said gas flues, substantially as described.
31. In an apparatus of the character described, the combination of a furnace divided into zones by floors, each of sald floors being composed partly of stationary grate bar: and partly of movable grate bars, links connecting said movable grate bars to a horizontal bar, and connections extending from each of sald horizontal bars up above tho charging floor and terminating in an operating lever whereby the movable grate bars on any one of sald floors may be simultaneously tilted by the operator on the charging floor substantially as described.
32. In a furnace of the character described, the combination of a furnace having a central ore tower divided into zones, floors separating said zones, each of sald floors being composed of stationary grate bars let into the furnace walls, and movable grate bars pivotally supported beneath said stationary bars, each of said movable bars being hollow and provided with a projecting lip adapted to meet with the lip on the corresponding bar, means for cooling said hollow grate bars, connections between the ends of each hollow grate bar of a single floor and a horizontal bar above the charging floor of the furnace and terminating in an operating lever, and means for securing each of said lovers, substantially as described.
33. In an apparatus of the character described, the combination of a furnace, with means of supplying pure fuel gas thereto. said means including a vertical shaft adapted to receive the fuel, and with a series of air inlets each provided with a valve, said air Inlets passing through the wall of said fuel receptacle, the parts being so arranged that the combustion takes place and the products thereof pass always from a cooler zone to a hotter zone, substantially as described.
34. In an apparatus of the character described, the combination of a furnace, a gas holder, and means for supplying pure fuel gas to said gas holder, said means including a vertically located fuel receptacle, means for closing the top of said receptacle, said receptacle being provided with a series of air inlets, each having a valve, and passing through the walls of said receptacle, the parts being so arranged that the products of combustion always pass from a cooler zone of oxidation to a hotter zone, substantially as described.
35. In an apparatus of the character described, the combination of a furnace, a gas holder built into the structure of said furnace, and means for supplying pure fuel gas to sald gas holder, consisting of a vertical fuel receptacle provided with a pivoted top, and a smoke stack provided with a valve, said fuel receptacle being provided with a grate, and a series of air inlets passing through the wall thereof, each of said air inlets being provided with a valve. whereby the products of combustion are compelled to pass always from a cooler zone of oxidation to a hotter zone. substantially as described.
36. In an apparatus of the character described, the combination of a furnace containing an ore tower, a gas holding chamber built into the furnace structure and communicating with said ore tower, and a gas producer connected with said chamber and including a vertical fuel receptacle, a fuel hopper provided with a pivoted ton thereon, and a smoke stack having a valve therein. a double series of grate bars, and a series of air inlets, each provided with a valve passing through the wall of sald gas producer, the parts being so arranged that the produots of combustion are drawn through the gas produrer in a direction from a cooler zone of oxidation to a hotter in a direction from a cooler zone
17. In an apparatus of the character described, the combination of a furnace, a gas holder built into the structure thereof and means for supplying pure fuel gas to said gas holder, consisting of a vertical fuel receptacle connected to said gas holder and two sets of grate bars therein, providing a reducing zone between them, said fuel receptacle being provided with a series of valved air inlet openings in its wall, substantially as described.

No. 100,342. Controlling Means for Electric Motors.
Moyen de controler les moteurs électriques.


Charles M. Clark, Summit, New Jersey, U.S.A., 7th August, 1906; 6 years. Filed 30th November, 1905. Receipt No. 130,585 .
Claim.-1. The combination of the telpher and hoisting motor receiving current from different lines, a single switch and connections for operating either of said moters, and means for automatically reversing both motors when the circuit is broken at any point, substantially as described.
2. The combination of a holsting motor and connections for supplying current thereto, means for breaking the circuit through said motor when it is operated in the hoisting direction to a predetermined point, and automatic means for reversing said motor when it has reached said point, substantially as described.
3. The combination of a hoisting motor and connections for supplying current thereto, a circuit breaker in said connections adapted to be operated and break the circuit when the hoist has reached a predetermined point, and an automatic safety switch operated by the breaking of said circuit to complete the circuit through the motor in the downward direction, substantially as described.
4. The combination of a hoisting motor and connections for supplying current thereto, a circuit breaker in said circuit adapted to be operated by the hoist when it has reached a predetermined point, and means to prevent the circuit being established through said motor in the hoisting direction until said circuit breaker is in its normal position, substantially as described.
5. The combination of a telpher motor, a hoisting motor, a circuit for supplying current thereto, automatic switches for each motor adapted to be operated upon the breaking of the circuit, and a safety switch adapted to be operated simultaneously with said aforementioned switches, substantially as described.
6. The combination of a telpher motor, a hoisting motor, a circuit for supplying current thereto, automatic switches for each motor adapted to be operated upon the breaking of the circuit, a safety switch forming part of said circuit, and a single operative means for simultaneously actuating all of said switches upon the breaking of the circuit, substantially as described.
7. The combination of a motor, a switch for automtically reversing the same upon breaking of the circuit, and automatic means for locking said switch against motion when in its operative position, substantially as described.

\section*{No. 100,343. Ore Manufacture.}

Fabrication de minerad.
James Otis Handy, Pittsburg, Pennsylvania, U.S.A., 7th August, 1906; 6 years. Filed 4th April, 1906. Receipt No. \(134,599\).
Claim.-1. In the treatment of ores of the class described, the process which consists in powdering and sifting the ore to separate metallics, sulphating the fine ore, reducing and recovering the sllver, removing iron and arsenic together, and separating and recovering cobalt and nickel.
2. In the treatment of ores of the class described, the process which consists in sulphating the ore, reducing and recovering the silver, removing iron and arsenic together. and separating and recovering cobalt and nickel.
3. In the treatment of ores of the class described, the process which consists in sulphating the ore, reducing and recovering the silver with a fresh portion of the ore, removing iron and arsenic together, and separating and recovering cobalt and nickel.
4. In the treatment of ores of the class described, the process which consists in oxidizing the ore in the presence of cess of reducing silver and dissolving cobalt which consists in treating a solution of sulphate of silver with an arsenic ore of cobalt.
5. In the treatment of ores of the class described, the process which consists in oxidizing the ores in the presence of a molten acid flux to expel and recover arsenic, bringing the soluble matters of the melt into solution and reducing and recovering the silver, removing iron and residual arsenic together from the solution, and precipitating cobalt and nickel.
C. The treatment of ores of the class described, the process which consists in oxidizing the ore in the presence of a molten acid flux to expel and recover arsenic, bringing the soluble matters of the melt into solution and reducing and recovering the silver, removing iron and residual arsenle iogether from the solution, and separating cobalt and nickel by fractional precipitation.
7. In the treatment of ores of the class described, the process which consists in oxidizing the ore in the presence of a molten acid flux to expel and recover arsenic, bringing the soluble matters of the melt into solution and reducing and recovering the silver, removing iron and residual arsenic together from the solution, and separating cobalt and nickel by fractional precipitation with hypochlorite.
8. In the treatment of ores of the class described, the process which consists in fusing the ore with sodium bisulphate to expel and recover arsenic, bringing the soluble matters of the melt into solution and reducing and recovering the silver, removing iron and residual arsenic together from the solution, and precipitating cobalt and nickel therefrom.
9. In the treatment of ores of the class described, the process which consists in fusing the ore with sodium bisulphate to expel and recover arsenic, bringing the soluble matters of the melt into solution and reducing and recovering the silver. removing iron and residual arsenic together from the solution, and separating cobalt and nickel by fractional precipitation.
10. In the treatment of ores of the class described, the process which conslsts in fusing the ore with sodium bisulphate to expel and recover arsenic, bringing the soluble matters of the melt into solution and reducing and recovering the silver, and separating cobalt and nickel by fractional precipitation with hypochlorite.
11. In the treatment of ores of the class described, the process which consists in fusing the ore with sodium bisulphate to expel and recover arsenic.
12. In the treatment of ores of the class described, the process which consists in fusing the ore with sodium bisulphate to expel and recover arsenic, bringing the soluble matters of the melt into solution, and reducing and recovering the silver.
13. In the treatment of ores of the class described, the process which consists in fusing the ore with sodium bisulphate to expel and recover arsenic, bringing the soluble matters of the melt into solution, and precipitating dissolved silver by a if isin pertion of ore.
14. In the treatment of ores of the class described, the process which consists in fusing the same with an acid flux to expel and recover arsenic, bringing the soluble matters of the melt into solution and reducing and recovering the silver.
15. In the treatment of ores of the class described, the process which consists in fusing the ores with sodium bisulphate to expel and recover arsenic, bringing the soluble matters of the melt into solution and reducing and recovering the silver, removing iron and residual arsenic together from the solution, precipitating cobalt and nickel therefrom and evapouring and crystallizing to recover sodium uslphate for re-use.
16. The process of extracting cobalt from ores of the class described which consists in oxidising the same in the
presence of a molten acid flux, leaching the melt and reducing the same to precipitate silver, removing iron and residual arsenic together from the solution, precipitating cobalt together with a little nickel by the addition of slightly more of an oxidizing agent than corresponds to the cobalt present, and treating the precipitate with a fresh portion of a cobalt solution to dissolve out the nickel therefrom.
17. The process of extracting cobalt from ores of the class described which consists in fusing the same with sodium bisulfate, leaching the melt and reducing the same to precipitate silver, removing iron and residual arsenic together, precipitating cobalt by the addition of slightly more hypochlorite solution than corresponds to the cobalt present, and treating the precipitate with a fresh portion of the iron and arsenic free solution to dissolve out the nickel.
18. In the treatment of ores of the class described, the process which consists in grinding and slfting the same to 80 mesh fineness to separate metallics. fusing the sifted ore with sodium bisulphate to expel and recover arsenic, dissolving the melt and reducing dissolved silver with a fresh portion of ore, removing iron and residual arsenic together from the solution, removing cobalt and nickel by fractional precipitation with hypochlorite, and recovering sodium sulphate for re-use.

\section*{No. 100,344. Method of Recovering Antimony and Arsenic from Ores, Etc.}

Méthode d'obtenir de l'antimoine et arsenic des minerais, etc. John Roy Masson, East Melbourne, Victoria, Australia, 7th August, 1906; 6 years. Filed 30th May, 1906. Receipt No. 136,432.
Claim.-1. A solution composed of caustic soda, caustic potash, or any other alkali and water of the requisitte strength employed in a sultable vessel to liberate antimony and arsenic from pulverized ore or other material therein contalning them, substantially as described.
2. Treating and agitating pulverized ore or other material containing antimony or arsenic, or both of them, in a sultable vessel containing a solution composed of caustic soda, caustic potash or other alkali and water (hot or cold) of the requisite strength in order to liberate the antimony and arsenic from the ore or other material, substantially as described.
3. Treating and agitating pulverized ore or other material containing antimony or arsenic, or both of them in a suitable vessel containing a solution composed of caustic soda, caustic potash or other alkali and water (hot or cold) of the requisite strength in order to liberate the antimony and arsenic from the ore or other material and the reprecipitation of said metals as a sulphide by the addition, in a suitable vessel of acid, such as sulphuric acid, substantially as described.
4. A wet process for the purpose specified consisting in treating pulverized ore or other material containing antimony or arsenic or both in a closed or open vessel containing a hot or cold solution composed of caustic soda, caustic potash or other alkali and water of the requisite strength, and agitating or leaching the materials therein, then decanting or filtering off the solution containing the sulphides and afterwards re-precipitating sald sulphides by the addition of an acid such as sulphuric acid and so recovering the antimony and arsenic, substantially as described.

No. 100,345. Injector. Injecteur.


James Croxton Metcalf and Richard David Metcalf, co-inventors, both of Lancaster, England, 7th August, 1906 ; 6 years. Filed 14th February, 1906. Receıpt No. 132,910.
r'laim.-1. In combination injectors, providing two automa-
lic non-return valves between the delivery end of the dis-8-4
charge nozzle and the stop valve which controls the passage If water to the boiler or other vessel being supplied, one of these automatic valves being placed on the end of the discharge nozzle and the other between it and the aforesald stop valve, substantially as described.
2. In injectors, providing an overflow valve which is hell on its seat by a piston or plunger or flexible diaphragm which is directly acted upon by fluid pressure in a chamber which by means of a tube or passage is put in communication with the discharge chamber of the injector, substantially as described.
3. In injectors, the combination with an overflow valve such as 11, of a flexible diaphragm such as 13 , which exerts pressure on the said valve by reason of tiluid pressure in a chamber such as 13 on the back of it, which chamber is in communication with the discharge chamber of the injector, substantially as described with reference to figures 1,2 and 3.
4. The combination with the steam admission stop valvo of an injector, of a bridge piece such as 34, which is attached to the injector casing and carries a stuffing box such as \(3^{3}\). for the stop valve spindle and an internally screwed pa"t adapted to engage outside the sald stuffing box with a screwed part of the stop valve spindle, substantially as described.
5. In injectors, admitting the water to the combining nozzle through two annular inlets, substantially as described.
No. 100,346. Process of and Apparatuses for Producing Heat.
l'crfectionnement dans le procédé et apparell pour la productions de la chaleur.


Frederick L. McGahan, St. Louis, Missourl, U. 8. A., 7th August, 1906; 6 years. Filed 21st February, 1906. Receipt No. 133,163.
Claim.-1. In a plant for burning and utilizing liquid, Easeous or powdered fuel the combination of a furnace, means for withdrawling the heated products of combustion and unconsumed gases therefrom, a carburetting furnace for receiving said products of combustion and gases, means for feeding fuel to said carburetting furnace to enrich the gases therein, and means for returning the enriched gases from the carburetter to the first-named furnace.
2. In a plant or system for burning and utilizing liquid, gaseous or pulverized fuel the combination of a furnace having a combustion chamber and provided with a crucible at the bottom thereof, means for withdrawing the products of cumiustion and gases from the combustion chamber, means for enriching sald gases, superheating means adjacent to said combustion chamber, means for conducting the enriched gases into sald superbeating means, and means for conducting the gases from the superheating means into the interior of the furnace.
3. In a plant or system for burning and utilizing liquid, gascous or pulverized fuel the combination of a furnace having a combustion chamber and provided with a crucible at the bottom thereof, means for withdrawing the products of combustion and gases from the combustion chamber, means for enriching said gases, superheating means adjacent to said combustion chamber, means for conducting the enriched gases into said superheating means, means for conducting the gases from the superheating means into the interior of the furnace, means for forcing the superheated gases under high pressure into the combustion chamber, and means for applying fuel to the combustion chamber and in contact with said gases, whereby the fuel will be ignited by the superheated gases.
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4. In a plant of the character described the combination of a main furnace having a combustion chamber, burners located adjacent to sald combustion chamber, means for withdrawing the gases from said combustion chamber out of contact with the air, a carburetter, means for delivering the gases into said carburetter, a series of superheating pipes located within the walls of said furnace, means for conducting gases from the carburetter to said superheating pipes under pressure, means for conducting the gases from the superheating pipes into said combustion chamber, means for introducing a liquid, powdered or gaseous fuel into said burners, and means for simultaneously introducing oxygen into said burners.
5. In a plant of the character described the combination of a main furnace having a combustion chamber, burners located adjacent to said combustion chamber, means for withdrawing gases from sald combustion chamber out of contact with the air, a carburetter, means for delivering the gases into said carburetter, a serles of superheating pipes located within the walls of said furnace, means for conducting the gases from the carburetter to said superheating pipes under pressure, means for conducting the gases from the superheating pipes into said combustion chamber, means for introducing a liquid, powered or gaseous fuel into said burners, and means for simultaneously introducing superheating steam into said burners and thereby dissociating the steam and affording oxygen for supporting combustion
6. In a plant or system of the character described the combination of a smelting furnace having a combustion chamber, a series of hollow projections inclined downwardly toward the combustion chamber, a burner located at the outer end of each of said projections directed toward the combustion chamber, means for introducing a liquid, powdered or gaseous fuel into said burner, means for introducing superheating steam into said burners, and means for introducing carboniferous gases into said combustion chamber.
7. The combination of a furnace having a combustion chamber, a collecting crucible at the bottom thereof and a series of passages inclined downwardly toward the combustion chamber, a burner located in position to direct a flame into each of said passages, means for conducting superheating steam into each burner, means for conducting carboniferous gases into each of said passages and directing it toward the combustion chamber, and means for conducting superheating gases into the interior of the combustion chamber.
8. The combination of a furnace having a combustion chamber and provided with a heat insulating lining, of a series of superheating pipes located within said lining, one of said pipes being connected with the interior of the combustion chamber, and means for forcing carboniferous gases into said combustion chamber through said superheating pipes under pressure.
9. The combination of a furnace having a combustion chamber and provided with a heat insulating lining, of a series of superheating pipes located within said lining, one of the said pipes being connected with the interior of the combustion chamber, and means for forcing carboniferous gases into said combustion chamber through said superheating pipes under pressure, said furnace having a passageway inclined upwardly from the upper part of said combustion chamber, and an inclined grate in said passage, whereby a roasting chamber is produced in the upper part of said passage and a circulating chamber in the lower part thereof.
10. The combination of a furnace having a combustion chamber, a collecting crucible at the bottom thereof and a series of passages inclined downwardly toward the combustion chamber, a burner located in position to direct a flame into each of said pasages, means for conducting superheated steam into each burner, means for conducting carboniferous gases into each of said passages and directing it toward the combustion chamber, and means for conducting carboniferous superheated gases into the interior of the combustion chamber, said furnace having an upwardly inclined passage extending from its upper portion, an inclined grate in said passage for receiving materials to be operated upon, and means for preventing sald materials from dropping down into the combustion chamber.
11. The combination of a furnace having a combustion chamber, a collecting crucible at the bottom thereof and a series of passages inclined downwardly toward the combustion chamber, a burner located in position to direct a flame into each of said passages, means for conducting superheated steam into each burner, means for conducting carbonif. :ous gases into each of said passages and directing it toward the combustion chamber, means for conducting carboniferous superheated gases into the interior of the combustion chamber, said furnace having an upwardly inclined passage extending from its upper portion, an inclined yrate in said passage for receiving materials to be operated
upon, means for preventing said materials from dropping down into the combustion chamber, means for conducting the gases from said passageway out of contact with the air, a carburetter for receiving said gases, and means for returning gases from the carburetter to the combustion chamber.
12. The combination of a pair of furnaces each having a combustion chamber and a burner for directing a flame toward the combustion chamber, a passageway incllned upwardly and extending from the upper part of each of said combustion chambers, said passageways meeting near their upper ends and communicating with each other, means for conducting gases from the upper part of said passageways cut of contact with the air, a carburetter for receiving said gases, and means for returning the gases to the combustion chambers.
13. The combination of a pair of furnaces each having a combustion chamber and a burner for directing a flame toward the combustion chamber, a passageway inclined upwardly and extending from the upper part of each of said combustion chambers, said passageways meeting near their upper ends and communicating with each other, means for conducting gases from the upper part of said passageways out of contact with the air, a carburetter for receiving said gases, means for returning the gases to the combustion chambers under pressure, and means for superheating said gases by means of the combustion chambers.
14. The combination of a combustion chamber, means for heating the combustion chamber, a passageway extending from said combustion chamber in an upwardly inclined direction, an inclined water conducting grate located in said passageway, and a gate or door comprising a series of water tubes located at the lower end of said passageway to prevent materials supplied to said grate from descending into the costutstion chamber.
15. The combination of a combustion chamber, means for heating the combustion chamber, a passageway extending from said combustion chamber in an upwardly inclined direction, an inclined water conducting grate located ir said passageway, a gate or door comprising a series of water tubes located at the lower end of said passageway to prevent materials supplied to sald grate from descending into the combustion chamber, and means for raising and lowering said gate or door.
16. The combination of a combustion chamber, means for heating the combustion chamber, a passageway extending from said combustion chamber in an upwardly inclined direction, an inclined water conducting grate located in said passageway, and a gate or door comprising a series of water tubes at the lower end of said passageway to prevent materials supplied to said grate from descending into the combustion chamber, a water tank connected with the grate and gate and connections from the water tank for conducting steam to said burners.
17. The combination of a furnace, a grate therein, said grate comprising a series of water tubes, a water tank for supplying water to said tubes and receiving steam therefrom, a burner for said furnace, means for conducting fuel to said burner, and means for conducting steam from said water tank to said burner.
18. The combination of a furnace, a grate thereir, east grate comprising a series of water tubes, a water idnk lor supplying water to said tubes and recelving steam therefrom, a burner for said furnace, means for conducting fuel to said burner, means for conducting steam from said water tank to said burner, and a boiler adapted to be connected with the last-named means.
19. The combination of a furnace, a grate therein. said grate comprising a series of water tubes, a water tank for supplying water to said tubes and receiving steam therefrom, a burner for said furnace, means for conducting fuel to said burner, means for conducting steam from said water tank to said burner, and a bofler adapted to be connected with the last-named means, said boiler being provided with a superheating coil in the smoke box thereof and communicating with the means for conducting steam.
20. The combination of a furnace, a grate therein having a series of water tubes, a tank for supplying water to said tubes and recelving steam therefrom, a carburetter, means for conducting gases from said furnace out of contact with the air to said carburetter, a boller having a furnace, means for conducting the products of combustion from said boiler furnace to the carburetter, means for conducting the gases from the carburetter to the firstnamed furnace, a burner, and means for conducting steam from said tank and from the boiler to said burner.
21. The combination of a furnace, a grate therein having a series of water tubes, a tank for supplying water to said tubes and receiving steam therefrom, a carburetter, means for conducting gases from said furnace out of contact with the air to said carburetter, a boiler having a furnace, means for conducting the products of combustion from said boiler furnace to the carburetter, means for conducting the gases from the carburetter to he first-named furnace, a burner,
means for conducting steam from sald tank and from the boiler to said burner, and means connected with said boiler for superheating the steam.
22. The combination of a furnace, a carburetter, means for leading products of combustion from the furnace to the carburetter out of contact with the air, means for introducing carbonaceous material into the carburetter for enriching the gases therein, means for conducting said gases back into the furnace, a boiler, means for conducting the products of combustion from said boiler into the carburetter, a burner for said furnace, means for conducting steam from said boiler to said burner, means for superheating sald steam, a fuel tank, means for conducting fuel from sald tank to said burner, a heating coil in said tank, means for conducting steam from said boiler to said heating coll, and means for conducting the exhaust steam from the heating coil to the carburetter.
23. The combination of a furnace, a burner therefor, a carburetter, means for conducting gases from the furnace to the carburetter, means for enriching the gases in the carburetter, a boiler connected with said burner for conducting steam thereto, an engine connected with the boiler, means for conducting the exhaust steam from the engine t, the carburetter. a pump connected with the boiler, and means for connecting the exhaust steam from the pump to the carburetter, and means for conducting carburetted gases from the carburetter to the furnace under pressure.
24. The combination of a carburetter, means for conducting heated gases thereto, a fuel reservoir connected with said carburetter for dellvering fuel thereto, a fuel tank, a pump for delivering fucl from the tank to the reservoir, a boiler having connections for operating said pump, and an cxhaust pipe from the pump delivering steam into sald carburetter.
25. The combination of a carburetter, means for delivering heated gases thereto. an oil tank, an oil reservoir, a steam pump for delivering oll fron the tank to the reservoir, a pipe for conducting oil from the reservolr to the carburetter, and means for conducting exhaust steam from said pump into the carburetter.
26. The combination of a carburetter, means for delivering heated gases thereto, an oil tank, an oil reservolr, a steam pump for delivering oil from the tank to the reservoir, a pipe for conducting oil from the reservoir to the carburetter, means for conducting the exhaust steam from said pump into the carburetter, a condenser connected with the carburetter, a steam pump for withdrawing uncondensed gases from said condenser, and means for conducting the exhaust steam from said last-named pump to the carburetter.
27. The combination of a carburetter, means for delivering heated gases thereto, an oll tank, an oil reservoir, a steam pump for delivering oil from the tank to the reservoir, a pipe for conducting oil from the reservoir to the carburetter, means for conducting the exhaust steam from said pump into the carburetter, a condenser connected with the carburetter, a steam pump for withdrawing uncondensed gases from said condenser, and means for conducting the exhaust steam from said last named pump to the carburetter, a main fuel tank, means for conducting fuel from said tank to the carburetter for heating the same, a steam heating coil in the fuel tank, and means for conducting the exhaust steam from said heating coil to the carburetter.
28. The combination of a carburetter, means for conducting gases thereto, means for conducting a carboniferous material to the carburetter for enriching the gases therein, a furnace, means for conducting the gases from the carburetter to the furnace, a blower constituting a part of said last-named means, means for conducting the products of combustion from said furnace to the carburetter comprising a blower, a boiler furnace, means for conducting the products of combustion of the boiler furnace to the carburetter, said last-named means comprising a blower, an engine having means for operating all of said blowers, means for supplying steam to said engine, and means for directling the exhaust steam from the engine to the carburetter.
29. The combination of a carburetter, a plurality of means for introducing respectively heated gases, a carburetting material and exhaust steam into said earburetter, means for conducting the carburetted gases therefrom, a separating tank, means for conducting steam and oll from the carburetter to the separating tank, a dead oil tank communlcating with the separating tank, an oil reservoir, and means for forcing oil from the said oil tank to the reservoir.
30. The combination of a furnace, a carburetter. a pipe for conducting gases from the furnace to the carburetter, a passageway communicating with said pipe, a series of separating chambers located in said passageway, a pump for withdrawing gases from the separating chambers, a condenser connected with the carburetter and means for connecting said condenser with the pump.
31. The combination with a carburetter, of means for introducing heated gases, a carbon bearing material and exhaust steam thereto, a crucible in the carburetter for receiving heated gases and directing them upwardly, a perforated partition through which the gases are adapted to pass, a series of perforated arches above the partition, a chamber containing said arches and in communication with the crucible through the perforations in said partition, a chamber above the first-named chamber for receiving the oil and steam, a series of pipes for conducting oil and steam from the upper chamber to a point below the perforated partition, said pipes acting as a condenser, means for withdrawing gases from sald first-named chamber, means for conducting oll and steam away from the carburetter, and means for withdrawing molten materials from said crucible.
32. The combination of a chamber, a crucible therein, a perforated partition above the chamber, a second chamber dapted to recelve gases through the perforations in the partition and located above the partition, a series of perforated arches in the second chamber above the firstnamed perforations, a third chamber above the second chamber and out of communication therewith, a series of pipes exttending into the third chamber at different distances and delivering material into the lower chamber, a tube extending through the second chamber out of contact therewith and adanted to conduct heated gases into the crucible, and means for conducting oil and exhaust steam into the upper chamber whereby the action of a jet condenser is produced in the upper chamber.
33. The combination of a chamber, a curcible therein having a removable lining for receiving molten materials, a discharge spout from said crucible, means for feeding materials to the crucible, a perforated partition above the chamber and crucible, a second chamber above the first communicating therewith through the perforations in the partition, a second partition abovo the second chamber, a third chamber above the second partition. means for conducting of and steam to the third chamber, means for conducting materials from the third chamber to the first chamber and a tube extending into the crucible for conducting heated gases thercto.
34. The combination of a chamber, a crucible thereln having a removable lining for recelving molten materials, a discharge spout from said crucible, means for feeding materlals to the crucible, a perforated partition above the chamber and crucible, a second chamber above the first communicating therewith through the perforations in the partition, a second partition above the second chamber, a third chamber above the second partition, means for conducting oil and steam to the third chamber, means for conducting materials from the third chamber to the first chamber, a tube extending into the crucible for conducting heated gases thereto. a stack communicating with said tube. a damper for said stack, and means for heating said crucible.
35. The combination of a carburetter comprising three chambers, one above the other, a crucible in the lower chamber, a series of perforations for permitting gases to pass from the lower chamber into the second chamber means for conducting gases from the second chamber means for conducting oil to the third chamber, an engine, a pump, means for conducting exhaust steam from the engine and pump to the third chamber, means for conducting steam and oil from the third chamber around the second chamber into the first chamber, whereby a condenser action is produced and the back pressure of the pump and engine reduced.
36. The combination of a carburetter comprising three chamber, one above the other, a crucible in the lower chamber, a serics of perforations for permitting gases to pass from the lower chamber into the second chamber, means for conducting the gases from the second chamber, means for conducting oll to the third chamber, an engine, a pump, means for conducting the exhaust steam from the engine and pump to the third chamber, means for conducting steam and oil from the third chamber, around the second chamber into the first chamber, whereby a condenser action is produced and the back pressure of the pump and engine reduced, means for heating the crucible, means for conducting oll and steam from the carburetter, and means for separating the oil from the steam.
37. The combination of a carburetter having means for conducting gases thereto, means for conducting carbon bearing material into the presence of the gases, means for conducting enriched gases from the carburetter, a valve for controlling each of said conducting means, a thermostat, a battery connected with the thermostat. a solenoif connected with the battery and thermostat, and controlled by the latter. and a soft core movably mounted in the solenoid and connected with said valves for operating them.
38. The combination of a carburetter having means for conducting gases thereto, means for conducting carbon bear-
ing material into the nresence of the gases, means for conducing enriched gases from the carburetter, a valve for controlling each of said conducting means, a thermostat, a battery connected with the thermostat, a solenoid connected with the battery and thermostat and controlled by the latter, and a soft core movably mounted in the solenoid and connected with said valves for operating them, whereby the discharged of enriched gases from the carburetter can be controlled by the thermostat, and means connected with the battery for giving a signal if the controlling means is noperative
39. The combination of a carburetter having a pair of discharge pipes. a valve in each pipe, and a pair of tanks for receiving material discharged through said pipes.
40. The combination of a furnace. a carburetting furnace, thermostats connected with the said furnaces, means for conducting gases from the carburetting furnace to the firstnamed furnace, the thermostat being adapted to control the draft through said means and the amount of gases supplied to said first-named furnace.
41. The combination of a smelting furnace, a carburetter, means for conducting carburetted gases from the carburetter to the furnace, thermostat connected with said conducting means and with the carburetter, whereby the draft between the carburetter and the furnace can be controlled and the heat of the furnace can be held at any desired temperature to melt all materials having a melting point below such temperature.
42. The combination of a furnace having means for preventing the entrance of the atmosphere thereto, a burner for said furnace, a pipe leading from said furnace to conduct the products of combustion and unconsumed gases and volatilized liquids therefrom, means for enriching said products of combustion, gases and volatilised liquids, and means for returning the same to the furnace
43. A process which consists in burning fuel in the presence of oxygen leading the gaseous products of combustion into the presence of a carbonaceous substance for enriching them, returning the enriched gases into the presence of the burning fuel and protecting said gases from the nitrogen of the air during their cycle of movement.
44. A process which comprises the burning of liquid, gaseous or powdered fuel in the presence of oxygen, leading the gaseous products of combustion into the presence of a carbonaceous substance for enriching them, condensing certain of the gases whereby they can be employed for the manufacture of various articles of commerce, returning the remainder of the enriched gases into the presence of the burning fuel and protecting said gases from the entrance of atmospheric air during their cycle of movement.
45. A process which consists in burning fuel in the presence of oxygen leading the gaseous products of combustion into the presence of a carbonaceous sabstance for enriching them. returning the enriched gases into the presence of the burning fuel and protecting said gases from the nitrogen of the air during their cycle of movement, and superheating said gases before introducing them into the presence of the burning fuel.
46. A process which consists in burning fuel in the presence of oxygen, leading the gaseous products of combustion into the presence of a carbonacenus substance for enriching them. returning the enriched gases into the presence of the burning fuel and protecting said gases from the nitrogen of the air during their cycle of movement and leading said gases through a passage in close proximity to the burning fuel to superheat them before introducing them directly into the presence of the flame
47. A process which consists in burning fuel in the presence of oxygen, leading the gaseous products of combustion into the presence of a carbonaceous substance for enriching them, returning the enriched gases into the presence of the burning fuel and protecting said gases from the nitrogen of the air during their cycle of movement, collecting the solid particles carried over with the gases or condensed therefrom and withdrawing them for further treatment.
48. A process which consists in burning fuel in the presence of oxygen, leading the heated gaseous products of combustion into the presence of a carbonaceous substance for enriching them, heating said products of combustion, passing liquid fuel and steam in a comparatively cold state around the heated gases, returning the gases into the presence of the burning fuel and protecting them from the nitrogen of the air.
49. A process which comprises the burning of fuel in the presence of oxygen, leading the gaseous products of combustion Into the presence of a carbonaceous substance, passing liquid and exhaust steam around said gases while in a heated state and returning the gases into the presence of the burning fuel.

No. 100,347. Electric Furnace. Fournaise élcctrique.


John Darwin Powers, Plattsburg, New York, U. S. A., 7th August, 1906; 6 years. Filed 15th August, 1905. Receipt No. 127,724.
Claim.-1. An electric furnace provided with electrical heating means and having a travelling receiver or hearth adapted to travel substantially horizontially through said furnace below said heating means for receiving the reduced material or priduct and conveying the same from the furnace, the said travelling receiver or hearth being composed of detachable sections adapted to be transposed from end to end to permit of the same being made practically continuous in its travel through the furnace, and means for operating said receiver or hearth.
2. An electric furnace provided with electrical heating means and having a travelling receiver or hearth adapted to travel substantially horizontally through said furnace below said heating means for receiving the reduced material or product and conveying the same from the furnace, the said travelling receiver or hearth being composed of detachable sections adapted to be coupled and uncoupled to permit of the same being made practically continuous in its travel through the furnace and being practically sealed at the points where it enters and leaves the furnace respectively, and means for operating said receiver or hearth.
3. An electric furnace provided with electrical heating means and having a horizontaily travelling recessed or trough-shaped receiver or hearth adapted to travel through said furnace below said heating means for receiving the reduced material or product and conveying the same from the furnace, and means for operating said receiver or hearth.
4. An electric furnace provided with electrical heating means and having a travelling recessed or trough-shaped receiver or hearth adapted to travel substantially horizontally through said furnace below said heating means for receiving the reduced material or product and conveying the same from the furnace, the said travelling receiver or hearth being composed of detachable sections adapted to be transposed from one end to the other to permit of the same being made practically continuous in its travel through the furnace, and means for operating said receiver or hearth.
5. An electric furnace provided with electrical heating means and having a travelling recessed or trough-shaped receiver or hearth adapted to travel substantially horizontally through said furnace below said heating means for receiving the reduced material or product and conveying the same from the furnace, the said travelling receiver or hearth being composed of detachable sections adapted to be transposed from end to end to permit of the same being made practically continuous in its travel through the furnace and being practically sealed at the points where it enters and leaves the furnace respectively, and means for operating said receiver or hearth.
6. An electric furnace provided with electrical heating means and having a horizontally travelling recessed or trough-shaped receiver or hearth adapted to travel through said furnace below said heating means for receiving both the unreduced and reduced material and such superimposed material serving to maintain the said receiver practically sealed in its passage from the furnace, and means for operating said receiver or hearth.
7. An electric furnace provided with electrical heating means and having a horizontally travelling recessed or trough-shaped receiver or hearth adapted to travel through said furnace below said heating means for receiving both the unreduced and the reduced material, a depending inwardly swinging member extending into the recess of said receiver or bearth at or near its point of entrance in the furnace
to close the same, and means for operating said receiver or hearth.
8. An electric furnace provided with electrical heating means and having a horizontally travelling recessed or trough-shaped receiver or hearth adapted to travel througn said furnace below said heating means for receiving both the unreduced and the reduced material, a suitable gate or member adapted to be removably inserted across the recess of said receiver or hearth at the point where it leaves said furnace, and means for operating said receiver or hearth.
9. An electric furnace provided with electrical heating means and having a horizontally travelling receiver or hearth adapted to travel through said furnace, said receiver or hearth being provided with a bottom and sides constituting an open top receptacle adapted to receive both the reduced and unreduced material and to hold a substantial quantity of the unreduced material around the reduced material and to maintain the same in such re lation during progress of the recelver or hearth through and out of the furnace and means for operating sald receiver or hearth.
10. An electric furnace provided with electrical heating means and having a horizontally travelling receiver or hearth adapted to travel through sald furnace, sald recelver or hearth being provided with a bottom and sides constituting an open top receptacle adapted to receive both the reduced and unreduced material and to hold a substantial quantity of unreduced material around the reduced material and to maintain the same in such relation during the progress of the receiver or hearth through and out of the furnace, the salid receiver or hearth being composed of detachable sections open at each end and adapted to be transposed from one end to the other so as to form substantially a continuous troughlike receptacle in its passage through the furnace, and means for operating said recelver or hearth.
11. An electric furnace provided with electrical heating means and having a horizontally travelling receiver or heartia adapted to travel through said iurnace, said receiver or hearth being longitudinally recessed and forming a trough like bottom for the furnace and being located below the said heating means and adapted to recelve both the reduced and unreduced material and to convey the reduced material from the furnace substantially embedded in non-reduced material and means for operating said receiver or hearth.
12. An electric furnace provided with electrical heating means and having a horizontally travelling receiver or hearth adapted to travel through said furnace, said recelver or hearth being longitudinally recessed and forming a troughlike bottom for the furnace and being located below the said heating means and adapted to receive both the reduced and unreduced material and to convey the reduced material from the furnace substantially embedded in non-reduced material, the said receiver or hearth being composed of de. tachable sections adapted to be transposed from end to end to provide a practically continuous travelling hearth.
13. An electric furnace provided with electrical heating means and having a horizontally travelling recelver or hearth adapted to travel through sald furnace, sald receiver or hearth being longitudinally recessed and forming a trough-like bottom for the furnace and being located below the said heating means and adapted to recelve both the reduced and unreduced material and to convey the reduced material from the furnace substantially embedded in nonreduced material, means for supplying to the furnace unreduced material in mass and maintaining the said troughlike bottom substantially filled with material, and means for operating sald receiver or hearth.
14. An electric furnace provided with electrical heating means, a horizontally travelling receiver or hearth adapted to travel through said furnace and constituting practically the bottom thereof, said receiver or hearth being recessed or trough-shaped and adapted to recelve the reduced material and also a quantity of the unreduced material, the latter serving to line the said receiver or hearth and to insulate it from the heat of he reduced material, and means for operating said receiver or hearth.
15. An electric furnace provided with electrical heating means, a horizontally travelling receiver or hearth composed of detachable sections to form a practically continuous hearth and adapted to travel through sald furnace and constituting practically the bottom thereof, sald recelver or hearth being recessed or trough-shaped and adapted to recelve the reduced material and also a quantity of the unreduced material, the latter serving to line the said receiver or hearth and to insulate it from the heat of the reduced material, and means for operating sald recelver or hearth.
16. An electric furnace provided with electric heating means, a travelling recelver or hearth adapted to travel through said furnace and constituting practically the bottom thereof, the said recelver or hearth being recessed or trough-shaped and adapted to receive the unreduced materlal and also the reduced material, means for feeding the unrculuced material into the furnace at or near thr
point thereof where said receiver or hearth enters the fur nace, and means for operating said receiver or hearth
17. An electric furnace provided with electric heating means, a horizontally travelling receiver or hearth located below said heating means and adapted to travel through said furnace and constituting practically the bottom there of, the said recelver or hearth belng recessed or troughshaped and adapted to receive the unreduced material and also the reduced material, means for feeding the unreduced material into the furnace at or near the polnt thereof where said receiver or hearth enters the furnace, and means for operating said receiver or hearth.
18. An electric furnace provided with electrical heating means and having a travelling recessed or trough-shaped receiver or hearth adapted to travel below said heating raeans for receiving the material and conveying therefrom the reduced material, the bottom of the interior of sald receiver or hearth being a considerable distance below the fusing zone to provide ample space for the formation of the ingot with said receiver in order to prevent any substantial quantity of the fused material remaining in the fusing zone after it has been liquified, and means for operating said receiver or hearth.
19. An electric furnace provided with electrical heating means and having a travelling recessed or trough-shaped receiver or hearth adapted to travel below said heating means for receiving the material and conveying therefrom the reduced material, the said receiver or hearth constifuting the bottom and also a substantial portion of the sides of said furnace, and means for operating said re celver or hearth.
20. An electric furnace provided with electrical heating means and having a horizontally travelling recelver or hearth adapted to travel through said furnace, said receiver or hearth being longitudinally recessed and being located below the said heating means and adapted to receive the material and to convey the reduced material from the furnace, and means for supplying to the furnace unreduced material in mass at or near th. point where the travelling receiver or hearth enters the furnace, whereby the forward movement of such receiver or hearth contnually draws in its supply from such point
21. An electric furnace provided with electrical heating means and having a travelling recessed or through-shaped receiver or hearth adapted to travel below said heating means and having such depth thereto as to constitute the bottom of the furnace and the opposite sides thereof, such sides extending up or near the level of the fusing zone, and means for operating said recelver of hearth.
22. An electric furnace provided with a plurality of pairs of electrodes, a hopper arranged above sald furnace and provided with a serles of changing chutes extending therefrom one to each pair of electrodes to supply the same with material, an agitator for actng on the material in each of said chutes, and means for actuating said agitators.
23. An electric furnace provided with a plurality of pairs ot electrodes, a hopper arranged in the upper part of sald furnace and provided with a series of charging chutes each of which supplies the material to a pair of sald clectrodes, a travelling receiver or hearth adapted to move through the furnace beneath said electrodes, an extra chute extending from sald hopper down into the furnace for supplying the material directly to the sald travelling receive. or hearth, and means for operating said receiver or hearth.
24. An electric furnace provided with electrical heating means for charging the furnace with material to be reduced, a travelling receiver or hearth composed of detachable sections adapted to move through the furnace and to receive the contents thereof and convey the reduced material or product therefrom, driving mechanism and connections between the same and said travelling receiver or hearth for gradually moving the latter through the furnace, agltators for agitating the material in the charging mechanism. said agitators being connected with and actuated by said driving means.
25. An electric furnace provided with electrical heating means and having a travelling recelver or hearth adapted to travel through said furnace below said heating means. the side joints between said recelver and hearth and the furnace being overlapping sliding joints, and means for operating sald receiver or hearth.
26. An electric furnace provided with electrical hearing means and having a travelling receiver or hearth adapted to travel through said furnace below said heating me?. 3 . and being composed of detachable sections adapted to be transposed from end to end to permit of said receiver being practically continuous in its travel through the furnace. driving connections engaging the two opposite sides of said travelling recelver or hearth, and means for actunting the said driving connections.
27. An electric furnace provided with electrical heatils arih and having a horizontally travelling receiver on \(h\) erih ndapled 14 nitre through sald furnace below said
heating means, the said receiver or hearth being provided on opposite sides with driving racks, a pinion engaging each of said racks and driving mechanism connected with und actuating said pistons.
28. An electric furnace provided with electric heating means and having a horizontally travelling receiver or hearth adapted to move through said furnace below said heating means, the said receiver or hearth being proviled on opposite sides with driving racks, a pinion engaging and operating each of said racks, a main drive shaft, a step-by-step actuated mechanism connerted intermediate between said drive shaft and pinions for slowly moving said recelver or hearth through the furnace.
29. An electric furnace provided with electrical heating means and having a horizontally travelling receiver nhearth adapted to move through said furnace below said heating means, the said receiver or hearth being provided on opposite sides with driving racks, a pinion engaging each of said racks, a main drive shaft, a ratchet wherl and a pawl to move it step-by-step, connections between said main shaft and pawl carrier for actuating said carrier, and gearing between said ratchet wheel and said pinion for transmitting the motion from said ratchet whecl to said rack pinions.
30. An electric furnace provided with electrodes. and neans for supplying a charge of broken or comminuted material and continuously and gradually moving it bodily in a substantlally horizontal direction between and around said electrodes so as to constantly maintain the ends thereof submerged or embedded in the charge and maintain the product out of contact with said electrodes, whereby the portion of the charge which is fused by the current between the electrodes descends from the path of the current and is deposited within the body of unreduced material and is withdrawn substantially horizontally.
31. An electric furnace provided with a chamber having electrodes projecting therein, and means for supplying a charge of broken or comminuted material and continually and gradually moving it bodily in a substantially horizontal direction between and around said electrodes so as to constantly maintain the ends thereof submerged or embedded in the charge and maintain the product out of contact with said electrodes, whereby the portion of the charge which is fused by the current between the electrodes descends from the path of the current and is deposited within the body of unredued material and is withdrawn therewith substantially horizontally.
32. An electric furnace provided with a chamber having electrodes projecting therein, and means for supplying a charge of broken or comminuted material and moving a mass thereof of considerable depth in substantially horizontal direction so as to keep constantly submerged the ends of the electrodes to effect fusing of a portion of the charge within the interior of said moving mass and maintain the product out of contact with said electrodes, and gradually withdrawing substantially horizontally said fused portion together with the surrounding unreduced material.
33. An electric furnace provided with electrodes, a recessed or trough-shaped receiver or hearth adapted to travel substantially horizontally beneath said electrodes and means for driving it, and means for supplying a mass ct broken or comminuted material to said electrodes so as to keep the ends thereof constantly submerged or embedded in the charge to fuse an interior portion of the same, whereby said receiver or hearth may continuously withdraw the said fused material embedded within the unreduced material.
34. An electric furnace provided with a chamber having electrodes projecting therein, a recessed or trough-shaped recelver or hearth adapted to travel substantially horizontally beneath said electrodes and means for driving it, and means for supplying a mass of broken or comminuted material to said electrodes so as to keep the ends thereof constantly submerged or embedded within the charge to fuse an interior portion of he same, whereby said receiver or hearth may continuously withdraw the said fused material embedded within the unreduced material.
85. An elcetric furnace provided with a chamber having electrodes projecting therein, a recessed or trough-shaped receiver or hearth adapted to travel through said chamber and substantially horizontally beneath said electrodes and means for driving it, means for supplying a mass of broken or comminuted material to said electrodes in the direction ir. which said receiver or hearth travels, so as to keep the erds thereof constantiy submerged or embedded in the charge to fuse an interior portion of the same, whereby said receiver or hearth may continuously withdraw the said fused material embedded within the unreduced material.
36. An electric furnace provided with a chamber having electrodes projecting therein, a recessed or trough-shaped receiver or hearth adapted to travel through said chamber and substantially horizontally beneath said electrodes
and means for driving it, means for supplying a mass of broken or comminuted material, to said electrodes in the direction in which said receiver or hearth travels, so as to keep the ends thereof constantly submerged or embedded in the charge to fuse an interior portion of the same, the surplus charge above said reduced material at the place of exit from said chamber being fed backwardly towards said electrodes, whereby said receiver or hearth may gradually withdraw the said fused material embedded within the unreduced material.
37. An electric furnace provided with a chamber having electrodes projecting therein, means for supplying a charge or broken or comminuted material and progressively moving a mass thereof of considerable depth in substantially horizontal direction so as to keep constantly submerged the ends of the electrodes to effect fusing of a portion of the charge within the interior of said moving mass, and gradually withdrawing said fused portion with its surrounded un-reduced material, and means for regulating the depth of the material withdrawn.
3S. An electric furnace provided with a chamber having relatively adjustable electrodes projecting therein, means for supplying a charge of broken or comminuted material and progressively moving it in a substantially horizontal direction between and around sald electrodes so as to constantly maintain the ends thereof submerged or embedded it. the charge whereby the portion of the charge which is fused by the current between the electrodes descends from the path of the current and is deposited within the body of unreduced material and is withdrawn therewith.
39. An electrlc furnace provided with a chamber having adjustable electrodes projecting therein, and means for simultaneously adjusting said electrodes to increase or decrease the space between their ends, means for supplying a charge of broken or comminuted material and progressively moving it in a substantially horizontal direction between and around said electrodes so as to constantly maintain the ends thereof submerged or embedded in the charge. whereby the portion of the charge which is fused by the current between the electrodes descends from the path of the current and is deposited within the body of unreduced material and !s withdrawn therewith.
40. An electric furnace provided with electrodes, and means for supplying a charge of broken or comminuted material and progressively moving it in a substantially horizontal direction and substantially in a direction transversely to the electrodes and maintaining the ends of said electrodes submerged or embedded in the moving charge. whereby the portion of the charge which is fused by the current between the electrodes descends from the path of the current and is deposited within the body of unreduced material and is withdrawn therewith, substantlally horizontally.
41. The herein described process of treating a charge of material and reducing the same with electric current which consists in feeding a charge of material to be reduced progressivley forward substantially horizontally in a deep body through the fusing zone of heating electrodes, establishing said heating zone at a temperature sufficlent to liquefy the reduced material in quantity and degree to cause it to immediately descend below sald zone and form by gradual incrementa a pig or ingot in a lower cooling zone and to nest itself in a surrounding protective-layer of an unreduced portion of the charge.
42. The herein described process of treating with electric current a charge of commingled oxide of calclum and carbonaceous matter and producing calclum carbide which consists in feeding a charge of said mixture to be reduced progressively forward substantially horizontally, in a deep body tirough the fusing zone of heating electrodes, establishing said heating zone at a temperature suffient to liquefy the reduced material in quantity and degree to cause it to immediately descend below said zone and form by gradual increments a pig or ingot of calclum carbide in a lower cooling zone and to nest itself in a surrounding protective layer of an unreduced portion of the charge.

No. 100,348. Shock Lifter. Charge gerhes.
Jehiel P. Smith, Frobisher, and Henry Stewart Martin. assignee of a fourth interest, Alameda, Saskatchewan. Canada, 7th August, 1906; 6 years. Filed 11th July. 1906. Recelpt No. 137.686.
Claim.-1. In a device of the class described, the combination with the carrying wheels of an inclined platform dependent therefrom. and adjustable fingers dependent from and extending forwardly beyond the platform, as and for the purpose specified.
2. In a device of the class described the combination with the rarriage wheels of an inclined platform, an outer railing to the platform, and adjustable fingers extending forwardiy and dependent from the platform and normally in alignment therewith, as and for the purpose specified.
3. In a device of the class described, the combination with the main carriage wheels of a platform, a set of swivel


Wheels toward the front and supporting the platform normally inclined, adjustable fingers extending forwardly and dependent from the platform, a railing to the platform, an eccentrically pivoted shaft dependent from the railing and above the fingers, and means for revolving and controlling the revolutions of the shaft, as and for the purpose spectfied.
4. In a device of the class described, the combination with the rear carriage wheels and the platform of a main shaft rotaably supported from the platform rigid with the carriage wheels, adjustable fingers extending forwardly and de\(p \in\) ndent from the platiorm, a set of swivel wheels supporting the platform forwardly, a railing extending around the upper face of the platform, an eccentrically pivoted shaft dependent from the railing and above the fingers, gear wheels on the shaft, a friction drive on the main snaft, a friction clutch normally engaging with the friction drive, a sprocket wheel integral with the friction clutch, an endless gear chain connecting the gear wheels, and means for disengaging the clutch with the friction drive, as and for the purpose specified.
5. In a device of the class described, the combination with the platform and its supporting wheels of a series of self adjustable fingers, a set of adjustable fingers extending forwardly from the platform, means for controlling the set of fingers and coincident the series, a reinforcing ralling extending upwardly from the platform, an eccentrically pivoted rotatable shaft above the fingers, and means for controlling the rotation of such shaft, as and for the purpose specifled.
6. In a device of the class described, the combination with the carrlage wheels and an inclined metallic sheeted platform dependent therefrom of an outer rod extending forwardly across and beyond the platform, a reinforcing strip extending from the face of the platform over and around the cross rod, said strip having alternate open and projecting portions therein, an inner cross rod bearing within the side arms of the aforesaid rod, and below the cross plate, a series of fingers plvoted to the inner cross rod, and extending forwardly through and beyond the openings and over the outer rod, a rod centrally dlsposed between the aforesaid rods and secured at its extremities to the end fingers, and means for lifting the end fingers and witholding in any such upper position, as and for the purpose specified.
7. In a device of the class described, the combination with the platform, the rear carriage wheels and the forward swivel whecls of a set of rearwardly disposed wheels or rollers, and means for throwing the said rollers into commission, and the rear carrlage wheels out of commssion, as and for the purpose specifled.
8. In a device of the class described the combination with the inclined platform, the main carriage wheels, and the
swivel whecls, of means co-active with the swivel wheels for raising the forward end of the platform, as and for the purpose specified.
9. In a device of the class described the combination with the end fingers of adjustable means centrally and to the rear of the platform for controlling the ralsing or lowering of the fingers, as and for the purpose specifled.
10. In a device of the class described, the combination with a suitably reinforced platiorm and the forwardly extending end fingers, of uprights dependent from the rear of the platform and centrally disposed, a cross bar secured to the uprights, a ratchet wheci rotatably supported from the cross bar, a concentric peripherally grooved, wheel rigid with the ratchet wheel, an operating handle secured to the grooved wheel, a ratchet engaging the ratchet wheel, a foot lever controlling the ratchet, and a set of operating ropes connecting the fingers with the grooved wheel, as and for the purpose specified.
11. In a device of the class described, the combination with the friction drive of a friction clutch, a spiral spring normally holding the clutch in engagement with the drive, a disengaging foot lever centrally disposed to the rear of the flatform, and a connccting link from the lever to the friction clutch, as and for the purpose specified.
12. In a shock lifter, a platform provided with forwardly extending depending teeth and supporting means for said Llatform, as and for the purpose specified.
13. In a shock lifter, an inclined platiorm provided with forwardly extending depending teeth and supporting means ior said platform, as and for the purpose specified.
14. In a shock lifter, a platform provided with forwardly extending depending teeth and supporting means for said piatform and means for ralsing the front end of the platiorm as and for the purpose specified.
15. The combination with the platform and carriage and supporting wheels and the forwardly extending teeth located at the front of the platform, of means for raising and lowering the points of the teeth in relation to the ground as and for the purpose specified.

\section*{No. 100,349. Vacunm Producing Apparatus.}

Appareil de production de vide.


The Honourable Charles Algernon Parsons, Newcastle-on-
Tyne, England, 7th August. 1906; 18 years. Filed 19th June, 1905. Receipt No. 126,181.
Claim.-1. In combination for the production of high vacua, a plurality of vacuum intensifiers in series, condensers intermediate sald intensifiers.
2. A refrigerating plant having in combination a chamber to be evacuated, a plurality of vacuum intensifiers arranged in serles and drawing from said chamber, coolers intermedfate said Intensiflers, a pump drawing condensed fluid from said condensers in parallel.
3. A refrlgerating plant having in combination a cooling chamber with circulating fluid therein, vacuum intensifiers In series drawing from said cooling chamber, coolers intermediate said intensifiers, which coolers are themselves provided with artificially cooled circulating water, a pump drawing in paralled condensed fluid from said intermediate coolers, substantially as described.
4. In combination for the production of high vacua, a chamber to be evacuated, a vacuum intensifier drawing from said chamber, a condenser Into which said intensifier discharges, a further intenslfier drawing from sald condenser and a pump working in series with said further intensifer, substantially as described.
5. In combination for the production of high vacua, a chamber to be evacuated, a plurality of vacuum intensifiers arranged to draw from said chamber in series, said intensifiers being diminishingly graded in size from the chamber outward, condensers alternating with said intensifiers, substantially as described.
6. In high vacua refrigerating plant an evaporative chamber having an external circulating pipe, circulating fluid in said chamber and pipe, a vacuum intensifier drawing directly from said chamber, a condenser into which the air and vapour from the chamber and intensifler are discharge, a further vacuum intensifier drawing from the condenser and an air pump operating in series with said further intensifier, substantially as described.
7. In high vacua, cooling or condensing plant a chamber to be evacuated, a vacuum intensifier drawing directly from said chamber, a condenser into which the air and vapour from the chamber and intensifier are discharged, an air pump connected by a passage to the lower part of the condenser, a vacuum intensifier drawing from the condenser and discharging into the passage connecting the air pump with the condenser and a dip seal in said passage, substantially as described.
8. In high vacua, cooling or condensing plant a chamber to be evacuated and a condenser, a passage connecting said chamber and condenser, a vacuum intensifier in said passage drawing from the chamber, means for cooling the circulating fluid in said condenser, a second condenser, a passage connecting the two condensers and a second vacuum intensiffed in the passage drawing from the first condenser, an air pump drawing condensed fluid through a dip seal from the second condenser and a third intensifler operating in series with sald air pump and a passage having a dip seal connecting the air pump with the first condenser, substantially as described.
9. In high vacua, cooling or condensing plant a chamber to be evacuated and a condenser, a passage connecting said chamber and condenser, a vacuum intensifier in said passage drawing from the chamber, an evapourative cooler for cooling the circulating medium in said condenser, a second condenser, a passage connecting the two condensers and a second vacuum intensiffer in the passage drawing from the first condenser, and air pump drawing condensed fluid through a dip seal from the second condenser, and a third intensifler operating in series with said air pump and a passage having a dip seal connecting the air pump with the first condenser, substantially as described.
10. In hugh vacua, cooling or condensing plant, a chamher to be evacuated and a condenser connected therewith ty a passage, a vacuum intensifier in said passage drawing from the chamber, a second condenser connected by a passage with the first condenser, a vacuum intensifier in this passage discharging from the first into the second condenser, a circulating fluid cooling chamber, a passage connecting the cooling chamber with the second condenser, and a vacuum intensifier in said passage drawing from the circulating fluid cooling chamber, an air pump and an intensifier working in series with the air pump and passages having dip seals connecting both condensers with the air pump, substantially as described.
11. In high vacua, cooling or condensing plant, employing vacuum evaporative chambers and a pump, means for making up from the fluid withdrawn by the vacuum device for the loss of fluid due to evapouration, substantially as described.
12. In high vacua, cooling or condensing plant, employing vacuum evapourative chambers and a pump, automatic means for making up from the fluid withdrawn by the vacuan \({ }_{2}\) device for the loss of fluid due to evapouration, substantially as described.

No. 100,350. Method of Writing and Printing with Metallic Lear.
Méthode d'écrire et imprimer aveo feuilles métalliques.


Frank Stephen Hall, Akron, Ohio, U.S.A., 7th August, 1906 ; 6 years. Filed 25th June, 1906. Receipt No. 137,295. claim.-1. That improvement in the art of impressing metallic leaf on articles, which consists in placing the
metallic leaf with a backing adhering thereto upon the article, and then subjecting said backing to heat and pressure from a manually operated continuously heated needle whereby said leaf is caused to detach from said backing and adhere to said article.
2. That improvement in the art of impressing metallic leaf on articles, which consists in placing the metallic leaf with a backing adhering thereto upon the article, placing on said backing a suitable pattern or copy, and then subjecting said backing along the lines of said pattern or copy to heat and pressure from a manually controlled continuously heated needle, whereby said leaf is caused to detach from said backing and adhere to said article.

No. 100,351. Fire Escape. Sauveteur d'incondic.


Joseph N. Noyer, Gould City, Washington, U. S. A., 7th August, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,249.
Claim.-1. A fire escape apparatus comprising a frame or support, a windlass mounted therein, a shaft journalled in said frame, a train of gearing between the latter and said windlass, a collar or sleeve slidably but non-rotably mounted upon said shaft, spring strips connected to said collar and to said shaft, centrifugal weights upon said stips, a friction disc carried by said sleeve or collar, and a stationary friction brake device carried by said frame and spaced therefrom to coact with said friction disc, substantially as described.
2. A fire escape apparatus comprising a supporting frame consisting of a base and parallel sides, a shaft journalled in the sides of said frame, a drum secured to said shaft, a flexible connection wound upon said drum, a gear upon said shaft, a pawl and ratchet between said gear and said shaft, a second shaft in the sides of said frame, gearing between the second shaft and said gear, a collar or sleeve slidably but non-rotably mounted upon said second shaft, spring strips secured to said collar or sleeve and said second shaft, centrifugal weights upon said spring strips, a friction disc carried by said collar or sleeve, a bracket attached to one side of said frame and having a segmental friction brake surface in the path of said friction disc, substantially as described.
3. A fire escape apparatus comprising a frame or support, a windlass mounted therein, a shaft journalled in said frame, a train of gearing between the latter and said windlass, a collar or sleeve slidably but non-rotatably mounted upon said shaft, spring strips connected to said collar and to said shaft, centrifugal weights upon said strips, a friction disc carried by said sleeve or collar, a stationary friction brake device carried by said frame and spaced therefrom to co-act with said friction disc, and an alarm device actuated by said shaft, substantially as described.
4. The combination with a fire escape of the class described, of an alarm device actuated thereby.
5. The combination with a fire escape of the class described, of an alarm bell actuated by the fire escape when the latter is operated.
6. The combination with a fire escape apparatus having a frame or support and a rotary shaft, of a bell, a striker for said bell, and means upon sald shaft for actuating said striker.
7. The combination with a fire escape apparatus having a frame or support and a rotary shaft, of a bell, a striker for said bell, and a cam upon said shaft for actuating sald striker, substantially as described.
8. The combination with a support having headed projections, of a fire escape apparatus of the class described. mounted upon said support, a box or casing for enclosing said apparatus, forked brackets in said casing for engaging said headed studs, swinging doors in the front and bottom of said casing, and a pin upon the front door adapted to enter an opening in sald bottom door for supporting the latter in its closed position, substantially as described.

No. 100,352. Baggage Check.
('ontremarque pour baggages.


Frederick Neil Southam, Montreal, Quebec, Canada, 7th August, 1906; 6 years. Filed 19th July, 1906. Receipt No. 137,967.
Claim.-1. A baggage check having thereon an identification number composed of a series of digits some of which differ in character or appearance from the others, substantially as described.
2. A baggage check having thereon an identification number composed of a series of pairs of digits one pair of which differs in character or appearance from the other pairs, substantially as described.
3. A baggage check having thereon an identification number composed of a series of pairs of digits one pair of which is located between two other pairs and differs in character or appearance therefrom, substantially as described.
4. A baggage check having thereon an identification number composed of a series of digits aa, bb, and cc, the pair aa being of outline type and located between the pairs bb and ce which are of solid block type, substantially as described.

No. 100,353. Machine for Cutting and Shortening Linotype slugs.
Machine pour couper et raccourcir les limaces de linotype.


Robert Franklin Jacobs, Baltimore, and Charles Frederick Walter, Howardville, both in Marykand, U.S.A., 7th August, 1906; 6 years. Filed 19th June, 1906. Recelpt No. 137,048.
Claim.-1. A lintotype slug cutting machine having a platen on which the slug is to lay, a cutter, and a plural number of movable spacers which are of varying width and arranged relative to each other so that any one spacer may be used alone and any number of selected spacers may be moved and used together to form a gauge on the platen.
2. A linotype slug cutting machine having a platen on which the slug is to lay, a cutter, a stop device movable on the platen, and a plural number of spacers which are of varying width and arranged so that any one and any number may be moved to shift the stop device.
3. A linotype slug cutting machine having a platen on Which the slug is to lay, a cutter, a movable stop device which is spring pressed in a direction away from the said cutter, and a plural number of movable spacers which are of varying width and arranged so that any one and any member may be put into operative position.
4. A linotype slug cutting machine having a platen on which the slug is to lay, a cutter, a stop device movable on the platen, and a plural number of spacers all of which have a slidable movement in a direction toward and away from the sald cutter and each of which is also independently movable in another direction.
5. A linotype slug cutting machine having a platen on which the slug is to lay, a cutter, a movable stop device which is spring pressed in a direction away from the said cutter, and a plural number of spacers of varying width all of which are capable of sliding together in the same direction, and each one of which is movable alone in another direction.
6. A linotype slug cutting machine having a platen, a cutteir having movement in a plane crosswise of the platen, a fixed abutment on the platen, and a plural number of spacers any one and any number of which may be moved to take an interposed position on the platen between said abutment and cutter, whereby the exact length to be cut off from the sjug may be predetermined.
7. A linotype slug cutting machine having a platen, a cutter having movement in a plane crosswise of the platen, a fixed abutment on the platen, a gauge device movable along the platen, and a plural number of spacers into position between the said flxed abutment and the gauge device.
8. A llnotype slug cutting machine having a platen, a cutter having movement in a plate crosswise of the platen, a fixed abutment on the platen, and a plural number of wedge spacers of varying width arranged relative to the platen 80 that any one if which and any number of which may be moved into position.
No. 100,354. Turret Lathe. Tour.


The John Bertram and Sons Company, Dundas, Ontario, Canada, assignee of Carl John Forsberg, Now York City, New York, U.S.A., 7th August, 1906; 6 years. Flled 12th July, 1906. Recelpt No. 137,734.
Claim.-1. In a turret lathe the combination substantlally as set forth, with a bed, turret slide, turret, and feed arresting arm, of a carriage mounted for sliding movement or the turret slide in a direction transverse to the length of the bed, a series of stop rods mounted in sald carriage parallel with each other and with the lathe bed and adapted to co-operate selectively with the feed arresting arm, and operative connections between the turret and sald carrlage t\% shift the carriage in accordance with the turning of the turret.
2. In a turret lathe the combination substantially as set forth, with a bed, turret slide, turret, and feed arresting arm, of a carriage mounted for sliding movement on the turret slide in a direction transverse to the length of the bed, a series of stop rods mounted in said carrlage parallel with each other and with the lathe bed and adapted to co-operate selectively with the fced arresting arm, a cam fast with the turret, and a lever pivoted on the turret slide and havong connection with said cam and carriage.
3. In a turret lathe the combination substantially as set iorth, with a bed, a turret slide, a turret, a power shaft, and transmitting mechanism between the power shaft and the turret, of a clutch interposed in said transmitting mechanism, a rotary member geared to turn in harmony with the turret and carrying a notch, a clutch throwing member to serve in engaging and releasing the clutch, and a tooth upon the clutch throwing member in position to enter sald notch when opposite thereto and permit the clutch throwing member to throw the clutch to position of release.
4. In a turret lathe the combination substantially as set forth, with a bed, a turret slide, a turret, a power shaft, and transmitting mechanism between the power shaft and the turret, of a clutch interposed in said transmitting mechanism, a rotary member geared to turn in harmony with the turret and carrying a moving plain surface provided with a notch, a clutch throwing member to serve in engaging and releasing the clutch, and a tooth upon the clutch throwing member to serve in engaging and releasing the clutch, and a tooth upon the clutch throwing member in position t. enter said notch when opposite thereto and permit the clutch throwing member to throw the clutch in position of release and adapted to bear against said plain surface when not opposite the notch.
5. In a turret lathe the combination substantially as set forth, with a bed, a turret slide, a turret; a power shaft, and transmitting mechanism between the power shaft and the turret, of a clutch interposed in said transmitting mechanism, a rotary member geared to turn in harmony with the turret and carrying a notch, a clutch throwing member to serve in engaging and releasing the clutch, a tooth upon the clutch throwing member in position to enter sald notch when opposite thereto and permit the clutch throwing member to throw the clutch to position of release, and a spring urging the clutch throwing member to clutch releasing position.
6. In a turret lathe the combination substantially as set forth, with a bed, a turret slide, a turret, a power shaft and transmitting mechanism between the power shaft and the turret, of a friction clutch interposed in said transmitting mechanism, a rotary member geared to turn in harmony with the turret and carrying a notch, a clutch throwing member to serve in engaging and releasing the clutch, and a tooth upon the clutch throwing member in position to enter said notch when opposite thereto and permit the clutch throwing member to throw the clutch to position of release.
7. In a turret lathe the combination substantially as set forth, with a bed, a turret slide, a turret, a power shaft and transmitting mechanism between the power shaft and the turret, of a clutch interposed in said transmitting mechanism, a rotary member geared to turn in harmony with the turret and carrying a notch, a clutch throwing member to serve in engaging and releasing the clutch, a tooth upon the clutch throwing member in position to enter said notch when opposite thereto and permit the clutch throwing member to throw the clutch to position of release, a rod extend ing lengthwise of the bed and having connection with the clutch throwing member, a tailwardly presenting projection carried by the turret slide, mechanism connected with said rod and disposed in the path of said projection, and a spring urging the clutch throwing member to clufch releasing position.
8. In a turret lathe the combination substantially as set forth with a bed, a turret slide, a turret, a power shaft, and transmitting mechanism between the power shaft and the turret, of a clutch interposed in said transmitting mechanism, a rotary member geared to turn in harmony with the turret carrying a notch, a clutch throwing member to serve in engaging and releasing the clutch, a tooth upon the clutch throwing member in position to enter said notch when opposite thereto and permit the clutch throwing member to throw the clutch to position of release, a rod extending lengthwise of the bed and having connection with the clutch throwing member, a tallwardly presenting projection carried by the turret slide, a member disposed in the path of sald protection near said rod, means for locking said lastmentioned member to selective longitudinal positions upon sald rod, and a spring urging the clutch throwing member to clutch releasing position.
9. In a turret lathe the combination substantially as set forth, with a bed, a turret slide, a turret, a power shaft, and transmitting mechanism between the power shaft and the turret, of a clutch interposed in said transmitting mechanism, a rotary member geared to turn in harmony with the turret and carrying a notch, a clutch throwing member to serve in engaging and releasing the clutch, a tooth upon the ciutch throwing member in position to enter said notch When opposite thereto and permit the clutch throwing member to throw the clutch to position of release, a rod extending lengthwise of the bed and having connection with the clutch throwing member, a tailwardly presenting projection carried by the turret slide, mechanism connected with said rod and disposed in the path of said projection, a spring urging the clutch throwing member to clutch releasing position, and a spring buffer acting between the turret slide and the bed and adapted to be compressed by the turret slide when the turret sllde moves tailwardly in the act of bringing said projection against said mechanism in its path.
10. In a turret lathe the combination substantially as set forth, with a bed, a turret slide, a turret, a power shaft, and transmitting mechanism between the power shaft and the turret, of a clutch interposed in said transmitting mechanism,
a rotary member geared to turn in harmony with the turret and carrying a notch, a clutch throwing member to serve in engaging and releasing the clutch, a tooth upon the clutch throwing member in position to enter said notch when opposite thereto and permit the clutch throwing mem ber to throw the clutch to position of release, a block adjustable lengthwise of the bed between its tall end and the turret slide, a rod extending lengthwise of the bed and having connection with the clutch throwing member, a movable member mounted on sald block and having connection with said rod at selective points along the length of the rod, a tallwardly presenting projection carried by the turret slide and adapted to engage the movable member on the block and shift the rod endwise, and a spring urging the clutch throwing member to clutch releasing position.
11. In a turret lathe the comblnation substantially as set forth, with a bed, a turret slide, a turret, a power shaft and transmitting gears between the power shaft and the turret, a gear turned by the power shaft in harmony with the turret and carrying a notch, a clutch throwing lever to serve in engaging and releasing the clutch, and a tooth upon the clutch throwing lever in position to enter said notch when opposite thereto and permit the clutch throwing member to throw the clutch to position of release.
12. In a turret lathe the combination substantially as set forth, with a bed, a turret slide, a turret, a power shaft for turning the turret, and a train of transmitting gearing between the power shaft and the turret, of a clutch interposed between the power shaft and the turret, a gear conneced with said transmitting gearing between the clutch and the turret and carrying a plain surface and a notch, a clutch throwing lever, a spring urging said lever to clutch releas. ing position, mechanism between the lever and the turret slide to cause extreme tailward movement of the turret slide to throw the lever to clutch engaging position, and a tooth upon the clutch lever bearing upon said plain surface when the clutch is engaged and entering said notch when opposite thereto and permitting the clutch to release.
13. The combination of a bed, a slide, a turret on said sllde, power driveno means for revolving said turret, clutch means tinterposed in said power driven meams, a revoluble gear member impelled by said power driven means and arranged to rotate once for a fractional part of the revolution of said turret, a clutch throwing member, a tooth thereon, and a notch on said revoluble member adapted to be entered by said tooth.
14. The combination of a bed, a sllde, a turret on said slide, power driven means for revolving said turret, clutch interposed in said power driven means, and intermittently revoluble member impelled by said power driven means and having a definite speed of rotation with reference to that of sald turret, a clutch throwing member actuated by the movement of said slide for engaging said clutch, means carried by said revoluble member for engaging said clutch throwing member, and retaining said clutch in engagement for a determined period, and means for releasing said clutch.
15. The combination of a bed, a slide, a turret on said slide, power driven means for revolving said turret, a clutch which may be engaged and disengaged interposed in said power driven means, a revoluble member impelled by said power driven means and having a definite speed of rotation with reference to that of said turret, means actuated by the movement of said slide for engaging said clutch, means carried by said revoluble member for retaining said clutch in engagement for a determined period independent of the jusition of the slide, and means independent of the slide for diseugaging said clutch.
16. The combination of a bed, a slide, a turret on said side, driving means for said turret, including gearing carried by the bed, and means acting upon a member of said gearing to lock said turret.
17. The combination of a bed, a slide, a turret on said side, driving mechanism for the turret, including gearing carried by the bed, a device for controlling rotation of the turret applied to a portion of said gearing, and means actuated by motion of said slide and co-acting with said device for locking and unlocking the turret and for imparting roative motion thereto through said gearing.
18. The combination of a bed, a slide, a turret on said slide, a stop block on the bed, a movable member on said s!op block, driving means for said turret, including gearing carried by the bed, locking means acting through said gearing to normally hold said turret stationary with relation to said slide, additional locking means intermediate said slide and said turret, means acting on contact with a member of said stop block to release said additional locking means, and means acting on contact with the movable member on said block to release said locking means firstmentioned.
19. The combination of a bed, a slide, a turret on said slide, driving means for said turret. Including gearing carried on the bed, a clutch interposed in said turret driving
means, a turret stop member carried by a member of said gearing, turret stop means carried on the slide, a stop block adjustably mounted on the bed, clutch operating means, a movable member on said block, connection between said movable member and said clutch operating means, a member on sald slide adapted to engage said movable member on sald block, and an actuating arm connected with the turret stop means carried on the slide, and arranged to contact with said block.

\section*{No. 100,355. Machine for Trimming and Pasting Wall Paper.}

Madve pour déoouper et poser le papier de tenture.


The Paperhangers' Machine Company. Boston, Massachusetts, assignee of Joseph Vogt, New York City, New York. U.S.A., 7th August 1906; 6 years. Filed 17th May, 1906. Recelpt No. 135,992 .
rlaim.-1. In a machine for trimming and pasting wall paper the combination of a supporting frame embodying supcrposed sections, a slidable paste receptacle supported in the lower section, a paste transmitting roller mounted in said receptacle, a feed roller journalled in sald lower section, fresser roller journalled in the upper section of sald frame and co-operating with said paste transmitting roller, and a feed roller journalled in said upper section and co-operating with said first-named feed roller.
2. In a machine for trimming and pasting wall paper, the combination, with the supporting frame, of a slidable paste receptacle in the same, feed rollers at the upper part of the supporting frame, adjustable rotary trimming knives, stationary cutters working in conjunction with said rotary knives for trimming the edges of the wall paper, a roller for transmitting paste to the under side of the wall paper, a roll supporting bracket attached to one side of the supporting frame, guide fingers for conducting the pasted and trimmed wall paper over the opposite side of the supporting frame, and fingers for conducting the trimmed-off edges to an outside receptacle.
3. In a wall paper trimming and pasting machine, the combination with the supporting frame, the paste receptacle mounted thereon, the paste transmitted roller, and the presser roller co-operating therewith, of means for trimming the edges of the wall paper, guide fingers on said supporting frame for guiding the pasted and trimmed wall paper, and laterally adjustable fingers mounted on said Prame for guiding the trimmed edge portions of the wall paper.
4. In a machine for trimming and pasting wall paper, the ccmbination with the supporting irame, of feed rollers at the upper part of the same, a paste receptacle, a paste transmitting roller in said paste receptacle, a presser roller above sald paste transmitting roller, an indicator located adjacent to the feed rollers, said indicator consisting of a graduated dial, a pointer moving over said dial, a pawl and ratchet mechanism, for operating the pointer, and means for operating said pawl and ratchet mechanism from one of the feed rollers so as to indicate the length of paper passed through the machine.
5. In a machine for trimming and pasting wall paper, the combination with the supporting frame and wall paper feeding and pasting devices, of a cover consisting of two sections, and angular section guided in ways at the bottom of the supporting frame provided with pivot pins at its end, and a hinged section applied to the opposite end of the angular section, and supporting hooks at the lower part of the supporting frame for permitting the forward motion and tilting of the cover 80 as to form a table for the pasted wall paper or the return of the same so as to enclose the parts of the machine.

No. 100,356. Process of Uniting Metal Pleces.
Proobdt pour unir des pices do mótal.


Charles Franklin Jacobs, Chicago, Illinois. U.S.A., 7th August, 1906; 6 years. Filed 16th July, 1906. Recelpt No. 137,868.
Claim.-1. The herein described process of uniting metal pleces, which consists in securing a form around the adjacent portions of the metallic pieces, placing an electrolytic fux in molten form in the space between the ends of said pleces, heating the ends of the metallic pleces through the agency of the flux and by means of an electric current. and displacing the flux by means of molten metal, substantially as described.
2. The hereln described process of uniting metal pieces, which consists in securing the ends of the pieces by placing an apertured form around the same, placing molten fiux in the space between the ends of said pleces, heating the ends of the metallic pleces through the agency of the flux and by means of an electric current, removing the flux through one of the apertures of the form and flling the space between the ends of the metal pleces with molten metal, substantially as described.
3. The herein described process of uniting metal pieces, which consists in securing the approximated ends of the pieces by means of an apertured form, placing molten flux consisting of borax, fluorspar, zinc chloride, and sodium chloride, in about the quantities specifed, in the space between the ends of said pleces, heating the ends of the metal pleces through the agency of the flux and by means of an electric current, and displacing the flux by means of molten metal, substantially as described.
4. The herein described process of uniting metal pleces, which consists in securing the approximated ends of the pieces by means of an apertured form whlch surrounds the same, placing molten fux consisting of borax, fiuorspar, zinc chloride, and sodium chloride, in about the quantities specified, in the space between the ends of said pleces. heating the ends of the metal pieces through the agency of the flux and by means of an electric current, removing the flux through one of the apertures of the form and flling the space between the ends of the metal pleces with moltrn metal, substantially as described.
5. The herein described process of uniting metal pieces. which consists in securing a form on the adjacent portions of the metallic pieces, placing molten flux in the space between the ends of sald pleces, heating the ends of the metallic pleces through the agency of the flux and by means of an electric current, turning off said current and then displacing the flux by means of molten metal, substantially as described.

No. 100,357. Vise. Etau.
James Francis McLean, Montreal, Quebec. Canada, 7th
August, 1906; 6 years. Filed 20th July, 1906. Recelpt No. 137,996.
Claim.-1. In a vise, the combination of a relatively axed Jaw, a relatively movable jaw, a nut connected with said movable jaw, a rotatable screw adapted to engage said nut. and a cam mounted to rotate with said screw but free to slide axially thereon, said cam serving to move said nut out of engagement with said screw during a part of each rotation of said screw.
2. In a vise, the combination of a relatively fixed jaw, a relatively movable jaw, a nut connected with said movable jaw, a rotatable screw, a spring adapted to press sald nut
ivto engagement with said screw, said screw serving to move sald movable jaw toward and from said fixed jaw, and a

cam mounted to rotate with said screw but free to slide axially thereon, said cam serving to move said nut out of engagement with said screw during a part of each rotation of said screw.
3. In a vise, the combination of a relatively fixed jaw, a plurality of rods extending from said flxed jaw, a relatively movable jaw mounted to slide on sald rods toward and from sald fixed jaw, a hall nut connected with sald movable jaw, a rotatable screw, a spring adapted to press sald hali-nut into engagement with sald screw, said screw serving to move said movable jaw toward and from said fixed jaw, and a cam mounted to rotate with said screw but free to slide axially thereon, said cam serving to move said half-nut out of engagement with said screw during a part of each rotation of said screw.
4. In a vise, the combination of a relatively fixed jaw. a relatively movable jaw, a toothed member connected with said movable jaw, a rotatable screw adapted to engage said toothed member and a cam mounted to rotate with said screw but free to slide axially thereon, said cam serving to move seld toothed member out of engagement with said screw during a part of each rotation of said screw.

\section*{No. 100,358. Pipe Bending Machine. Machine d plier du tuyau.}


George Huntington Reynolds, Mansfield Depot, Connecticut, U.S.A., 7th August, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,090.
Claim.-1. In a machine for bending pipe, the combination of a form having a conically arranged series of grooves, a con having corresponding grooves arranged in the inverse order, means for moving the con circumferentially about the conical form consisting of two frames journalled respectively at the ends of the form, and power devices for rocking said frames.
2. In a machine for bending pipe, the comblnation of a main frame, a form having a conically arranged series of grooves rigidly secured to the main frame, a con having corresponding grooves arranged in the inverse order, means for moving the cone circumferentially about the conical form journalled to the main frame at each end of the form, and a guide for supporting the pipe in alignment with the apertures between the con and form.
3. In a machine for bending pipe, the combination of a form having a conically arranged serles of grooves, a con having corresponding grooves arranged in the inverse order, a rocking frame in which the cone is journalled and by which ii is moved about the form, a guide for the pipe, a rotary power shaft, and gearing for rocking the rocking frames from the power shaft.
4. In a machine for bending pipe, the combination of a form having a conically arranged serles of grooves of different diameters, a con having corresponding grooves arranged in the inverse order, and means for moving the cone circumferentially about the conical form.
5. In a machine for bending pipe, the combination of a main frame, a semi-conical form having a series of circumferential grooves of different radii secured to the main frame, two segmental rack frames journalled concentric with the axis of curvature of the semi-conical form and adapted to be rocked about it, a frame having a conical surface journalled in the segmental frames and provided with circumferential grooves in the inverse order of the grooves in the semi-conical form, a power shaft, and gears on the power shaft meshing with the racks of the segmental rack frames.
6. In a machine for bending pipe, the comblnation of a main frame, a semi-conical form having a series of circumferential grooves of different radil secured to the main irame, two segmental rack frames journalled concentric with the axis of curvature of the seml-conical form and adapted to be rocked about it, a frame having a conical surface journalled ic the segmental frames and provided with circumferential grooves in the inverse order of the grooves in the semi-conical form, a guide having a series of guide portions for the pipes arranged obliquely in line with the grooves in the semi-conical form, a power shaft and gears on the power shaft meshing with the racks of the segmental rack frames.

No. 100,359. Nail Receptacle. Receptacle à clous.


Michael Anthony Salmon, Denver, Colorado, U.S.A., 7 th August, 1906; 6 years. Filed 5th July, 1906. Receipt No. 137,563.
Claim.-1. A portable nail receptacle having its body of pear shape in cross section and having a prow-shaped extremity, said receptacle having a slot extending through its lowermost portion and upwardly through its prow-shaped end and a feed opening in its upper surface.
2. A portable nail receptacle made of a single piece of resilient material bent into pear shape in cross section and having a prow-shaped extremity the edges of the material at the bottom being separated from each other so as to form a slot, said slot curving upwardly along the prow-shaped extremity and a feed opening in the upper part of the receptacle.
3. A portable nail receptacle made of a single piece or resilient material bent into pear-shape in cross section and resilient material bent into pear shape in cross section and of material being separated from each other at the bottom of the receptacle so as to form a slot, said slot extending upwardly along the prow-shaped extremity and means to adjustably retain the said edges in proximity to each other to control the width of the slot.
4. A nail receptacle having a prow-shaped extremity, a feed opening in its upper surface, downwardly converging sides. the lower edges of which extend in close proximity to each other and curve upwardly to sald extremity, screw bolts secured to one of the sides, extending transversely through said receptacle and the opposite side, their protruding ends being provided with nuts.

No. 100,360. Inler. Appareil d onorer.


Charles Ralph Spicer, Springfleld, Illinois, U.S.A., 17th August, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136.678.

C'laim.-1. A main frame comprising a table, standards, legs and guide plates all formed from a single blank, substantially as set forth.
2. The combination of a base having integral legs and integral perforated standards and members having integral ears adapted to fit and rivet in the perforations of said standards.
3. The combination of a base having integral perforated stanrlards, guide plates having members bent backwardly upon the bodies of the plates and having integral ears adapted to fit and rivet in the perforations of the standards.
4. The combination of a base, a tank secured on the base, a springy cover fitting on the tank and having a downwardly extending guide plate, guide plates contiguous to the tank, a roller having a springy connection with the cover and a roller mounted to turn in the tank and co-operating with said first-named roller.
5. The combination of a base, a tank secured on the base, a springy cover fitting on the tank and having a downwardly extending guide plate, guide plates contiguius to the tank. a roller having a springy connection with the cover, a roller mounted to turn in the tank and co-operating with said firstnamed roller and means for winding the ribbon travelling between said rollers.
6. The combination of a tank, guide plates adjacent to the tank, yielding rollers mounted on the tank, means for immersing a ribbon passing through the tank, and means for winding said ribbon.
7. A combine cover and ribbon guide having springy ears and a downwardly extending curved member, in combination with a tank on which said cover fits, ylelding rollers mounted on the tank, and means for winding the ribbon traveling on the ribbon gulde and between said rollers.
8. The combination of a base, a tank on the base, guides adjacent to the tank, a ribbon guide connected with and extending downwardly into the tank, a spool support adjacent to the tank, and means for turning a spool on the spool support.
9. The combination of a base, a tubular spool support on the base, a shaft turning in the tubular spool support and adapted to turn a spool, a tank on the base adapted to contain ink, and means for guiding a ribbon through the ink in the tank during the winding of the ribbon on a spool mounted on the spool support.
10. The combination of a tank on the base, guides adjacent to the tank, a ribbon guide connected with and extending downwardly into the tank, a spool support adjacent to the tank, means for turning a spool on the spool support. and means for squeezing excess of ink from the inked ribbon during the winding of the ribbon on the spool.

No. 100,361. Pamp. Pompe.


William Clinton Brown, Prescott, Ontario, Canada, 7th August, 1906; 6 years. Flled 29th March, 1906. Receipt No. 123,812.
Olaim.-1. In a centrifugal turbine or like pump the combination with a double suction Impeller, of single suction impellers delivering fluld to the opposite sides of the double suction impeller.
2. In a centrifugal turbine or like pump the combination with an impeller of large capacity, of a plurality of Impellers of less capacity delivered to opposite sides of said larger impeller.
3. In a centrifugal turbine or like pump the combination with a double suction middle impeller, of single suction impellers at the sides thereof delivering fluid to the middle impeller.
4. In a centrifugal turbine or like pump the combination with a middle impeller having a suction at each side, of one or more impellers on each side of said middle impeller, which side impellers take fluid at one side and impel it towards the middle impeiler, and an inlet having side passages for the flow of the liquid to the side impellers.
5. In a centrifugal turbine or like pump the combination with an impeller. of impellers at the sides thereof, a shaft to which all the impellers are secured, means for delivering fluid from the side impellers and means for delivering fluid from the side impellers to the middle impeller, together with a discharge way from the middle impeller.
6. In a centrifugal turbine or like pump the combination with a double suction middle impeller, of single suction impellers at the sides thereof, means for delivering fluid to the side impellers, means for delivering fluid from the side impellers to the middle impeller, and a discharge for the middle impeller.

NTo. 100,362. Pumping Eystem. Sysṫ̀me de pompe.
Mark R. Muckle, Jr., John S. Muckle and Thomas Carpenter Smith, co-inventors, all of Philadelphia. Pennsylvania.
U.S.A., 7th August, 1906; 6 years. Filed 2th January, 1905. Recelpt No. 121,903 .

Claim.-1. The combination in a pumping system, of two or more pumps, a gas engine for each pump whereby each pump can be independently operated, an inlet for each pump, an outlet common to all the pumps, a by'pass for each pump so that one pump can be started at a time, each pump by-pass ing the water until it is desired to communicate with the outlet main, substantially as described.
2. The combination in a pumping system, of a serles of pumping units, each unit consisting of a pump and a gas engine for driving the pump, each pump having an inlet for water and an outlet for water, and a by-pass, the outlets of the several pumps communicating with the main leading from the pumping system, substartially as described.
3. The combination in a pumping system, of a series of like units, each unit consisting of a pump, a gas engine directly connected to the pump. means for supplying gas to the engine, and means for supplying compressed air to the cylinders of the engine. an inlet and an outlet for the pump. a by-pass for each pump, and a valve at each pump, with a distributing main common to all the pumps so that on opening the valves in the outlet pipe of each pump the pumps will be connected directly to the main. substantially as described.
4. The combination in a pumping system, of a series of pump units, each unit conslsting of a pump, a gas engine by which the pump is driven, gas admission pipes and compressed alr admission pipes for the said gas engine, an inlet and an outlet for the sald pump, a by-pass so that each pump can pump to waste, valves for regulating the flow of water through the by-pass, valves for regulating the flow of water from each pump, a distributing main connected to
the outlat pipe of each pump，and means at each unit for controlling the gat engine and pumping mechanism and for


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recording the pressure in the distributing main，substanti－ ally as described．

No．100，363．Measure．Mesure．


Ralph Morehouse，Oelwein，Iowa，U．S．A．，7th August， 1906. Filed 30th May，1906．Receipt No．136，413．
Claim．－1．A rule having a member longitudinally slotted，a cap plate secured over the bifurcated ends of the said mem－ ber provided with an aperture in line with the slot，said plate having means for automatically gripping the scratcher when the latter is shoved through the aperture into the slot．

2．The combination with the slotted rule end，the spring metal cap secured to sald end having an aperture in its end and longitudinally siotted，of a scratcher pin having a head and a neck portion of reduced diameter．
3．A rule having one of its ends slotted longitudinally，a spring metal cap shaped to form a continuation of the said slotted rule end，and having parallel extensions that fit over the bifurcated ends of the rule member and ars secur－ ed thereto，the said cap having a central aperture in its cuter end，and having the said aperture end and the upper and lower portions formed with a longitudinal slit，for the purposes described．

4．As an improvement in foot rules of the character des－ cribed，a scratcher pin having a head portion and a neck of less diameter than the body，in combination with an end member of the rule having a longitudinally slot，and a spring metal cap fitted on the bifurcated members of said end，said cap being slotted longitudinally a portion of its ingth and laving an aperture to receive the scratcher pin that merges．

No．100，364．Measuring Machine． Machine à mesuror．


バース．．．．180364
John Berg，Anderson，Indiana，U．S．A．，7th August，1906， 6 Jears．Filed 20th March，1906．Receipt No．134，076．
Olaim．－1．A measuring machine comprising a stationary bed consisting of an open frame work with a centrally located hub connected by arms to the sides thereof，a plate stationar－ ily supported upon the top of the bed having a centrally lo－ cated aperture registering with the bore of the hub，a post stationarily contained in the bore of the hub and extending through sald aperture and above said plate，a measuring means mounted to revolve upon said plate and having a centrally located hub through the bore of which extends said post，said measuring means comprising a unitary cast－ ing consisting of a surface plate，a serles of flanges pro－ jecting downwardly from the surface plate and arranged concentrically with the hub of the measuring means and laterally arranged ribs connecting the flanges at selected places to form the measures，said measuring means having apertures through the surface plate forming entrances to the measures，a stationary covering plate for the measuring means having a hub centered on said post and apertures opposed to the paths of sald measures to register therewith as the measures revolve，and the first－mentioned plate har－ ing apertures to register with said measures as the latter revolve，said apertures being out of line with the corres－ ponding apertures of the covering plate．
2．A measuring machine comprising a stationary bed con－ sisting of an open frame work with a centrally located hub connected by arms to the sides thereof，a plate sta－ tionarily supported upon the top of the bed having a cen－ trally located aperture registering with the bore of the hub，a post stationarily contained in the bore of the hub and extending through said aperture and above said plate． a measuring means mounted to revolve upon said plate and having a centrally located hub through the bore of which extends said post，said measuring means comprising a uni－ tary casting consisting of a surface plate，a series of flanges projecting downwardly from the surface plate and arranged concentrically with the hub of the measuring means and laterally arranged ribs connecting the flanges at selected places to form the measures，said measuring means having apertures through the surface plate forming entrances to the measures，a stationary covering plate for the measur－ ing means having a hub centered on said post and apertures opposed to the paths of said measures to register therewith as the measures revolve，the first－mentioned plate having apertures to register with said measures as the latter re－ volve，said apertures being out of line with the correspond－ ing apertures of the covering plate，and means for causing the revolution of the measures．

3．A measuring machine comprising a stationary bed con－ sisting of an open frame work with a centrally located hub connected by arms to the sides thereof，a plate stationarily supported upon the top of the bed having a centrally locat－ ed aperture registering with the bore of the hub，a post stationarily contained in the bore of the hub and extending through said aperture and above said plate，a measuring
means mounted to revolve upon said plate and having a centrally located hub, through the bore of which extends said post, said measuring means comprising a unitary casting consisting of a surface plate, a series of flanges projecting downwardly from the surface plate and arranged concentrically with the hub of the measuring means and laterally arranged ribs connecting the flanges at selected places to form the measures, said measuring means having apertures through the surface plate forming entrances to the measures, a stationary covering plate for the measuring means having a hub centered on said post and apertures opposed to the paths of said measures to register therewith as the measures revolve, the first-mentioned plate having apertures to register with said measures as the later revolve, said apertures being out of line with the corresponding apertures of the covering plate, adjustable gates for one of said sets of measures comprising arc-shaped plates slidable over the entrances to sald measures, slots in the surface plate of the measuring means intermediate said measures and set screws inserted through said slots to enter the arc-shaped plates and adjustably connect hem to the surface plate.

No. 100,365. Wall.
Mur.


Hugh B. Copeland, Denver, Colorado, U.S.A., 7th August, 1906; 6 years. Filed 25th June, 1906. Recelpt No. 137,231.
Claim.-1. In a portable wall, the combination with a sultable stationary support, of sectional pieces or slabs provided with openings therethrough registering with openings formed in the support, a fastening device passed through the registering openings of the slab and the support, the slab being recessed surrounding the opening for the fastening device, and a concealing plate inserted in the recess and covering the extremity of the fastening device, substantially as described.
2. The combination with a stationary support provided with an opening, a slab provided with a vertically elongated opening, a fastening device passed through the opening in the slab and the opening in the stationary support, the opening in the latter being of a size to fit the fastening device, the slab being recessed around the outer extremity of the fastening device opening, and a concealing plate secured in said recess and covering the opening of the fastening device.
3. In a portable wall the combination with a suitable stationary support provided with an opening, a slab provided with an elongated opening, a fastening device passel through the openings in the slab and the support, the opening in the support being adapted to fit the fastening device, the slab being provided with an exterior recess surrounding the opening for the fastening device, a washer surrounding the fastening device and forming a seat for the head of the latter, a plate located in the recess adjacent to the head of the fastening device, and another plate located in the recess of the slab and suitably secured in place, substantially as described.
4. The combination of a stationary support provided with an opening, a slab also provided with an opening, a bolt passed through the opening of the two members, a nut applled to its inner extremity for holding the bolt in place, the slab being recessed around the bolt hold, a washer having a sleeve portion entering the bolt hole and engaged by tha bolt, a plate placed in the recess of the slab and concealing the head of the bolt, and another plate placed in the recess and concealing the first-named plate, the plates being secured in place, substantially as described.
5. A portable wall comprising stationary fastening parts, slabs provided with interlocking adjacent edges, the slabs being provided with openings passing therethrough, and exterior recesses formed therein surrounding the openings. fastening devices passed through the openings in the slabs and the stationary parts, and concealing devices placed in the recesses for concealing the fastening devices, substantially as described.
No. 100,366. Blackboard. Tableau.


Charles Fricke, Aurora, Illinois, U.S.A., 7th August, 1906: 6 years. Filed 8th June, 1906. Receipt No. 136,696.
Claim.-1. In combination a blackboard comprising a fiexible metallic body having a writing surface, said board being adapted to be secured to a support, and a flbrous material disposed between the back of the board and the support.
2. A blackboard comprising a metallic body, a writing surface formed on one face thereof, and adapted to be secured to a support, and a shcet of fibrous material dis. posed between the rear face of the body and the support.
3. A blackboard comprising a sheet metal body. a writing surface formed on one face thereof, a sheet of paper secured to the rear face of the body. and means for securing the paper to a supporting wall to hold the board in position.
4. In combination a blackboard comprising a sheet metal body having a coating on one face thereol to produce a writing surface, the rear face of the body being provided with a coating, and a sheet of fibrous material secured to the rear coated face, said board being adapted to be secured to a supporting wall by gluing the exposed face of the fibrous material thereto.
6. A blackboard comprising a fiexiblle metallic body provided with a writing surface, and a fibrous material secured to the back thereof.

No. 100,367. Sewing Machine Table. Table de machine d coudre.


Theodore Kundtz, Lakewood, Ohio, U.S.A., 7th August, 1906; 6 years. Filed 11th June, 1906. Recelpt No. 136.806.
Claim.-1. Cabinet work for a sewing machine table comprising a table top, a drawer case arranged in under an end of the table top and comprising a horizontally arranged top and shelves spaced vertically to form vertically spaced compartments, with the top of the drawer case arranged next below and removably attached to the table top and provide. 1 at its forward end with a laterally and inwardly projecting cover forming extension, and the drawings in the aforesaid compartments, with each drawer provided at its forward end
and inner side with a laterally and inwardly projecting extension provided with a compartment, with the compartment of the extension of the upper drawer arrangea to be covered by the aforesaid cover forming extension of the top of the drawer case in the inner and closed position of the lastmentioned drawer.
2. Cabinet work for a sewing machine table comprising a table top, a suitably supported drawer case arranged in under an end of the table top and comprising a horizontally arranged top and a shelf arranged a suitable distance below the last-mentioned top, with the said top of the drawer case provided at its forward end with a laterally and inwardly projecting cover forming extension, and the drawer in the compartment formed between the shelf and the top of the drawer case and provided at its forward end and inner side with a laterally and inwardly projecting extension provided with a compartment, with the compartment of the extension of the drawer arranged to be covered by the aforesaid cover forming extension of the top of the drawer case in the inner and closed position of the drawer.
3. Cabinet work for a sewing machine table comprising a table top, a suitably supported drawer case arranged in under an end of the table top and comprising a compartment for a forwardly movable drawer, a drawer in the said compartment, which drawer is provided at its forward end and inner side with a laterally and inwardly projecting extension provided with a compartment.
4. Cabinet work for a sewing machine table comprising a table top, a drawer case arranged in under and end of the table top and comprising a horizontally arranged top and shelves spaced vertically to form compartments, with the top of the drawer case attached to the table top, and the drawers in the aforesaid compartments, with each drawer provided at its forward end and inner side with a laterally and inwardly projecting extension provided with a compartment, and each shelf being provided at its forward end and inner side with a laterally and inwardly projecting extention arranged to afford bearing to the extension of the drawer on the said shelf.
5. Cabinet work for a sewing machine table, comprising a table top, a drawer case arranged in under an end of the table top and comprising a horizontally arranged top and a drawer receiving compartment next below the last-mentioned top, with the drawer top arranged next below the table top and provided at its forward end and inner side with a laterally and inwardly projecting cover forming extension, and a drawer for the said compartment, which drawer is provided at its forward end and left-hand side with a laterally and inwardly projecting extension having a compartment formed therein and arranged to be covered by the aforesaid extension of the drawer tod in the closed position of the position of the drawer.
6. Cabinet work for a sewing machine table, comprising a table top, a drawer case arranged in under an end of the tuble top and comprising a horizontally arranged top irame and a drawer receiving compartment next below the said top frame, with the laiter arranged next below and removably attached to the table top and provided at its torward end and inner side with a laterally and inwardly projecting cover forming extension, and a drawer in the said compartment, which drawer is provided at its forward end and inner side with a laterally and inwardly projecting extension having a compartment formed therein and arranged to be covered by the aforesald extension of the top frame of the drawer in the closed position of the drawer.
7. Cabinet work for a sewing machine table, comprising a table top, two drawer cases arranged in under opposite ends respectively of the table top and comprising each a horizontally arranged top and a drawer receiving compartment next below the said drawer top, with the latter arranged next below the table top and provided at its forward end and inner side with a laterally and inwardly projecting cover forming extension, a drawer in the said compartment, which drawer is provided at its forward end and inner side with a laterally and inwardly projecting extension having a compartment formed therein and arranged to be covered by the aforesaid extension of the drawer top in the closed position of the drawer.
8. Cabinet work for a sewing machine table comprising a table top, two drawer cases arranged in under opposite ends respectively of the table top and comprising each a horizontally arranged top and a drawer receiving compartment next below the said drawer top, with the latter arranged next below the table top, a drawer for the said comrartment, and a central drawer arranged and extending between the drawer cases and having a front pivoted vertically near one extremity to the table top, with the upper portion of the said front projecting forwardly of the lower portion of the said front and arranged flush at its outer surface and corresponding in dimensions vertically with the forward edges of the tops of the drawer cases.
9. Cabinet work for a sewing machine table, comprising a table top, two drawer cases arranged in under opposite
ends respectively of the table top and comprising each a horizontally arranged top and a drawer receiving compartment next below the said drawer top, with the latter arranged next below the table top and provided at its forward end and inner side with a laterally and inwardly projecting cover forming extension, a drawer in the said compartment, which drawer is provided at its forward end and inner side with a laterally and inwardly projecting extension having a compartment formed therein and arranged to be covered by the aforesaid extension of the drawer top in the closed position of the drawer, and a central drawer arranged and extending between the extensions of the drawers of the two drawer cases, said central drawer having a front pivoted vertically near one extremity to the table top, with the upper portion of the said front projecting forwardly of the lower portion of the said front and arranged flush at its outer surface and corresponding in dimension vertically with the forward edges of the tops of the drawer cases.
10. The combination with the table top of a sewing machine table and the metal legs or frames arranged below the table top a suitable distance from opposite ends respectively of the table top, of drawer cases arranged next below the table top at the outer sides of the aforesaid legs or frames and comprising each a top arranged next below the table top at the outer side of the adjacent leg or frame, and a drawer supported from each drawer case next below the top of the said drawer case and movable forwardly and rearwardly in opening and closing respectively, which drawer is provided at the forward end and inner side with a laterally and inwardly projecting extension which has a compartment and is arranged forward of and instrumental in concealing the adjacent leg or frame, and the top of each drawer case being provided at its forward end and inner side with a laterally and inwardly projecting extension arranged to cover the compartment in the extension of the aforesald drawer of the said case in the closed position of the drawer.
11. The combination with the table top of a sewing machine table and the metal legs or frames arranged below the table top a suitable distance from opposite ends respectively of the table top, of drawer cases arranged below the table top at the outer sides of the aforesaid legs or frames, and a drawer supported from each drawer case and movable forwardly and rearwardly in opening and closing respectively, which drawer is provided at the forward end and and inner side with a laterally and inwardly projecting extension which has a compartment and is instrumental in concealing and abuts against the adjacent leg or frame in the closed position of the drawer.
12. The combination with the table tod of a sewing machine table and the metal legs or frames arranged below the table top a suitable distance from opposite ends respectively of the table top, of drawer cases arranged below the table top at the outer sides of the aforesaid legs or frames, and a drawer supported from each drawer case and movable forwardly and rearwardly in opening and closing respectively which drawer is provided at the forward end and inner side with a laterally and inwardly projectaing extension arranged forward of and instrumental in concealing the adjacent leg or frame.

No. 100,368. Car Coupler. Attelage de charf.


George Lloyd, Gananoque, Ontario. Canada, 7th A:Igust, 1906; 6 years. Filed 2sth April, 1906. Receipt No. 135,363.
Claim.-1. In a coupling comprising semi-cylindrical enlargements integral with the parts to be coupled having conical end surfaces, coupling heads engaging said surfaces and adjustable means for holding sald coupling heads in position, as and for the purpose specified.
2. An improved coupling comprising semi-cylindrical enlargements integral with the parts to be coupled having conical end surfaces, coupling heads engaging said surfaces, adjustable means for holding said coupling heads in position and means for limiting the movement of the coupling heads with regard to each other, as and for the purpose specifled.
3. An improved coupling comprising semi-cylindrical enlargements integral with the parts to be coupled having conical end surfaces, coupling heads having tapered inner walls engaging the conical end surfaces, and a bolt passing through the heads and the enlargements, as and for the purpose specifled.
4. An improved coupling comprising semi-cylindrical enlargements integral with the parts to be coupled having conical end surfaces, coupling heads engaging said end surfaces, flanges projecting from the coupling heads having ribs along their inner faces which limit the movement of the coupled parts, and a bolt passing through the enlargements and the ccupling heads, as and for the purpose specified.

No. 100,369. Water Elevator. Ascenseur d cau.


John Montgomery. Toronto, Ontario, Canada, 7th August. 1906; 6 years. Filed 17th April, 1905. Receipt No. 124,348
Olaim.-1. In a water elevator in combination with a storage tank, a supply tank located to be fllled from the storage tank by gravity, a storage tank for air in communication with the supply tank, and means interposed between the air ytorage tank and the supply tank for regulating the air pressure exerted in the supply tank, substantially as described.
2. In combination with a supply tank located to be filled by gravity with a suitable source of water supply, an air tank adapted to hold compressed air, a communicating pipe between the air tank and the supply tank, and means interposed between the air tank and the supply tank for regulating the air pressure exerted in the supply tank, substantially as described.
3. In combination with a tank adapted to be emptied by pressure of air exerted therein, means whereby sa:d tank is automatically filled with water, a storage tank for air and communication between the storage tank for air and the water tank, air pressure regulating means interposed in a plpe connecting the air tank and the water tank, a controlling valve in said passage, and means whereby the controlling valve may be operated.

No. 100,370. Apparatus for Assorting Pulpwood. Appareil pour assortir les copcaux de bois de pulpe.
Nathaniel Morrison Jones, Bangor, Maine, U.S.A., 7th August,
1906; 6 years. Filed 23rd April, 1906. Receipt No. 135,183.
Claim.-1. A chip assorting apparatus comprising a mechanical separator organized to subdivide the chips into a plurality of grades according to their size, and a hydraulic separator which received the chlps of the smaller size and the waste matter mixed therewith from the mechanical sGparator, and separates sald chips and waste matter in accordance with their respective specific gravitlis.
2. A chip assorting apparatus comprising a tier of reciprocating graded screens, the openings of each screen being smaller than those of the screen above \(1 t\), and a hydraulic separator which receives from the lowes! screen the chips of the smallest grade, and the waste matter mixed therewith. and separates said chips and waste matter in accorjance with their respective specific gravities.
3. A chip assorting apparatus comprising a tler of reciprocating graded screens, the openings of each screen being
smaller than those of the screen above it, each screen having an outlet for the chips arrested by it, a hydraulic separator


Which receives the chips and waste matter from the outlet of the lowest screen, and separate conductors for removing chips from the outlets of the other screens.
4. In a chip assorting apparatus, the combination with a screen adapted to arrest cookable clear-wood chips of a maximum size, of an upper screen above it adapted to arrest larger non-cookable pleces, a bottom screen below the clearwood screen adapted to arrest cookabie pieces of minimum size and broken knot-wood, and a tank to receive and assort the matter arrested by said bottom screen.
5. In a chip assorting apparatus, the combination with a screen adapted to arrest cookable clear-wood chips of a maximum size, of an upper screen above it adatped to arrest larger non-cookable pieces, a bottom screen below the clearwood screen adapted to arrest cookable pieces of minimum size and broken knot-wood, a tank to receive and assort the matter arrested by sald bottom screen, means for conveying the chips from the clear-wood screen, and means for simultaneously conveying the clear-wood chips from the tank, two clear-wood deliveries being simultaneously effected.
6. In a chip assorting apparatus, the combination with a screen adatped to arrest cookable clear-wood chips of a maximum size, of an upper screen above it adapted to arrest larger non-cookable pleces, a bottom screen below the clearwood screen adapted to arrest cookable pieces of minimum size and broken knot-wood, a tank to receive and assort the matter arrested by sald bottom screen, means for conveying the chips from the clear-wood screen, means for simultanecusly conveying the clear-wood chips from the tank, two clear-wood deliveries being simultaneously effected, means for conveying from the upper screen the slivers and butts. and a conveyer for removing the waste matter falling through the bottom screen.

No. 100,371. Indez. Indes.


Norman Greenshields Neill, Montreal, Quebec, Canada, 7th August, 1906; 6 years. Flled 29th March, 1906. Recelpt No. 134,412.
Claim.-1. An index comprising a plurality of main sheets having integral tags at their outer edges, said tags lying out of register with each other and being formed by cutting away the vertical portions of the sheets above and below each tag. indexing characters printed on both sides of said tags. a plurality of shorter secondary sheets between each pair of said main sheets. sald secondary sheets having indexing tangs formed at their outer edges. and intermediate indexing characters printed on one side of sald last-mentioned tags.
2. An index comprising a plurality of main sheets having integral tags at their outer edges, said tags lying out of register with each other and being formed by cutting away the vertical portions on each side of said tags, indicating numbers forming a primary index printed on both sides of said tags whereby said index can be read from either the front or back of the book, a plurality of shorter secondary sheets between said main sheets, and indexing tags formed at the outer edges of said secondary sheets by cutting away the vertical portion on one side only of said tags, and intermediate numbers forming a secondary index printed on one side of the last-mentioned tags.

No. 100,372. Apparatus for Subjecting Air to Electrical Discharges.
Appareil pour soumettre l'air des décharges électriques.


John Elvin Mitchell and Dennis Parks, both of St. Louis, Missouri, U.S.A., 7th August, 1906; 6 years. Filed 17th April, 1906. Receipt No. 134,985.
Claim.-1. In an apparatus for modifying air by the electric discharge in combination with a yieldably mounted electrode, a pair of electrodes reciprocable into and out of contact with opposite ends thereof, said electrodes being connected with a suitable source of electricity.
2. In an apparatus for modifying air by the electric discharge in combination with a slidably mounted electrode, a pair of electrodes reciprocable into and out of contact with opposite ends thereof, said electrodes being connected with a suitable source of electricity.
3. In an apparatus for modifying air by the electric discharge in combination with a yieldably mounted electrode, a pair of synchronously movable electrodes reciprocable into and out of contact alternately with opposite ends of said electrode, said electrodes being connected with a suitable source of electricity.
4. In an apparatus for modifying air by the electric discharge in combination with a slidably mounted electrode, a pair of electrodes reciprocable into and out of contact with opposite ends thereof, and meaus for connecting up said electrodes with a source of electricity involving a shoe loosely mounted on said slidable electrode.
5. In an apparatus for modifying air by the electric discharge in combination with an electrifying chamber having an end wall provided with an apertire and having an outlet, an electrode mounted in said chamber, a sccond electrode, and means for reciprocating it through said aperture into and out of contact with said first-named electrode. said electrodes being connected with a source of electricity, and means for forcing a blast of air through said aperture.
6. In an apparatus for modifying air by the electric discharge in combination with an electrifyng chamber having an end wall provided with an aperture and having an outlet, an electrode mounted in said chamber a sccond electrode, and means for reciprocating it through said aperture into and out of contact with said first-named electrode, said electrodes being connected with a source of electricity, and means for forcing a blast of air through said aperture simultaneously with the outward or separating movement of said last-named electrode.
7. In an apparatus for modifying air by the electric discharge, in combination with an electrifying chamber having oppositely disposed apertures and provided with an outlet, an electrode mounted in said chamber in line with said apertures, a pair of electrodes reciprocable through said apertures into and out of contact with opposite ends of said firstnamed electrode, said electrodes being connected with a source of electricity, and means for forcing a blast of air through said apertures simultaneously with the outward or separating movement of the respfeive reciprocable electrodes.
8. In an apparatus for modifying air by the electric discharge in combination with an clectrifying chamber having oppositely disposed apertures, a pair of pump cylinders havIng valve controlled communication with said apertures,
plungers in said cylinders, an electrode in said electrifying chamber, a pair of electrodes reciprocable through said apertures into and out of contact with opposite ends of said electrode, and means for simultaneously operating said pair of electrodes and said plungers.
9. In an apparatus for modifying air by the electric discharge in combination with an electrifying chamber, an electrode yieldably mounted therein, a pair of air pumps having pistons, a pair of electrodes operntlvely connected to said pistons, means for reciprocating said pistons alternately in opposite directions whereby said pair of electrodes are also reciprocated in opposite directions into and out of contact with said yieldable electrode, and ducts provided in said apparatus for conveying air from said pumps into the presence of the electric discharges produced at opposite ends of the latter electrode.
10. In an apparatus for modifying air by the electric discharge in combination with au electrifying chamber, a pair of plectrodes connected with a suitable source of electricity and one of which is reciprocable into and out of contact with the other within said chamber, and an air pump for forcing air into the presence of the electric discharges occurring between said electrodes, said reciprocable electrode being connected to and movable simultaneously and in unison with a movable member of the air pump.

No. 100,373. Provision Safe. Coffre d provition


Tlizabeth S. Reed, New Haven, Connecticut, U.S.A., 7t' August, 1906; 6 years. Filed 5th June, 1906. Receipt No. 136,584.
Claim.-A provision safe comprising a casing immovabls secured outside a window sill and mainly below the upper c dge thereof, a cover hinged to the outer cdge of said casing and overlapping the upper edge thereof, said casing formed with openings in its walls and with a groove in its upper cdge, and a removable lining in said casing, the upper edge of the said lining turned over into the said groove, said lining also formed with openings registering with the opening in the casing and provided with slides for closing or partially closing the same, substantially as described.

No. 100,374. Extension Table. Table dextension.


John K. Riskel, Williamsport, Pennsylvanla, U.S.A., 7th August, 1!06; 6 years. Filed 14th June, 1906. Receipt No. 136,889.
Chaim.-1. The combination in an extension table of a frame including a transversely disposed bar arranged below
and serving to support the adjacent edges of the permanent table top, an auxiliary leaf, and pivotal supports for said leaf. the leaf being adjustable to bring one of its edges above the supporting bar, and one of the pivotal supports at the opposite edge of said leaf serving to support the adjacent edge of the permanent top.
2. The combination in an extension table of a frame including a centrally disposed crossbar arranged below and serving to support the adjacent edges of the permanent top, auxiliary leaves, and pivotally mounted crossbars for the support of said leaves, the crossbars being disposed on lines oblipue to the top of the table when the leaves are adjusted to position for use.
3. The combination in an extension table of a frame in--luding a transversely disposed bar arranged below and serving to support the adjacent edges of the permanent table top auxlliary leaves, and pivotal supports for said leaves, rach of said leaves being adjustable to bring one of its edges above the supporting bar, and one of the pivotal supports at the opposite edge of said leaf serving to support an additional leaf.
4. In an extension table the combination with a plurality of slidabyl connected rails arranged in pairs, of a rigid crossbar extending between the ralls forming the inner pair, and serving at all times a support for two leaf sections of the table top, and an auxiliary leaf section adjustable to the plane of the top of the table and arranged to rest on said crossbar.
5. In an extension table slidable extension side rails connected in pairs, a rigid crossbar extending between the ralls forming the inner pair, a plurality of crossbars pivotally connected at their opposite ends to said inner rails and having their upper edges oblique with respect to their sides, and an auxiliary leaf pivotally connected to sald plvoted crossbars and resting on the rigid crossbar when adjusted to a position in the plane of the top of the table, the oblique edge of one of the bars serving to support another portion of the table top, and the pivoted crossbars having their upper load receiving edges in vertical planes to one side of the vertical planes of their plvots.

No. 100,375. System of Involoing. Système de facturer.


Robert Alexander-Robertson, Hamilton, Ontario, Canada, 7 th August, 1906; 6 years. Flled 24th April, 1906. Recelpt No. 135,234.
Ilaim.-An improved art or system of invoicing. duplicating and fling the same, consisting of an invoice sheet of any colour, ruled and headed double on one side and afterwards folded in the center, so that, the involces may be entered on front and back. or both outsides, a loose charging or duplicating sheet wider than the width of the invoice sheet when
folded and provided with a perforated inner margin, the said charging sheet of a different colour to distinguish it from the invoice shect, and placed between the Invoice sheets, to recclve the duplication of the invoices on each side of the said charging shect, ready to be filed and bound in a post binder when completed, all arranged substantially as and for the purpose specifled.

No. 100,376. Spring Wheel. Rouc à ressort.


Edward B. Sims, Western, Nebraska, U.S.A., 7th August. 1906; 6 years. Filed 10 th May, 1906. Receipt No. 135.75!.
Cluim.-1. A vehicle wheel having a tire encircling its rim and spaced therefrom, a serics of springs interposed betwern the rim and wire and having rigld, but detachable connection at their inner ends with the rim and having both pivotal and detachable connection at their outer ends with the tire.
2. In a vehicle wheel the combination of a rim, a tire encircling the rim and spaced thercfrom, palrs of headed studs applied to one of said parts. a plurality of springs cach having at one end a pair of keyhole slots arranged relatively at a right angle and adapted to make detachable connection with a pair of studs, and means for detachably connecting the opposite ends of the springs to the other pair.
3. In a vehicle wheel the combination of a rim. pairs of headed studs applied thereto, a tire encircling the rim and spaced therefrom and provided at intervals in its length with pairs of ears, surved springs having their outer ends bent into approximately cylindrical form and having a pair of keyhole slots at their inner ends, the slots of said pair having a right angular arrangement and adapted to co-operate with a pair of headed fasteners, and means for pivotally and detachably connecting the outer ends of the springs to the said ears.
4. A vehicle wheel having a tire enciroling its rim and spaced therefrom, a series of springs interposed between the rim and tire, and plurallty of toggle braces interposed between the tire and rim to sustain lateral stress and prevent transverse displacement of the wire.

\section*{No. 100,377. Mechanism for Propelling and Steering Veasels.}

Mécanisme de mise en mourem nt et gouverneur.
Rocco Stola, New York City, New York, U.S.A., 7th August. 1906; 6 years. Flled 22nd August, 1:05. Recelpt No. 127,881.
Claim.-1. As a means for propelling and steering, a hull constructed with a well in combination with a carriage having both ends wedge-shaped adapted to be raised anl lowered therein, means for raising and lowering such carriage by a single screw \(\mathbf{M}^{3}\), a propeller mounted in such carrlage and means for revolving it arranged on one side of the center line of the hull and with another corresponding set of mechanism and propelling means and also independent elevating means on the opposite side of the center line, all adapted to serve substantially as herein specifed.
2. As a means for propelling and steering, a hull constructed with a well having the lower end flared both at the front and rear as indicated by \(\Lambda^{2}\) in figure 5, adapted to allow the water to obliquely and strongly rise into and sink out of the well, in combination with a carriage having welge-shaped ends adapted to be raised and lowerod therein. means for raising and lowering each carriage by a single screw independent of the other carriage, a propeller mount ed in such carriage and means for revolving it, all arranged to serve substantially as herein specifled.
3. As a means for propelling and stcering, a hull constructed with a well in combination with a carriage having both ends wedge-shaped adapted to be raised and lowered therein, means for raising and lowe:ing such carriage. a
propeller mounted in such carriage and means for revolving it, the power being communicated to the propeller

through upright shafts with bevel gears and feathered connections and with an independent motor for each shaft and independent controlling means therefor, all adapted to serve substantially as herein specified.
4. As a means for propelling and steering, a hull constructed with a well in combination with a carriage having both ends wedge-shaped adapted to be raised and means for revolving it, the power being communicated to the propeller through upright shafts with bevel gears and feathered connections and with elevating screws and independent motors each adapted for rapidly raising and depressing the carriage each independently of the other carriage, all substantially as herein specified.

No. 100,378. Vending Machine. Machine de vente.


William Chester Whitney, Newark, New Jersey, U.S.A., 7th August, 1906; 6 years. Filed 13th February, 1906. Receipt No. 132,890.
Claim.-1. In a vending machine the combination of a rotary storage frame mounted on a vertical axis and comprising a series of radial compartments or vertical columns for goods, each of said columns or compartments being keystone shape in horizontal section to receive and store a series of superposed cartons or boxes of general keystone shape.
2. In a vending machine the combination with a casing, ofa vertical shaft therein having means outside of the casing to turn the same, a storage frame secured on said
shaft and adapted to contain cartons or boxes with goods therein, a star wheel on said shaft, and a ratchet lever engaging the periphery of said star wheel.
3. In a vending machine the combination with a casing. of a vertical shaft therein having means outside of the casing for turning said shaft, a storage frame secured on the shaft and adapted to contain goods to be vended, a star wheel on said shaft, a ratchet lever engaging the star wheel, and means for locking said lever in locket engagement with the star wheel when ejector mechanism is operated.
4. In a vending machine the combination with a casing of a rotary storage frame therein, a star wheel movable with the frame, a ratchet lever pivoted between its ends, a roller at one end of said lever engaging the star wheel, an ejector, a shaft to operate the ejector, and means for locking said lever in locked engagement with the star wheel to hold the storage frame when the shaft is operated.
5. In a vending machine the combination with a casing having an opening or window therein, of a rotary storage frame for goods to be vended comprising a series of radial columns for goods, weights located on top of each and every column of goods, and an indicator, and devices connected with said indicator and operated by a weight in any empty column to move the indicator and designate the fact of any empty column at the opening ir window.
6. In a vending machine the combination with a casing having an opening or window therein, of a rotary storage frame in said casing having a series of radial columns for goods to be vended, a weight in each and every column on top of the pile of goods, a counter weighted rotary disc behind the window having the word "empty" or other like printed matter thereon normally out of alignment of the window, and means operated by a weight in any column for turning the disc to expose the word "empty" at the window
7. In a vending machine the combination with a rotary vending frame comprising a top plate, a series of radial partitions secured to the top plate, a cylinder secured to the central portion of the top plate, depending therefrom and through which the inner edges of the partitions pass, a ring or disc secured in the cylinder near its lower end, bottom plates secured to the lower ends of the partitions a opposite sides providing a space for an ejector between them, plates connecting the outer edges of the partitions but spaced from the bottom plates to allow a single carton or box to pass below them, shutters hinged to said outer plates, and catches on the top plate to secure the upper ends of said hinged shutters.
8. In a vending machine, the combination with a fixed ejector guide, and a sliding ejector thereon, of a storage frame comprising a series of radial columns or compartments any one of which may be disposed in front of the ejector, a rotary shaft, an arm loose thereon, a disc secured to the shaft, pins or screws on the face of said disc on opposite sides of the arm to move the same, and a pitman connecting the arm with the ejector to move the latter when the shaft is turned.
9. In a vending machine the combination with a rotary storage frame containing columns of goods of different prices, of a series of coin chutes for different coins, coin controlled operating mechanism over which without obstruction a coin would jump and return to the purchaser, and a deflector common to all the coin chutes and operated by the frame to move behind the proper coin chute and deflect the coin into the coin-controlled operating mechanism.
10. In a vending machine the combination with a rotary storage frame containing columns of goods of different price, of a series of coin chutes for different coins, coin controlled operating mechanism over which a coin if unobstructed would jump and return to the purchaser, a deflector, a star wheel movable with the storage frame and means operated by the star wheel to control the operation price, of a series of coin chntes for different coins, cointrolled mechanism.
11. In a vending machine the combination with a vertical shaft, and a storage frame thereon comprising a series of columns or compartments for goods to be vended, of a star wheel having a point or tooth for every column or compartment, a cam plate, a coin-guiding deflector to direct the proper coin into operative position, and screws in the star wheel to govern the operation of the cam plate and deflector.
12. In a vending machine, the combination with a storage frame, and coin-controlled mechanism to eject the goods therefrom, of a coin chute to direct coins into said coin-controlled mechanism and having an open bottom through which smaller coins will fall, a pivoted or hinged deflector in said chute which will be disposed by the proper coin but deflect a smaller coin driven with force thereagainst. in an attempt to reach the coin-controlled mechanism, and a second deflector operated by the frame to move behind the coin chute and deflect the coin into the coin-controlled operating mechanism.
13. In a vending machine. the combination with a rotary storage frame having a series of radial columns for goods and a weight on each pile of goods, of a coin entrance chute. and a deflector operated by the weight when a column is empty to deflect a coin back to the purchaser.
14. In a vending machine, the combination with a rotary storage frame having a serles of radial columns for goods and a weight on each pile of goods, of a coln entrance chute, a deflector, a cam plate and a finger on each weight adapted when the column is empty to depress the cam plate and move the deflector into pos!tion to throw out or return a coin placed in the chute to the purchaser.
15. In a vending machine. the combination with a column of goods to be vended, of a coin entrance chute, a coln guide irto which the coln falls, a coin holder hinged to the coin guide, an ejector operating abaft, a segment thereon having it shoulder thereon in front of which the coin is held by the holder, a locking pawl normally engaging a pin on the segment to lock the shaft, and a pin on the holder to engare and release the pawl when the shaft is turned and the holder and segment are coupled temporarily by a coin.
16. In a vending machine, the combination with an ejector operating shaft, a segment thereon normally locked, a holder to hold a coin on the gegment which couples them together and an ejector within the holder for throwing a coin out of the holder and returning it to the purchaser.
17. In a vending machine, the combination with a rotary storage frame containing a series of columns of goods of different price, and coin entrance chutes for coins of different value, of a coin holder to hold a coin in position to permit the operation of the ejector mechanism, and a coln ejector in said holder, adapted when the frame is turned, with a roin in the holder, to eject the coin and return it to the purchaser.
18. In a vending machinc, the combination with a casing having a delivery pocket thercin, a rotary storage frame for goods of different price, and means for ejecting the goods into the dellvery pocket of a series of coln entrance chutes for coins of different value, a single coln guide, a hopper to direct misplaced coins into the delivery pocket, a deffector, a star wheel fixed to turn with the storage frame, and interchangeable screws of various lengths in the star wheel to move the deflector and deflect only the proper coin into the coln-controled operating mechanism.

No. 100,379. Bookcase or Display Rack. Bois de bibliothèque et ratelier de montre.


Robert H. Lindsay and Frederick R. Burch, co-inventors. both of Seattle, Washington, U.S.A., 7th August, 1906; 6 years. Filed 12th August, 1906. Receipt No. 127,644.
Claim.-1. The combination with the frame including two upright members and a shelf, of vertically movable means for pirotally securing one end of the shelf to one of said members and vertically movable means provided upon the other of said members for supporting the other end of the shelf when in its closed position.
2. The combination with a frame composed of upright tubular members and the connecting tie rods, of the shelves which are respectively pivoted at one end to hinge members slidable vertically upon one of sald upright frame members, brackets slidable vertically upon the other of said upright frame members and adapted to support the free ends of the several shelves when in their closed pos:'ions, and means to secure the said hinge members and the said brackets in their adjusted positions.
3. The combination with a prame section, the swinging shelves thercfor, and means for sustaining the free ends of said shelves when closed, of means formed or provided upon an end of said frame scction whereby another frame section may be detachably secured thereto, said section end acting \(t o\) sustain the adjacent ends of the shelves provided in the last-named frame section.
4. In a case of the character described, the combination with upright frame members arranged in pairs intermediate of tiers of shelves, of horizontal members disnosed one above the other and connecting each of said pairs of frame nembers whereby a ladder is formed thereat.
5. A case of the character described comprising upright frame members, hinge members adjustably secured to certain of said frame members, brackets adjustably secured to other of said members, said brackets being provided with cut wardly and downwardly sloping arms.
6. In a bookcase, the combination with a sustaining means and a shelf provided in its under side with a plurality of holes, a bar supported by said sustaining means and having an upwardly protruding end adapted to be engaged with any of said shelf holes.

No. 100,380. Display Rack. Ratelier dc montre.


Asa C. Wood. Waterloo, Iowa, U.S.A., 7th August, 1906 ; 6 years. Filed 27 th June, 1906. Recelpt No. 137,344.
Claim.-1. A display rack comprising a standard, upwardly extending pivoted members carried by sald standard, hat supporting means carried by the upper ends of sald members, a sleeve vertically movable on sald standard, links connecting said sleeve and the upwardly extending members. and a plvoted member carried by the standard and adaptetd to engage the vertically movable sleeve for holding the same.
2. A display rack comprising a standard, an upwardly extending member pivotally carrled by the standard, upwardly extending ribs pivotally carried by the upper end of sald member, a sleeve vertically movable upon said member, links pivotally connected to the sleeve and having their upfer ends pivotally connected to the ribs, a pivoted catch carried by the member and adapted to engage the sleeve and hold it in its adjusted position whereby the sleeve is vertically adjustable.
3. A display rack comprising a standard, upwardly extending ribs pivotally carried by the standard, a sleeve loosely mounted upon said standard. links connecting said sleeve and ribs, and a tooth bar carried by the standard for preventing the sleeve from being drawn upward upon the standard.
4. A display rack comprising a standard, upwardly extending ribs plvotally carried by the standard, a sleeve vertically adjustable on the standard, links connecting said sleeve and the ribs, a tooth bar plvoted to the upper end of the standard, and engaging a pin carried by the vertically movable sleeve, and preventing the upward movement of the sleeve caused by the hat through the links.
5. A display rack comprising a standand, upwardly extending ribs pivotally carried by the standars, a slecve loosely mounted upon the said standard. links connecting the sleeve and ribs, and a tooth bar pivotally carried by the standard and engaging the sleeve and preventing the same from being drawn upward upon the standard.
6. A display rack comprising a base, an upwardly extending tube carried by the base. a tube vertically movable within the tube carried by the base, a hat supporting member having its lower end provided with a ball with in the upper end of the vertically movable tuhe. a rod pissing upward through the tube a rubber block carried by the hat supporting member, a washer carried by the lower ond of the vertically adjustable tube, and a screw passing throush said washer and adapted to expand the washer against the inside of the stationary tube and hold the vertically movable tube in its adjusted position, and said screw adapted to engage the rod within the vertical tube and hold the rubper block in engagement with the ball.
7. A display rack, comprising a base, an upwardly extenting tube carried by the base, a tube vertically movable within the tube carried by the base, a hat supporting member, a sleeve loosely mounted unon said standard, links upper end of the vertically movable tube, upwardly extendng member pivotally carried by the hat supporting member, a sleeve loosely mounted upon said standard. links connected to the sleeve and ribs, a tontb bar pivotally carried by the standard and engaging the sleeve and preventing the same from being drawn upward unon the standard. a rod passing upward through the vertically movable tuhe, a rubber block carried by the rod for engaging the ball carried by the hat supporting member, a washer carried by the lower end of sairl vertically movable tube, and a screw passing through said washer and adanted to expand the washer against the inside of the upwardly extending tube, and hold the vertically movable tube in its adjusted position, said screw adapted to eng,age the rod within the vertically movable tube and hold the rubber block in engagement with the ball.
8. A display rack, comprising a standard, upwardly extending pivoted members carried by said standard, hat supporting means carried by the upper ends of said members, a sleeve vertically adjustable on said standard, links connecting said sleeve and the upwardly extending members, and a pivoted member carried by the standard and having teeth on its lower face to engage the sleeve and hold It in its adjusted position.

No. 100,381. Hermetic Closure. Fermeture hermétique


William Henry Honiss, Hartford, Connecticut, U.S.A., 7th August, 1906. 6 years. Filed 28th April, 1906. Receipt No. \(135,348\).
Claim.-1. A ring gasket made of rubber or similar elastic material, and having cylindrical inner and outer faces, with the adjacent edges forming acute angles with the respective inner and outer faces.
2. An annular gasket, made of rubber or similar elastic material in the form of a short cylinder. having oblique upper and lower surfaces substantially parallel with each other.
3. The conulination with a receptacle and a flaring cap. of a gasket sade of rubber or similar elastic material and naving a cyliadricil face with an adjacent face forming an oblique angle ther?with.
4. The combination with a receptacle and a flaring cap of a gasket mide of rubber or similar elastic material and having inner sind outer cylindrical faces and inclined edges.
5. A closure for hermetically sealed receptacles comprising a gasket having an approximately cylindrical face and an adjacent face forming an oblique angle therewith, and : cap huving a gitst et receiving scat, a portion of whicb i; inclined in substantial accordance with the oblique face of the gasket.
6. A closure for hermetically sealed receptacles comprising a gasket having inner and outer cylindrical faces, and an adjacent oblique face, and a cap having a gasket receiving srat inclized in subsiantial conformity with the obligute face of the gasket.
7. A closure for hermetically sealed receptacles comprising a gasket having an approximately rhombic or rhomboidal cross sect:on, the inner and outer faces of which are substantially cylindrical, and a cap having a receiving seat, a portion of which is inclined in substantial accordance with one of the oblique angled faces of the gasket.
8. A closure for hermetically sealed receptacles compris ing a gasket having an approximately rhonboidal cross section, the outer and inner faces of which are cylindrical and narrower than the oblique faces thereof, and a cap having a gasket receiving seat, a portion of which is inclined in substantial accordance with one of the oblique faces of the gasket.
9. A closure for hermetically scaled receptacles, comprising a gasket a cross section of which is substantia!ly a parallelogram having two shorter sides of cylindrical contour, and two longer sides at oblique angles with the shorter sides, and a cap provided with a receiving seat, a porti n of which is inclined in substantial accordance with an oblique face of the gasket.
10. The combination with a receptacle, of a hermetic sealirg closure, comprising a gasket having an acute angled edge which in its initial position projects with a downward inclination across and past the sealing seat of the receptacle, and a cap having an inclined sealing portion for wedging the gasket against the sealing seat of the receptacle.
11. The combination with a receptacle having a substantially rounded sealing seat, of a gasket having an acute angled edge which in its initial position, projects with a downward inclination across and past the sealing seat of the receptacle and a cap provded with an inclined portion, for wedging the gasket at an angle against the sealing seat of the receptacle
12. The combination with a receptacle having a substantially rounded sealing seat, of a wedging closure therefor comprising a gasket having inner and outer cylindrical faces and having an oblique angled lower edge which projects with a downwardly inclination across the sealing seat of the receptacle and a cap provided with an inclined portion for wedging the gasket against the sealing shoulder of the receptacle.
13. The combination with a receptacle having a rounded sealing zone, of a closure therefor, comprising a cap having a flexible flaring flange, and a gasket, the upper portion of which is smaller in diameter than the outer diameter of the receptacle rim, and having lower faces which converge at an acute angle and project downwardly past the said rounded sealing zone of the receptacle.
14. The combination with a receptacle having a rounded rim, of a closure therefor comprising a cap having a flexible flaring flange and a gasket having upper faces which con verge to a diameter smaller than the other diameter of \(i n\) receptacle rim, and having lower faces which converge downwardly at an acute angle and project through and beyond the annular space between the round of the rim and the cap flange.
15. The combination with a receptacle having a substantially rounded sealing seat, of a gasket having a cylindrical face, and an adjacent face at an oblique angle therewith forming a wedge-shaped annular margin which projects downwardly and across the rounded sealing seat of the receptacle, and a cap provided with a flexible flaring flange for compressing the said wedge-shaped portion of the gasket
16. The combination with a receptacle having a rounded rim, of a cap having a flexible flange, the upper portion of which is smaller in diameter thtan the outside of the receptaclo rim, and is inclined outwardly and downwardly, merging into a substantially cylindrical zone, larger than and on the outside of the receptacle rim, and a gasket having a downwardly and outwardly inclined inner surface resting upon the outer portion of the rounded rim of the receptacle. and having an acute angled lower annular corner extending into the annular space between the outer side of the receptacle rim and the inner side of the cap flange.
17. The combination with a receptacle having a plain rounded rim, of a hermetic closure therefor, comprising a gasket having a downwardly and outwardly inclined lower surface which in the uncompressed condition of the gasket rests upon the rounded rim. with an acute angled annular corner projecting downwardly on the outer side of the rim. and a sealing cap having a flexible flange which is inclined downwardly and outwardly, merging into a substantially cylindrical portion which extends downwardly upon the outer side of the receptacle rim leaving an annular space outside ot said rim substantially less in width than the thickness of the gasket.
18. The combination with a receptacle having a plain rounded rim. of a sealing closure therefor comprising a car having a flexible flange, thoupper portion of which is smaller in diameter than the outer diameter of the receptacle rim and which inclines outwardly and downwardly, merging into a zone having substantlally vertical and parallel walls en compassing the outer side of the receptacle rim, leaving an
anular space of substantial width between them, and a gasket having a downwardly and outwardly inclined lower face resting upon the receptacle rim, and provided with an acute argled annular corner, which in the uncompressed condition of the gasket extends downwardly into the said annular space.

No. 100,382. Stopper for Sealing Vessels.
Appareil à sceller les vaisseauc.


Abbot Augustus Low, Horseshoe, New York, U.S.A., 7th August, 1906; 6 years. Filed 26th March, 1906. Receipt No. 134,275 .
Claim.-In a seealing means for vessels the combination of a perforated sealing wafer, a stopper entered in and sustained by sald wafer, whercby in use vertical and diametrical compression is employed in sealing a vessel, substantially as specified.

No. 100.383. Stopper for Containers. Fermeture de bouteilles.


Charles Carter Newton and Wllliam Savage Newton, coinventors, both of Strafford Lodge, Oatlands Park, Weybridge, Surrey, England, 1th August, 1906; 6 years. Filed 21st March, 1906. Receipt No. 134,112.
Claim.-1. A bottle closing device comprising a screw stopper adapted to engage with a correspondingly screw-threaded part of a bottle. a holder adapted to be readily attached to a bottle so that it has no operative movement thereon, and a carrier which engages the holder and carries the stopper, said stopper being mounted to move in said carrier so that it can be readily moved into its closed and open positions. and in the latter position can be moved clear of the bottle neck by said carrier whilst still attached to the bottle, as set forth.
2. A bottle closing device comprising a screw stopper adapted to be engaged with a correspondingly screw-threaded part of a bottle and provided at its upper end with a centrally arranged pin, a carsier formed with a hole in which said pin is free to rotate, and a holder adapted to be attached to a bottle and to which said carrier is jointed.
3. A bottle closing device comprising a screw stopper adapted to be engaged with a correspondingly screw-threaded part of a bottle and provided at its upper end with a centrally arranged pin. a carrier formed with a hole in which said pin is free to rotate and slide, and a holder adapted to be attached to a bottle and to which said carrier is jointed.
4. A bottle closing device comprising a holder formed of sheet metal with downwardly bent ends integral therewith and with a central hole therethrough, a yoke-shaped carricr formed of a single piece of sheet metal bent to shape and having a centrally arranged hole extending therethrough. the lower ends of sald carrier being mounted to turn on the downwardly bent ends of said holder, and a screw stopper mounted to rotate in said carrier.
5. A bottle closing device comprising a holder formed of sheet metal with downwardly bent ends integarl therewith and with a central hole therethrough, a yoke shaped carrier formed of a single piece of sheet metal bent to shape and baving a centrally arranged therethrough, the lower ends of said carrier being pivoted to the downwardly bent ends of sald holder, and a serew stopper mounted to rotate in said carrier and adapted to move endways rotatively thereto.
6. A bottle closing device comprising a carrier having a hole extending therethrough, a screw stopper adapted to engage a correspondingly screw-threaded part of a bottle. a pin projecting from said stopper and adapted to extend through said hole, and a holder pivoted to said carrier and adapted to be readily attached to a bottle, said pin being adapted to rotate and slide in said hole, as set forth.
7. A bottle closing device comprising a carrier having a hole extending therethrough, a screw stopper acapted to ergage a corespondingly screw-threaded part of a bottle. a pin projecting from said stopper and aditpted to rotate and to slide in said hole, and a holder connected to said carrier and adapted to be readily attached to a bottle, the length of said pin being such that when said holder is attached to a bottle, the stopper will be prevented from becoming detached from said carrier, as set forth.
8. A bottle closing device comprising a carrier having a hole extending therethrough, a screw stopper adapted to angage with a correspondingly screw-threaded part of a bottle, a pin projecting from said stopper and adapted to extend through sald hole, and a holder pivoted to said carrier and adapted to be readily attached to the neck of a bottle, said pin being adapted to rotate and to slide endways in said hole and the length of said pin being such that when said holder is attached to the bottle, the stopper will be prevented from becoming detached from said carrier, as set forth.
9. The combination of a holder adapted to be readily attached to a bottle, a carrier consisting of a yoke-shaped frame pivtotally connected to said holder and having a hole formed in its central portion, a screw stopper adapted to engage a correspondingly screw-threaded portion of a bottle, and a pin projecting from said stopper and adapted to rotate and to slide jn said hole. as set forth.
10. The combination of a holder adapted to be readily attached to a bottle, a carrier consisting of a yoke-shaped frame pivotally connected to said holder and having a hole formed in its central portion, a stopper, and a pin projecting therefrom and adapted to rotate and to slide endways in said hole, the length of sald Din being such that when said holder is attached to the bottle, the stopper will bu prevented from becoming detached from said carrier, as se: forth.
11. A combined stopper and holding device comprising a holder formed with a central hole adayted to fit over the neck of a bottle. a carrier formed with a hole and pivoted to said holder, and a stopper having a pin adapted to rotate and slide in the hole of said carrier, as set forth.
12. A combined stopper and holding device comprising a holder formed with a central hole adapted to fit over the neck of a bottle, a carrier formed with a hole and pivoted to said holder, and a stoppre having a pin adapted to rotate and slide in the hole of sald carrier, the length of sald pin being such that when said holder is attached to the bottle, the stopper will be prevented from becoming detached from said carrier, as set forth.
13. A combined stopper and holding device, comprising a holder having bent end portions and formed with a central hole adapted to fit over the neck of a bottle, a carrier consisting of a yoke-shaped frame the central portion of which is formed with a hole and the ends of which are pivotally: connected to the bent end portions of said holder. and a stopper having a pin adapted to rotate and slide in the hol.. of sald carrier, as set forth.
14. A combined stopper and holding device, comprising a holder having bent end portions and formed with a central hole adapted to fit over the neck of a bottle, a carrier consisting of a yoke-shaped frame the central portion of which is formed with a hole and the ends of which is formed with a hole and the ends of which are pivotally connected to the bent end portions of said holder, and a stopper having a pin adapted to rotate and slide in the hole of said carrier, the length of said pin being such that when said holder is attached to the bottle, the stopper will be prevented from becoming detached from said carrier, as set forth.
15. A combined stopper and holding device, comprising a holder formed of sheet metal with a central hole adapted to fit over the neck of a bottle and having bent end portions each formed with a hole, a carrier consisting of a voke-shaped frame the central portion of which is formed with a hole and the ends of which are each formed with a hole whose edge portion is provided with a number of projectlons that are passed through the hole in the corresponding bent end portion of the holder and are bent against the inner side of the latter, and a stopper having a pin adapted to rotate and slide in the centrally arranged hole of said carrier, as set forth
16. A combined stopper and holding device, comprising a holder formed of sheet metal with a central hole adapted to be screwed over the externally screw-threaded neck of a hottle and having downwardly bent end portions, a carrier consisting of a yoke shaped frame the central portion of which is formed with a hole and the ends of which are pivotally connected to the downwardly bent end portions of sald holder, and an internally screw-threaded cap stopper having a pin adapted to rotate and slide in the centrally arranged hole of said carrier, as set forth.
17. The combination with the discharging end of a bottle, of a screw stopper adapted to engage a correspondingly screw-threaded part of the bottle and to close the discharge orifice therein, a holder connected to said discharging end, and a carrier formed with a hole and pivotally connected to said holder, said stopper having a pin adapted to rotate and slide in said hole, as set forth.
18. The combination with the discharging end of a bottle, of a screw stopper adapted to close the discharge orifice therein, a holder connected to said discharging end, and a carrier formed with a hole and pivotally connected to said holder, said stopper having a pin adapted to rotate and slide in said hole, the length of said pin being such that the stopper will be prevented from becoming detached from said carrier, as set forth.
19. The combination with a bottle having a screw-threaded neck, of a bottle closing device comprising a sheet metal holder formed with a central hole and adapted to screw over the neck of said bottle and to rest upon the shoulder of the bottle, a carrier pivotally connected to said holder. and a screw stopper connected to said carrier and adapted to engage the correspondingly screw-threaded neck of the bottle. as set forth.
20. The combination with the discharging end of a bottle having an externally screw-threaded neck of smaller diameter than the bottle, of a holder connected to said discharging end of the bottle, a carrier formed with a hole and pivotally connected to said holder, and a screw stopper adapted to screw onto said neck and close the discharge orifice therein and having a pin adapted to extend through the hole in said carrier, as set forth.
21. A bottle closing device comprising an internally screwthreaded stopper adapted to be engaged with a corresponding externally screw-threaded neck of a bottle, a carrier in which said stopper is free to rotate, and a holder formed of sheet metal adapted to be screwed onto said bottle neck and to which said carrier is jointed.
22. A combined stopper and holding device comprising a holder formed of sheet metal with a hole the edge of which is adapted to screw over the externally screw-threaded neck of a tubular container, a carrier pivoted to said holder, and ar internally screw-threaded stopper adapted to rotate in aid carrier and to screw onto said neck.
23. A combined stopper and holding device comprising a holder formed of sheet metal adapted to be screwed over the externally screw-threaded neck of a tubular container with the plane of the metal practically at right angles to said neck, a carrler jointed to said holder, and an internally screw-threaded stopper mounted to rotate in said carrier and adapted to screw onto said neck.
24. A combined stopper and holding device comprising a holder formed of sheet metal with a hole and with the metal at the edge of the hole adapted to be screwed onto the externally screw-threaded neck of a tubular container, a carrier jointed to said holder, and an internally ycrew-threaded stopper adapted to be screwed onto said neck and having a pin adapted to rotate and slide in a hole in said carrier.
25. A combined stopper and holding device comprising a holder formed of sheet metal with a hole the edge of the metal around which is adapted to form part of a screw-
thread adapted to engage the thread on the externally screwthreaded neck of a tubular container, a yoke-shaped carrier formed of sheet metal jointed to said holder and formed with a hole, and an internally screw-threaded stopper adapted to screw onto said neck and having a pin adapted to rotate in the hole in said carrier.
26. The combination with a tubular contalner of the kind herein referred to having an externally screw-threaded neck of a detachable closing device comprising a holder formed with a hole the metal around which is adapted to engage with and screw on said neck and to finally rest upon the shoulder of said container at the base of the neck, a yokeshaped sheet metal carrier jointed at its ends to the ends of said holder, and an internally screw-threaded stopper adapted to screw onto said neck and having a pin arranged to rotate and move endways in said carrier.
27. A bottle closing device comprising a screw stopper adapted to engage with a correspondingly screw-threaded part of a bottle, a holder adapted to be readily attached to a bottle so that it has no operative movement thereon, a carrier which engages said holder and carries the stopper, said stopper being mounted to move in said carrier so that it can be readily moved into its closed and open positions, and in the latter position can be moved clear of the bottle neck by said carrier whilst still attached to the bottle, and means for retaining sald stopper in engagement with said carrier so as to be held firmly thereby in the inoperative position clear of the body of the bottle.
28. A bottle closing device comprising a screw stopper adapted to be engaged with a correspondingly screwchreaded part of a bottle and provided at its upper end with a centrally arranged pin, a carrier formed with a hole in which said pin is free to rotate and slide, a holder adapted to be attached to a bottle and to which said carrier is jointed, and means for wedging said stopper in said holder when moved clear of the bottle mouth.
29. A bottle closing device comprising a screw stopper adapted to be engaged with a correspondingly screwthreaded part of a bottle and provided at its upper end with a centrally arranged pin, a carrier formed with a hole in which said pin is free to rotate and slide, and a holder adapted to be attached to a bottle and to which said carrier is jointed, said pin and the hole in the carrier being so formed that the pin can be wedged in the hole when the stopper is moved clear of the bottle mouth.
30. A bottle closing device comprising a carrier having a hole extending therethrough, a screw stopper adapted to engage a correspondingly screw-threaded part of a bottle, a conical or wedge-shaped pin projecting from said stopper and adapted to extend through sald hole, and a holder pivoted to said carrier and adapted to be readily attached to a bottle, said pin being adapted to rotate and slide endways in said hole, and to become wedged therein when the stopper is withdrawn from the bottle mouth.
31. The combination of a holder adapted to be readily attached to a bottle, a carrier consisting of a yoke-shaped frame pivotally connected to said holder and having a hole formed in its central portion, a stopper, and a conical or wedge-shaped pin projecting from said stopper and adapted to rotate and to slide endways in said hole, and to become wedge therein when the stopper is withdrawn from the bottle mouth.
32. A bottle closing device comprising a screw stopper adapted to be engaged with a correspondingly screwthreaded part of a bottle and provided at its upper end with a centrally arranged pin, a carrier formed with a hole in which said pin is free to rotate, a holder adapted to be at tached to a bottle and to which said carrier is jointed, and means for protecting the outer end of said pin when the stopper is screwed to the bottle.
33. A bottle closing device comprising a screw stopper adapted to be engaged with a correspondingly screwthreaded part of a bottle and provided at its upper end with a centrally arranged pin, a carrier formed with a hole in which said pin is free to rotate, a holder adapted to be at tached to a bottle and to which said carrier is jointed, and laterally arranged guards formed on the outer side of said carrier for protecting the outer end of said pin when the stopper is screwed to the bottle.

\section*{No. 100,384. Bottle Stopper. Bouchon de bouteilles.}

Michael J. Harrington and John J. Harrington, co-inventors, both of Laurium, Michigan, U.S.A., 7th August, 1906 : 6 years. Filed 12th February, 1906. Recelpt No. 132,815.
Claim.-1. A bottle stopper having at its top end a discharge opening, and a valve under the same and a removable plug for closing the discharge opening, and bearing on the valve to hold it seated.
2. A bottle stopper comprising a cylinder having a cap provided with a threaded outlet opening and a valve within the cylinder, and a screw plug fitting in said opening and
adapted when inserted to bear upon the valve and hold it closed.

3. A bottle stopper comprising a cylinder of sufficient length to project at its lower end below the neck of the bottle into the body thereof, and having a rigid catch which is pivoted at Its lower end in the wall of the said lower end of the cylinder and has a spring which acts to force out its upper end under the shoulder of the bottle.
4. The comblnation with a bottle having an internal shoulder, of a stopper comprising a valved cylinder which extends at its inner end below said shoulder and has recesses in the sides of said end, and rigid catches whleh are pivoted in sald recesses and have springs adapted to force their upper ends out behind the shoulder.

No. 100,385. Closure for Bottles and Jara. Fermeture de bouteilles et jarres.


Christopher Dove Burton, Scarborough, Yorkshire, England, 7th August, 1906; 6 years. Filed 26th April, 1906. Recelpt No. 135,298 .
Claim.-1. A bottle or far closure comprising a bottle having lugs or flanges projecting from the inner wall of the neck and forming rounded beads disappearing into said interior wall at each end thereof, and a stopple having a body portion to be inserted in the neck of sald bottle and a rim encircling said body portion at the top thereof and forming part therewith and flanges forming rounded beads on the periphery of sald body portions towards the lower end and runaing in an oblique direction and adapted to engage on their upper side the lower side of the aforesald beads from the bottle neck, as and for the purpose specified.
2. A bottle or jar closure comprising a bottle having lugs or flanges forming rounded beads from the interior wall of the neck portion, said beads having their under sides incline upwardly towards one end thereof and from a rounded shoulder on said underside, the said lug gradually tapering from said shoulder and disappearing in said wall having a body position to he Inserted in the neck of said bottle and a rim forming part therewith encircling said body portion at the top thereof and an annuiar groove or recess between said rim and body portion in an enlarged part of the latter, sald recess having a curved bed and flanges projecting from the periphery of the body portion towards the lower end thereof forming rounded beads extending in an oblique direction thereon and at each end thereof disappearing into the said body portion, and a corresponding gasket inserted in said groove or recess, as atu for the purpose specified.

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3. A bottle or jar closure comprising a bottle having lugs or flanges projecting from the inner wall of the neck portion, stopple having arc-shaped flanges projecting from the periphery of the body portion at the lower end thereof and each tapering from the middle to the ends and adapted to engage the under side of the aforesald flanges on the turning of the stopples either way in the neck of the bottle, and a gasket inserted in a prepared groove under the rim of said stopple, as and for the purpose specified.

No. 100,386. Cork Lor Stoppering. Bouohon.


Herbert William Dawson, Halifax, York, England, 7th August. 1906; 6 years. Filed 6th December, 1906. Recelpt No. 130,773.
Claim.-1. A cork or stopper made from one plece of corkwood. with a body portion for engaging a bottle neck and an enlarged integral head having flat sides to serve as a grip or means by which the said cork or stopper can be applied to or removed from the bottle neck.
2. In a bottle stopper, an enlargement B, a body A, said enlargement and body being cut out from a single plece of corkwood, substantially as shown.

No. 100,387. Bottle. Bouteille.

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Mary L. Ambrose, Nashville, Tennessee, U.S.A., 7th August, 1906; 6 years. Filed 1st March, 1906. Receipt No. 133,487.
Claim.-1. A bottle neck having a constricted portion forming a va've seat, a gravity valve for the seat, and apring fingers hung from the valve and diverged towards the same with their free ends spaced to underlle the valve seat for engagement therewlth to limit outward movement of the valve.
2. A bottle neck provided with a constricted portion forming a valve seat, a gravity valve co-operating with the seat, and a plurallty of spring fingers having shank portions hung from the valve, sald spring fingers diverging towards the valve with their free ends spaced to underlie and angage the valve seat to permit a limited outward movement of the valve.
3. A bottle neck having a constricted portion forming a valve seat. a gravity vaive co-operating with the seat, a plurality of spring fingers hung from the valve and diverging towards the same with their free ends bent Inwardly to form shoulders spaced to underlie and engage the inner side of the seat to limit outward movement of the valve.
4. A bottle valve comprising a body, and a plurality of spring fingers hung therefrom and diverging towards the valve.
5. A bottle valve comprising a body, and a plurality of spring fingers having shanks depending from the vaive, said fingers diverging towards the valve with their free ends terminating in inturned shoulders.

No. 100,388. Non-Refllable Bottle.
Bouteille non-remplissable.


Angelo A. Boschelll, Harrisburg. Pennsylvanla, U.S.A., 7th August, \(1906 . \quad 6\) years. Filed 22ud February, 1906. Receipt No. 133,176 .
Claim.-1. A bottle having a liquid outlet and having an air vent independent of said outlet, and an automatically closable valve of flexible material for said air vent.
2. A bottle having a liquid outlet and having an air vent independent of said outiet and provided with a valve of flexible material movable automatically to closed position when the bottle is in vertical position.
3. In a bottle, an air vent tube having a section of flexible material.
4. In a bottle, an air vent tube formed oi a plurality of tubular section of rigid material connected by a section of flexible material.
5. In a bottle, an air vent tuhe having its upper end extending into the neck of the bottle, a Hexible tube section connected thereto, and a second tube section of rigid material secured to the upper end of the flexible section.
6. A bottle having an air vent tube, the lower end of which is bent upward, and a flexible valve memjer connected to the upbent portion and having an enlarg upper end movable by gravity to prevent the passage of fluid.
7. In a bottle, a rigid air vent tube having an upturned end, and a flexible valve mımber seciar:a t.ee eto said flexible valve member comprising an enlarged upper portiou and two tubular members, one of which is connected to the vent tube, the other being bent upweard and provided with a terminal fluid discharge mouth.
8. In a bottle, collapsible puuring tube formed of thin flexibie material arrauged to open fo: tae passase o: a liquid during the pouring operation, and to permit reversal when subjected to pressure of uud entering at the mouth of the wotcle, sald thbe clusi-g agaiust piessure from within the bottle when in the reversed position.
9. In a boctle, a collapsible pouring tube furmed of thin flexible material arranged to cluse waen subjected to exterlor pressure, sald tube being recerslole when subjected to a reflling pressure trom the mouth of the bottle and acting to relain such relilling pressure within the botle.
10. In a bottle, a nipple disposed within the bottle neck, a pouring tube formed of a section of thin flexible tubing haviug its lower end' disten led over the upper poition of the nipple, forming a yierdabie membrance to permit the reversal of the position of the tube wneu subjected to the pressure of Huid entering at the mouth of the bottle.
11. In a bottle, a cup arranged witnin the necis of the bottle, a nipple carried thereby, a flexible pouring tube secured to the nipple, a vent tube carried oy the cup and having a self-ciosing valve, and a baffle plug arrauged within the neck of the bottle at a polnt above said cup.

\section*{No. 100,389. Non-Refillable Bottle. \\ Bouteille non-remplissable.}

Clarence Medley, Calgary, Alberta, Canada, 7th August, 1906. 6 years. Filed 19th April, 1906. Rece.pi No. 135,047 .
Claim.-1. In a device of the class described, in combination with the neck of a bottle, a disc fiting therein and having an orifice therethrough, a valve closing said orifice, means for holding said valve to its seat, a cylindrical plug fitting within said neck having a recess in the underside and a plurality of openings in communication with said recess, a cap fitting within said neck and abutting sail cylindrical plug having an orifice thereth ough and a recess in the underside thereof in communication with the open.ng3 in said plug, and means for retaining said cap within the neck of said bottle, as and for the purpose specified.
2. In a device of the class described, in combination with the neck of a bottle having a tapered portion, a disc fit-

ting within said neck adjacent to said tapered portion having an annular groove surrounding the lower portion thereof and a central orifice therethrough, a ring of compressible material in said annular grove and abutting the tapered portion of said neck, a valve closing said central orifice, means for holding said valve to its seat, a cylindrical plug fitting within paid neck having a recess in the underside and a plurality of openings in communication with said recess, a cap fitting within said neck and abutting said cylindrical plug having an orifice therethrough and a recess in the under side thereof in communication with the openings in said plug, and means for retaining said cap within the neck of said bottle, as and for the purpose specified.
3. In a device of the class described, in combination with the neck of a bottle having a tapered portion at the lower end, a dise fitting within said neck adjacent to said tapered portion having an annular groove at the lower side thereof and a central tapered circular orifice therethrough, a ring of compressible material fitting within said goove and abutting the tapered portion of said neck and making a water tight joint, a tapered valve fitting the central tapered ortfice in said disc and closing the same, means for holding said valve to its seat, a cylindrical plug fitting within said neck above said disc having a recess in the under side thereof and a plurality of vertical openings in communication with said recess, a cap fitting within said neck and abutting said cylindrical plug having an orifice therethrough and a recess in the underside thereof in communication with the openings in said plug, an 1 m ans for \(r\) taining said cap within the said neck, as for the purpose specifled.
4. In a device of the class described, in combination with the neck of a bottle having a tapered portion, a disc fitting within said neck adjacent to said tapered portion having an annular groove in the outer periphery and a central tapered circular orifice therethrough, a ring of compressible water tight material inserted in said groove and abutting the tapered portion of said neck making a water-tight joint, a tapered float valve fitting the central tapered orifice in said d•sc and closing the same, a cone-shaped weight resting uron said valve and disc, a cylindrical plug fitting within said neck above said disc and resting thereon having a coneshaped recess in the under side thereof and a plurality of vertical slots in the outer periphery in. communication with the said recess, a cap fitting within said neck and resting on said plug having a central orifice therethrough and a recess in the under side in communication with the vertical slots in said plug, and means for retaining said cap within the sald neck, as and for the purpose specified.
5. In a device of the class described, in comblation with the neck of a bottle having a tapered portion at the lowet end thereof and an annular groove therein intermediate of its length, a disc fitting within said neck adjacent to sald tapered portion having an annular groove in the outer perlphery and a central tapered circular orifice therethrough, a ring of compressible water-tight material inserted in sald groove and abutting the tapered portion of said neck making a water-tight joint, a tapered float valve fitting the central tapered orifice in said disc and closing the same, a coneshaped weight resting upon said valve and disc, a cylindrical plug fitting within said neck above said disc and resting thereon having a cone-shaped recess in the under side there\(o\) ! and a plurality of vertical slots in the outer periphery in communication with the said recess, a cap fitting within said neck and resting on sald plug having a central orifice therethrough and a recess in the under side in communication With the vertical slots in said plug and an annular groove in the outer periphery thereof registering with the andular groove in said neck having vertical slots extending upwardly therefrom, and a plastic cement fitting sald annular grooves, \(a_{i}\) and for the purpose specified.

\section*{No. 100,390. Non-Refillable Bottle.}

Bouteille non-reemplissable.
John Meermans, Cleveland, Ohio, U.S.A., 7th August, 1906; 6 years. Filed 11th June, 1906. Receipt No. 136,805. Claim.-1. In a non-refllable bottle, the combination with a botle having a neck, of a stopper within the neck, which
stopper is provided with the following: a passageway arranged centrally between the upper and lower ends and ex-

tending transversely of the stopper, a chamber formed in one side of the lower portion of the stopper at one end of and in communication with the said passageway, which chamber is provided in its bottom with a perforation which is in communication with the interior chamber of the body portion of the bottle, a valve normally closing the said perforation, a groove formed in the opposite side of the stopper and extending from the upper end of the stopper to the opposite end of and into communication with and downwardly below the transverse passageway, which groove is enlarged circumferentially of the stopper a suitable distance below the transverse passageway, and a filling nccupying the circumferentially enlarged portion of the groove and extending into the neck of the bottle.
2. In a non-refillable bottle, the combination with a bottle having a neck, of a stopper within the neck, which stopper is provided with the following: a passageway arranged at a scitable point between the upper and lower ends and extending transversely of the stopper, a chamber formed in the lower portion of the stopper at one end of and in communication with the said passageway, which chamber is provided in its bottom with a perforation whic's is in communication with the interior chamber of the body portion of the bottle, a valve normally closing the said perforation, a groove formed in the exterior of the stopper and extending from the upper end of the gtopper to the opposite end of and into communication with and downwardly below the transverse passageway, which groove is enlarged circumferentially of the stopper a suitable distance below the transverse pasiageway, and a filling occupying the enlargement of the groove and extending into the neck of the bottle.
3. In a non-refllable bottle, the combination with a bottle having a neck, of a stopper within the neck, which stopper is provided with the following : a passageway arranged at a suitable point between the upper and lower ends and extending transversely of the stopper, a chamber formed in the lower portion of the stopper at one end of and in communication with the said passageway, which chamber is provided in its bottom with a perforation which is in communication with the interior chamber of the body portion of the bottle, a valve normally closing the said perforation, a groove formed in the exterior of the stopper and extending from the upper end of the stopper to the opposite end of and into communication with and downwardly below the transverse rassageway, and a filling occupying the groove below the transverse passageway and extending into the neck of the bottle.
4. The combination with a bottle having a neck, of a stopper within the neck, which stopper is provided with the following: a passageway formed at a sultable point between the upper and lower ends and extending transversely of the stopper, a valved passageway extending downwardly from one end of the transverse passageway and communicating with the interior chamber of the body portion of the bottle, a groove formed in and exteriorly of the stopper at the opposite end of the transverse passageway and extending from the upper extremity of the stopper into communication with and downwardly below the transverse passageway, which groove is gradually reduced transversely below the transverse passageway and toward its lower end and is enlarged at the said end circumferentially of the stopper, and a fllitg occupying the enlargement of the groove and extending into the neck of the bottle.
6. The combination, with a bottle having a neck, of a stopper within the neck, which stopper is provided with the following: a passageway formed at a suitable point between the upper and lower ends and extending transversoly of the stopper, a valved passageway extending downwardly from one end of the transverse passageway and communicating with the interior chamber of the body portion of the
bottle, a groove formed in and exteriorly of the stopper at the opposite end of the transverse passageway and extending from the upper extremity of the stopper into cummunication with and downwardly below the transverse passageway, which groove is enlarged at its lower end circumferentially of the stopper in opposite directions, and a fllling occupying the enlargement of the groove and extending into the neck of the bottle.
6. The combination with a bottle having a neck, of a stopper within the neck, which stopper is provided with the following, a passageway formed at a suitable poin between the upper and lower ends and exten ling transversely of the stopper, a valved passageway extending downwardly from one end of the transverse passageway and commurlcating with the interior chamber of the body portion of the bottle, a groove formed in and exteriorly of the stoprer at the opposite end of the transverse passageway and eytending from the upper extremity of the stopper into communication with and downwardly below the transversa passageway, and a filling occupying the said groove beliw the transverse passageway and extending into the neck of the bottle.
7. In a non-refllable bottle the combination, with a bottle having a neck, of a stopper within the neck, which stopper is provided with the following : a passageway formed at a suitable point between the upper and lower ends of and extending transversely of the stopper, a groove formed in and exteriorly of one side of the stopper and extending from the upper extremity of the stopper downwardly into communication with the aforesaid passageway, a chamber formed in the lower portion of the stopper at and extending to the exterior surface of the opposite side of the stopper, which chamber has a bottom provided with a perforation communlcating with the interior chamber of the body portion of the bottle, a ball valve seated upon the said bottom and normally closing the said perforation, and a crossbar extending over the valve and transversely of the aforesaid chamber in the stopper, all relatively arranged substantially as and for the purpose set forth.
8. In a non-refillable bottle the comblnation, with abottle having a neck, of a stopper within the neck, which stopper is provided with the following: a pasageway formed at a suitable point between the upper and lower ends of and extending transversely of the stopper, which passageway has an outlet at one end, a chamber formed in the lower portion of the stopper at the opposite end of the aforesaid passageway and extending to the exterior surface of the stopper, which chambe: has a bottom provided with a perforation communicating with the interior chamber of the body portion of the bottle, a ball valve seated upon the said bottom and normally closing the said perforation, and the aforesaid chamber in the stopper having two opposito side walls and a central outwardly factng inner wall which has a groove extending downwardly from the aforesaid transverse passageway, and a crossbar extending over the valve and transversely of the last-mentioned chamber, which har is supported from the foresaid opposite walls of the last-mentioned chamber, all relatively arranged substantially as and for the purpose set forth.
9. In a non-refillable bottle the combination with a bottle having a neck, of a stopper within the neck, which stopper is provided with the following, a passageway formed at a suitable point betweer the upper and lower ends of and extending transversely of the stopper, which passageway has an outlet at one end, a chamber formed in the lower portion of the stopper at the opposite end of the aforesaid passageway extending to the exterior surface of the stopper, which chamber has a bottom provided with a perforation communicating with the interior chamber of the: body portion of the bottle, a ball valve seated upon the said bottom and normally closing the said perforation, and the aforesaid chamber in the stopper having two onposite side walls provided with recesses extending to the exterior surface of the stopper. and a crosshar extending over the valve and transversely of the last-mentioned chamber and engaging the said recesses. which bar extends at the ends flush with the exterior surface of the stopper, all relatively arranged substantially as and for the purpose set forth.
10. In a non-refillatile bottle the combination with a bottle having a neck, of a stopper within the neck, which stopper is provided with the following : a pasageway formed at a sultable point between the upper and lower ands of and extending transversely of the stopper, which passageway has an outlet at one end, a chamber formed in the lower portion of the stopper at the opposite end of the aforesald passageway and "xtending to the exterior surface of the exterior surface of the stopper. which chamber has a bottom provided with a perforation communicating with the interior chamber of the body portion of the bottle, a ball valve seated upon the said bottom and normally closing the said perforation, and the aforsaid chamber in the stopper having two opposite side walls provided with recesses extending to the exterior surface of the stopper, and a
crossbar extending over the valve and transversely of the last-mentioned chamber and engaging the aforesaid recesses, all relatively arranged substantially as and for the purpose set forth.
11. A non-refillable botle having a neck and provided interiorly of the said neck with a stopper provided with the following : a chamber formed in the lower portion of the stopper, with the bottom wall of the chamber provided with a perforation communicating with the interior chamber of the body portion of the bottle, a valve contained within the chamber and normally closing the said perforation. and a groove formed in one of the side walls of the chamber and extending from the valve seat upwardly a suitable distance, and a passageway communicating at one end with the said groove and formed in and extending transversely of the stopper, said passageway being provided at its other end with an outlet.

\section*{No. 100,391. Non-Refllable Bottle. Bouteille non-reemplissable.}


John Paul Nicholas Wood, Sifton, Manitoba, Canada, 7th August, 1906; 6 years. Filed 2nd May, 1906. Receipt No. 135,476.
Claim.-1. In a device of the class described the combination with the body of the bottle of an elongated neck, a groove extending diametrically around and within the neck, a stopper within the neck and below the groove and suitable labels designed to be placed respectively on the bottle body and the neck portion above the groove, as and for the purpose specifled.
2. In a device of the class described the combination with the body of the bottle of a neck flanged upwardly and outwardly for a portion of its length and having the remainder of a cylindrical cross section and easily breakable from the flance portion, a cork within the flanged portion, a label bearing an inscription on the upper cylindrical portion and a label bearing an inscription on the body portion, as and for the purpose specified.
3. A non-refllable bottle comprising a body portion, an elongated neck having an incision extending therearound and dividing the neck into an upper and lower portion, a cork extending within the lower portion, an inscribed label on the body portion, an inscribed label on the upper portion of the neck, said upper portion being designed to be sealed after the insertion of the cork, as and for the purpose specified.
4. A non-refillable bottle comprising a lower body portion, an elongated neck and a stopper, sald neck consisting of an outwardly tapered lower portion forming a receptacle for the stopper, a cylindrical upper portion readily breakable in a predetermined alignment from the lower tapered portion and designed to be sealed at the top after the insertion of the cork and sultably arranged reference labels or inscriptions on the cylindrical and bodv portions respectively, as and for the purpose speclfied.

\section*{No. 100,392. Vehicle Epring. Ressort de voiture.}

Charles L. Thomas, Canisteo, and Frank Caulking, assignee of a half interest, Hornellsville, both in New York, U. S.A., 7th August, 1906; 6 years. Filed 23rd April. 1906. Receipt No. 135,160.
Claim.-1. A vehicle spring formed of wire having an approximately straight central bar, and provided with coils In advance of Its opposite ends, means for clamping the bar in place, and means for connecting the ends of the spring to the vehicle body.
2. In a vehicle spring a strip of wire having an approximately straight central bar and turned to form a hellcal coil in advance of each of its ends, sald coils being arranged to close or tighten on the application of welght or pressure to close or tighten on the
the ends of the spring.
3. In a vehicle spring a strip of wire having an approximately straight central portion and provided with coils be-

tween such central portion and its ends, the opposite ends of the spring being bent to form attaching eyes.
4. A round wire spring, a shackle connection between the same and the vehicle body, and a flat strip extending through the shackle and connected loosely thereto, said strip serving to prevent side sway of the vehicle body.
5. In a vehicle spring, the mainspring member formed of round wire having attaching eyes at its opposite ends, shackles for connecting the ends of the spring to the vehicle body, and a flat spring strip extending above the main spring and having its ends passing through the shackles and hooked loosely around said eyes, said strip serving to prevent lateral sway of the vehicle body.
No. 100,393. Non-Refllable Bottle. Bouteille non-remplissable.


William Reason O'Dell, assignee of Herschel William Smiley and Stacy Burrell O'Dell, all of Odon, Indiana. U.S.A., 7th August. 1906; 6 years. Filed 26th December, 1905. Receipt No. 131,297.
Claim.-1. In a non-refllable bottle the combination of a bottle having a suitable neck. a valve closure in said neck, a weight arranged to normally hold said valve closed, and means for manipulating the said weight to hold the same in a position preventing opening of the valve or permit opening of said valve.
2. In a non-refllable bottle the combination of a neck a valve closure thercfor, a weight arranged to rest on said valve to normally hold the same closed, and means for locking the weight in such position, admitting of manipulation of said weight to permit opening of the valve.
3. In a non-refllable bottle the combination of a neck, a valve closure therefor, a weight arranged to rest upon said valve to normally hold the same closed, and a member connected with said weight to lock the same in a predetermined position or permit movement thereof for the purpose specifled.
4. In a non-refllable bottle the combination of a neck, a valve closure therefor, a weight adapted to rest upon the valve to normally hold the same closed, a stem connected with said weight, and means co-acting with the stem to lock the weight in a predetermined position, sald stem being operable to permit ready opening of the valve.
5. In a non-refillable bottle the combination of a neck, a closure therefor comprising a hollow body, a valve mounted in said hollow body, said closure having a sultable outlet opening therethrough, a weight normally resting upon the valve to hold the same closed. a stem connected with the weight and passing through the outer end portion of the closure, and lock means for co-operation with the stem to hold the weight in such a position that the valve is closed, said stem being operable to permit ready movement of the weight to admit of opening movement of the valve.

No. 100,394. Vending Machine. Machine de vente.


John A. Milne in trust for The Light-O Manufacturing Company, assignee of Frank Otto, Wllbur J. Vaughn, Ralph C. Teague, assignees of Joseph U. Peden, all of Marshall, Michigan, U.S.A., 7th August, 1906 ; 6 years. Filed 14th March, 1906. Recelpt No. 133,877.
Claim.-1. In a vending machine in combination, a shell having a coin slot and a delivery opening, a coin chute supported above the shelf and before the slot, a magazine of which the shelf forms a bottom, a delivery pusher slidable on the shelf across the magazine and having a slot registering with the coin chute, and acting to push the coln from the chute to the slot in the shelf and to push goods from the magazine to the opening in the shelf, and a detent above the pusher and engaging therewith and arranged to be lifted by a coin in the slot of the pusher when advanced.
2. In a vending machine in combination a coin chute, a goods magazine, and a spring secured to the side of the magazine and located betwoen said side and the goods therein and normally held back by the goods, and having an arm which is moved across the mouth of the chute by the spring when the magazine is empty.
3. In a vending machine in combination a coin chute, a goods magazine, a flat spring secured at one end to the side of the magazine and normally held back by the goods, and an arm projecting from the spring and arranged to extend across the mouth of the chute when the magazine is empty.
4. In a vending machine in combination, a coln chute, a goods magazine, a spring in the magazine normally held back by the goods therein, and having an arm which is moved by the spring across the chute when the magazine is empty, and a weight follower upon the goods having a notch Into which the spring advances when the follower reaches the bottom of the magazine.

No. 100,395. Tool for Fizing Jar Coverw.
Outil pour assujétir les cowvercles de jarres.


Earl D. Carter, Harvey, assignee of Willard C. Smith, Chicago, both in Illinois, U.S.A., 7th August. 1906; 6 years. Flled 12th July, 1906. Receipt No. 137,738.
Claim.-A tool for operating upon jar covers comprising a single length of spring wire bent to form the semi-circular body 1 , and having the terminals thereof extended to form the handles 2 arranged in divergent relation, the portion of the body 1 and the handies 2 adjacent the point of jointure being flattened as Indicated at 8, each handle 2 being provided with the jar cover rim engaging member 5 at a point
between Its ends, said rim engaging members being located substantially the mame distance from the outer extromitien of the handles and movable toward and from each other by movement of said handles 2.

No. 100,396. Method of Prodnoing Butter. Méthode de production du beurre.


The Aktiebolaget Baltic-Separator of Centralplatset, Stockholm, assignee of Johannes V. M. Risber, Kenalstrand 3, Solertelge, both in Sweden, 14th Augnst, 1906 ; 6 years. Filed 27th June, 1906. Receipt No. 137,334.
Claim.-1. The herein described method of continually producing butter characterized by the cream led into a rotating drum drawn off a stripping pipe, by the pressure thus effected being caused to pass at a moderated speed through a chamber or channel provided with suitable obstacles to the movement of the cream and of such capacity, that a comparatively slow butter formation takes place.
2. The herein described method of continually producing butter, characterized by the cream led into a rotating drum and drawn off by a stripping pipe, by the pressure thus effected being caused to pass at a moderated speed through a chamber or channel, provided with sultable obstacles to the movement of the cream and of such capacity that a comparatively slow butter formation takes place, and after having passed through the said churning chamber beling returned into the drum, so that parts of the cream which possibly are not ready churned are again forced through the churning chamber.

No. 100,397. Rail Joint. Joint de rails.


William A. Hill and Joseph Hill, assignee of a half interest. both of St. Paul, Arkansas, U.S.A., 14th August, 1906; 6 years. Filed 21st July, 1906. Recelpt No. 138.011.
Claim.-1. A rafl joint comprising similar rail ends provided with similar mortises communicating with the exterior by reduced openings and with similar tenons carried upon reduced necks and proportioned to engage within the mortises, and means for securing the ends together to permit a movement of the tenons within the mortises longitudinally of the rails.
2. A rail foint comprising similar rall ends provided each with a mortise transacting the upper and lower surfaces of the rail and communicating with the exterior by a cut oblique to the side of the rail, slmilar tenons carried by rail ends and engaged within the mortises, a bolt passing through both rail ends, and a nut upon the bolt and so arranged that the bolt head and nut bear against opposite sides of the same rail and to permit a movement of the tenons within the mortises longitudinally of the ralls.

No. 100,398. Railway Joint Ohair.
Coussinet de joint de chemin de fer.


Dewitt C. Miller and Harry Jackson, both of Melrose, Florida, and Hugh W. Hamlyn, Hoboken, New Jersey, each an assignee of a third interest, 14th August, 1906; 6 years. Filed 19th July, 1906. Receipt No. 137,955.
Olaim.-1. A fish plate for railway joints consisting of a plate fitted to the sides of the meeting ends of the rails and adapted to rest at its bottom edge on the webs of the rails, the upper or tread surface of the plate gradually rising from a line below the tread surface of the rails on each side of the joint to a point about a quarter of an inch thereabove at the meeting point.
2. A fish plate for the railway rail joints consisting of a plate fitted to the sides of the meeting ends of the rails and adapted to rest at its bottom edge on the webs of the rails, the upper or tread surface of the plate gradually rising from a line below the tread surface of the rails on each side of the joint to a point about a quarter of an inch thereabove at the meeting point, combincd with a brace extending laterally from the point of the side of the joint inclinedly down.
3. A fish pdate for rallway joints adapted to be secured to the sides of the meeting ends of the rails and resting at its lower edge on the webs of the rails, the upper or tread surface being hardened co-ordinately with the ball of the rails and extending above the tread surface of the latter at the line of the joint and gradually reduced in opposite directions therefrom on the top and sides, as set forth.

No. 100,399. Fusing Process. Procédé de fusion.


The Roessler and Hasslacher Chemical Company, New York City, New York, U.S.A., assignee of George Fred Brindley, Niagara Falls, Ontario, Canada, 14th August, 1906. 6 years. Filed 7th May, 1906. Receipt No. 135,660.
Claim,-1. In a process of fusing material the formation and maintenance of a layer of unfused material on the inner walls of the vessel containing the fused material.
2. In a process of fusing material the formation and maintainance of a layer of unfused material on the inner walls of the vessel containing the fused material between the electrodes and said walls and the fusing of said material by passing an alternating current between said electrodes.
3. In a process of fusing material the maintenance of an alternating current of low density in the fused material in routact with the electrodes.
4. In a process of fusing material the maintaining of an alternating current of low dasity in the fused miterial in contact with the electrodes and of a high density in that part of the bath where the unfused material is added to th: mass.
5. In a process of fusing material the displacing of fused material by the addition of unfused material so that said process is caused to be self regulating.
6. In a process of fusing corrosive materials the formation anc inaintaining of an insulating layer of unfu:ed material between the electrodes and the containing vessel and the jassing of an alteriating current through the fused material from one electrode to the other in such manner that sald current is of low density in the fused material adjacent to the clectrodes ani ct high density adjacent to the material to be fused.

No. 100,400. Drmp Wagon. Wagon ì bascule.


Jitwin S. Boyd, Norris City, Illinois, U.S.A., 14th August, 1906, 6 years. Filed 21st July, 1906. Receipt No. 138,036. Claim.-1. A dumping car or wagon provided with gravity opening doors, doors closing mechanism set for operation by the opening movement of said doors, a sliding locking bar having rigid hooked arms to engage co-acting locking members on the doors, and a pivoted lever for actuating said locking bar.
2. A dumising car or wagon protided with gravity opening doors having locking members, door closing devices includin an operating lever set for operation \(b\) by th? openiag movment of the doors, a sliding locking member having portions to engage the locking members on the doors. a ever for actuating said sliding locking menber, and common subporting means for the two levers.
3. A dumping car or wagon provided with gravity opening doors carrying locking members, a pivotally mounted door closing lever, conncctions between the doors and said lever, the. latter being set for operation by the opening movement of the doors, a sliding lorking bar carrying engasing devices to interlock with the locking members on the doors, and a lever for operating sald sliding locking bar arranged co-axially mounted with the first-named lever. whereby both levers may be controlled by an operator from a common point.
4. A dumping car or wagon provided with gravity opening doors carrying locking members, a sliding locking bar haring co- acting members, a support, levers co-axially mounted upon said support, one of said levers being operatively connected with the locking bar, and door closing connections between the other lever and the doors.
5. A dumping car or wagon provided with gravity opening doors carrying hooked locking members, a sliding bar mounted upon the bottom of the car and having laterally projecting rigid arms provided with co-acting locking members, and means for sliding the bar.

\section*{No. 100,401. Baling Press. Presse d ballot.}

Cyrus M. Davidson, Kansas City, Missouri, U.S.A., 14th August, 1906; 6 years. Filed 24th July, 1906. Recelpt No. 138,115 .
Claim.-1. In a baling press, a plunger, a toggle pivotally secured at its opposite ends to the press frame and said plunger, a cam journalled upon the press frame near sald toggle, a cable attached to the joint of said toggle and engaging the periphery of the cam, means for retaining the cable in engagement with said periphery throughout the movement of said cam, and means for pulling said cable to advance the plunger.
2. In a baling press, a plunger, a toggle pivotally secured at its opposite ends to the press frame and said plunger, a cam journalled upon the press frame near said toggle, a cable attached to the joint of said toggle and engaging the perinhery of the cam, means for retaining the cable in engagement with said neriphery throughout the movement of the cam, means for nulling on said cable to extend the toggle and advance the plunger, and means to assist iu folding said toggle after it has been extended.
3. In a baling press, the plunger, a toggle pivotally secured at its opposite ends to the press frame and said plunger, a

cam journalled upon the press frame near said toggle, a cable attached to the joint of said toggle and engaging the periphery of the cam, means for retaining the cable in engagement with said periphery throughout the movement of the cam, means for pulling on sald cable to extend the toggle and advance the plunger, and a retractile spring togele to the joint of the toggle and an upper portion of attached the press to assist in folding said toggle after it has been extended.
4. In a biling press, a plunger, a shaft journalled on the press frame in the rear of said plunger, a toggle pivotally secured at its forward end to the plunger and rigidly secured at its rear end to said shaft, a crank arm rigidly mounted upon one end of said shaft, a retractile spring attached to its opposite ends to the free ends of said crank arm and the press frame, a second shaft journalled upon the press frame between the first-mentioned shaft and the plunger a cam mounted upon said second shaft, a cable attached to the joint of the toggle and engaging the periphery of the cam, means for retaining the cable in engagement with said periphery throughout the movement of said cam, and means for pulling on said cable to advance the plunger.
5. In a balling press, a plunger, a toggle pivotally secured at its opposite ends to the press frame and said plunger provided with a slotted arm, a cam journalled upon the press frame which extends through the slotted arm of the toggle and has a low radius, a high radius, and an intermediate radius connecting the low radius and the high radius, a cable attached to the folnt of the toggle and engaging the periphery of said cam, means for retaining the cable in engagement with said periphery throughout the movement of said cam, and means for pulling on said cablo to advance the plunger.
6. In a baling press, a rod, a pair of bars adjustably secured to the forward end of said rod, a second pair of bars pivotally secured at their rear ends to the forward \(f\) nds of the first-mentioned bars, a block secured to the torward ends of the second pair of bars, a trip lever journalled upon the forward portion of the press frame, adapted to engage said block and advance the rod, a plunger, and means connecting the rod to sald plunger whereby the latter is simultaneously advanced with said rod.
7. Ir. a baling press, a rod, a pair of bars adjustably secured to the forward end of said rod, a second pair of bars secured at their ends to the forward ends of the firstmentioned bars with a bolt, a block secured to the forward ends of the second pair of bars, a trip lever journalled upon the forward portion of the press rrame, adapted to engage said block and advance the rod, arms projecting laterally from one side of the press frame, arms plivotally secured at their opposite ends to said laterally projecting arms and the forward ends of the second pair of bars, a plunger, and means connecting the rod to said plunger whereby the latter is simultaneously advanced by said rod.
8. In a baling press, a rod, a pair of bars adjustably secured to the forward end of said rod, a second pair of bars secured at their rear ends to the forward ends of the firstmentioned bars with a bolt, a block secured to the forward ends of the second pair of bars, a roller mounted upon said bolt, a pair of parallel rails secured to the press frame between which the roller travels, a trip lever journalled upon the forward portion of th: press frame adapted to engage the block and advance the rod, a plunger, and means connecting the rods to said plunger whereby the latter is simultaneously advanced with said rod.
9. In a baling press, a rod, a pair of bars adjustably secured to the forward end of sand rod, a second pair of bars secured at their rear ends to the forward ends of the firstmentioned bars with a bolt, a block secured to the forward ends of the second pair of bars, a roller mounted upon sald bolt, brackets secured upon the press frame, an inverted L,-shaped casting secured unon the press frame, a pair of parallel rollers between which the roller travels secured
at their opposite ends to said brackets and the L-shaped casting, a trip lever journalled upon the forward portion of the press frame adapted to engage the block and advance the rod, a plunger, and means connecting the rod to said plunger whereby the latter is simultaneously advanced with said rod.
10. In a baling press, a transverse frame at the forward portion thereof, centrally disposed blocks at the top and bottom of said frame the lower block having a tapering socket, a gooseneck shaving a tapering boss on its lower portion which fits into the socket, and a trip lever journalled in the gosseneck and the upper centrally disposed block and provided with a shoulder which rests upon the lower portion of the gooseneck.
11. In a baling press, a transverse frame at the forward portion thereof, centrally disposed blocks at the top and hottom of said frame, the lower block having a socket, a gooseneck having a boss on its lower portion which fits into said socket, a trip lever journalled in the gooseneck and the upper centrally disposed block provided with a shoulder which rests upon the lower portion of said gonseneck, brackets secured to the press frame, tie rods connecting the upper rear portion of the gooseneck to the upper ends of said brackets, and gas pipes inclosing said tie rods and abuting at their opposite ends against the gooseneck and the brackets.

\section*{No. 100,402. Machine for Refining Flour.}

Machine pour rafiner la teur.


Clarence Lincoln Gerrard, Columbus, Nebraska, U.S.A., 14th August, 1906; 6 years. Filed 19th July, 1906. Recelpt No. 137.984
Claim.-1. An apparatus for treating flour, comprising a frame, a drum sustained thereby and having an inlet and outlet, an agitator in the drum, a fan mounted on the frame, means connecting the agitator and fan to drive one from the other, a discharge pipe passing from the fan, a gas generator head connected thereto to which head the discharge pipe leads, and a pipe passing from the generator head to the inlet of the drum, for the purpose specified.
2. An apparatus for treating flour, comprising a frame, a drum sustained thereby and having an inlet and outlet, an agitator in the drum, a fan mounted on the frame, means connecting the agitator and fan to drive one from the other, a discharge pipe passing from the fan, a gas generator, a generator head connected thereto to which head the discharge pipe leads, a casing enclosing the gas generator and attached to the generator head, and a pipe passing from the generator head to the inlet of the drum, for the purpose specifled.
3. An apparatus for treating flour, comprising a frame, a drum mounted thereon and having an inlet and outlet, a fan, a discharge pipe passing therefrom, a generator with which the head communicates, a contracting nozzle discharging from the said pipe into the head, and a pipe leading from the head to thedrum inlet.
4. An apparatus for treating flour, comprising a frame, a drum mounted thereon and having an inlet and outlet, a fan, discharge pipes passing therefrom, a generator head, a gas generator with which the head communicates, a casing enclosing the gas generator and attached to the generater head, a contracting nozzle discharging from the said pipe into the head, and a pipe leading from the head to the drum outlet.
5. An apparatus for treating flour, comprising a irame, a drum sustained therein and having inlet and outlet openings at its opposite ends, an agitator within the drum, a shaft connected to the agitator and extending beyond one end of the drum, a fan mounted on the frame above the
drum, means connecting the fan and agitator shaft to operate the same in unison, a discharge pipe passing from the fan, a generator head to which the discharge pipe leads, a generator communlcating with the head. a casing enclosing the generator and attached to the generator head, and a pipe passing from the generator head to the inlet to the drum.

\section*{No. 100,403. Cheese Vat Eupport. Support powr cuve d fromage.}


Wilber Gordon, Tweed, Ontario, Canada, 14th August, 1906;
6 years. Filed 21st July, 1906. Receipt No. 138,034.
Claim.-1. A cheese vat support comprising a receptacle, neans for admitting steam to the receptacle, and removable supporting members secured to the receptacle.
2. A cheese vat supporting device comprising a metallic receptacle, removable means for supporting the receptacle, and means for admitting steam to the receptacle.
3. In a cheese vat support, a plurality of metallic standards, cross braces removably secured to the standards, lengitudinal braces removably secured to the standards, and a flanged receptacle disposed on the cross braces and having its flange disposed over the said standards.
4. In a cheese vat supporting device, a plurality of channelled iron standards having closed tops, trarsverse members connecting the standards, longitudinal members connecting the standards, removable clips disposed on the closed ends of the standards, and flanged metallic receptacle having its flange disposed on the clips.
5. In a cheese vat supporting device, a plurality of channeled iron standards, channelled iron cross braces connecting said standards in pairs, longitudinal angle irons diss rosed on the standards and having one of their flanges cut away to receive the same, bolts disposed through the vertıcal standards, the longitudinal braces and the cross braces, end a metallic receptacle carried by the standards.
6. In a cheese vat supporting device, a metallic receptacle, pipes leading into the receptacle, and metallic supporting members for the receptacle attachably secured thereto and to each other.

\section*{No. 100,404. Box. Boite.}

Henry Lawrence Gulline, Granby, Quebec, Canada, 14th August, 1906; 6 years. Filed 21st July, 1906. Receipt No. 138,024.
Claim.-1. In a folding box or crate, means whereby internal strain exerted upon a part thereof will be distributed throughout the entire box, substantially as described and for the purpose set forth.
2. In a folding box or crate comprising sides, ends constructed to fold between the sides, and top and bottom, means whereby internal strain exerted upon the said ends is transmitted to other members of the box, substantially as described and for the purpose set forth.
3. In a folding box or crate comprising sides, ends constructed to fold, and top and bottom, the ends carrying pins adapted to project through holes in the top and bottom for the purpose of causing internal strain exerted upon the said euds to be transmitted to other members of the box, substantially as described and for the purpose set forth.
4. In a folding box or crate comprising corner posts, sldes secured rigidly to the posts, ends hinged to the said posts

and each made in two pleces hinged together to fold inwardly, and top and bottom hinged to the ends of the corner post, the pintles of the hinges joining the pleces of the ends presenting pins projecting through holes in the top and bottom, substantially as described and for the purpose set forth.
5. In a folding box or crate comprising corner posts, sides secured rigidly to the posts, ends hinged to the said posts and each made in two pieces hinged together to fold inwardly, and top and bottom hinged to the ends of the corner post and each having a bar with perforated ends secured along its middle, the pintles of the hinges joining the pieces of the ends presenting pins projecting through holes in the top and bottom, and through the perforations of the bars, substantially as described and for the purpose set forth.
6. In a folding box or,crate comprising sldes, ends constructed to fold between the sides, and top and bottom, and buffers carried rigidly by the corner posts for the purpose of protecting the members of the ends when the box is folded, substantially as described and for the purpose set forth.
7. In a folding box or crate comprising sides, ends constructed to fold between the sides, and top and bottom, strap hinges hinging the members of the ends together and to the sides and extending throughout the length of the top and bcttom edges thereof, the leaves of the sald hinges being each formed with a pair of knuckles on opposite sides thereof and one at each end, substantially as described and for the purpose set forth.
8. In a folding box or crate comprising sides, ends constructed to fold, and top and bottom hinges connecting together the parts of each folding end and presenking pins projecting through holes in the top and bottom and the said pins having projections adapted to be acted upon by the folded ends, for the purpose set forth.
9. In a folding box or crate comprising sides, ends constructed to fold, and top and bottom, hinges connecting together the parts of each folding end and presenting pins projecting through holes in the top and bottom and the sald pins having projections adapted to be acted upon by the folded ends and distance piecess retaining the said pins in place, for the purpose set forth.

\section*{No. 100,405. Cooking Stove and Rauge. \\ Poéle de cuisine.}

Robert Nelson Grundy, Guelph, Ontario, Canada, 14th August, 1906; 6 years. Filed 24th July, 1906. Receipt No. 138,126.
Claim.-1. A reduced chamber for inserting into the fire chambers of cooking stoves or ranges, consisting of a comtustion chamber with an enclosed air chamber underneath and partially surrounding the same, as hereinbefore described.
2. A loose circular firepot tapering from top to bottom fitting into a circular opening in the bottom of the combustion chamber and forming the only means of communication between the two chambers, as hereinbefore described.
3. In connection with a loose circular tapering firepot, an independent shaking grate operated by means of a lug fitting

loosely in an eye at the lower end of a vertical rocking lever, as hereinbefore described.

ITo. 100,406. Cooking Range. Poêle de cuisine.


Wellesley R. Hampden, Toronto, Ontario, Canada, 14th August, 1906; 6 years. Filed 27th July, 1906. Receipt No. 138,215 .
Claim.-1. In a kitchen range the combination with the body and firebox and oven disposed at one side of the firebox and located at a distance from the walls surrounding the same, of a perforated pipe located near the upper edge of the frebox at the entrance of the combustion chamber at one slde of the oven as and for the purpose specified.
2. In a kitchen range the combination with the body and arebox and oven disposed at one side of the firebox and located at a distance from the walls surrounding the same, of a perforated pipe located near the upper edge of the fire box at the entrance of the combustion chamber at one side of the oven, and a partition located at the upper corner of the oven and provided with a suitable damper, as and for the purpose specified.
3. In a kitchen range the combination with the body and arebox and voen deposited at one side of the firebox and located substantially at a distance from the walls surrounding the same, of a perforated pipe located near the upper edge of the firebox at the entrance of the combustion chamber at one side of the oven, a partition located at the upper corner of the oven and provided with a suitable chamber and a perforated pipe located towards the bottom of the combustlon chamber, as and for the purpose specified
4. In a kitchen range the combination with the body, firebox and oven and perforated pipes, of the obliquely arranged partition at the bottom of the oven, the obliquely arranged partition at the outside of the oven, the cross partition provided with a damper at the top of the oven, the chamber located at the back of the wall and connected to the stovepipe and having an opening leading thereinto from the back of the obliquely arranged side partition, as and for the purpose specified.
5. In a kitchen range or stove the combination with the range or stove body and the firepot and the oven, of a combustion chamber located between the oven and the firepot and extending from the top of the oven down to the bottom of the range, and means for causing the products of combus-8-8
tion to pass from the firepot into the combustion chamber and beneath the bottom of the oven, as and for the purpose specified.
6. In a kitchen range or stove the combination with the range or stove body and the firepot and the oven, of a combustion chamber located between the oven and the firepot and extending from the top of the oven down to the bottom of the range, and a perforated pipe extending along the top edge of the firepot and communicating with the outer air, as and for the purpose specified.

No. 100,407. Derailer. Dérailleur.


Stanley Wolcott Hayes, Geneva, New York, U.S.A., 14th August, 1906; 6 years. Filed 20th July, 1906. Receipt No. 138,008 .
Claim.-1. In a derailer a standard formed to provide a chamber, a floor for said chamber formed with an elevated portion adapted to give a vertical component to the movement of a member moving upon said floor, in combination with a wheel derailing member mounted within said chamber to move upon the floor thereof toward and from the rafl. 2. In a derailer a standard formed to provide a chamber, a floor for said chamber formed at one end with an elevated portion adapted to give a vertical component to the movement of a member moving upon it, in combination with a wheel derailing member mounted without said chamber to move toward and from the rail and provided with a part at one end engaging said elevated portion and supported at its other end on a pivotal bearing within the chamber.
3. In a derailer a standard formed to provide a chamber, a floor therefor having a transverse rib forming a seat between itself and the rail, and an inclined approach to said seat on the other side of said rib, in combination with a wheel derailing member having a part adapted to ride up said inclined approach and be contained in said seat.
4. In a derailer a standard formed as a chamber, a wheel derailing member mounted therein to slide upon the floor thereof and a roof for the chamber serving as a retaining means confining the member to its proper path of movement therein.
5. In a derailer, the combination of a standard forming a chamber, and a derail block arm mounted on the floor thereof to move toward and from the rail, a transverse rib on the said floor causing the forward end of said arm to move vertically and a chamber roof confining said arm to its proper path of movement as determined by said rib.
6. In a derailer, the combination of a standard forming a chamber with an elevated portion formed on the floor thereof, a wheel derailing member sliding over said elevated portion and an operating lug depending from said member through a slot in said floor.
7. In a derailer, the combination of a standard floor having a transverse rib, a derail block arm provided with a part at one end adapted to ride over said rib and formed with a hub at the other end confined within said standard, and an operating lug depending through a slot in the said chamber floor
8. In a derailer, a standard having side walls proportioned to extend over the flange of the rail when the standard is in place, a floor between said extended side walls formed as a transverse rib with a sloping side, in combination with a wheel derailing member comprising a shoulder adapted to slide between the side walls upon said floor.
9. In a derailer, the combination of a standard provided with means adapted to give an upward direction to a body moving thereon and provided with side walls forming a seat adjacent the rail, in combination with a wheel derailing member provided with a shoulder moving on said means toward and from the rall, said shoulder being adapted to serve as a brace to prevent movement of the member parallel with the rail.

No. 100,408. Derailer. Hévaillcur.


Stanley Wolcott Hayes, Geneva, New York. U.S.A., 14th August, 1906; 6 years. Filed 20th July, 1906. Receipt No. 138,009 .
Claim.-1. In a derailer, a standard comprising a support for a wheel derailing member, in combination with said wheel derailing member embracing said support and mounted thereon for movement toward and from the rail.
2. In a deraller, a standard comprising a support for a wheel deralling member, in combination with said member formed to embrace said support on three sides thereof and having slidable engagement with said support.
3. In a lerailer, a standard comprising a support for a wheel derailing member, in combination with said member, a vertically depending flange formed thereon and a pin and groove connection between said flange and support.
4. In a derailer, a standard comprising a support for a wheel deralling member, in combination with said member, slidingly mounted on said support for movement toward the rail, a depending flange formed on said member, and a pin and curved groove connection between said flange and support.
5. In a derailer, a supporting standard, a derail block, an arm on said derail block recessed to form a cover for said standard and having engaged with said standard on a portion of the same covered by said arm.
6. In a derailer, a supporting standard, and a relatively movable wheel derailing member covering and partially inclosing the same, pins on one of said movable parts and grooves engaged thereby on the other, said grooves being formed with extensions to the edge of the part, whereby the pins may be introduced into said grooves in the assemblage of the derailer.
7. In a derailer, a supporting standard and a relatively movable wheel derailing member covering and partially inclosing the same, in combination with an operating lug on the under side of said member.
8. In a derailer, a supporting standard dispose 1 transversely to the rail and in substantial contact therewith, in combination with a derail block arm provided with depending flanges embracing said standard and movable thereon into contact with the rail.

\section*{No. 100,409. Ballast Dressing Apparatus.} Appareil d dresser le lest.
John B. Hill, Winchester, Ontario, Canada, 11th August, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,060. 138,060.
Claím.-1. In a ballast weeding and dressing device, the combination comprising a wheeled body, frames pivotally connected to the wheeled body, weeding blades carried by the frame, and means for raising and lowering the frames.
2. In a ballast weeding and dressing device the combination comprising a wheeled body, frames pivotally connected to the wheeled body, weeding blades carried by the frame. dressing scoops carried by the frames, and means for raising and lowering the frames.
3. In a ballast weeding and dressing device, the combination comprising a wheeled body, frames pivotally connected to the wheeled body, weeding blades carried by the frame. means for raising and lowering the frames, and means for locking the frames in elevated position
4. In a ballast weeding and dressing device, th combination comprising a wheeled body, frames pi"otally connected to the wheeled body, weeding blades carrisd by the frame, means for raising and lowering th franes man for locking the frames in elevated posititon, and means for locking the frames in depressed position.
5. In a ballast weeding and dressing device, the combination comprising a wheeled body, frames pivotally connected

to the wheeled body, weeding blades carried by the frames. levers pivotally connected to the wheeled body, means connecting the levers and the frames, and means for locking the levers in depresed position.
6. In a ballast weeding and dressing device, the combination comprising a wheeled body, frames pivotally connected to the wheeled body, weeding blades carried by the frami levers pivotally connected to the wheeled body, links on the levers, means for pivotally connecting the lower ends of the links to the frame, and means for locking the levers In one position.
7. In a ballast weeding and dressing device, the combination comprising a wheeled body. frames pivotally connected to the wheeled body, weeding blades carried by the frames, cevers connected with the frames and adapted to raise and lower the same, hooks on the wheeled body adapted to engage the levers, and means for locking the frames in de pressed position.
8. In a ballast weeding and dressing device, the combination comprising a wheeled body, frames pivotally conuected to the wheeled body. weeding blades carried by the frames, standards on the wheeled body, levers adjustably and pivotally secured to the standards, means for connecting the levers to the frames, and means for locking the levers in one position.
9. In a ballast weeding and dressing device, the combination comprising a wheeled body, frames pivotally conrected to the wheeled body. weeding blades carried by the frames, means for raising and lowering the frames, means for locking the frames in elevated position, a guide on the car body, a slidable member under the guide, and means for connecting the slidable member to a projecting part of the pivoted frames.
10. In a ballast weeding and dressing device, the combination comprising a wheeled body, frames pivotally secured to the body, means for raising and lowering the frames, means for locking the frames in lowered and raised position, and blades adjustably carried by the frame.
11. In a ballast weeding and dressing device, the combination comprising a body, bolsters secured to the bods. wheeled axles, trees on the axles, means for pivotally connecting one of the trees to one of the standards, means for limiting the movement of said tree unde: siil bilster, irames pivotally secured to the car body, means for raising and lowering the frames, and weeding and dressing members carried by the frames.

\section*{No. 100,410. Bag Holder and Woighing Apparatus. Porte sac et balance.}

Charles W. Edwards and George E. Howell, co-inventors. both of Maquoketa. Iowa. U.S.A., 14th August, 1906; 6 years. Filed 21st July, 1906. Receipt No. 138,019.
Claim.-1. In a device of the class described, a braced upright comprising two spaced side members connected at their upper extremities and having a forwardly and upwardly offset portion provided with downward extending recesses. a scale beam fulcrumed in said recesses, a yoke suspended from the scale beam, rods depending from the ends of the yoke, and a crosspiece connecting the rods and constituting a platform.
2. A base, an upright comprising side members having parallel upper portions and divergent lower portions secured
upon the base, braces to sustain said upright, spacing blocks interposed between the parallel portions of the side mem-

bers of the uprights, a scale fulcrumed in a forwardly offset portion at the upper end of the upright, and a platform carrying yoke suspended from the scale beam.
3. In a device of the class described, a base, an upright having a forward offset upper portion, a scale beam fulcrumed in said forwardly offset portion, a yoke suspended from the scale beam, rods depending from the ends of the roke, a crossplece connecting the lower ends of the rods, and sleeves slidable upon the rods and provided with laterally extending hooks, in combination with a resilient bag holding shleld having means for engaging the hooks.
4. In a device of the class described, a supporting device including an upright having spaced side members, in combination with a weighing apparatus including a yoke, rods depending from said yoke, and a platform connecting the lower ends of the rod, and a bag holding shield adjustably connected with the rods depending from the yoke.

No. 100,411. Ploughshare. Soc de charrue.


William Pennington, Bawtry, and David W. Freman, Finningly, both in England, co-Inventors, 14th August, 1906; 6 years. Filed 9th July, 1906. Receipt No. 138,104.
Olaim.-1. A ploughshare having detachable steel blades spliced or secured thereto by sultable fastenings, so that when worn the blades can be readily replaced by a new one, as shown and described.
2. A ploughshare \(A\), having recessed or tapered parts \(A^{1}\), upon which fits a blade B, having tapered part \(B^{1}\) forming a dovetail or joint \(C\), and detachably secured thereto by fingers \(D\) and slots \(E\), substantially as shown and described.
3. A ploughshare A, with recessed or tapered part \(A^{\prime}\), upon which fits a blade \(B\) with thin or tapered part \(B^{1}\) forming a splice or joint C, and detachably secured thereto by bolts, screws or other suitable fasteners, substantially as shown and described.

\section*{No. 100,412. Cheok-Rein Guard.} Garde de rènes de brides.
Edward Richard MacDonald, Shediac, New Brunswick, Canada, 14th August, 1906 ; 6 years. Filed 21st July, 1906. Receipt No. 138,035.

Claim.-1. A check rein guard comprising a flexible member.
2. A check rein guard comprising a resilient flexible member.

3. A check rein guard comprising a tubular flexible member.
4. In a check rein guard the combination comprising a tutioe, a pad disposed on the tree, a saddle on the pad, a hook, means for securing together the saddle, the pad, the tree and the hook and a compressible guard carried by sald securing means.
5. In a check rein guard the combination comprising a tree, a pad disposed on the tree, a saddle on the pad, a hook having one end disposed beneath the tree, a bolt disposed through the tree, the pad the saddle and the hook, a nut on one end of the bolt and a flexible compressible member carried by the opposite end of the bolt.
6. In a check rein guard the combination comprising a tree, a pad disposed on the tree, a saddle on the pad, a hook having one end disposed beneath the tree, a bolt disposed through the tree, the pad the saddle and the hook, a nut on one end of the bolt and a tubular flexible member having one end clamped between the bolt and the saddle and its opposite end extending to the under face of the hook.

No. 100,413. Ice Creeper. Grappin.


Daniel L. Plckett, Keene, New Hampshire, U.S.A., 14th August, 1906; 6 years. Filed 26th July, 1906. Receipt No. 138,175.
Claim.-1. In an ice creeper, a heel member having dependIng spurs, clamp plates superimposed beneath said heel member and upturned at the ends and extending inwardly and downwardly for yleldably bearing against the heel of the skoe, and means for adjustably connecting sald plates to said heel member.
2. In an ice creeper, a heel member having depending spurs, clamp plates superimposed beneath said heel member and upturned at the ends and extending inwardly and downwardly for gieldably bearing against the heel of the shoe, a crm member pivoted in one of said upturned ends and bearing against the adjacent downwardly extending portion, and means for adjustably connecting sald plates to said heel member.
3. In an ice creeper, a heel member having depending slurs, a toe member having depending spurs, means for flexitly uniting sald heel and toe members, means for detachably connecting sald toe member to the toe portion of a shoe. clamp plates superimposed beneath said heel member and upturned at the ends with the extremities turned inwardly and downwardly for bearing against the heel of a shoe, a
cam member pivoted in one of said upturned ends and operating to compress the adjacent downturned extremity against the shoe heel, and means for adjustably connecting said plates to sald heel member.

No. 100,414. Saw Mill. Scierie.


Robert Haynes Richards and William Ellis Swanger, Hackettstown, New Jersey, U.S.A., co-inventors, 14th August, 1906; 6 years. Filed 19th July, 1906. Receipt No. 187,983.
Ciaim.-1. A setter and receder for saw mills comprising a carriage, slides transversely movable thereon, a shaft in operative connection with said slides, a yoke lever mounted on said shaft, devices connected with said shaft and with said yoke lever for moving said slides forwardly in the forward movement of sald yoke lever, and devices also in operative connection with said shaft and said yoke lever for moving said slides backwardly in the forward movement of said yoke lever, substantially as shown and described.
2. A setter and receder for saw mills comprising a carriage, a plurallty of slides transversely movable thereon, a shaft in operative connection with said slides, a yoke lever mounted on said shaft, devices in operative connection with sald shaft and said yoke lever, a rod connected with said yoke lever, and devices connected with sald rod whereby the rotation thereof and the forward movement of said yoke lever operates said slides backwardly, substantially as shown and described.
3. A setter and receder for saw mills comprising a carriage, a plurality of slides transversely movable thereon, a shaft in operative connection with said slides, a yoke lever on said shaft, devices connected with said shaft and said yoke lever for moving said slides forwardly in the criward movement of said yoke lever, and means for moving said slides backwardly in the forward movement of said lever, substaatially as shown and desoribed.
4. In a setter and receder for saw mills a carriage frame, slides movable transversely thereof, a shaft ranging longitudinally of said irame and geared in connection with said slides and adapted to move the same forwardly and backwardly, a segmental bracket or support connected with said frame and through which said shaft passes, a ratchet Wheel secured to said shaft, a gear wheel mounted rearwardly of said shaft and meshing with a pinion confected tberewith, a weighted crank lever or pawl pivoted over said gear wheel and adapted to engage the same, pawls pivoted in the yoke lever and adapted to engage the ratchet wheel, a finger lever also pivoted in the yoke lever and adapted to engage the crank lever or pawl and force it in connection with said gear wheel, an operating rod connected with the yoke lever whereby it may be moved forwardty and backwardly, said rod beling also adapted to turned in its support, and an arm connected with said rod and in operative connection with said pawls, and said finger lever, substantially as shown and described.
5. In a setter and recedor for saw mills a carriage frame, slides mounted transversely thereof, a shaft geared in connection with said slides and adapted to move them in opposite directions, a segmental bracket or support connected with the carriage frame and through which sald shaft passes, a ratchet wheel secured to said shaft, a yoke lever mounted on said shaft and operating in connection with said segmental bracket or support, devices in operative connection with said yoke lever and said ratchet wheel for turning said shaft in one direction in the forward movement of the yoke lever, and other devices in operative connection with the yoke lever and said ratchet wheel whereby said shaft will be turned in the opposite direction In the forward movement of said yoke lever, substantially as shown and described.
6. In a setter and receder for saw mills a carriage frame slides movable transversely thereof, a shaft ranging longi tudinally of said frame and geared in connection with said slides and adapted to move the same forwardly and backwardly, a yoke lever mounted to swing forwardly and backwardly in a vertical plane, devices connected with said shaft and sald yoke lever for moving said slides forwardly in the forward movement of said yoke lever and means for moving said slides backwardly in the forward movement of said lever, substantially as shown and described.

No. 100,415. Elootric Furnaoe.
Fournaise électrique.


Albert John Peterson, Alby, Sweden, 14th August, 1906; 6 years. Filed 12th May, 1906. Recelpt No. 135,850.
Olaim.-1. The combination with an electric furnace for treating gases by means of voltaic arcs having an inner central electrode and an outer electrode concentric therewith, of means around the said furnace for craating a magnetic field in the space within the said outer electrode. substantially as and for the purpose set forth
2. The combination with an electric furnace for treating gases by means of voltaic arcs having an inner central electrode and an outer electrode concentric therewith, of a ring-shaped iron core around the furnace and means for energizing the said iron core, substantially as an dfor the purpose set forth.
3. The combination with an electric furnace for treating gases by means of voltaic arcs having an inner central electrode and an outer electrode concentric therewith, of an energizing coll around the said outer electrode, and means for connecting the said coil in series to the arc between the said electrodes, the said coil forming an inductive resistance for the arcs, substantially as and for the purpose set forth.
4. The combination with an electric furnace for treating gases by means of voltaic arcs having an inner centra electrode and an outer electrode concentric therewith, of a ring-shaped iron core, an energizing coil in the said core. and means for connecting the said coil in series to the arcs between the said electrodes, substantially as and for the purpose set forth.
5. The combination with an electric furnace for treating gases by means of voltaic arcs having an inner central electrode and an outer electrode concentric therewith, of an energizing coll around the latter consisting of a spirally wound ribbon shaped cable, substantially as and for the purpose set forth.
6. The combination with an electric furnace for treating gases by means of voltaic arcs having an inner central electrode and an outer electrode concentric therewith, of an energizing coll around the latter consisting of a spirally wound ribbon shaped cable the innermost turn of which forms the sald outer electrode, substantially as described.
7. The combination with an electric furnace for treating gases by means of voltaic arcs having an inner central electrode and an outer hollow electrode provided with inlet and outlet for a cooling fuid, of an energizing coil around the sald outer electrode, substantially as and for the purpose set forth.

\section*{No. 100,416. Paper Bas Making Machine. Machine d faire les sacs de papter.}

George Hartman and Edward Wenning, assignee of two fifths of the interest, both of Cincinnati, Ohio. U.S.A. 14th August. 1906 ; 6 years. Filed 23rd June, 1906. Receipt No. 137,208.
Claim.-1. In a paper bag machine the combination of the feed roll for the paper, devices adjacent to the feed roll for fraying the surface of the paper to prepare it for receiving paste, pasters and folding devices for forming the paper into a tube.
2. In a paper bag machine for forming bags from a paper tube, the combination of the feed roll, the tube folding de-

vices, the glueing apparatus between the folding devices and the feed roll and a paper moistening device located between the feed roll and the glueing apparatus and consisting of a chamber with ways for keeping the edges of the paper dry.
3. In a paper bag machine of the character described the combination of the feed roll, the tube folders, a rotating knife between the feed roll and a folder for centrally notching the paper, means located adjacent to the folders for severing the blank from the tube, a swinging arm with ringers for engaging the blank before it is served and for carrying it forward toward the bottom folders.
4. In a paper bag machine a tube forming mechanism, means for severing blanks from the tube, bottom folders and a swinging mechanism for carrying the blanks forward from the severing means toward the bottom folders consisting of an arm pivoted at one end having spring pressed fingers at the other end and cams located at the sides of the arm for contacting the fingers and opening them to recelve and to release the blank.
5. A carrying mechanism for conveying blanks from the severing knife to the bottom folders consisting of a swinging arm for recelving the blank from the severing knife, a rotating wheel with fingers upon its circumference, means for holding the fingers normally closed and stationary studs located in the path of the fingers to open them to receive the blanks from the swinging arm.
6. In a paper bag machine the combination of a tube former, a severing means for cutting bianks from the tube, a conveying cylinder for receiving the blanks, a series of printing rolls contacting the conveying cylinder and bottom formers adjacent to the conveying cylinder.
7. In a paper bag machine the combination of a wheel for conveying blanks cut from a paper tube to the bottom folders, means for holding the blank upon the wheel and printing rolls contacting the conveying wheel, and a wheel with automatically changing drying surface located adjacent to the printing rolls.
8. In a paper bag machine the combination of means for printing the surfaces of the blank, a drying cylinder located adjacent to the printing apparatus, and having journalled within it spools for holding cord and the cord zig-zagged through the surface of the cylinder, means for rotating the spools and winding the cord from one to the other spool.
9. In a paper bag machine folders for laying the diamond folds in the blank consisting of a rotating cylinder having two longitudinal blades and pins between the blades, the blades for cutting the longitudinal slits in the blank and the pins for catching the part of the blank which forms the rear fiap, a conveying cylinder with a finger for grasping the front flap and a stripper for disengaging the pin from the rear flap.
10. In a paper bag machine the combination of the folders for laying the diamond folds in the blank, belts tor carrying the blank forward, creasing blades for making transverse creases across the blank, a reciprocating blade for taking under the rear flap of the blank and turning it down in alvance of the folding of the front flap, a means for reciprocating the blade and means for turning down the front flap over the rear one.
11. In a paper bag machine the combination of folders for laying the diamond folds in the blank, bolts for engaging the sides of the blanks and carrying them forward, side frames adjacent to the belt having curved slots in them, a rod mounted to slide in the slots, a blade secured to the rod, a reciprocating arm pivoted to the blade whereby the reciprocating of the arm causes the blades to take under the rear flap of the blank and to turn it over in advance of the front flap, and means for turning the front flap down on the rear ones.
12. In a paper bag machine the combination of tube formers, rolls for feeding the tube forward, means located adjacent the rolls for severing blanks from the tube and a reciprocating arm for engaging the blanks and carrying them forward toward the bottom folder.
13. In a paper bag machine the combination of a feed roll for the paper, guide rolls adjacent to the feed roll over which the paper passes towards the paster, rotating shafts located upon opposite sides of the paper adjacent to the guide rolls and supplied with splines for fraying the edges of the paper upon opposite sides, pasters and folding devices for forming the paper into a tube.

\section*{No. 100,417. Vestibule Car Diaphragm. \\ Diaphragme pour chars vestibule.}


Lowell Cary Bassford, Chicago, Illinojs. U.S.A., 14th August 1906 ; 6 years. Filed 23 rd July, 1906. Recejpt No. 138.105 Claim.-1. A diaphragm for vestibule cars having sild walls and a top cross wall, all being provided with bellows folds, the ridges on the opposite sides connecting with the valleys across the top and the side valleys connecting with the top ridges and arch frames to which the ends of the diaphragm are secured, substantially as described.
2. A diaphragm for vestibule cars consisting of side walls and a top, all formed from a continuous plece of fabric. the side walls and top being provided with bellows folds formed in the continuous fabric, the sides having ridges and valleys connecting with the valleys and ridges respectively across the top and arch frames to which the ends of the diaphragm are secured, substantially as described.
s. A diaphragm for vestibule cars consisting of side walls and a top, all formed from a continuous piece of fabric, the side walls and top being provided with bellows folds formed in the continuous fabric. the sides having ridges and valleys in allgnment with the valleys and ridges respectlvely across the top, arch frames to which the ends of the dlaphragm are secured and reinforcing strips secured along the angles of the ridges of the sides and top, substantially as des cribed.
4. A diaphragm for vestibule cars consisiting of side walls and a top, all formed integrally from a continuous strip of fabric, the companion side walls being provided with bel lows folds having oppositely disposed ridges and valleys and the top being formed with bellows folds having ridges and valleys in staggered relation with respect to the ridges and valleys of the sides forming diagonally extending corner folds, reinforcing strips along the angles of the ridges and along the diagonally extending corner folds and arch frames to which the ends of the diaphragm are secured, substantially as described.

No. 100,418. Car. Char.
Alamanza Porter, Scranton. Pennsylvanla, U.S A.. 14th August. 1906; 6 years. Filed 21st July, 1!906. Receipt No. 138,021 .
Claim.-1. Upper and lower longitudinal tracks and door sections supported for slidable and plvotal movement between said tracks and provided near their frce edges with track engaging rotary members.
2. Longitudinal upper and lower tracks having T-grooves supporting blocks slidably engaging said grooves, and door sections pivotally connected with said supporting blocks

3 Longitudinal grooved upper and lower tracks, grooved side tracks diverging therefrom and communicating with the main tracks through notches in the sides of the latter, supporting members engaging the gronves of the tracks and door sections having pintles engaging said supporting members.
4. Upper and lower longitudinal tracks having T-grooves supporting members engaging said grooves and comprising inner and outer members having connecting shanks and pro-
vided with recesses or bearings, door sections movable between the surfaces of the tracks and having pinlets en-

gaging the bearings in the supporting members and track engaging rollers near the free edges of the door sections.
5. In a street car, longitudinally disposed upper and lower tracks having grooves therein, divergent track members upon the platforms of the car and a plurality of door sections mounted slidably and pivotally between the main track sections and supported for storage upon the divergent track sections.
6. The combination with a street car having upper and lower track sections, of door sections and supporting sections or frames hingedly connected therewith. said sections or frames being slidably supported between the upper and lower track sections.
7. In a street car a movably supported frame and a door section hingedly supported in said frame to swing upon an approximately verticle axis.
8. Upper an dlower track rails, a frame supported for slidable and swinging movement betwern said rails and a door section hingedly supported in said frame.

No. 100,419. Car Fender. Défense de chars.

.William Henry Walsh. Montreal, Quebec, Canada, 14th August. 1906; 6 years. Filed 25th July, 1906. Receipt No. 138,147.
Claim.-1. A device of the class described comprising a ylelding frame, means for vertically adjusting said frame, and means for automatically retaining an object upon said frame.
2. In a device of the class described, a yieldable irame, means for vertically adjusting said frame, and gravity actuated means for retaining an object upon said frame.
3. In a device of the class described, an L-shaped frame, means for yieldably supporting said frame, moans for vertically adjusting said frame, and gravity actuated means for retaining an object upon said frame.
4. In a device of the class described, a spring mounted \(L\) shaped frame, a wire mesh covering said frame and means for automatically retaining an object falling upon said mesh.
5. In a device of the class described, a spring mounted \(L\) shaped frame, means for adjusting said frame, a spring mounted netting covering said frame, and gravity actuated means of retaining an object falling upon said netting.
6. In a device of the class described, an adjustable spring mounted frame, a wire mesh covering said frame, a plurality of retaining arms, aud means for holding said arms in a normally elevated position.
7. In a device of the class described, a spring mounted frame, means for adjusting said frame, a spring mounted covering said frame, a plurality of retaining arms, means for holding said arms in elevated position, and means for automatically lowering said retaining arms.
8. In a device of the class described, an adjustable frame, a spring mounted wire mesh covering said frame, a plurality of retaining arms, means for holding said arms in an elevated position, and means actuated by a body falling upon said mesh lowering said retaining arms.
9. In a device of the class described, an L-shaped frame, a spring mounted mesh covering said frame, a transverse shaft, a plurality of retaining arms mounted on said shaft. means for holding said arms in an elevated position, and a plurality of members co-operating with sald shaft to lower said retaining arms.
10. A device of the class described comprising a yieldingly mounted frame, a wire mesh covering said frame, a plurality of normally elevated retaining fingers, and means actuated by an object striking said mesh for lowering said retaining fingers.

\section*{No. 100,420. Linotype. Linotype.}


The Mergenthaler Linotype Company, assignee of Thomas Simmons Homans, both of New York City, New York, U.S.A., 14th August, 1906; 6 years. Filed 2nd March, 1906. Receipt No. 133,487.

Claim.-1. The assembling elevator provided with the single blade mounted to move endwise therein.
2. In a linotype machine the comblnation of a channelled assembler, means for delivering matrices successively thereto, and a continuous blade mounted in the elevator and aringed to move endwise to and from the matrix delivering means.
3. In linotype machine provided with two letter matrices, the star wheel, the assembler into which the matrices are advanced by the star wheel, and the horizontal blade extending the entire width of the assembler and mounted to slide endwise therein.
4. In combination with the vertically movable assembling elevator, and the intermediate channel to receive the matrix line from the elevator, the blade mounted in the elcvator and movable endwise to extend beyond the same, whereby it is adapted to hold the matrices down within the elevator in position to be transfered therefrom.
5. In a linotype machine the combination of an assembler tn receive and align the matrices, means for delivering the matrices one at a time thereto, and a horizontal blade mounted in the assembler and movable endwise to present its end in the path of or beyond the path of the incoming matrices.
6. In a linotype machine a blade forming a member of the assembling mechanism and arranged to receive and sustain a line of matrices, said blade arranged for retraction endwise at will to a greater or less extent, whereby one of more matrices may be permitted to descend to a lower level at will.

\section*{No. 100,421. Ore Pulverizer.}

\section*{Pulvérisateur de minerais.}

The W. L. McCullough Co., Ypsilanti, assignee of George \(P\). Good, Detroit, both in Michigan, U.S.A., 14th August, 1906; 6 years. Filed 11th May, 1906. Receipt No. 135,793.
Claim.-1. In a mineral pulverizer the combination with parallel shafts and means for turning said shafts, of a disc having a conical side secured upon each of said shafts with their conical sides adjacent to each other to form contact faces between which the mineral is passed, a screw-threaded shaft for moving one of said shafts longitudinally to move
the contact surface toward and from each other, and means for holding said shaft in Its adjusted position.

2. In a mineral pulverizer the combination with a frame of parallel shafts mounted in bearlngs on sald frame, discs on said shafts having conical contact sides, a movable bearing for one of said shafts, a screw-threaded shaft secured to said movable bearing, brackets secured to the frame, a crossbar secured to the ends of said brackets and provided with an opening through which said screw-threaded shaft extends and means on said screw-threaded shaft engaging the crossbar for adjusting and holding said shaft.
3. In a mineral pulverizer the combination with a frame, of parallel shafts mounted in bearings on said frame, discs on said shafts having conical contact sides, a movable bearing for one of said shafts within which said shaft is secured against longitudinal movement relative thereto, a screw-threaded shaft secured at one end to said bearing, brackets secured to the frame, a crossbar secured to the ends of said brackets and having an opening to receive the end of the screw-threaded shaft, a hand wheel on the screwthreaded shaft, and a compressible sleeve on said shaft between the hand wheel and the inner side of the crossbar.
4. In a mineral pulverizer the combination with parallel shafts, and discs on said shafts having conical contact sides, o: a bearing for one end of the shafts, a stationary wear disc within the bearing at one end thereof, to take the longitudinal thrust of the shaft, and a wear disc attached to the end of the shaft to turn therewith in contact with the stationary disc.
5. In a mineral pulverizer the combination with parallel shafts and discs on said shafts having conical contact sides, of a movable bearing for one of said shafts consisting of a movable base portion and a cap portion bolted thereto, an abutment on the base portion extending upward at the ond of the bearing, a stationary wear disc within the bearing against the abutment and provided with oil gronves in its contact face, a rotary wear disc in contact with side disc and provided with oll grooves in its contact face, and means on the shaft for engaging the rotary disc to cause the same to turn with said shaft.
6. In a mineral pulverizer the comblnation with parallel shafts and discs on said shafts having conical contact sides, of a movable bearing for one of said shafts consisting of a movable base portion and a cap portion bolter thereto, an abutment on the base portion extending upward at one end of the bearing, a wear disc within the bearing in contact with the abutment, a pin on said disc ere:
o ven ng in the bearing to prevent the rotation of said disc, a rotatable wear disc having holes in one side and an axial recess. a reduced end on the shaft to engage the recess and pins on the shaft to engage the holes.
7. In a mineral puiverizer the combination with parallel shafts and discs on said shafts having conical contact sides, of a bopper chute consisting of sides formed at their lower edges to conform to the periphery of the rolls and ends formed at their lower edges to conform to the inclination
of the conical sides of the rolls, and fibrous material secured to the sald edges of the sides to engage the rolls.
8. In a mineral pulverizer the combination with parallel shafts and discs on said shafts having conical contact sides, of a hopper chute consisting of sides formed at their lower edges to conform to the periphery of the rolls and provided with a rabbet and ends adjustably secured to the sides and formed at their lower edges to conform to the inclination of the conlcal sides of the discs, strips of flbrous material in the rabbets of the sides and plates secured to the sides at their edges to secure the strips in place.
9. In a mineral pulverizer the combination with parallel shafts and discs on said shafts having conical contact sides, of cylindrical brushes supposted in contact with the said conical sides of the discs, a shaft upon which the brush is mounted, a bracket bearing to receive the end of sald brush shaft, and means for holding said shaft from turning and releasing the same.
10. In a mineral pulverizer the combination with parallel shafts mounted in adjustable bearings and discs on said shafts having conical contact sides, of adjustable bearing brackets, a shaft within the bearing of each bracket, a cylindrical brush on each shaft in contact with each roll, a ratchet wheel on the end of each brush shaft and a gravity cog to engage each of said ratchets and prevent the turning of the brushes.
11. In a mineral pulverizer the combination with a irame of parallel shafts, bearing for one of sald shafts adapted to be moved laterally to adjust the shaft toward or from the other shaft, stationary bearings for the other shaft in which said shaft is adapted to move longitudinally, and a longitudinally movable bearing for said shaft within which it is secured to move longitudinally therewith, discs on said shafts having conical contact sides, brackets secured to the frame at each side of the longitudinally movable bearing, a crossbar secured to the outer ends of sald brackets and provided with an opening, screw-threaded shaft secured at one end to the movable bearing and extending through the opening in the crossbar, a hand wheel on said screw-threaded shaft, a sleeve of ylelding material on said shaft between the hand wheel and the crossbar, a casing secured to the frame and enclosing the discs and having a hopper above said discs and a discharge opening beneath the same, a hopper chute consisting of sides formed at their lower ends to conform to the peripheries of the rolls and ends adjustably secured to said sides, brackets secured to the frame, arms adjustably secured to the sides of the hopper chute and adjustably secured to the upper ends of the brackets.

\section*{No. 100,422. Nitro-Glycerine Explonive. Explosif de nitro-glyctrine.}

Conrad Hubert Glaessen, Berlin, Germany, 14th August, 1906; 6 years. Filed 6th June, 1906. Receipt No. 136,610. Claim.-1. The process for the manufacture of nitrogiycerine explosives having a very low freesing temperature, which consists in transforming glycerine into diglycerine by heating under atmospheric pressure and then nitrating the same for the manufacture of nitroglycerine explosives.
2. The process for the manufacture of nitroglycerine explosives which consists in transforming glycerine into diglycerine by heating it under atmospheric pressure. thed nitrating the same and adding thereto trinltroglycerine.
3. The admixture of diglycerine and glycerine and nitrating the mixture to produce nitroglycerine for the manufacture of explosives.

No. 100,423. Process of Fleotrical Heating.

\section*{Procede de chauffage éleotrique.}

Alfred H. Cowles, Cleveland, Ohio, U.S.A., 14th August. 1906 :
6 years. Filed 22nd December, 1903. Recelpt No. 111.143.
Claim.-1. The process of heating materials, which consists in placing the material in proximity to a resistance conductor, passing an electric current through said conductor, and increasing the current density along the path of the current, through a portion of the conductor in proximity to said material, as set forth.
2. The process of heating materials, which consists in placing the material in proximity to a resistance conductor of loose, broken or granular material, passing an electric current through said conductor, and increasing the current density along the path of the current, through a portion of the conductor in proximity to said material, as set forth.
3. The process of reducing a compound, which consists ill placing a mixture of the compound and a reducing agent in proximity to a resistance conductor, passing an electric current through said conductor, and Increasing the current density along the path of the current, through a portion of the conductor in proximity to sald material, to a point where the heat generated by the resistance of the conductor effects reduction, as set forth.
4. The process of reducing a compound, which consists in placing a mixture of the compound and a reducing agent

in proximity to a resistance conductor of loose, broken or granular material, passing an electric current through said conductor, and increasing the current density dong the path of the current, through a portion of the conductor in proximity to said material, to a point where the heat generated by the resistance of the conductor effects reduction, as set forth.
5. The process of producing carbide which consists in placing carbide forming materials in proxinity to a resistance conductor, passing an electric current through said conductor, and increasing the current density along the path of the current, through a portion of the conductor in proximity to said material to a point where the heat generated by the resistance of the conductor causes the materials to e-act to form carbide, as set forth.
6. The process of producing carbides, which consists in placing carbide forming materials in proximity to a resistance conductor of loose, broken or granular material, passing an electric current through said conductor, and increasing the current density along the path of the current, through a portion of the conductor in proximity to said material to a point where the heat generated by the resistance of the conductor causes the materials to re-act to form carbide, as set forth.
7. The process of producing carbide, which consists in placing carbide forming materials in proximity to a resistance conductor, passing an electric current through said conductor, and increas ng the current density along the path of the current, through a portion of the conductor in proxisity to said material, to a point where the heat generated y the resistance of the conductor causes the materials to re-act to form carbide and the carblde to be brought into a molten condition, as set forth.
8. The process of prodicing carbide, which consists in placing carbide forming materials in proximity to a resistance conductor of loose, broken or granular material, passing an electric current through said conductor, and increasing the current dens.ty along the path of the current, through portion of the conductor in proximity to said material, to point where the heat generated by the resistane of the conluctor causes the materials to re-act to form carbide and he carbide to be brought into a molten condition, as set forth.
9. The process of producing carbides which consists in lacing carbide forming materials in proximity to a resisance conductor, passing an electric current through said conductor, increasing the current density along the path of the current, through a portion of the conductor in proximity to said material to a point where the heat generated y the resistance of the conductor causes the materials to e-act to form carbide and the carbide to be brought into molten condition, and tapping off said molten carbide and supplying fresh material as required, as set forth.
10. The process of producing carbides which consists in placing carbide forming materials in proximity to a resispance conductor of loose, broken or granular material, passng an electric current through said conductor, increasing the current density along the path of the current, through portion of the conductor in proximity to said material, to point where the heat generated by the resistance of the onductor causes the materials to re-act to form carbide and he carbide to be brought into a molten condition, and tapping off said molten carbide and supplying fresh material as fquired, as set forth
11. The process of heating materials which consists in placing the material in proximity to a resistance conductor, passing an electric current through said conductor, and increasing the current density in a portion of said conductor, n proximity to said material, thereby heating it uniformly. 8 set forth
12. The process of heating materials which consists in placing the material in proximity to a resistance conductor of loose, broken or granular material, passing an electric current through said conductor, and increasing the current density in a portion of said conductor, in proximity to said material, thereby heating it ununiformly, as set forth.
13. The process of reducing a compound which consists in placing a mixture of the compound and a reducing agent in proximity to a resistance conductor, passing an electric current through said conductor, and increasing the current density in a portion of said conductor in proximity to said material, to a point where the heat generated by the resistance of the conductor effects reduction, as set forth.
14. The process of reducing a compound which consists in placing a mixture of the compound and a reducing agent in proximity to a resistance conductor of loose, broken or granular material, passing an electric current through sald ond"ctor. and increasing the current density in a portion of said conductor in proximity to said material, to a point where the heat generated by the resistance of the conductor effects reduction, as set forth.
15. The process of producing carbides which consists in placing carbide forming materials in proximity to a resistance conductor, passing an electric current through said conductor, and increasing the current density in a portion of said conductor in proximity to said material to a point where the heat generated by the resistance of the conductor causes the materials to re-act to form carbide, as set forth.
16. The process of producing carbides which consists in placing carbide forming materials in proximity to a resistance conductor of loose, broken or granular material, passing an electric current through said conductor, and increasing the current density in a portion of sald conductor in proximity to said material, to a point where the heat generated by the resistance of the conductor causes the materials to re-act to form carbide, as set forth.
17. The process of producing carbides which consists in placing carbide forming materials in proximity to the resistance conductor, passing an electric current through said conductor. increasing the current density in a portion of said conductor in proximity to said material to a point where the heat generated by the resistance of the conductor causes the materials to re-act to form carbide and the carbide to be brought into a molten condition, and tapping off said mo'ten carbide and supplying fresh materials as required, as set forth.
18. The process of producing carbides which consists in placing carbide forming materials in proximity to a resistance conductor of loose, broken or granular material, passing an electric current through said conductor, increasing the current density in a portion of said conductor in proximity to said material to a point where the heat generated by the resistance of the conductor causes the materials to re-act to form carbide and the carbide to be brought into a molten condition, and tapping off said molten carbide and supplying fresh material as required, as set forth.
19. The process of heating materials which consists in placing the material in proximity to a resistance conductor of varying cross section and resistance and passing an electric current through said conductor, the current density increasing along the path of the current through a portion of the conductor in proximity of said material thereby heating the material non-uniformly, as set forth.
20. The process of heating materials which consists in placing the material in proximity to a resistance conductor of varying cross section and resistance and of loose, brokell or granular material and passing an electric current through said conductor and thereby heating the material non-uniformly. as set forth.
21. The process of reducing a compound which consists in placing a mixture of the compound and a reducing agent in proximity to a resistance conductor of varying cross section and resistance and passing through sald conductor an electric current of sufficient volume to effect reduction, as set forth.
22. The process of reducing a compound which consists in placing a mixture of the compound and a reducing agent in proximity to a resistance conductor of varying cross section and resistance and of loose, broken or granular material and passing through sald conductor an electric current of sufficient volume to effect reduction, as set forth.
23. The process of producing carbide which consists in placing carbide forming materials in proximity to a resistance conductor of varying cross section and resistance and passing through said conductor an electric current of suttcient volume to cause the materials to re-act to form carbide, as set forth.
24. The process of producing carbide which consists in placing carbide forming materials in proximity to a resistance conductor of varying cross section and resistance passing through said conductor an electric current of sufficient volume to cause the materials to re-act to form carbide and the carbide to be brought into a molten condition and tap-
ping off said molten carbide and supplying fresh materials as required, as set forth.
25. The process of producing carbides which consists in placing carbide forming materials in proximity to a resistance conductor of varying cross section and resistance and of loose, broken or granular material and passing through said conductor an electric current of sufficient volume to cause the materlals to re-act to form carbide, as set forth.
26. The process of producing carbides whach consists in placing carbide forming materials in proximity to a resistance conductor of varying cross section and resistance and of loose, broken or granular material passing through said conductor an electric current of sufficient volume to cause the materials to re-act to form carbide and the carbide to be brought into a molten condition, and tapping off said molten carbide and supplying fresh materials as required, as set forth.

No. 100,424. Electric Furnace.
Fournaise électrique.


Alfred H. Cowles, Cleveland, Ohio, U.S.A., 14th August, 190; 6 years. Filed 22nd December, 1903. Receipt No. 111.147.
Olaim.-1. An electric resistance furnace comprising a resistance conductor in position to heat the charge, and means for passing through said conductor an electric current the density of which increases through a portion of sald conductor in proximity to the charie, and thersby heating it ununiformly, as set forth.
2. An electric resistance furnace comprising a resistance conductor in position to heat the charge, means for passing through said conductor an electric current the density of which increases to a maximum through a porition of said conductor in proximity to the charge, an theceby heating it ununiformly, and means adjitwnt to the region of maximum current density for withdrawing a product by gravity, as set forth
3. An electric resistance furnace comprising a resis-tance-conductor in position to heat the charge, alld means for passing through said conductor and elcetric current the density of which increases along the path of the current through a portion of said conductor in proximity to the charge and thereby heating it ununiformly, as set forth.
4. An electric resistance furnace comprising a resistance conductor in position to heat the charge, mans for passing through said conductor an electric current the density of which increases to a maximum along the path of the \(\cdots \quad 4\) wition of said conductor in proximity to the charge, and thereby heating it ununiformly, and means adjacent to the region of maximum current density for withdrawing a product by gravity, as set forth.
5. An electric resistance furnace comprising a resistance conductor of varying cross section, in position to heat the charge, and means for passing through said conductor an electric current the density of which increases along the path of the current in the conductor and substantially inversely as the cross section of the conductor, and thereby heating it ununiformiy, as set forth.
6. An electric resistance furnace, comprising a resistance conductor of varying cross section, in position to heat the charge, means for passing through said conductor an electric current the density of which increases to a maximum along the path of the current in the conductor and substantially Inversely as the cross section of the conductor, and thereby heating it ununiformly, and means adjacent to the region of maximum current density for withdrawing a product by gravity, as set forth.
7. An electric resistance furnace for the production of carbides comprising a resistance conductor in proximity to the charge of carbide forming materials, and means for passing through said conductor an electric current the density of which increases through a portion of sald conductor
in proximity to the materials to a point where the heat generated by the resistance of the conductor will cause the materials to re-act to form carbide, as set forth.
8. An electric resistance furnace for the production of carbides, comprising a resistance conductor in proximity to the charge of carbide forming materials, means for passing through said conductor an electric current the density of which increases through a portion of said conductor in proximity to the materials to a point where the heat generated by the resistance of the conductor will cause the materials to re-act to form carbide and the carbide to be brought into a molten condition, and means for withdrawing the carbide by gravity, as set forth.
9. An electric resistance furnace, comprising a resistance condutor of loose, broken or granular material in position to heat the charge, and means for passing through sald conductor an electric current the density of which increases through a portion of said conductor in proximity to the charge and thereby heating it ununiformly, as set forth.
10. An electric resistance furnace, comprising a resistance conductor of loose, broken or granular material in position to heat the charge, means for passing through said conductor an electric current the density of which increases to a maximum through a portion of said conductor in proximity to the charge and thereby heating it ununlformly, and means adjacent to the region of maximum current density for withdrawing a product by gravity, as set forth.

No. 100,425. Smelting Process.
Procédé de fonte de minerais.


Alfred IH. Cowles, Cl. veland, Ohio. U.S.A., 14th August, 1906 ; 6 years. Filed 2end December. 1903. Receipt No. 111,148. Chim.-1. The process of smeltins materials, which consists in preheating a charge by passing hot gases through it, clectrically heating the preheated charge to the required temperature by an electric current passing through a resistance conductor, and increasing the heat supplied by said resistance conductor along the path of the electric current, as set forth.
2. The process of smelting materials, which consists in preheating a charge by passiug hot gases through it, electrically heating the preheated charge to the required temperature by an electric current passing thröugh a resistance conductor, and increasing the heat supplied by said resistance conductor along the path of the electric current to a point where the products become molten and may be tapped out, as set forth.
3. The process of producing calcium carblde, which consists in preheating a charge of a calcium compound and carbon, by passing hot gases through it, electrically heating the preheated charge to the required temperature by an electric current passing through a resistance conductor, and increasing the heat supplied by said resistance conductor along the path of the electric current, as set forth.
4. The process of vroducing calcium carbide, which consists in preheating a charge of a calcium compound and carbon, by passing hot gases through it, electrically heating the preheated charge to the required temperature by an electric current passing through a resistance conductor, increasing the heat supplied by said resistance conductor along the path of the electric current to a point where the carbide becomes molten, and tapping out the molten carbide, as set forth.
5 The process of producing calcium carbide, which consists in preheating a charge of a calcium compound and carbon, by passing hot gases through it, electrically heating the preheated charge to the required temperature by an tlectric current passing through a resistance conductor, increasing the heat supplied by said resistance conductor along the path of the electric current, and burning the gases pro-
duced by the re-action to preheat the charge, as set forth 6. The process of producing calcium carbide, which consists in preheating a charge of a calcium compound and carbon by passing hot gases through it, electrically heating the preheated charge to the required temperature by an electric current passing through a resistance conductor, increasing the heat supplied by said resistance conductor along the path of the electric current to a point where the carbide becomes molten, tapping out the molten carbide, and burning the gases produced by the re-action to preheat the charge, as set forth.

No. 100,426. Apparatus for Converting Zinc sulphate Solution into Zinc Oxide.
Appareil pour convertir les solutions de sulfate de sinc en oxyde.


Chauncey E. Dewey, Denver, Colorado, U.S.A., 14th August,
1906; 6 years. Filed 16th June, 1906. Receipt No. 136,966.
Claim.-1. In an apparatus for converting zinc sulphate into zince oxide the combination of two independently revoluble axially aligned chambers arranged in suitable proximity to each other and having adjacent open extremities. means for delivering heat to one chamber at its extremity remote from the other chamber, means for delivering the zinc sulphate solution to the chamber remote from the heat generating means, and means exterior to the chambers for transferring the contents of the last-named chamber to its companion chamber, substantially as described.
2. The combination with a suitable source of heat, of a calcining chamber mounted to rotate and having open ends, one end being adjacent the source of heat, an evapourating. chamber also mounted to rotate and having open ends, one end of the evapourating chamber being adjacent the open end of the calcining chamber remote from the source of heat, means for delivering zinc sulphate solution to the extremity of the evapourating chamber remote from the calcining chamber, and means exterior to both chambers for transferring the contents of the evapourating chamber to the calcining chamber, substantially as described.
3. The combination with a suitable source of heat of a calcining chamber mounted to rotate and having open extremities, one of which is adjacent the source of heat, an evapourating chamber arranged in axial alignment with the calcining chamber, the evapourating chamber having open ends and also mounted to rotate, sultable means for imparting rotary movement to the two chambers, and means exterior to both chambers for transferring the contents of the evapourating chamber to the calcining chamber.
4. The combination with a firebox or source of heat, an open ended calcining chamber mounted to rotate and having one extremity adjacent the source of heat, an open ended evapourating chamber also mounted to rotate and having one of its ends as close to the calcining chamber as is consistent with independent movement, means exterior to both chambers for transferring the contents of the evapourating chamber to the calcining chamber, a dust chamber located at the extremity of the evapourating chamber remote from the calcining chamber, suitable means for delivering the material to be treated, to the extremity of the evaporating chamber remote from the calcining chamber, and suitable means for imparting rotary movement to the two chambers independently of each other, substantially as described.
5. The combination of two independently revoluble horizcntally arranged and axially aligned open ended chambers mounted in suitable proximity to each other, one of the chambers being a calcining chamber and the other an evapourating chamber, means for delivering heat to the calcining chamber at the extremity remote from the evapourating chamber, means for delivering the material to be treated,
to the extremity of the evaporating chamber remote from the calcining chamber, means for imparting rotary movement to the two chambers, and means for transferring the contents of the evapourating chamber to the calcining chamber, including upper and lower tracks and an elevator for elevating the material from the plane of one track to the plane of the other track, substantially as described.

No. 100,427. Air Separator. Séparateur d air.


George Stockham Emerick, Nazareth, Pennsylvania, U.S.A., 14th August, 1906; 6 years. Filed 5th July, 1906. Receipt No. 137,569.
Claim.-1. In combination in an air separator, an outer casing, an auxiliary chamber joined to and communicating with the outlet of said outer casing, an inner casing disposed within said outer casing and a plurality of pipes forming a connection between said auxiliary chamber and said casing. substantially as and for the purpose described.
2. In combination in an air separator, an outer casing, an auxiliary chamber joined to and communicating with the outlet of said outer casing, an inner casing disposed within said outer casing, means such as pipes \(N\), forming a communication between sald auxiliary chamber and said inner casing, a rotary discharge plate adapted to centrifugally distribute material within said inner casing, and a cylindrical retarding ring between said discharge plate and said casing whereby the material distributed from said discharge plate is checked in its passage toward the wall of said inner casing and retained in the path of the ascending air currents therein, substantially as described.

No. 100,428. Retort Furnace. Fournaise d cornue.


Richard C. Hills, Denver, Colorado, U.S.A., 14th August, 1906; 6 years. Filed 16th June, 1906. Receipt No. 136,967.
Claim.-1. A retort furnace provided with two banks or series of horizontally disposed retorts located on opposite sides of the central part of the furnace in which are located downwardly extending exhaust flues communicating with the stack and combustion flues interposed between the retorts and extending the entire length of both banks of retorts on one side of the latter. passing around the end of one retort on one of the furnace and extending in the reverse direction on the opposite side of one retort and finally communicating with the said downwardly extending exhaust flues.
2. A retort furnace provided with double banks or serles of horizontally disposed retorts located on opposite sides of the furnace, the furnace being centrally provided with downwardly extending exhaust flues and combustion flues interposed between the retorts and extending the entire length of both banks of retorts on one side of the latter. passing around the end of one retort and returning in the reverse direction on the opposite side of one of the retorts and terminating at the downwardly extending exhaust flues, the two adjacent vertically disposed serles of combustion flues commencing on opposite sides of the furnace and communicating with a common downwardly extending exhaust flue.
3. A retort furnace provided with double banks and series of horizontally disposed retorts, the individual retorts of each bank being parallel and the retorts of the two banks being arranged end to end, the furnace being provided with downwardly extending centrally located exhaust flues, and combustion flues interposed between the retorts and extendthe entire length of both banks of retorts on one side of the latter passing around the end of one retort on one side of the furnace and extending in the reverse directions on the opposite side of one of the retorts and communicating finally with the said downwardly extending centrally located exhaust flues, a regenerating chamber with which the exhaust flues communicate, the regenerating chamber being provided with flues communicating with the combustion flues and through which the necessary alr for combustion purposes is passed.
4. A retort furnace provided with double banks of horizontally disposed parallel retorts arranged end to end on opposite sides of the furnace, horizontally disposed combustion flues arranged in vertical series between the retorts, one series of two adjacent series of fues commencing on one side of the furnace, passing the entire length of the retorts, around the end of one retort. and returning to the central report, while the other series of combustion flues commences on the opposite side of the furnace, takes a similar course but in an opposite direction, finally leading to the central part of the furnace which is provided with a downwardly extending exhaust flues with which both series of combus tion flues communicate, the longer portions of each series of combustion flues being provided with main burners on one side of the furnace and their shorter portions with supplemental burners on the opposite side of the furnace.
5. In a furnace of the class described, the combination of horizontally disposed retorts arranged in parallel serles end to end on opposite sides of the central part of the furnace in which are located downwardly extending exhaust flues communicating with the stack, a serics of horizontally disposed combustion flues extending the entire ength of two end to end retorts, around the end of one retort and returning to one of the series of downwardly extending centrally located flues, on the opposite side of the last-named retort, while the adjacent series of combustion flues on one side takes a similar course but in an opposite direction, finally leading to the next flue of the downwardly extending series, means for automatically removing the retorted material from the bottom of the retort, and means for feeding said material into the top of the retorts by gravity alone, as fast as it is remvoed from below.
6. In a furnace of the class described, the combination of relatively narrow horizontally disposed retorts arranged In parallel series in double banks end to end on opposite sides of the central part of the furnace in which are located downwardly extending flues communicating with the stack, horizontally disposed combustion flues extending the entire length of two end to end retorts, one in each of the opposite banks and returning on the opposite side to one of the said downwardly extending flues, means for producing an automatic continuous unobstructed discharge of retorted material at the bottom of the retorts, means for allowing the raw material to feed into the top of the retorts by gravity alone as fast as it is removed from below, and compartments for receiving the material discharged from said retorts, said compartments having downwardly inclined bottoms sufficiently steep to cause the retorted material of its own gravity to be discharged on the outside of the furnace.
7. In a furnace of the class described, the combination of double banks of horizontally disposed retorts arranged in parallel series on opposite sides of the furnace, the retorts on opposite sides of the furnace being arramged end to end, interposed combustion flues for supplying the necessary heat to the retorts, means for feeding the material into the top of the retorts, means for atomatically dlscharging the material at the bottom of the retorts as it is fed into the top thereof, separate compartments located below the respective retorts on the opposite sides of the furnace, each compartment having a bottom inclined whereby the retorted material is discharged at the opposite sides thereof, and conveyers located at the opposite sides of the furnace for recriving the retorted material, substantially as described.
8. In a furnace of the class described, the combination of horizontally disposed retorts arranged in parallel series in double banks arranged end to end on opposite sides of the furnace, means for automatically discharging the retorted material from the bottom of the retorts, said means comprising pocket wheels and hinged relief gates operating conjointly below the discharge openings of the reorts, and means for allowing the raw material to enter the top of the retorts by gravity alone as fast as the retorted material is removed from below.
9. In a furnace of the class described, the combination of horizontally disposed retorts arranged in parallel series in double banks arranged end to end on opposite sides of the furnace, means for removing the retorted materlal from the bottom of the retorts including revolubly mounted pocket wheels and hinged relief gates, means for allowing the raw materlal to enter the top of the retorts by gravity alone as fast as it is removed from the bottom, the roofs of the retorts having feed openings and barring down or working ports situated intermediate the feed openings, and gas escape pipes connected with the retorts for the purpose set forth.
No. 100,429. Pedestal for Type Writing Machines. Piedestal potr clacigraphes.


John C. Reddick, Toronto, Ontario, Canada, 14th August, 1906; 6 years. Filed 3rd March, 1906. Receipt No. 133,503.
claim.-1. The hereinbefore described construction consisting of an individual pedestal for each foot of a type writing machine comprising a rigid base to cover a greater area than said foot, and a resilient cushion of substantially the same area as and secured to the bottom surface of the base.
2. An individual pedestal for each foot of a type writing machine comprising a rigid base, a resilient cushion secured to its bottom surface and a socket in its top surface to receive the foot of a typewriting machine.
3. An individual pedestal for each foot of a type writing machine comprising a rigid base of greater area than the foot of the type writing machine, a resillent cushion secured to the bottom surface of the base and of a corresponding asea thereto and a socket in the top surface of said base tc recelve said foot.

\section*{No. 100,430. Wood Working Machine. Machine à travailler le bois.}

Olmedo Cortez Wysong, Greensboro, North Carolina, U.S.A.. 14th August, 1906 ; 6 years. Filed 29 th March, 1906. Receipt No. 134,417.
Claim.-1. In a mechanism of the character specifed a base, a frame located at one side thereof and plvoted thereto, said frame being adjustable to varying positions relative to the base, means for locking the frame to the adjusted position, a band carrying pulley mounted upon a shaft journalled within said pivot, and a band carrying pulley adjustable relative to said frame.
2. In a mechanism of the character indicated a base, : frame located at one side thereof and pivoted thereto. sail flame being adjustable to varying positions relative to th. base, and counterweighted so as to turn freely from one position to another. means for locking the frame to the adjusted position, a pulley mounted upon a shaft journalled within said pivot, an idler pulley carried by and adjustable relatlve to the frame.
3. In a mechanism of the character indicated a base, a frame pivoted thereto, a pulley mounted on a shaft journalled in said plvot, a pulley carried by the frame and ad-
justable relative thereto, a work table carried by and adjustable relative to said frame.

4. In a band carrying mechanism a frame journalled to the base and adapted to be adjusted to varying positions of inclination, a work carrying table carried by said frame and means for adjusting the table to varying angles, and shifting it into and out of position for use.
5. In a wood working machine. a frame provided with band carrying pulleys and adapted to be adjusted to varying angles of inclination, a work table, and an adjustable form above said table supporting one face of the bant, said work table and form being carried by said adjustable frame.
6. In a mechanism of the character indicated a base, a frame pivoted thereto, a pulley mounted on a shaft journalled in sald pivot, a pulley carried by the frame and adjustable relative thereto, and a work table carried by said frame.

No. 100,431. Scrubbing Device. Brosse d plancher.


Franklin Ebenezer Whitney, Syracuse, New York, U.S.A., 14th August, 1906 ; 6 years. Filed 16th December, 1906. Receipt No. 131,067.
Claim.-1. A scrubbing brush comprising a brush member, spaced brackets mounted on the brush member and each provided with a V-shaped recess in its top and with notches in its opposing edges, a handle provided with a transversely disposed member adapted to fit in the said recesses, and means on the handle for engaging the notches on either side of the brackets.
2. A scrubbing brush comprising a brush having pairs of brackets arranged at right angles to each other. said brackets being each provided with a \(V\)-shaped recess in its top and notches in opposing sides, and a handle provided with a transverse member for engaging the recesses of a pair of brackets, and a clamping device for pagaging the notches in either side of said pairs of brackets to hold the handle thereto and in engagement with a braclint of the other pair of brackets.
3. In a scrubbing device the combination with a brush raving thereon two pairs of brackets provided with V shaped recesses, said two pairs of brackets being arraneed at right angles to each other, of a handle provided with a member adapted for engagement with the receseses in on pair of said brackets, and mians for securing said member in said recesses and holding the handle adjacent to satid mombre in the recess of one of the brackets of the other pair.
4. The combination with a brush having two pairs of brackets, the pairs of brackets being arranged at right angles to each other, of a handle provided with a member for engaging a pair of brackets, and means for clamping the said member to the brackets with the handle in engagement with a bracket of the other pair of brackets.
No. 100,432. Fountain Brush. Brosse-fontaine.

(ieorge W. Whecler. Hyde Park, Massachusetts, U.S.A., 14th August, 1906; 6 years. Filed 30th January, 1906. Receipt No. 132,417.
Claim.-1. As an article of manufacture, a stopper adapted to fit the neck of a botile, a tube projecting longitudinally through said stopper and fast thereto, a piece of absorbent matrial into which the outer end of sail tubs opens, a spring actuated valve adatped to normally close the inner frid of said tube, and a valve stem projecting longitudiI:Ally through said tube laterally entirely across the interior of sail tube and into said absorbent material.
2. As an article of manufacture, a stopper adapted to fit the neck of a bottle. a tube projecting longitudinally through said stopper and fast thereto, a piece of absorbent tatrrial into whi h the outer end of said tube opens, a valve adapted to rlose the inner ent of sald tube, a valve \(\therefore\) :1.in projocting lonsitudinally through said tube, laterally intir.ly arose the interior of said tube and into said absorbent material. a flange fast to the outer end of said valve stem, and a spring encircling said valve stem beIW.en s:ill stopper and flange.
3. As an article of manufarture, a stopper adapted to fit thin nerk of a boitle, a tube projecting longitudinally thoush said stopmer and fast thereto, a piece of absorbent matrial into which the outer end of said tube opens, a spring actmated valve adapted to normally close the inner , n d of said tube, and a helically formed valve stem projouting longitudinally through said tube and into said ab--orthent material.
1. As an artile of manufarture, a stopper adapted to fit the nork of a bottle, a tube projecting longitudinally throush sail sopper and fast thereto, a piece of absorbent materia! into which the outrr end of said tube opens. a | value alatped to close the inner end of said tube, a helically formed valve stim projecting longitudinally through said tube and into said absorbent material, the outer perif hory of said valve stem forming a sliding fit in said tube. a flange fast to the outer end of said valve stem, and a spring encircling said valve-stem between said stopper and flange.

No. 100,433. Carpet Cleaner. Neftoycur de tapis.
Albert E. Morrchead. Oakland. California, U.S.A.. 1fth
Auguct. 1906; 6 years. Filed 9th April, 1906. Receipt
No. 184,766.
Cluim.-1. In a carpet cleaning device, a movable casing. means to conduct air under pressure thereto and for conveying th" mingled air and dust therefrom. a pair of nozzies in said la-ing for directing the entering air current at the iroper ancle against the surface to be cleaned and means for bringing sail nozoles into action separately and alternately acoordingly as the device is moved forward or backward owr a carpet, substantially as specifed.
2. In a carpet cieaning device a movable casing. means to cond!ert air under pressure thereto and for conveying the mincted air and dust therefrom, a pair of nozzles in said casing reversibly mounted on a common axis, and means for automatially reversing the position of said nozzles so as to bring one of the same into position for directing the air current at the proper angle against the surface to be chrane? whiln the other nozzle is held out of action accordingly as the device is moved forward or backward, substantialiy as specified.
3. In a carpet cleaning device a movable casing, a pipe to conduct air under pressure thereto, a centrally mounted

slotted tube therein with which said pipe is connected, a pair of nozzles axlally mounted on said tube communicating alternately with the slot therein, means for automatically reversing the position of said nozzles on the tube to bring them alternately into communication with sald slot accordingly as the device is moved forward or backward, whereby one of said nozzles presents the air current to the surface to be cleaned at the proper angle whether the device is moved forward or backward, and means for convesing away the mingled air and dust from the casing, substantially as specified.
4. In a carpet cleaning device a movable casing, a pair of nozzles axially mounted therein, means for alternately reversing the position of said nozzles to bring each into position to direct the air current at the proper angle against the surface to be cleaned accordingly as the device is moved forward or backward, a pipe to conduct air under pressure to sald nozzles, a pipe to convey away the mingled air and dust from the casing and automatically acting pawls to arrest and hold said nozzles at the required angle in either position, substantially as specified.
5. In a carpet cleaning device a movable casing, a slotted lube centrally mounted therein, a pair of nozzles axially mounted on said tube communicating alternately with the slot therein, a pipe to convey away the mingled air and dust from the casing, means to automatically reverse the position of said nozzles accordingly as the device is moved forward or backward, and means to automatically stop said nozzles at the proper angle to direct the current efficiently against the surface to be cleaned whether the device is moved forward or backward, substantially as specified.
6. In a carpet cleaning devlce a movable casing the ends of said casing being detachable, a central slotted tube mounted in sald ends, a pair of nozales axially mounted on said tube communicating alternately with the slot, means for automatically reversing the position of said nozzles as the casing is moved forward or backward, whereby one of them is brought into position at the proper angle for directing the current efficiently against the surface to be c'eaned, means for conducting air under prossure to said slotted tube and means for conveying away the mingled air dust from said casing, substantially as specified.
7. In a carpet cleaning device a movable casing, a pair of reversing nozzles axially mounted in said casing, means to conduct air under pressure to said nozzles and means for conveying away the mingled air and dust from the casing, said casing being provided with adjustable air inlets for modifying the degree of air exhaustion therein, substantially as specified.

\section*{No. 100,434. Daster. Epoussette.}

Lillian McMaster Lea, New York City, New York, U.S.A., 14th August, 1906; 6 years. Filed 9th February, 1906. Recelpt No. 132,752.
Claim.-1. A duster comprising a fabric tube, a holder of substantially uniform width fitting within the tube and extending outside the same to furnish a handie and means for securing the tube upon the holder.
2. A duster comprising a fibrous tube, a holder extending Within the tube, a flexible member secured to the interior of the tube, and a spring clip fixed upon the holder for engagement by the flexible member.
3. A duster comprising a tube closed at one end and consisting of pleces of fabric overlapping at the closed end, and a holder extending within the tube.
4. A duster comprising a tube of flbrous material, a stay secured within the tube at opposite sldes thereof, and a holder extending into the tube.

5. A duster comprising a tube of fibrous material, a stay s"cured within the tube at opposite sides thereof, and having a frce end, and a holder extending into the tube and to which the free end of the stay may be attached.
6. A duster comprising a tube of comparatively loosely voren fabric, and a stay of a comparatively densely woven fabric attached thereto and extending outside the tube.
7. A duster comprising a tube of comparatively loosely woven fabric, and a stay of comparatively densely woven f: bric altached to the interior thereof, one end of said stay teing furned over the end of the tube and attached thereto.
8. A duster consisting of a fabric having warp and weft threads, a portion of the ends of one of these sets of threads wing left free.
3. I duster consisting of a fabric having warp threads amil relatively soft weft threads, a portion of the ends of the weft threads being left frec.

No. 100,435. Foot Scraper. (iratte-pieds.


George Francis Hibner, Concordia, Kansas, U.S.A., 14th August, 1904 ; 6 years. Filed 10th May, 1906. Receipt No. 135,760.
C'laim.-1. In a foot scraper the combination of a support, a scraping blade normally shielded thereby, actuating means lor projecting the scraping blade into operative position, a detent for holding the blade when projected, and a release for said detent to admit of the scraping blade automatically rcturning to normal position when liberated.
2. In a foot scraper the combination of a support, a scraping blade normally shielded thereby, means for positively liclding the scraping blade out of action, means for projecting the scraping blade into operative position, a detent for holding the scraping blade projected against the force tending to return it to normal position, and means for releasing the detent to admit of the automatic return of the scraping blade to normal position.
3. In a foot scraper the combination of a casing, a scraping Hade, a lever fulcrumed between its ends within said casing and having one end attached to the scraping blade so that stid scraping blade may be raised by depressing the other rand of said lever, a spring to hold the scraping blade normally in lowered position, and a catch adapted to hold the blade in a raised position.
4. In a foot scraper the combination of a casing, a scraping blade, a lever fulcrumed between its ends within said cising and having one end attached to the scraping blade so that said scraping blade may be raised by depressing the cther end of said lever, a spring to hold the scraping blade normally in a lowered position, and a catch adapted to hold the blade in a raised position.
5. In a foot scraper the combination of a casing. a scrap\(11: g\) blade, a lever fulcrumed between its ends within said casing and having one end attached to the scraping blade so that said scraping blade may be raised by depressing the other end of said lever, a spring to hold the scraping blade cormally in a lowered position, a catch adapted to hold the blade in a rais^d position, and a trigger passing through the casing and adapted to release said catch.

\section*{No. 100,436. Dnst Suction Apparatus.}

\section*{Apparcil à suction de poussière.}


Adolf Hein, Berlin, Germany, 14th August, 1906; 6 years. Filed 26th February, 1506. Receipt No. 133,327.
Claim.-1. A dust suction apparatus, comprising suction bellows having valved inlets and outlets, a crank shat for working the same, means for conducting dusty air to the bellows inlets, a hollow stand for the bellows, muans conducting from the bellows outlets into the interior of the stand. and a filter through which the air from the bellows passes prior to escaping to the atmosphere, substantially as described.
2. A dust suction apparatus. comprising suction bellows having valved inlets and outlets, a crank shaft for working the same. a bifurcated pip, condu ting du ty air to the bellows inlets, a T-pipe conducting from the bellows outleis isto the interior of the stand, and a filter through which thi air from the latter pipe passes prior to escaping to the atmosphere, substantially as described.
3. A dust suction apparatus, comprising suction bellows having valved inlets and outlets, a crank shaft for wo king the same, a bifurcated pipe conducting dusty air to the. bellows inlets, a T-pipe conducting from the bellows outlets into the interior of the stand, and a filter bag appiod t; the mouth of the latter pipe, substantially as les ribed.
4. A dust suction apparatus. comprising suction b llows having valved inlets and outlets, a crank shaft for working the same, a bifurcated pipe conducting dusty air to the bellows outlets, a T-pipe conducting from the bellows outlets into the interior of the stand, a filter bay throush which the air from the latter pipe passes prior to escaping to the atmosphere, and preliminary filtering means located before the mouth of said bag, substantially as deseribed.
5. A dust suction apparatus. comprising suction bellows having valved inlets and outlets, a crank shaft for working the same, a bifurcated pipe conducting dusty air to thr bellows inlets, a T-pipe condur ing from the bellows outlets into the interior of the stand. a filter bas applied to the mouth of the latter pip. and a rubber ring holding the mouth of the bag in place, substantially as laseribed.
6. A dust suction apparatus, romprising suction bullows having valved inlets and outlets, a crank shaft for working the same, upright supporting the shaft, means for conducting dusty air to the bellows inlets. a hollow sand sumporting the bellows and shaft uprisht. means ronducting from the bellows-outlets into the interior of the stand, and a filter throngh which the air from the bellows pascoce prior to rscaping to the atmosphere. substantially as describol.
7. A dust suction apparatus, comprising suction bollows having valved inlets and outlets, a double rank shaft for working the same, a fly whe! mounted on the shaft betwon the two eranks, uprights supporting the shait, means for conducting dusty air to the hellows inlets. a hollow stand supporting the bollows and shaft uprizhts. mans condur ing from the bellows ontlets into the intorior of the stand. and a filter through whith the air from the bellows passes prlor to escaping to the atmosphere. substantially as described.

No. 100,437. Carpet Beater. Batteur de tapts.


Daniel P. Farrell, Dayton, Ohio. U.S.A., 14th August, 1906
6 years. Filed 8th March, 1906. Receipt No. 135,695.
Claim.-1. In a carpet cleaning machine, a cleaning mechanism. and a carpet carrying means movable toward and from the cleaning mechanism, said carpet carrying means comprising shafts. blocks adjustably mounted on the shafts, other blocks rigidly supported in alignment with said firstnamed blocks, rollers mounted on said blocks, and means for adjusting the blocks.
2. In a carpet cleaning machine, a plurality of beaters, pivoted blocks, a rod connected to each beater and engaging the blocks, operating devices for the beaters, and means for throwing each of said operating devices into and out of operative position.
3. In a carpet cleaning machine, the combination with a carpet cleaning machine, the combination with a carpet cleaning mechanism and a carpet carrying meuns, said means comprising vertical shafts, upper blocks carried by the shafts, lower blocks rigidly supported in alignment with said upper blocks, rollors carried by the blocks, and means to adjust the upper blocks with relation to the lower blocks.
4. In a carpet cleaning machine, the combination with a carpet cleaning mechanism and a carpet currying means, said mrans comprising two vertical shafts, one of which is journalled in fixed bearings, and the other of which is connected to the fixed shaft and adapted to swing in a circle with the fixed shaft as a pivot, blocks carried by the respective shafts, other blocks supported in alignment with the first-named blocks and rollers carried by the blocks
5. In a carpet cleaning machine, the combination of a plurality of beaters, pivoted guide blocks, a rod connected to each beater and projecting through the guide blocks, and means for intermittently engaging the rods to actuate the beaters.
6. In a carpet cleaning machine, the combination of a plurality of beaters, rocking blocks having guides, a rod connected to each beater and engaging said guides, a finger on the end of each rod and means for intermittently engaging the fingers to actuate the beaters.
7. In a carpot cleaning machine, the combination with a cleaning mechanism, of a carpet carrying means, said means comprising vertical threaded shafts, blocks threaded on the shafts, other blocks rigidly mounted in vertical alignment with said first-named blocks, rollers journalled in the blocks. and means to rotate the shafts to adjust the first-named blocks with relation to the rigid blocks.
S. In a carpet cleaning machine, he combination with a -loaning mochanism, of a movable carpet carrying means comprising vertical shafts, blocks on said shafts, other blocks, rigidly mounted in vertical alignment with the firstnamed blocks, rollers journalled in the blocks, means to dirive the rollers when the carpet is being cleaned, said "ollers being disconnected from the driving means when the carrying moans is moved out of operative position.
9. In a carpet cleaning machine, a plurality of beaters pivoted blocks, a rod connected to each beater and engaging the blocks, fingers carried by the rods, a shaft, hube
mounted on said shaft, fingers carried by the hubs and adapted to engage the first-named fingers to actuate the beaters, and means for throwing one or more of said hubs into or out of operation.
10. In a carpet cleaning machine, a pluralfty of beaters, pivoted guide blocks, rods connected to the beaters and engaging the blocks, means for engaging the rods to actuate the beaters, and a carpet carrying means movable toward and away from the beaters.
11. In a carpet cleaning machine, a frame, posts secure:l to said frame, a bar secured to said posts and provided with recesses, guide blocks plvotally mounted in said recesses. bearing blocks adapted to secure said guide blocks in applied position, spring members each having one of its ends secured to the frame, beating heads carried by the free ends of said spring members, rods connected to the spring members and engaging the guide blocks, and means for engaging the rods to actuate the beaters.
12. In a carpet cleaning machine, the combination of a plurality of beaters, a shaft, operating devices of the beaters loosely mounted on the shaft, and means for independently placing said devices in operative relation to the shaft.
13. In a carpet cleaning machine, a frame. posts secured to said frame, a bar secured to said posts and provided with recesses, guide blocks plvotally mounted in said recesses, bearing blocks adapted to secure said guide blocks in applied position, spring members each having one of its ends secured to the frame, beating heads carried by the frce ends of said spring members, rods connected to the spring members and engaging the guide blocks, a shaft journalled upon said posts, means for rotating the shaft, hubs loosely mounted upon the shaft, fingers carried by the hubs to engage the rods to actuate the beating heads, and means for throwing each of said hubs into and out of operation.
14. In a carpet cleaning machine, a frame, a cleaning mechanism mounted on the frame, a standard mounted upon the frame and having its upper end provided with a bearing, a bearing arranged adjacent to the frame and in alignment with the first-named bearing, a shaft having a portion thereof screw threaded and journalled in said bearings, another shaft having a portion thereof screw thrcaded, means for connecting said shafts to permit the last-named shaft to be swung and the first-named shalt to act as a pivot, blocks mounted on the threaded partions of the shafts, other blocks rigidly mounted in vertical alignment with the first-named biocks, rollers carried by said blocks, means for rotating said shaft to cause the first-named blocks to move toward and from the last-named blocks, a shaft carried by the frame, a clutch member carried by one of sald rollers. ancother clutch member carried by said shaft and adapte. 1 to be thrown into and out of engagement with the clutch member carried by one of said rollers, and means for imparamo rotation of the last-named shaft.
15. In a carpet cleaning machine, a cleaning mechanism, and a carpet carrying means, said means comprising shafts, one of which is journalled in a fixed bearing and the other in a movable bearing, blocks movably mounted on the shafts, other blocks rigidly supported in alignment with the firstnamed blocks, rollers journalled in the blocks, a shaft, a clutch member carried by one of the rollers, another clutch member carried by the second-named shaft and adapted to be thrown into and out of engagement with said first-named clutch member, gears secured to the first-named shafts. a drive shaft, a gear secured thereto and meshing with one of the gears of the first-named shafts, another shaft, and gears secured to the last-named shaft and meshing with the gars carried by the first-named shafts.
16. In a carpet cleaning machine, a cleaning mechanism, and a carpet carrying means, said means comprising shafts, one of which is journalled in a fixed bearing and the other in a movable bearing, means for connecting the shafts, blocks movably mounted on said shafts, other blocks rigidly supported in alignment with the first-named blocks, rollers journalled in the blocks, means for rotating the rollers, gears secured to the lower ends of the shafts, a drive shaft, a gear secured thereto and meshing with one of the gears on the shafts, another shaft, and gears thereon and meshing with the gears on the first-named shafts.

No. 100,438. Boot Cleaner. Nettoyeur de chaussurc.
Robert Thomas Cummings, Maysville, Kentucky, U.S.A., 14th August, 1906; 6 years. Filed 1st May, 1906. Recelpt No. 135,424.
Claim.-1. A boot cleaner having a cleaning device provided with angularly disposed ribs and a brush at one side of said device in the angle formed by sald ribs, and further provided with inclined outwardly diverging spring arms inclined laterally toward each other and having their inner ends secured on the cleaning device and provided at their outer ends on their opposing faces with cleaning deviess, substantially as described.
2. A boot cleaner comprising a base, a frame thereon pivotally connected at one end thereto, cleaning devices on

said frame and a cover for said frame and cleaning devices. sald cover being pivotally connected at one end to the pivoted end of the frame.
No. 100,439. Brush. Brorsc.


Samuel Henry Brister, Monticello, Iowa, C.S.A., 14th August, 1906; 6 years. Filed "bth February. 1906. Receipt No. 133,353.
Claim.-The herein deseribed brush comprising the head tapered at one end, having the surew socket at the opposite end and provided at its center with the transverse scres: socket, the brush having the skin covering of the size and shape to recelve the head and provided with openings a one end and at one side to register with the screw sockets of the head, and further provided at the end opening with an elastic contracting ring to draw satd end on the corresponding end of the head, and the handle having the scrowthreaded end to cugage either of the sockets in the head and the shoulder to bear against the cover.

\section*{No. 100,440. Dust Suction Machine.}

Machine à suction de prussière.


Jules Rene Blum, Paris, France, 14th August. 1506 ; 6 years. Filed esth May, 1306. Receipt No. 136.369.
Claim.-1. A machine for removing dust by suction from carpets. furniture, curtains, tapestry and the like, comprising in combination a flexible aspiration tube, a mouth securad to the end of said tube, a filtering receptacle to which leads the aspiration tube, suction devices connected to the fltering reaptacles, and automatic regulating bellows hav-
ing communication with the suction devices and having its movable flap provided with a discharge valve which carries ar adjustable stop screw, substantially as described and for the purpose set forth.
2. A machine for removing dust by suction from carpets, furniture, curtains, tapestry and the like, comprising in combination a flexible aspiration tube 0 , a mouth \(o^{1}\) secured to the end of said tube, a rigid filtering receptacle A, a fluid tight box D which surrounds the receptacle A and to which leads the aspiration tube 0 , bellows \(1,2,3,4\) coupled together in pairs with a movable flap common to each pair, automatic regulating bellows \(r\) having communication with the suction compartment \(k\) of the bellows \(1,2,3,4\) and having its movable flap provided with a discharge valve \(t\) which carries an adjustable stop screw \(t^{1}\), and a casing \(C\) enclosing all the filtering and suction devices, substantially as described ond for the purpose set forth.
3. A machine for removing dust by uction from carpets, furniture, curtains, tapestry and the like, comprising in combination a flexible aspiration tube \(o\), a mouth \(o^{1}\) secured to the end of said tube, a rigid filtering receptacle A, a fluid tight box D which surrounds the receptacle \(A\) and to which leads the aspiration tube o, bellows 1, 2, 3, 4 coupled together in pairs with a movable flap common to each pair, a two crank winch driving shaft \(c\), connecting rods \(a\) and \(b\) transmitting motion from the shaft \(c\) to the movable flaps of the bellows 1, 2. 3, 4, an electric motor \(x\) adapted to impart rotary motion to the driving shaft \(c\), automatic regulating bellows \(r\) having communication with the suction compartment \(k\) of the bellows \(1,2,3,4\), and having its movable flap provided with a discharge valve \(t\) which carries an adjustable stop screw \(t^{1}\), a rheostat R electrically connected to the electric motor \(x\), a cord \(F\) connecting the handle of the rheostat to the movable flap of the automatic regulating bellows \(r\), a spring S secured to a fixed part of the machine and connected to the handle of the rheostat, and a casing C mounted on wheels and enclosing all parts such as the electric motor, the filtering suction and regulating devices, etc., substantially as described and for the purpose set forth

No. 100,441. Ventilating Apparatus.
Appareil de ventilation.


Lewis Henry Hammitt, Sioux Falls, South Dakota and Louis C. Schelt, Park Ridge. Illinois, both in the U.S.A., assignee of a half interest, 14th August, 1906; 6 years. Filed 14th September, 1905. Receipt No. 128,423.
Claim.-A stand pipe, a main supply pipe provided with a plurality of valve outlets, a blower or fan in communication with the supply pipe, means for delivering a liquid supply to the blower or fan, a reservoir casing arrangad between the stand pipe and the blower or fan, a coil of pipe arranged within the reservoir casing, said coil of pipe communicating with the furnace and supply pipe, a valve interposed in the supply pipe, and a valve interposed in the heating supply pipe, said valve being adapted to be operated to permit cooled or heated air to be supplied.

\section*{No. 100,442. Mop Wringer.}

\section*{Tordcuse de torchon.}

Charles A. Lee, assignee of Willis H. Wetmore, both of Oneida. New York, U.S.A., 14th August, 1906; 6 years. Filed 7th May, 1906. Receipt No. 135,65s.
Claim.-1. A mop wringer comprising side frames formed with recentacie receiving recesses, each of the frames being formed with a horizontal slot, a back board joining the frames, a bottom hoard joining the frames and spaced from nions to engage said slots in the frames, an operating shaft mounted in the side frames, a lever connected with said shaft and links connecting said shaft and the follower arunion.
2. A mop wringer body comprising side frames with horizontal sideways therein, a perforated back board joining the

side frames and a bottom board all rigidly secured together, a follower having trunnions engaging in said slideways in the frames, an operating shaft extending between and mounted in bearings in the side frames, cranks on the rock shaft adjacent to and between the side walls, links connecting the said cranks with the said trunnions respectively on the inside of the side frames and an operating lever on said shaft, substantially as set forth.
3. A mop wringer comprising side frames having horizontal slots therein respectively, a back board and bottom joining said side frames, a movable follower between the frames provided with trunnions engaging in said slots, a rock shaft extending between and mounted in bearings in the side irames respectively having cranks adjacent to and on the inner side of the side frames respectively, links respectively connecting the said cranks with the trunnions between the side frames and the ends of the follower and an operating lever connected with said rock shaft between the side frames, substantially as set forth.
4. The combination in a mop wringer of side frames having respectively horizontal arranged slotways, a back board and bottom secured to said side frames, a movable follower proyided with trunnions engaging in said slotways, a shaft extending between the side frames and journalled therein and having adjacent to the inner sides of the side frames erank arms, links connecting said crank arms with said trunnions respectively and an angular operating lever provided on the rock shaft between the frames, substantially as set forth.

No. 100,443. Musical Instrument.
Instrument de musique.

C. J. Heppe and Son, assignee of Philip Wuest, Jr., both of Philadelphia, Pennsylvania, U.S.A., 14th August, 1906: 6 years. Filed 18th March, 1304. Receipt No. 113,5S6. Claim.-1. In a piano player, the comb:natiou with a series of fingers levers, of a plurality of pneumatic motors respectively connected with said finger levers, a valve mechanism for each of said motors, and, a plurality of separable valve shelves, each enclosing a definite group of said valves, substantially as described.
2. In a piano player, the combination with a series of finger levers, of a plurality of pneumatic motors respectively connected with said finger levers, a valve mechanism for each of said motors, and, a plurality of separable valve shelves, each enclosing a definite group of said valves, said motors being mounted upon said shelves independently of
each other and in registry with their respective valve mechanisms, substantially as set forth.
3. In a piano player, the combination with a series of finger levers, of a plurality of separable valve shelves each containing a distinct series of valves respectively in operative relation with corresponding finger levers, substantially as set forth.
4. In a plano player, the combination with a series of finger levers each operatively connected with a motor and an Individual valve mechanism for controlling the same, of a plurality of separable valve shelves, each enclosing a definite number of said valves and each comprising a vacuum chamber common to the valves which it encloses, and registered wind ports in the respective valve shelves. for direct communication between said vacuum chambers, substantially as set forth.
5. A separable valve shelf for a piano player, comprising a bottom board provided with a series of pneumatic diaphragm seats, a duct bar fixed to said bottom board, a top cover board fixed to said duct bar and provided with a scries of valve chambers respectively in registry with the diaphragm seats in said bottom board, and a front cover board connecting said botom board and said top board and provided with a series of inlets respectively in registry with said diaphragm seats, substantially as set forth.

No. 100,444. Ventilating Device.
Appareil de ventilation.


William Henry Lynch, Danville, Quebec, Canada, 14th August, 1906 ; 6 years. Filed 10 th February, 1902. Receipt No. 93,649.
Claim.-1. A ventllating device having a horizontally extended perforated metallic screen through which air is adapted to pass, said screen being formed with crimps or corrugations in its surface.
2. A ventilating device having a series of superposed horizontally extended perforated screen through which air is adapted to pass, each screen being corrugated and the perforations in the respective screens being made in graduated sizes from one end of the series to the other.
3. In a ventilating device, the combination of a casing having a filtering chamber and having an opening in its bottom forming an air inlet communicating with the lower part of the chamber, and having an air outlet communicating with the upper part of the chamber and a plurality of superposed periorated screens extended horizontally in the chamber above its inlet and adapted to intercept foreign particles rising through the chamber so that such intercepted particles are caused to fall by gravity through the opening at the bottom of the casing.
4. A ventilating device having a series of superposed perforated and corrugated screrns through which air is adapted to be passed, the corrugations in the scveral screens being similar and registering with each other and the pendent portions produced by such corrugations at the underside of each screen being received in the spaces formed in the upper face of the next lower screen by the corresponding corrugations therein.
5. In a ventllating device, the combination of a casing having a filtering chamber and a plurallty of superposed corrugated metallic screens horizontally extended in the chamber and provided with openings of graduated sizes.
6. A ventilating device comprising a casing having a passage for the flow of air and having infet and outlet openings for admission nad discherge of air to and from the casing. and a plurality of superposed perforated metallic screens extended across the passage, each screen being corrugated and the inlet opening of the casing arrangod at a lower level than the outlet, whereby air entering the casing flows in an upward direction.
7. A ventilating device comprising a casing having a partition dividing its interior into two chambers one of which has an opening at its bottom for admission of air and the other of which communicates at its top with the first-named chamber and has a valved opening at the front of the casing for discharge of air, and filtering means in the firstnamed chamber.
8. A ventilating device having a series of superposed screens through which air is adapted to bu passed, each screen being perforated and corrugated.
9. A ventilating device comprising a casing provided with a passage for the flow of air and having at its lower part an air inlet communicating with the lower part of the passage and also provided with an air outlet communicating with the upper part of the passage, a plurality of superposed perforated screens extended across the passage and a valve arranged to control the outlet of the casing.
10. \(A\) ventilating device comprising a casing having a chamber, a frame insertible in the chamber and having a wall adapted, when the frame is in the chamber, to form a partition extended in the chamber and dividing the same into two compartments, and flltering means carried by the frame and extended across one of said compartments, the said casing having at its lower part an air inlet communicating with the compartment wherein the filtering means is located.

No. 100,445. Metallic Curtain. Rideau métalligue.


Micharl Schultes, Youngstown, Ohio, U.S.A., 14th August, 1906 ; 6 years. Filed 7th June, 1906. Receipt No. 136,625.
Claim.-1. A curtain of the class described having pivotally connected wear llnks at the opposite ends of each of the curtain strips.
2. In a flexible metallic curtain pivotally connected links secured to the ends of each of the strips.
3. In a flexible metallic curtain a series of connected links arranged at the edge of the curtain, and means for securing the links to the curtaln strips.
4. In a flexible metallic curtain links secured to the ends of the curtain strips and provided with ribs forming reduced friction surfaces for engagement with the walls of the curtain guiding grooves.
5. In a metallic curtain, wear links connected to the ends of the curtain strips and having pin and slot connections with each other.
6. In a metallic curtain a link secured to the end of each strip, one end of each link being bent outward to permit overlapping of the several links.
7. In a metallic curtain a link arranged at the end of each curtain strip and provided with an inwardly extended flange secured to the strip and an outwardly extended rib for contact with the bottom wall of the curtain guiding groove.
8. In a metallic curtain a plurality of strips each bent at one edge at an acute angle and at the opposite edge at an obtuse angle to form moisture excluding joints, the edges being further bent to form a hinge.
9. A metallic curtain having a flat outer face and comprising a plurality of parallel sections having inter-engaging edge portions, one provided with a rib and the other with a bead, the friction surfaces in contact to form a hinge connection being disposed adjacent to the outer faces of the sections.
10. A metallic curtain formed of a plurality of parallel sections, each section having at one edge a rib and at the opposite edge a bead for the reception of each said rib, the ribbed edge being recessed and the beaded edge having a well defined shoulder fitting in said recess to limit flexing movement of the curtain in one direction.
11. A metallic curtain formed of a plurality of parallel sections, cach provided at one edge with a rib of approximately sigmoidal form in cross section and at the opposite edge with a bead, the edge portion of the bead being flanged
and seated within one of the curved portions of the rib of the adjacent sections.
12. A metallic curtain formed of a plurality of inter-engaging sections each having at one edge a rib of approximately segmoidal form in cross section, and at the opposite edge a bead of approximately circular form in cross section and adapted for the reception of the rib, the adjacent spaced walls of the rib being arranged on approximately concentric lines and affording a curved passage for the rib of an adjacent section.

No. 100,446. Typewriter. Clavigraphe.


Shannon A. Hardman, Elkins, West Virginia, U.S.A., 14th August, 1906; 6 years. Filed 11th May, 1906. Receipt No. 135,798.
Claim.-1. The combination with a typewriter having a longitudinally movable carriage, a rotatable platen, and a platen operating lever, of a key lever plvoted to the typewriter, a sleeve secured to the typewriter, a rack slidably mounted therein, guldes for retaining the rack within the sleeve, a sliding connection between the lever and rack, a shaft journalled within the sleeve, a gear secured thereon and within the sleeve and meshing with the rack, a drum secured to the shaft, a flexible connection between the'drum and the platen lever, said connecting movably engaging the carriage, and means for holding said connection normally taut.
2. In a device of the character described, the combination with a key lever having a fixed pivot at one end, of a stationarv sleeve, a rack slidably mounted therein, guides for holding the rack with in the sleeve, a sliding connection between the key lever and rack, a shaft journalled within the sleeve and meshing with the rack, a drum upon the shaft, and flexible means connected to the drum and adapted to be secured to the carriage of a typewriter.

No. 100,447. Inkstand. Encrier.


Frank M. Ashley, New York City, New York, U.S.A., 14th August, \(1906 ; 6\) years. Filed 30 th November, 1905. Receipt No. 130,568 .
Claim.-1. In an inkstand of the character described, a body having a main reservoir with a depression therein, said depression being of very small diameter compared to that of the main reservoir and the depth of the said reservoir and depression being substantially equal, a dip tube resting loosely on the body and projecting into reservoir to said depression, the combined depth of said reservoir and depression being approximately that of the length of a commercial pen, substantially as described.
2. In an inkstand of the character described, a body having a main reservoir and a deoression therein, a dip tube loosely resting on the top of the body and projecting into said reservoir to said depression, the diameter of the said depression being approximately that of the lower end of the dip tube, the combined depth of said main reservoir and depression being approximately that of the length of a commercial pen, for the purpose set forth.
3. In an inkstand of the character described, a body haping a reservoir with a depression therein of comparatively small diameter to that of the said reservoir, a dip tube supported from the top of the body and projecting into said reservoir to said depression, the combined depth of sald reservoir and depression being aproximately that of the length of a commercial pen, for the purposes set forth.
4. In an inkstand of the character described, a body having a square base with a dome-shaped top, a reservoir with a depression therein of comparatively small diameter to that of the said reservoir, a dip tube supported from the top of body and projecting into the said reservoir, the combined depth of said reservoir and depression being approximately that of the length of a commercial pen, for the purpose set forth.
5. In an inkstand of the character described, a body having a main reservoir with a depression therein, said depression being of very small diameter compared to that of the main reservoir, and the depth of the said reservoir and repression combined, being approximately that of the length of a commercial pen for the purpose set forth, the top of the stand being approximately a horizontal plane, a cover supported from the top of the stand and having a depresison in its surface which extends within the reservoir to about the line formed by the under side of the top of the stand.

\section*{No. 100,448. Ribbon Guide for Typewriters.}

Guide-ruban pour clavigraphes.


Connell H. Dowlen, Hillsboro, Texas, U.S.A., 14th August, 1906; 6 years. Filed 18th April, 1906. Recelpt No. \(135,038\).
Claim.-In a type writing machine a ribbon gulde and holder comprising a pair of relatively fixed tubes, rods slidable therein and having ribbon loops at one end and a finger piece at the other end, and a spring latch between the tubes and rods and constructed to hold the arms at adjustment.

\section*{No. 100,449. Ballast Car. Char d ballast.}

Harry Stillson Hart, assignee of J. O. Neikirk anù F. C Cameron, all of Chicago, Illinois, U.S.A., 14th August, 1906. 6 years. Filed 9 th July, 1906. Recelpt No. 137,655.

Claim.-1. In a railway ballast car having the usual hopper bottom, a ballast plough suitably connected to the car at a point adjacent the hopper bottom between the hopper tottom and the car trucks.
2. In a railway ballast car having the usual hopper bottom a ballast plough suitably connected to the car at a point adjacent the hopper bottom betweeen the hopper bottom and the car truck. means for vertically adjusting the plough, and means for guiding the plough during its adjustment.
3. In a railway ballast car having the usual hopper bottom, a plough adjacent to the hopper bottom, means for flexibly connecting the point of the plough to the hopper bottom, depending guide members rigidly secured to the car frame, and guide members rigidly secured to the rear of the plough co-operating with the depending gulde members.
4. In a rallway ballast car having the usual hopper bottom, a plough connected at its forward end to the hopper bottom, a winding shaft mounted in the car frame, flexible connections between the winding shaft and the front and rear portions of the plough, and means for guiding the plough.
5. In a railway ballast car the combination of a plough, means for raising and lowering the plough, depending angleguides rigidly secured to the frame of the car, guide stan-
dards rigidly secured to the rear portion of the plough, said standards belng provided with overhanging lip portions and

forming with the rear portion of the plough a channel for the argle guides.
6. The combination with a railway ballast car of a plough provided with a protecting shoe at its point, metallic straps having out-turned ends attached to the plough through the shoe, and means for connecting these out-turned ends to the car.
7. The combination in a railway ballast car of a plough provided with a protecting shoe at its point, metallic straps laving out-turned ends attached to the plough through the shoe, means for connecting the out-turned ends to the car, rueans for adjusting the plough vertically, and means for guiding the plough during such adjustment.
8. In a rallway ballast car, the combination of a plough provided with guides at its rear portion, depending angle guides rigidly secured to the car frame co-operating with the plough guides, and a transverse brace member connected to the angle guides.
9. In a railway ballast car, the combination of a plough provided with guides at its rear portion, depending angle guides rigidly secured to the car frame co-operating with the plough guldes, and a transverse brace member connected to the angle guides and to the car frame intermediate the guides.
10. In a railway ballast plough, the combination of a scraping member having horizontal and vertical flanges adapted to be attached to the bottom and side portions of the plough respectively, and a depending scraping extension on the vertical flange.

No. 100,450. Ballast Plongh. Charrue d̀ ballast.


Harry Stillson Hart, Chlcago, Illinols, U.S.A., assignee of Otto William Meissner, Montreal, Quebec, Canada, 14th August, 1906; 6 years. Flled 9th July, 1906. Recelpt No. 137,655.
Claim.-1. The combination with a rallway ballast car of a framework secured to the rear end thereof, comprising side and end bars and angle straps forming vertical passageways, a plough, standarde rigidly secured to the plough and passing through the vertical passageways in the framework, and means for adjusting the standards.
2. The comblation with a rallway ballast car of a framework secured to the rear end thereof, a plough, and cushioned means for supporting the plough in the framework.
3. The combination with a rallway ballast car of a framework secured to the rear end thereof having vertical passageways therethrough, a plough, standards secured to the plough passing through the vertical passageways, a cross plece connecting the standards above the framework, a fulcrum bolt having a fulcrum member mounted on the crossplece, a spring interposed between the fulcrum member and the crosspiece, and a lever fulcrumed in the fulcrum member and connected to the framework at its ends.
4. The combination with a railway ballast car of a framework, a plough mounted for vertical movement in the framework, cushioned means detachably connected to the framework for securing the plough in operative position, and means for raising and lowering the plough when the securing means is released.
5. The combination with a railway ballast car of a framework comprising side and end bars, angle straps mounted on the side and end bars and forming passageways therewith, a plough having standards mounted in the passageways, a shaft journalled in the framework, fiexible connections between the shaft and plough, means for rotating the shaft, a ratchet wheel on the shaft, and a pawl on the framework engaging the ratchet.

\section*{No. 100,451. Linotype. Linotype.}


The Mergenthaler Linotype Company assignee of John Raphael Rogers, Brooklyn, New York, U.S.A., 14th August, 1906; 6 years. Filed 27th November, 1905. Receipt No. 130,453.
Claim.-1. In a two letter linotype machine, the matrices, in combination with the first elevator, and the second elevator to receive the matrix lines therefrom, said parts formed to permit the descent of the high matrices successively as they pass to the second elevator.
2. In a two letter linotype machine the first elevator having fixed shoulders to sustain the matrices at different levels. in combination with the second elevator, formed to permit the descent of the high matrices in the advancing line, and means to sustain the matrices at the lower level and guide them into engagement with the second elevator.
3. The elevator \(N\), with fixed matrix sustaining shoulders at different levels in combination with elevator \(T\), channel \(R\), and depressing shoulders.
4. The matrix elevator \(T\), having its teeth terminated in advance of the receiving ond, and the end of \(V\) form substantially as shown.
5. In a two letter linotype machine having means to assemble matrices at different levels in the same line, means for restoring the matrices successively to a common line.
6. In a linotype machine, having means to sustaln matrices at different levels in a composed line, means for moving the line endwise, and means whereby the matrices at one level are caused to align successively with the matrices at the other level.

\section*{No. 100,452. Typewriter. Clavigraphe.}

John E. Molle, Charles F. Moe, James C. Brown, Chester Fritz, Frank A. Shimmel, John G. Olingen and Dudley Lawrence, each an assignee of a twelfth interest of John E. Molle, all of Sturgeon Bay, Wisconsin. U.S.A., 14th August, 1906; 6 years. Flled 7th May, 1906. Recelpt No. 135,640.
Claim.-1. The combination with a type bar and a key, of a connecting rod terminating at opposite ends in cranks which are respectively connected to the key and the type bar, and a support engaging the crank arms intermediate of their ends with the arms rotatable thereon, the connecting bar being free to rotate upon the support for actuating the type bar by a depression of the key and sald connecting bar also capable of being tortionally twisted when the type bar
strikes the platen to permit further depression of the key and thus cushion the action.

2. The combination with a type bar and a key, of a tortionally twistable rock bar terminating at opposite ends in cranks which are respectively connected to the type bar and the key, and a supporting rod loosely piercing the crank arms.
3. The combination with a type bar and a key, of an elastic tortionally twistable rock bar terminating at opposite ends in cranks which are respectively connected with the type bar and the key, a supporting rod loosely piercing the cranks, and means carried by the rod to prevent creeping of the rock bar under its tortional elastic action.
4. The combination with a type bar and a key, of a tortionally twistable elastic bar terminating at opposite ends in cranks which are respectively connected with the type bar and the key, a supporting rod loosely plereing the cranks, and elastic sleeves frictionally embracing the rod and in engagement with the opposite ends of the bar to prevent creeping of the latter under its tortional action.
5. The combination with a type bar and a key, of a rock bar provided with opposite cranks which are respectively connected to the type bar and the key, and a supporting rod loosely piercing the cranks.
6. Ino a key action for typewriting machines, the combination of a rock bar having a crank provided with a perforation, a guard member adjacent the crank, and a key having a stem provided with a lateral pin detachably engaging the perforation in the crank and working between the latter and the guard member to prevent displacement of the stem.
7. A typewriting machine having a main frame, projections extending inwardly from the frame at one end thereof, a key action frame removably supported at one end upon the projections, set screws carried by the key action frame adjacent the projections for frictional engagement with the main frame, and other set screws piercing the other end of the main frame for detachable engagement with the key action frame.
8. In a typewriting machine the combination with a frame, of a type bar support, type bars mounted upun the support. a key action frame having its opposite ends provided with corresponding perforations, rods having their ends supported in the perforations of the key action frame, rock bars mounted upon the rods and connected to the corresponding type bars, and keys connected to the rock bars for rocking the same upon their supporting rods.
9. In a typewriting machine the combination of a frame, a type bar support carried by the frame above the rear end, thereof, type bars mounted upon the support, rods extending between the front and back of the frame, rock bars mounted upon the rods and terminating at opposite ends in cranks, connections between the rear cranks and the type bars, guard bars carried by the front of the frame and extending thereacross adjacent the front cranks, and keys having stems connected with the respective front cranks and working between the latter and the adjacent guard bars.
10. In a typewriting machine the combination with a frame, a type bar support, a type bar mounted thereon, a rod having its ends supported in openings in opposite ends of the frame, a tortionally twistable elastic rock bar having terminal cranks pierced by the rod, an operative connection between one of the cranks and the type bar, a key connected to the other crank, an elastic sleeve frictionally embracing the rod and bearing against one end of the rock bar and the adjacent end of the frame, another elastic sleeve frictionallv embracing the rod and bearing against the opposite end of the rock bar, and a third elastic sleeve embracing the rod and bearing against the other end of the frame, said sleeves operating to prevent creeping of the rock bar upon the rod and prevent accidental endwise displacement of the rod through the openings in the frame.

No. 100,453. Door. Porte.


Nils Pehr Sjobring, Jamestown, New York, U.S.A., 14th August, 1906. 6 years. Filed 23rd December, 1905. Receipt No. 131,286.
Claim.-1. A door comprising style sections, end sections, interlocking with the style sections and extending transversely of the door, and panel sections interlocking with the style sections, between the end sections, said panel sections being secured beyond said interlocking plane by the interlocking of the style and end sections.
2. \(A\) door comprising style sections, end sections interlocking with the style sections and panel sections interlocking with the style sections between the end sections, said panel sections being secured to the style sections beyond their interlocking plane.
3. A door comprising style sections, end sections interlocking with the style sections, and panel sections interlocking with the style sections between the end sections. the side edges of the panel sections being secured between the interlocking connections of the style sections and end sections.
4. A door comprising style sections provided with locking flanges on their inner edges, end sections formed with locking flanges to engage the locking flanges of the style sections. and nanel sections formed on their side edges for a portion of their length with interlocking flanges of the style sections between the end sections.
\(\overline{5}\). A door comprising style sections provided with locking flanges on their inner edges, and sections formed with locking flanges to engage the locking flanges of the style sections, and panel sections formed on their gide edges for a portion of their length with interlocking finges to engage the interlocking flanges of the style sections between the end sections, the remaining length of the side edges of the panel sections being plain to engage between the interlociing flanges of the end sections and style sections.
6. A door comprising style sections, panel sections secured to the style sections, a keeper to support the edges of the end seotions between the style sections, and a binder within the keeper to receive the ends of the panel sections.
7. A door comprising style sections, panel sections secured thereto and end sections secured to the style sections, a keeper to support the edges of the end sections between the style sections, a binder within the keeper to receive the ends of the panel sections, and means passed through the end sections and between the binder and keeper to secure said parts together.
8. A door comprising style sections panel sections secured thereto and end sections secured to the style sections, a keeper to support the edges of the end sections between the style sections, a binder within the keeper to receive the ends of the panel sections, and rivets passed through the end sections and between the binder and keeper, the approximate wall of the former being channelled to receive said rivets.
9. A door comprising style sections, panel sections secured thereto and end sections secured to the style sections, a keeper to support the edges of the end sections and style tions and style sections and between the binder and keeper. the panel sections, and rivets passed through the end sections an dstyle sections and between the binder and keeper. the approximate wall of the former being channeled to recelve sald rivets.

No. 100,454. Rule. Règle.
Edward P. Johnson, Grand Forks, North Dakota, U.S.A., 14th August, 1906, 6 years. Filed 14th May, 1906. Receipt No. 135,923.
Claim.-1. A folding rule comprising a pair of pivoted members one of which is provided with a straight edge forming a housing for both sides of the rule when the latter is folded.
2. A folding rule comprising a pair of supporting members each consisting of pivotally united sections, and a straight

edge secured to each section of the one member and extended laterally beyond the adjacent longitudinal edge of sald member a distance equal to the width of the opposite member to form a housing for the rule when the latter is folded.
3. A folding rule comprising a pair of pivoted members each consisting of pivotally united sections, and a straight edge secured to each section of one member and forming a housing for the rule when the latter is folded.
4. A folding rule comprising a pair of pivoted members one of which is provided with spaced plates, a lug carricd by one of the spaced plates and seated in the slot of the adjacent plate, a clamping screw engaging the lug for locking the pivoted members in engagement with each other, and a straight edge secured to one member and forming a housing for both sides of the rule when the latter is folded.
5. A folding rule comprising a pair of pivoted members one of which is provided with spaced graduated plates, a slotted plate secured to the adjacent member and fitting between the spaced plates, an index carried by the slotted plate an dadanted to register with the graduations, a lug secured to one of the spaced plates and seated in the slot of the ajacent plate, a clamping screw engaging the lug for locking the pivoted members in engagement with each other, and a straight edge extending laterally from the adjacent lnggitudinal edge of one member and forming a housing for both sides of the rule when the latter is folded.
6. A folding rule comprising a pair of pivoted members, and a sectional plate secured to one of said members and having its free edge extended laterally beyond said member a distance equal to the width of the opposite member to form a straight edge.
T. A folding rule comprising a pair of pivoted members, and a sectional straight edge secured to one of the members and forming a housing for the pivoted ends of said members.
8. A folding rule comprising a pair of pivoted members each consisting of pivotally united sections, and a straight edge secured to each section of one member and having its free edge extended laterally beyond the inner longitudinal edge of said member a distance equal to the width of the opposite member, and means for clamping said member in ongagement with each other.

No. 100,455. Caisson. Caisson.


Oliver C. Edwards, Jr., Troy, New York, U.S.A., 14th August, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,299. Claim.-1. In a caisson the combination of upright walls forming a casing, a roof formed integral with said walls, and means for bracing the walls and roof.
2. In a caisson the combination of upright walls constituting a casing cast integral of concrete, a roof cast of concrete integral with said walls, and means for bracing the walls and roof cast integral with the walls and roof.
3. In a caisson the combination of downwardly flaring upright walls and a roof for sald walls, the walls and roof being formed integral of concrete.
4. In a caisson the combination with an enclosing concrete casing, of a roof formed integral with and connecting the walls of said casing, and bracing means formed integral with said walls and lying parallel to one of the faces of said roof.
5. In a caisson the combination of an upright casing, an integral horizontal roof therefor, and a brace formed integral with and connecting opposite sides of the wall of said casing and formed of the same material as said casing.
6. In a caisson the combination of an upright concrete casing, an integral roof therefor, and a brace arranged beneath said roof and formed integral with the connecting opposite sides of the wall of said casing.
7. In a caisson the combination of a concrete casing, a horizontal ronf of the same material formed integral with the walls of said casing and spaced above the lower end of the casing a distance for producing a working chamber, and a brace formed integral with the wall of said casing and extending across said working chamber.
8. In a caisson the combination of a concrete casing, a roof former integral with said casing and spaced above the lower end thereof, a distance for producing a working chamber, and horimontal braces formed integral with and connecting the walls of said casing within said chamber for preventing inward giving of said walls.
9. In a caisson the combination of a concrete casing, a concrete horizontal roof spaced above the lower end of said casing, and knee braces connecting the walls of the casing with the roof, said knee braces heing formed integral with said walls and roof.
10. In a caisson the combination of an enclosing casing, a horizontal roof formed integral therewith and connecting the walls thereof, and braces formed integral with said walls and disposed for registering external pressure tending to press the walls of the casing inwardly, the said roof being designed to be weighted for sinking the caisson.
11. In a caisson the combination with vertical onclosing walls, and a root cast integral therewith for forming a working chamber, of a truss formation connected with the vertical walls and roof for transmitting strains.
12. In a caisson the combination with enclosing walls of a truss extending across the space between the walls, and having its ends cast integral with the walls.
13. In a caisson the combination with vertical enclosing walls and a roof, of a truss formation arranged within the enclosing walls, and connected to the walls and roof.
14. In a caisson the combination with vertical enclosing walls. and a roof constituting a working chamber, of a truss chord connecting the vertical walls within the working chamber, and truss braces connectiug the chord with the roof.
15. In a caisson the combination with enclosing vertical walls and a roof cast integral, of a truss chord cast integral with the walls. and a vertical stud cast integral with the chord and with the roof.
16. In a caisson the combination with vertical enclosing walls, aud a ronf cast integral, of intersecting truss chords connecting sald vertical walls, and vertical studs cast integral with the ronf and with the chords, for connecting the chords to the roof.
17. In a caisson the combination with upright enclosing walls, and a horizontal roof cast integral therewith, of a plurality of knee brace fillings disposed in the angle produced by the union of the vertical walls and roof, and fillings for the trihedral angles produced by the union of each knee brace flling with the vertical wall and roof.
18. In a caisson the combination with vertical enclosing walls, and a roof formed integral therewith for producing a working chamber, of bracing beams connecting the walls, and means connecting sald beams with the roof, said connecting means being cormed integral with the bracing beams and with the roof.
19. In a caisson the combination with vertical enclosing walls and a roof cast of concrete, of a concrete truss formations arranged above and connecting to the roof, and an integral truss formation arranged beneath and connected to the roof.
20. In a caisson the combination with vertical enclosing walls and a roof cast of concrete, of a concrete trus formation beneath and connected to said roof, a concrete truss formation above and connected to said roof, and means connecting the trust formations.
21. In a caisson the combination with vertical enclosing walls, and a roof cast of concrete, of intersecting brace beams spaced from said roof, and means formed integral with said beams and extending to and formed integral with the roof in connecting the beams to the roof.
22. In a caisson the combination with enclosing walls, of a brace arranged beneath the said roof and connected to the enclosing walls, a vertical stud connecting the brace with the roof, bracing means arranged above the roof, a vertical stud connecting said last-mentioned bracing means with the roof in vertical alignment with the vertical stud of the firstmentioned brace, and means extending longitudinally through both of said studs and through said brace and bracing means for securing the parts together.
23. In a caisson the combination with the walls and roof of a wórking chamber, of intersecting bracing beams spaced from said roof on one slde thereof, and bracing beams spaced from the roof on the other side thereof, means connecting all of said bracing beams to the roof, and means for tying all of said bracing beams together.
24. In a calsson the combination with enclosing walls and a roof producing the combination with enclosing walls and spaced on one side of the roof, meanz connecting said beam with the roof, a bracing beam arranged on the opposite side of the roof, means connecting last-mentioned bra,cing beam to the roof, and a tie rod connecting said bracing beams together.
25. In a caisson, the combination with enclosing walls and a roof constituting a working chamber of intersecting bracing beams spaced on one side of said roof, vertical studs connecting the bracing beams at the point of intorsection to the roof, a bracing beam disposed on the opyosite side of said roof, a vertical stud connecting the last-mentioned beam with the roof in vertical alignment with the first-mentioned stud, and a tie rod extending through sail studs and seciring said beams together.
26. In a calsson, the combination with enclosing walls, and a roof constituting a working chamber, of a plurallity of truss formations arranged on one side of the roof and formed integral therewith, and intersecting truss formations also formed integral with the roof.
27. In a calsson, the combination with enclosing vertical walls and a roof cast integral, of a beam suaced from said roof, means cast integral with the beam at its end and connecting the same with the roof, and an intermediate brace cast integral with said beam and also formed integral with the roof.
28. In a caisson, the combination with enclosing walls, and a roof constituting a working chamber, the roof being formed with an opening, of a circular plate formed with an opening registering with the opening in the roof, a right angle plate mounted upon said first-mentioned plate, bolts anchored within the material of the roof and extending through said first-mentioned plate for retaining the plate in position, and a hollow shaft secured to the sfcond-mentioned plate and extending above the same.
29. In a caisson, the combiuation with vertical enclosed walls, and a roof constituting a working chamber, the roof being formed with an aperture, of an annular ring formed of right angle material, one of the angles of the ring being embodied in the material of the roof in position for having the opening of the ring registered with the aperture in the roof, means for anchoring the plate to the roof, a second plate connected with the first-mentioned plate, and a hollow shaft connected with the second-mentioned plate.
30. In a caisson, the combination with enclosing walls and a roof constituting a working chamber, of intersecting bracing beams spaced from same roof at one side thereof, vertical studs arranged at the points of intersection of the bracing beams for connecting the bracing beams to the roof, a bracing beam spaced from the opposite side of said roof, and a vertical stud connecting the last-mentioned beam with the roof.
31. In a caisson, the combination with a working chamber cast of concrete, of a plurality of trusses aranged within said working chamber and cast integral with the walls thereof.
32. In a caisson, the combination with a working chamber cast of concrete, of intersecting trusses arranged within said working chamber and cast integral with the walls thereof.
33. In a caisson, the combination with a working chamber, of trusses arranged therein and cast integral with the side walls and roof thereof.
34. In a caisson, the combination with a working chamber cast of concrete, of a truss cast within said working chamber integral with the roof and side walls thereof, and tie rods extending through the roof and engaging the truss transmitting strains.
35. In a caisson, the combination with a rectangular casing. and a roof therefor, of a fllling of trihedral form for each of The corners produced by the union of the walls of the casing with the roof.
36. In a caisson, the combination of a concrete casing, a roof arranged intermediate the length thereof and formed integral therewith, and means for bracing the wall of said casing formed integral with said walls and arranged above said roof and parallel to the upper face thereof.
37. In a caisson, the combination of a concrete casing, a roof arranged intermediate the length thereof and formed integral therewith. bracing struts formed integral with and connecting the walls of sald casing above said roof, and means below the roof for bracing the walls of the casing, said bracing means being formed integral with the casing.
38. In a caisson, the combination of a concrete casing, a concrete roof formed integral with the casing, said roof being formed with an aperture for permitting access to the space beneath the same, a plate embedded in said roof at the Foint of said aperture, and a hollow shaft resting upon said plate, the plate being formed with an aperture registering with the bore of said shaft.
39. In a caisson, the combination of a casing, and a concrete roof supported thereby for producing a working chamber beneath the roof, said roof being formed with an aperture permitting access to said working chamber, a plate embedded in the material of said roof and formed with an aperture registering with the aperture in said roof, a portion of the material of said plate extending into the aperture in said roof, and a shaft supported by that portion of said plate extending into the aperture of the roof.
40. In a caisson, the combination with a casing, of a concrete roof supported thereby and spaced from the lower end thereof a distance sufficient for producing a working chamber; a plurality of apertures being formed in sald roof, plates embedded in the material of sald roof at the point of said apertures and projecting into the apertures, and shafts positioned on said plates for being supported thereby and for affording access to the working chamber.
41. In a caisson, the combination with a vertical concrete casing, of a horizontal concrete roof connecting the walls of said casing and formed integral therewith, said roof being spaced above the lower end of said casing a distance sufflcient for producing a working chamber, means within said working chamber bracing the walls of the casing, shafts communicating throngh said roof with said working chamber, and a coffer dam mounted above the roof.
42. In a caisson, the combination of a casing, and a roof therefor formed with a transverse opening. a shaft extending into said opening of less transverse area than that of said opening, whereby a clearance space is left between the shaft and the walls of the opening, and means supported by said roof and extending into the opening for sustaining said shaft.
43. In a caisson, the combination with a casing, and a ronf connecting the walls thereof, said roof being formed witi a transverse opening, a plate carried by said roof, and extcnding into said opening, a shaft resting upon said plate, an angle plate connecting said shaft, and means detachably connecting said angle plate to the first-mentioned plate.

No. 100,456. Whistle. Sifflet.


Peter A. Mortensen, Sanford, Colorado, U.S.A., 14th August,
1906; 6 years. Filed 5th July, 1906. Receipt No. 137,548.
Claim.-1. A musical instrument comprising a mouth piece, and a trumpet of less width than the mouth plece, said mouth piece being formed of upper and lower members each provided with an air inlet opening.
2. A musical instrument comprising a mouth piece, and a trumpet, the latter being of less width than the mouth piece, said mouth piece being formed of a pair of flanged plates united at their rear edges and arranged on slightly divergent lines, each plate being provided with an air inlet opening.
3. A musical instrument comprising a sheet of metal bent to form a mouth piece, and a trumpet, the sides of the mouth piece being open, and the sides of the trumpet being closed.
4. A musical instrument comprising a mouth piece closed at its rear end and open at its opposite sides, and a trumpet extending from the mouth piece and of less width than said mouth piece.
5. A musical instrument comprising upper and lower divergent plates connected at their rear ends, and the sides of the front portions of the plates being connected to form a trumpet, the plates having non-registering air inlet opening.
6. A musical instrument comprising a flat whistle having spaced top and bottom members connected to each other at one end and provided with sound holes, and a trumpet substantially rectangular in cross section extending integrally from the outer end of the top and bottom members from the whistle outward.
7. A musical instrument comprising a flat whistle open at the sides and front and provided in its top and bottom members with sound holes, and a trumpet extending integrally from the outer ends of the top and bottom members of the whistle.
8. A musical instrument comprising a flat whistle having spaced top and bottom members connected to each other at one end, and provided with sound holes, and a trumpet substantially rectangular in cross section extending integrally from the outer ends of the top and bottom members of the whistle.

No. 100,457. Propeller. Propulseur.


Edward A. Stickler, Portage, Wisconsin, U.S.A., 14th August, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,716.
Clalm.-The herein described propeller having the hub and the spiral cam-shaped blades, the front sides ol which project from the front portion of the hub, said blades being curved rearwardly over the rear portion of the hub, widened progressively from the hub rearwardly and terminating in rearwardly projecting wings, the rear edges of which present convex curves that extend from the outer edges of the blades inwardly, and the inner edges of which are spaced from the sides of the hub and merge in the front portions of the blades attached to the hub.

\section*{No. 100,458. Dust Suction Apparatus. \\ Apparcil de suction d poussière.}

Arthur Mestitz; Raudnitz a Elbe, Bohemia, Austria, 14th August, 1906; 6 years. Filed 1st March, 1906. Receipt No. 133,409.
Claim.-1. In a dust suction appanatus, in combination a suction pump, and a filter located immediately below the pump inlets and comprising a frame on which fine meshed labric is stretched, whereby the fabric is set in vibration by the suction strokes of the pump and any dust which settles in the meshes of the fabric thus shaken out again. so that the fabric is kept clean automatically, substantially as described.
2. In a dust suction apparatus in combination a suction pump, and a filter located immediately below the pump inlets and comprising a frame at both sides of which fine meshed fabrics sheets are stretched, substantially as described.
3. In a dust suction apparatus, in combination a suction pump, a hollow stand therefor and communicating at the top therewith a flange ring interiorily of the stand, located mmediately below the pump inlets, and a filter supported by the ring comprising a dust tight camented frame on which fine mushed fabric is stretched, substantially as des. cribed.
4. In a dust suction apparatus in combination a suction pump, and a filter located immediately below the pump outlets, and comprising a plurality of superposed frames on each of which fine meshed fabric is stretched, substantially as described.
5. In a dust suction apparatus in combination a suction pump, a dust tight dust chamber forming a stand therefor

and communicating at the top therewith, and a filter located in the chamber immediately below the pump inlets, and comprising a frame on which fine meshed fabric is stretched, substantially as described.
6. In a dust suction apparatus in comblnation, a suction pump, a dust tight dust chamber forming a stand therefor and communicating at the top therewith, a shallow dust receptacle located at the bottom of the chamber, and a filter located in the chamber immediately below the pump inlets. and comprising a frame on which fine meshed fabric is stretched, substantially as described.
7. In a dust suction apparatus in combination, a suction pump, a dust tight dust chamber forming a stand therefor and communicating at the top therewith, a shallow dust receptacle located at the bottom of the chamber and detachably screwed to the base thereof, and a fllter located in the chamber immediately below the pump inlets, and comprising a frame on which fine meshed fabric is stretched, substantially as described.

No. 100,459. Dnet Suction Apparatng.
Apparcil de suction d poussidre.


Arthur Mestitz, Randuitz a Elbe, Bohemia, Austria, 14th August, 1906; 6 years. Filed 1st March, 1906. Receipt No. 133,408.
Claim.-1. A filter for dust suction apparatus comprising an assemblage of parallel frames open above and below alter. nately and having filter sheets stretched across them, whereby a series of cells are formed open at the top and bottom alternately and whose main walls are constituted by the said sheets, substantially as described.
2. A filter for dust suction apparatus comprising an assemblage of parallel frames open above and below alternately and having filter sheets stretched across them, and a
receptacle at the top of which the frames are located, and having an air inlet below and an air outlet above the frames, substantially as described.
3. A filter for dust suction apparatus comprising an assemblage of parallel frames open above and below alternately and having filter sheets stretched across them, a receptacle consisting of two superposed detachably connected air tight jointed parts, at the top of which the a filter cloth located between the upper wall of the sald receptacle and the filter, subsantially as described.
4. A filter for dust suction apparatus comprising an assemblage of parallel frames open above and below alternately and having filter sheets stretched across them, and a receptacle consisting of two superposed detachably connected air tight jointed parts, at the top of which the frames are located, and having an air inlet below and an air outlet above the frames, substantially as described.
5. A filter for dust suction apparatus comprising an assemblage of parallel frames open above and below alternately and having filter sheets stretched across them, a receptacle at the top of which the frames are located, and having an air inlet below and an air outlet above the frames. a plurality of brushes located below those frames which are open at the bottom, and means for introducing the brushes into the same and withdrawing them therefrom, substantially as described.
6. A filter for dust suction apparatus comprising an assemblage of parallel frames open above and below alternately and having filter sheets stretched across them, a receptacle at the top of which the frames are located and having an air inlet below and an air outlet above the frames, a rotary bar extending across the receptacle below the frames and operable from without, and brushes carried by the bar below those frames which are open at the bottom and adapted to enter the same, substantially as described.
7. A filter for dust suction apparatus comprising an assemblage of parallel frames open above and below alternately and having filter sheets stretched across them, a receptacle, at the top of which the frames are located, and having an aid inlet below and an air outlet above the frames, and a dust current deflector located at the said inlet whereby the coarser dust particles fall to the bottom of the receptacle, only the finer dust passing through the filter, substantially as described.
8. A filter for dust suction apparatus comprising an assemblage of parallel frames open above and below alternately and having filter sheets stretched across them, and a receptacle at the top of which the frames are located, and having an air inlet below and an air outlet above the frames, and a window through which the height of the accumulated dust can be seen, substantially as described.
9. In combination a dust suction apparatus having a hollow base, and a fllter comprising an assemblage of parallel frames open above and below alternately and having filter sheets stretched across them, a receptacle located in the said base at the top of which the frames are located, and having an air inlet below and an air outiet above the frames. and a clamp rod hinged to the said base and taking over the top of the receptacle whereby the receptacle is firmly but detachably held in the base, substantialiy as described.
10. A filter for dust suction apparatus, comprising an assemblage of parallel trames open above and below alternately and having filter sheets stretched across them, a receptacle at the top of which the frames are located, and having an air inlet below and tubular air outlet above the frames, a bifurcated pipe and a screw nut uniting the same with the receptacle outlet, substantially as described.

\section*{No. 100,460. Dust Suction Apparatus.}

Appareil de suction d poussic̀re.
Adolf Hein, Berlin, Germany, 14th August, 1906; 6 years. Filed 26th February, 1906. Receipt No. 133,326.
Claim.-1. In a portable dust suction apparatus, in combination two suction bellows, a shell enclosing the same, a crank shaft mounted in the shell for working the bellows, and an electro-motor mounted on the apparatus driving the shaft, substantially as described.
2. In a portable dust suction apparatus in combination two suction bellows, a shell enclosing the same, a crank shaft mounted in the shell for working the bellows, a bracket secured to the apparatus, and an electro-motor mounted on the bracket driving the shaft, substantially as described.
3. In a portable dust suction apparatus in combination two suction bellows, a shell enclosing the same, a crank shaft mounted in the shell for working the bellows, a bracket secured inside the shell, an electro-motor mounted on the bracket. pulleys mounted on the motor and the crank shaft, and flexible transmission means connecting the pulleys, substantially as described.
4. In a portable dust suction apparatus in combination two suction bellows, a shell enclosing the same, a crank shaft
mounted in the shell for working the bellows, a bracket secured inside the shell, an electro-motor mounted on the

bracket, pulleys mounted on the motor and the crank shaft, flexible transmission means connecting the pulleys, and a dust tight casing boring in the pulley gear, substantially as described.
5. In a portable dust suction apparatus in combination two suction bellows, a shell onclosing the same, a crank shaft, mounted in the shell for working the bellows, a bracket secured inside the shell, an electro-motor mounted in the bracket. pulleys mounted on the motor and the crank shaft flexible transmission means connecting the pulleys, and a dust tight casing boxing in the pulley gear and consisting of a lower part and an upper part detachable therefrom, substantially as described.
6. In a portable dust suction apparatus, in combination two suction bellows, shell enclosing the same and divided into a top and a base compartment, a crank shaft mounted in the top compartment for working the bellows, an electromotor mounted in the base pulleys mounted on the motor and the crank shaft. flexible transmission means connecting the pulleys, and a tubular casing having a removable cap, boxing in the upper part of the pulley gear and opening into the base. substantia.ly as described.
7. In a portable dust suction apparatus, in combination two suction bellows, a shell enclosing the same, a crank shaft mounted in the shell for working the bellows, an electromotor mounted on the apparatus driving the shaft, a cable conducting to the motor, and a plug contact for connecting the cable with an electric circuit, substantially as described.

\section*{No. 100,461. Tag. Etiquette.}

Jacob H. Johnson, Pittsburg, Pennsylvania, U.S.A., 14th August, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,256.
Claim.-1. In a tag the combination with a body portion having flanged sides, a tongue carried by the lower edge of said body portion, said body portion having a slot formed therein, to which a strap may be attached, of an address plate carried by said body portion, a sight plate mounted upon said address plate, a movable plate mounted upon said sight plate, said sight plate and movable plate being each provided with a slot, said slots being adapted to be brought into registry to expose a portion of said address plate through said sight plate, and means to limit the movement of said movable plate upon said sight plate, substantially as described.
2. A tag of the class described embodying a body portion having a slot formed therein, an address plate carried by said portion, a sight plate formed with a plurality of openings and mounted upon said address plate, a movable plate formed with a plurality of openings and mounted upon said sight plate, means to retain said plates together, the openings in the sight plate and the openings in the movable plate being adapted to register at one position of the latter so as to expose a portion of said address plate through said sight plate, and means to limit the movement of said movable plate, substantially as described.
three plates mounted upon said body portion, two of said \(t\) hree plates mounted upon said body portion, two of said
plates being provided with openings and one of the latter plates being movable so as to bring said openings into

registry to expose a portion of one of said plates through the other two plates, substantiaily as described.

No. 100,462. Stairs. Escalier.


James M. Knaus, Sedalla, Missouri, U.S.A., 14th August, 1906; 6 years. Filed 17th July, 1906. Receipt No. 137,922.
Olaim.-1. A device of the character described, comprising a plate provided with parallel vertical and horizontal flanges, said flanges producing vertical and horizontal grooves or pockets, the vertical grooves closed at their lower ends, and said vertical and horizontal grooves open at one end.
2. A device of the character described comprising a plate provided with horizontal and vertical flanges, the vertical flanges integrally connected at their lower ends.
3. A device of the class described comprising a metallic plate provided with a flanged edge. said plate provided with apertures, a plurality of parallel vertical flanges, and a plurality of parallel, horizontal langes formed upon said plate, the lower, horizontal flanges integrally connected at their front end, the vertical flanges integrally connected at their lower end.
4. As a new article of manufacture, a staid side plate formed from a blank sheet of metal provided with laterally extending sets of parallel flanges producing a stepped lift and thread supporting means.
5. A device of the class described comprising a plate provided with a set of flanges integral at one of their ends, said flanges constituting a groove or pocket.
6. A stair plate provided with a set of flanges constituting a groove or pocket within which a tread or riser may be positioned.
7. A device of the character described comprising a plate provided with sets of horizontal and vertical flanges, the vertical flanges in each set integrally connected at their lower ents.

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8. A device of the character described comprising a plate provided with a set of vertical lianges, the flanges in said set integrally connected at their lower ends, and troad supporting means formed upon said plate.
9. A device of the character described comprising a plate provided with horizontal and vertical flanges, said flanges extending at right angles from sald plate, and flanges formed upon said plate and positioned parallel to said first-mentioned flanges.

No. 100,463. Safety Razor. Rasoir de streté.


Frederick Herbert Arnold, Reading. Pennsylvania, U.S.A., 14th August, 1906; 6 years. Filed 27th July, 1906. Receipt No. 138.220.
Claim.-1. A safety razor comprising a perforated blade, a rair of clamping plates hinged at their outer ends, one of which is formed with lugs for positioning said blade, half round stems of varied diameter formed on the inner ends of said plates one of which is sherter than the other, a slotted internally screw-threaded sleeve adapted to engage said stem members o compress said plates, a plug formed on the end of said longer stem and a tubular casing adapted to engage either end of said plug.
2. A safety razor comprising a blade, a guard plate, a backing plate hinged thereto at one end, a plug formed integral with said guard plate, an internally tapered clamping sleeve adapted to clamp sald plates together longitudinally and a tubular casing adapted to engage either end of said plug.
3. In a safety razor, a backing plate formed with a hinged member at its outer end, a half round stem at its inner end and a depending catch, a guard plate formed with a coresponding hinge member at its outer end and a corresponding stem at its inner end, a hollow plug formed on the end of said stem and a trigger device located in said plug and stem adapted to engage said catch, positioning lugs formed on said plate, a perforated blade adapted to engage said lugs, a siotted clamping sleeve located on said stem adapted to engage and compress said plates, and a tubular casing adapted to engage either end of said plug.
No. 100,464. Tool Holder. Porte-outil.


Melvin Barber, Oklahoma, Oaklahoma, U.S.A.,14th August, 1906; 6 years. Filed 31st July, 1906. Receipt No. 138,292. Claim.-1. A tool holder including a head, a pivotally mounted jaw carried by the head, and a rotary faw actuating
nember mounted on the head and retained against longitudinal movement thereon, said member engaging the jaw on opposite sides of its pivot for swinging the same in opposite directions.
2. A tool holder including a head, a pivotally mounted jaw carried thereby, and a rotary jaw actuating member mounted on the head and retained against longitudinal movement thereon, said member having inwardly extending cams that engage the jaw on opposite sides of its pivot for swinging said jaw in opposite directions.
3. A tool holder comprising a head, a plurality of pivotally mounted jaws carried thereby a rotary jaw actuating member retained against relative longitudinal movement with respect to the head, and means engaging the jaws at opposite sides of their pivots for actuating the jaws through the rotary movement of said member.
4. In a tool holder, the combination with a head and a plurality of pivotally mounted jaws, of a relatively rotary jaw actuating member provided with oppositely disposed offset cams projecting laterally from the actuating member and arranged for engagement with the jaws at opposite sides of the pivots thereof.
5. In a tool holder, the combination with a head and a pivotally mounted jaw, of a relatively rotary jaw actuating member provided with offset oppositely disposed cams projecting laterally from the actuating member and arranged to alternately engage with the jaw for swinging the same in opposite directions.
6. In a tool holder, the combination with a head and a plurality of pivotally mounted jaws, of a relatively rotary jaw actuating member retained against relative longitudinal movement with respect to the head and provided with oppositely disposed cams arranged for engagement with the jaws at opposite sides of the pivots therof.
7. A tool holder comprising a head, a plurality of pivotal jaws carried thereby and provided with tail pieces, and a rotary jaw actuating member having oppositely disposed cams opposite to the jaws and tailpieces respectively, said cams being arranged out of alignment respecting the longitudinal direction of the holder whereby the rotary movement in opposite directions of the jaw actuating member serves to positively operate the jaws and is limited by the contact of either of the jaws or tailpieces with the rear ends of the cams.
8. A tool holder comprising a head provided with a plurality of pivoted jaws, and a rotary jaw actuating member, having means engaging the jaws at opposite sides of their pivots for actuating said jaws through the rotary movement of the jaw actuating member, said means also constituting a stop for limiting the relative movement of said member in both directions.
9. A tool holder comprising a head, a plurality of pivoted jaws provided with tailpieces, a sleeve surrounding the head and having internal transversely disposed cam-shaped ribs arranged to respectively engage the jaws and tailpieces, said ribs having their faces inclined in opposite directions and the ribs co-acting with the tailpieces and jaws being disposed in alternate arrangement to effect the positive actuation of the jaws in opposite directions and limiting the movement of the sleeve by the abutting of the rear ends of one set of ribs against the tailpieces, or by the abutting of the other set of ribs against the jaws proper.
10. A tool holder comprising a head, a plurality of pivotally mounted jaws carried thereby, a jaw actuating member mounted on the head and engaging the jaws at opposite sides of their pivots to cause said jaws to approach or recede as the jaw actuating member is rotated in opposite directions, means for preventing the longitudinal movement of the member with respect to the head, and means for limiting the rotary movement of said member in opposite directions.
11. In a tool holder, the combination with a head, of a jaw movably mounted on the head, a rotatable actuating member for moving the jaw, said member having frictional engagement at one end with the head, and means adjustably mounted on the head and engaging the other end of the actuating member for holding said actuating member in such frictional engagement.
12. In a tool holder, the combination with a head, of a jaw movably mounted on the head, a rotatable actuating member for moving the head, and a nut bearing against one end of the member to hold the same against displacement and to apply friction to said member.
13. In a tool holder, the combination with a head, of a plurality of jaws pivotally mounted on the head, a sleeve rotatably mounted on the head and engaging the jaws to move the same, and a nut screwed on the head and bearing against one end of the sleeve.
14. In a tool holder, the combination with a head having an outstanding flange at one end, a plurality of jaws pivotally mounted on the head, a sleeve revolubly mounted on the head and having one end bearing against the flange thereof, said sleeve engaging the jaws to move the same, and a nut threaded on the head and bearing against the opposite end of the sleeve.

\section*{No. 100,465. Brush and Mop Holder.}

Porte-brosse et faubert.


George Ambrose Fraser, Winnipeg, Manitoba, Canada, 14th August, 1906; 6 years. Filed 29th June, 1906. Receipt No. 137,403.
Claim.-1. In a device of the class described, the combination with a tubing having an extending brush holding clamping arm, of a inner tubing, an extending gripping arm dependent therefrom, and means whereby the gripping arm may be rotated at predetermined instants, as and for the purpose specified.
2. In a device of the class described, the combination with a central tubing, having an extending brush holding clamping arm of an inner tubing, a rod extending within the inner tubing, and slidably dependent therefrom, a spiral coil at the rear end of the rod, and a gripping arm at the forward end, and means whereby the rod may be rotated upon a backward motion of the inner tube, as and for the purpose specified.
3. In a device of the class described, in combination a capped central tube with an enlarged annular end, an inner and an outer sliding tube, dependent the one from the other, the inner tube having slots therein, a winged washer extending into the slots and therebeyond, an angular cap at the forward end of the inner tube, a spiral spring gearing between the inner face of the cap and the wings, a rod rotably supported from the winged washer and passing forwardly through the cap and without the central tubing, a spiral coil on the rod, and a collar, an extending brush holding clamp arm depended from the central tube, and an outstanding clamping arm dependent from the free extremity of the rod, as and for the purpose specified.
4. In a device of the class described, the combination with the central tube of a forwardly extending arm rigid therewith, an angle bar plate secured transversely to the free end of the arm, and a swivelled clamping arm dependent from the main arm, as and for the purpose specfied.
5. In a device of the class described, the combination with the forward collar of the inner tube and the slidable winged washer of a compression spring designed to return the coiled rod into normal position, as and for the purpose specified.

No. 100,466. Holder for Illustrated Post Cards. Porte carte-postale illustrée.


Earl J. Early, Philadephia, Pennsylvania, U.S.A.. 14th August, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,679.
Claim.-1. A card holder, or similar article, formed of a single piece of wire bent to have supporting loops, front and back portions joined by angular bottom portions to
support the article or articles stored and displayed, and outward bendsl at the extremities of the front portions to secure the contained article or articles in endwise position.
2. A holder for cards or other articles, formed of a single piece of wire with loops for the support of the upper one, and for the support of succeeding ones, one upon another front and back portions joined by a bottom part which carries each card at a different elevation, and portions formed to secure the cards in endwise position.
3. A series of holders for cards or similar articles, each formed of a single piece of wire, bent and shaped for a central suspension, loops for supporting each one of the series upon another of the series, front and back retaining portions, bottom retaining portions, and end retaining portions, with open spaces through which the members of the series may be interlocked or removed from such interlocking.
4. Storage and display holders for cards or like articles, formed of wire, with bends for suspension, front and back parts for confining the objects, bottom parts to support each article at a different elevation, bends at the top of the front members which confine the articles as to their ends, and permit the insertion of another holder to be supported by the holder aforesaid.
5. A receptacle for holding and displaying illustrated postal cards or the like, formed and fashioned of wire, in the following manner: first, a horizontal back member with loops for suspension, downward extensions therefrom, with bends at their lower ends, from which upwardly extend angular bottom portions on which the displayed objects rest in different elevations, and from which the wire extends upwardly in practically parallel relation to the back portions and at their upper ends terminate in bends forming three sides of a rectangle to confine the ends of the cadrs or objects displayed with openings through which to insert and remove another receptacle to be suspended from the aforesaid receptacle, as and for the purposes set forth.
6. A wire receptacle for the storing and display of goods, fashioned of wire to form sustaining loops, vertical back portions, front portions tending diagonally upward from the back portions for a distance then running parallel and terminating in horizontal bends, outward, then backward and lastly inward to near the back portlons.
7. A receptacle for the storing and display of post cards, or like articles, comprising wire bent to vertically pass the back and front of the articles, somewhat remote from their ends, with right angular loops to confine the articles endwise, and means whereby the receptacles may be interlocked in desired numbers.

No. 100,467. Rug Frame. Cadre de tapis.


Donald Skinner McDonald, Glendyer Mills, Nova Scotia, Canada, 14th August, 1906; 6 years. Filed 14th June, 1906. Recelpt No. 136,895.
Claim.-1. In a rug irame the combination comprising a base, pins carried by the base, standards removably disposed on the pins, braces pivotally secured together and removably connected with the standards, crosspieces carried by the standards, longitudinal members disposed on the crosspieces, locking members slidably disposed on the crosspieces and adapted to lock the longitudinal members, and means for attaching a rug to the longitudinal members and the crosspleces.
2. In a rug frame the combination comprising a plurality of standards, pins disposed on the standards, rockable hooks carried by the standards, braces having their ends disposed between the pins and the hooks, a pivotal member securing the braces together, crosspieces carried by the standards, slidable locking members carried by the crosspieces, longitudinal members disposed under the locking members, and means for attaching the rug to the longitudinal members.
3. In a rug frame the combination comprising a supporting framework, crosspieces carried by the framework and provided with slots and a line of recesses adjacent the slits, blocks disposed on the crosspieces, projecting members carried by the blocks adapted to work through the slots, rockable members carried by the blocks and adapted to engage the recesses, longitudinal members adapted to abut against the blocks, and means for attaching the rug to the longitudinal members.
4. In a rug frame the combination comprising a frame, locking members each comprising a block provided with a projecting shoulder and provided with a transverse bar, a bolt disposed through each block, and a locking dog rockably supported in each block and provided with a downturned end.

\section*{No. 100,468. Stock for Revolvers.}

Bois de pistolets.


Daniel B. Martin, Gyttesburg. Ohio, U.S.A., 14th August, 1906; 6 years. Filed 14th June, 1906. Receipt Nio. 136.890.
Claim.-An attachment for revolvers consisting of a band having a standard depending therefrom and with diverging rods extending from the lower end of the standard and connected at their rear ends by a substantially vertical bar, a concaved plate within sald band for bearing upon the hand grip portion of a revolver at one side, a convave plate within said band for bearing upon the hand grip portion from the opposite side, and a set screw operating through said band and bearing upon said last-mentioned plate.

No. 100,469. Fish Fook. Hameçon.


Herman F. Strehlow, Casselton, North Dakota, U.S.A., 14th August, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,232.
Claim.-1. In a fish hook the combination of the hook provided with an angular shank having a notch, an angular sheath or socket for sald shank having a spring tongue adapted to engage in said notch to secure the shank in the sheath, and means connected to sald sheath adapted to have a line secured thereto.
2. In a tish hook the combination of the hook provided with an angular shank a notch, an angular sheath or socket for said shank having a spring tongue adapted to engage in said notch to secure the shank in the sheath, an an artificial bait sccured to said shank and adapted to have a line secured thereto.
3. In a duplex fish hook the combination of an angular shank of a hook provided with a notch, a sheath for sald shank provided with a spring tongue to engage in said notch and secured the shank in the sheath. a bait representing plate attached to sald sheath, a shank for another hook and an elongated spoon attached thereto, said plate and spoon being hinged together, and a spring secured to one of said hinged members and pressing against the other.
4. In a duplex fish hook the combination of a shank having a notch, a sheath for the same provided with a tongue to engage in said notch, a bait representing plate attached thereto, the shank of another hook and a plate attached thereto, said plates being hinged together, and a spring to hold them separated.

No. 100,470. Vessel Propeller. Hélice de vaisseau.


Pet Carlson, Manor, Texas, U.S.A., 14th August. 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,628.
Claim.-1. A vessel having a transversely concave stern, the side walls of the vessel being extended rearward to form flanges at the opposite sides of said concaved stern, said flanges being arranged on convergent lines that taper the upper portion of the stern to a point of convergence adjacent to or below the keel, a discharge port formed in the stern at a point adjacent to the keel, and means for forcing a steam of compressed air through said port.
2. A vessel having a transversely concaved stern, the side walls of the vessel being extended from flanges at the opposit sides of the stern, said flanges being arranged on tapered lines toward a point of convergence adjacent to on below the keel, a port arranged in the stern of the vessel, means for forcing a stream of compressed air through said port, and a rudder mounted aft the concaved stern, and in the vertical plane of the keel, substantially as specified.

No. 100,471. Fire Shatter. Rideau pour incondite.


Mary Sumer and Leonard Dort, Moussen. Pennsylvania, U. S.A., 14th August, 1906; 6 years. Filed th July, 1906. Receipt No. 137,535.
Claim.-1. In a fire curtain the combination with a window frame of a building, of guide plates mounted upon the sides of said frame, an asbestos covered roller journalled above said frame, an asbestos curtain connected to said roller and adapted to travel between said guide plates, a housing mounted over said roller. a weighted cable wound upon said roller and connecting with said housing, means to temporarily connect said cable to said housing, and means carried by said curtain to temporarily support said weight, substantally as described.
2. In a fire curtain the combination with guide plates, of a roller journalled above said guide plates, a fire curtain attacked to said roller, a housing encasing said roller, a weighted cable wound upon said roller, means to temperarily connect said cable to said housing, and means carried by said curtain to temporarily support said weight, substantially as described.
3. In a fire curtain the combination with guide plates, of a roller, a fireproof curtain connected to said roller, and adapted to wind thereon, a housing enclosing the roller, a gutter attached to the lower end of the curtain. and adapted when the curtain is wound on the roller to engage the housing, a cable connected to the roller, a weight on said cable normally supported by the gutter on the curtain, and a chermostatic element normally connecting the cable to the housing.
4. In a fire curtain the combination of a roller, a fireproof curtain connected to said roller and adapted to wind thereon. a housing enclosing the roller, a gutter attached to the lower pad of the curtain, and adapted when the curtain is wound on the roller to engage the housing, a cable connected to the roller, a weight on said cable normally supported by the gutter on the curtain, and a thermostatic element normadly connecting the cable to the housing.
5. In a fire curtain the combination of a roller, a fIreproof curtain connected to said roller, a cord connected to the roller, a weight carried by said cord, means carried by the curtain for normally supoprting said weight, a thermostatic means holding the curtain normally wound on the roller.

No. 100,472. Metallic Tubing. Tube métalliquo.


James S. Wilson, Chelsea, assignee of Winfred Wilder Harris, Winthrop, both in Massachusetts, U.S.A., 14th August, 1906; 6 years. Filed 30th July, 1906. Receipt No. 138,256.
Claim.-1. A flexible metallic tube comprising two strips of material, each formed with a central depression and marfinal flanges, each of said strips being spun upon itself in a helical manner to form an indepedent tube with overlapping but freely slidable edges, one of said tubes being arranged within the other and the overlapping edges of one tube being arranged in the depression of the other tube.
2. A flexible metallic tube comprising two strips of matrial, each formed with a central depression and marginal flanges, each of said strips being spun upon itself in a helical manner to form a double tube one within the other, the flanges of one tube being overlapped and arranged in the depression of the other tube.
3. A flexible metallic tube comprising an inner an an outer tube, each formed of a strip of metal spun upon itself in a helical manner to form a tube with overlapping but slidable edges, the overlapping edges of one tube being arranged in a chamber or depression in the wall of the other tube.
4. A compound tube formed of two tubes, one within the other, each tube being formed of a strip spun upon itself, with overlapping edges, and provisions whereby the joint of the overlapping edge of each tube is protected by the other tube.
5. A compound tube formed of two tubes, one within the other, each tube being formed of a strip spun upon itself. with overlapping but unlocked edges, and a central helical chamber, the overlapping edges of one tube being arranged in the chamber of the other tube.
6. A compound tube formed of two tubes, one within the other, each tube being formed of a strip spun upon itself. with overlapping but unlocked edges, a central helical chambet, the overlapping edges of one tube being arranged in the chamber of the other tube, and a marginal chamber formed in the strip of the outer tube to receive the packing material.
7. A compound tube formed of two tubes one within the cher, each tube being formed of a strip spun upon itself in a spiral manner with overlapping edges, and provisions upon each tube for preventing the separation of the edges of the other tube.

No. 100,478. Paper Pail. Seau en papier.


James Tumblyn, Orono, assignee of David Elliott, Toronto, Ontario, Canada, 21st August, 1906; 6 years. Filed 26th May, 1906. Recelpt No. 136,280.
Claim.-1. A paper pail comprising a paper tube compressed near one end to reduce its diameter and form an anndlar shoulder and a disc of stiff material in the tube above the shoulder, substantially as described.
2. A paper pail comprising a tapered paper tube compressed and ironed near one end to smooth its internal surface, and a disc of stiff material fitted in the tube, with its edges in contact with the iron surface, substantially as described.
3. A paper pail comprising a paper tube compressed to reduce it diameter from the bottom a short distance upward whereby an internal annular shoulder is formed, and a disc of stiff material fitted in the tube above the shoulder. substantially as described.
4. A paper pall comprising a tapered paper tube having its sides pressed into parallelism from the smaller end a short distance upward whereby an internal annular shoulder is formed, and a disc of stiff materiol fitted in the tube above the shoulder, substantially as described.
5. A pader pall comprising a tapered paper tube having its sides near its larger end expanded and ironed into smoothness whereby an internal annular shoulder is formed below a rim with smooth inner surface, and a disc of stiff material fitted in the tube above the shoulder, substantially as described.
6. A paper pail comprising a tapered paper tube having its sides pressed into parallellsm from the smaller end a short distance upward, and also expanded near the larger ond whereby internal annular shoulders are formed, and discs of stic material fitted in the tube above the shoulders, substantially as described.
7. A paper pail comprising a paper tube compressed near one end to reduce its diamenter and form an annular shoulder, and a disc of stiff material fitted in the tube above the shoulder, the tube being ironed immediately above the shoulder to produce a smooth hard inside surface, substantially as described.
8. A paper pail comprising a paper tube compressed near one ent to reduce its diameter and form an annular shoulder. and expanded near its other end to form an annular shoulder, and discs of stiff materlal fitted in the tube above the shoulders, the tube being ironed immediately above the shoulders to produce smooth hard inside surfaces, substantially as described.
9. A paper pail comprising a disc bottom, a paper tube shrunk about the bottom, and a waterproofing solution applied to the completed pail, substantially as described.
10. The process of forming a paper pail which consists, first, in placing a closely fitting tisc in a moist paper tube; second. drying the pail to shrink the tube about the disc, and third. waterproofing the pail to prevent subsequent expansion of the tube, substantially as described.

No. 100,474. Lever Jack. Cric il levier.
Benjamin Trewhella and William Trewhella, both of Trenthain, Victoria. Australia, 21st August. 1906; 6 years.
Filed 1st August, 1906. Receipt No. 138,316.
Claim.-1. An improved lever jack of the kind described comprising a comparatively long standard and a relatively short siding casing fitted with a friction roller near its lower sliding casing fitted with a friction roller near its lower end, a pair of lateral horns on the upper end of said casing and a removable extension rod seated in a socket in the foot thereof, and a guirle for said rod on the standard, substanlially as set forth.
2. In a lever jack of the kind described a removable extention rod suitably guided and adapted to be raised on the foot of the casing, substantially as set forth and illustrated.

3. In a lever jack of the kind described a removable ex tension rod adapted to pass through a guide on the upper end of the rack, and rest at its lower end in a socket on the foot, substantially as set forth.
4. In a lever jack of the kind described a removable ex tension rod guided at its upper end and supported on the foot of the sliding casing in combination with a pair of laterally projecting horns arranged on elther side of the upper end of said casing and extending forwardly on each side of said rod, substantially as set forth.
5. In a lever jack of the kind described a sliding casing provided with a pair of laterally projecting horns on either side of its upper end and with a friction roller at its lower end, substantially as set forth.

No. 100,475. Heating Stove. Poêlo de chauffage.


The Comstock Castl, Stove Company, assignee of Henry Wolf and Philip H. Loughnane, all of Quincy, Illinols. U.S.A., 21st August, 1906; 6 years. Filed 29th May, 1906; Receipt No. 136,386.
Claim.-1. In a stove, a hollow annular casing provided with a central passage for the products of combustion and constituting a diaphragm supported intermediate the upper and lower ends of the stove casing, said hollow casing being provided with openings for the intake of cold air and for the downward discharge of heated air, and means in said passage for obstructing and regulating the flow of the products of combustion therethrough.
2. In a stove, a valved diaphram separating the lower from the upper part of the stove casing, and circuitous passages connecting the lower with the upper part of sald casing, said diaphragm consisting of an annular casing having communication with the outer air and provided with a valved opening discharging in a downward direction.
3. In a stove, a valved diaphram consisting of an annular casing separating the lower from the upper part of the stove casing, the front end of said diaphram being disposed above tht feed door, a base having a flue chamber, side flues connecting the combustion chamber below the diaphram with said flue chamber, a back flue connecting said flue chamber with the stove casing above the diaphram, and a direct draft damper in said dlaphragm.
4. In a stove, a division member consisting of an annular casing fitted in the stove casing and separating the lower from the upper part of sald casing, said annular casing being provided with openlags communicating with the outer air and with a downwardly discharging valve opening, a deflector unon said division member extending over the central opening thereln, a damper hinged at the rear edge of said opening, and an operating rod extending from said damper forwardly through a slot in the stove casing.


No. 100,479. Rail Joint. Joint de rails.


William M. Horner and Benjamin F. Landis, co-inventors, both of Columbus, Ohio, U.S.A., 21st August, 1906; 5 years. Flled 24 th July, 1906. Receipt No. 138,113.
Claim.-1. In a rail joint the combination with two rails having openings formed therein adjacent to their ends, of a base plate having openings formed therein, a flange carried by the one side of said base plate and having slots formed therein, fish bars adapted to embrace the web portions of said rails, said fish bars having transversely disposed openings formed therein adapted to align with the openings of said rails, a headed plate adapted to extend through one of said openings, headed pins adapted to extend through the other of said openings, spikes passing through the ends of said pins and said plate, depending resilient strips carried by said spikes and adapted to lock said spikes in engagement wilh said pins and said plate, means to secure said rails to said base plate, substantially as described.
2. In a rail joint the combination with rails, having openings formed therein adjacent to their ends, of a base plate, fish bars adapted to embrace the web portions of said rails, said fish bars having openings formed therein adapted to align with the openings of said rails, pins passing through some of said openings, a plate passing through the other of said openings, spikes adapted to pass through the ends of said pins and said plate, means carried by the upper ends of the splkes and engaging the pins and plate respectively to secure said spikes in said pins and said plate, and means to lock said rails in engagement with sald base plate, substantially as described.
3. In a rail joint the combination with rails having openings formed therein adjacent to their ends, of a base plate, fish bars adapted to embrace the web portions of said ralls, pins passing through said fish bars and said rails, a plate passing through said fish bars and said rails, separate and independent means carried by the plate and by each of the pins respectively to lock said plate and said pins within said fish bars, means to lock the last-named means in said pins and in said plate, and means to lock sald rails in engagement with sald base plate, substantially as described.

No. 100,480. Fleaible Metallic Pipe.
Tuyau de métal flexible.


Frank Hatfield Rutherford, Chicago, Illinois, U.S.A., 21st August, 1906; 6 years. Flled 19th July, 1906. Receipt No. 137,961.
Claim.-1. A flexible metallic pipe, one section of which is pivotally jointed to the other section thereof in a plane oblique to the axis of the same.
2. A flexible metallic pipe consisting of several section pivotally jointed to each other in a transverse plane, one of said sections consisting of two parts the meeting edges of which are pivotally jointed together in a plane oblique to the axis of said parts.
3. A flexible metallic pipe comprising two or more conrected sections, one of which is plvotally connected at one end to its companion section in a transverse plane, and mediate its ends is divided in an oblique plane into two parts and the edges resulting from such division pivotally conrected together.
4. A flexible metallic plpe comprising two or more connected sections, one of which is divided mediate its ends in a jlane oblique to its axis to form a joint and the edges resulting from such division each provided with an inwardly projecting flange the inner edge of which is circular and con\(c \in n t r i c\) with the axis of said joint, and rotatively bear against esch other.
5. A flexible metallic pipe comprising two or more conrected sections, one of which is divided mediate its ends in a plane oblique to its axis to form a joint, the edges resulting from each division being each provided with inwardly and outwardly projecting flanges, the inner edges of the former and the outer edges of the latter being circular and concentric with the axis of sald joint.
6. A flexible metallic pipe comprising two or more connected sections, one of which is divided mediate its ends in a Hane oblique to its axis to form a joint the engaging edges resulting from which are provided with outwardly projecting flanges the outer circumference of which is concentric with the axis of said joint, and a sleeve having a screw-threaded angagement with the flange of one of said edges, and having in inturned flange at the opposite end adapted to engage the other flange and clamp the two together.
7. A flexible metallic pipe comprising two or more conrected sections, one of which is divided mediate its ends in a plane oblique to its axls to form a joint the engaging edges of which are each provided with an inwardly projecting flange the inner edge of each of which are concentric to the axis of the joint, but differ in diameter, a packing suitably secured in the flange the diameter of whose edge is greatest, and pressing against the margins of the inner edge of the flange the diameter of whose edge is smaller.
8. A flexible metallic pipe comprising two or more connected sections, one of which is divided mediate its ends in a plane oblique to its axis to form a joint the engaging edges of which are each provided with an inwardly projecting flange the inner edge of each of which are concentric to the axis of the joint, but differ in diameter, an inwardly progressing involute curved packing suitably secured in the flange the diumeter of whose edges is greatest, and pressing against the margins of the inner edge of the flange the diameter of whose t.dges is smaller.
9. A flexible metallic pipe comprising two or more connected sections, one of which is divided mediate its ends in a plane oblique to its axis to form a joint the engaging edges of which are each provided with an inwardly projecting flange the inner edge of each of which are concentric to the axis of the joint, but differ in diametre, an inwardly progressing involute curved packing suitably secured in the flange the diameter of whose edges is greatest, and pressing against the margins of the inner edge of the flange the diametor of whose edges is smaller and a spring engaging and pressing upon said packing.
10. A flexible metallic pipe comprising two or more connected sections, one of which is divided mediate its ends in a plane oblique to its axis to form a joint the engaging edges of which are each provided with an inwardly projecting flange the inner edge of each of which are concentric to the axis of the joint, but differ in diameter, an inwardly progressing involute curved packing suitably secured in the flange the diameter of whose edegs is greatest, and pressing against the margins of the inner edge of the flange the diameter of whose ceges is smaller and an inwardly progressing involute spring engaging and pressing upon said packing.
11. A flexible metallic pipe comprising two or more connected sections, one of which is divided medlate its ends in a plane oblique to its axis to form a joint the engaging edges o? which are each provided with an inwardly projecting flange the inner edge of each of which are concentric to the axis o? the joint, but differ in diameter, ay inwardly progressing involute curved packing suitably secured in the flange the diameter of whose edges is greatest, and pressing against the margins of the inner edge of the flange the diameter of whose edges is smaller and an inwardly progressing involute spring having its inner edge slit and engaging and pressing upon said packing.
13. A flexible metallic pipe conslsting of several sections tion thereof offset and has the other portion jointed to the wther section of said plpe in a plane oblique to the axis of the same.
13. A flexible metallic pipe consisting of several sections pivotally jointed to each other in transverse planes, one of said sections consisting of two parts, the meeting edges of which are pivotally jointed together in a plane oblique to the axis of the parts where they are jointed, and one of said parts having the end thereof opposite said joint offset.
14. A flexible metallic pipe comprising two or more connected sections, one of which is pivotally connected at one end to its companion section in a transverse plane, and mediate its ends is divided in a plane into two parts and the edges resulting from such division pivotaly connected together and one of said parts having its longitudinal axis offset.

No. 100,481. Cloth Measure and Marker. Mesureur et marqueur de drap.


James F. Boggs, Acme, Arizona, U.S.A., 21st August, 1906 6 years. Filed 7th June, 1906. Receipt No. 136,626.
Claim.-1. In a machine of the class described, a measuring wheel, a cam upon the axis of said wheel, a lever having and end extended into the path of said cam, a spring supporting the opposite end of the lever, a marking wheel supported for rotation upon said lever, and a spring pawl supported in constant engagement with notches in the said marking wheel.
2. A measuring wheel, a cam upon the axis of said wheel, a lever having an end extended into the path of said cam to be operated thereby, a spring supporting the lever on the opposite side of its fulcrum, a marking wheel supported for rotation upon the spring supported end of the lever, sald wheel being provided with spaced type carrying lugs, and a spring pawl supported in constant engagement with the lugs and the spaces therebetween.
3. A measuring wheel, a lever supported in the path of and adapted to be tripped by means connected with the measuring wheel, a marking wheel supported for rotation by the lever, means for advancing said marking wheel one step at each operation of the lever, a platen beneath the marking wheel, and means for advancing an adhesive coated strip between the marking wheel and the platen.
4. A vibratory lever, a marking wheel supported for rotation upon the said lever, a platen beneath said marking wheel, means for advancing the latter one step at each vibration of the supporting lever, means for advancing an adhesive coated strip between the platen and the marking wheel, and cutting means connected with the lever adjacent to the marking wheel.
5. A marking wheel, a vibratory lever supporting said wheel, means for advancing the marking wheel one stcp at each vibration of the supporting lever, a platen supported beneath the wheel having a shoulder or offset, means for applying ink to the face of the wheel, means for advancing an adhesive coated strip between the wheel and the platen, and a cutter connected with the lever adjacent to the wheel and co-operating with the shoulder of the platen to sever the portion of the strip advanced beyond the wheel when the latter is depressed.
6. A marking wheel, a vibratory lever supporting said wheel, a shouldered platen beneath said wheel, means for applying ink to the face of the wheel means for advancing an adhesive coated strip between the wheel and the platen, a cutter connected with the lever and co-operating with the shouldered platen, and a member pivoted adjacent to the cutter and terminating at its free end in a presser foot.

No. 100,482. Adding Machine. Machine d additionner.


Edward Coe Dilworth, Pittsburg, Pennsylvania, U.S.A., 21st August, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,637.
Clalm.-1. An adding device comprising a frame provided with a series of guides and having its face provided with a series of openings extending across the same and two series of slots and bearing numbers adjacent to each of said slots, and a series of slides bearing numbers mounted in said guides opposite said openings and provided with means acessible through both series of slots for the engagement of moving means, the numbers on said slides and those adjacent both series of slots all running consecutively in the same direction.
2. An adding device comprising a frame having a series of guides therein, slides substantially half the length of said guides carrying numbers adapted to be moved from one end to the other of said guides and a front plate having two sets of slots formed therein at its opposite ends and having openings intermediate of said slots and numbers running parallel with said slots, the numbers on the slides and those adjacent the two sets of slots running consecutively in the same direction.

No. 100,483. Milk Cooler. Refrigérant d lait.


Wareham Tuller Harris, Madoc, Ontario, Canada, 21st August 1906; 6 years. Filed 30th July, 1906. Receipt No. 138,262.
Claim.-1. In a milk cooler, an annular refrigerant compartment having one perforated wall longer than said compartment, in combination with a cover provided with annular perforations.
2. In a milk cooler, an annular refrigerant compartment having an inner wall longer than said compartment, in combination with a cover provided with annular perforations and a dam surrounding said perforations.
3. In a milk cooler an annular refrigerant compartment having one perforated wall longer than said compartment, in combination with a conoidal central portion and a dam surrounding said perforations.
4. In a milk cooler, an annular refrigerant compartment having an elongated wall forming a support therefor, there being perforations in said elongated wall, in combination with a perforated cover having concentric downwardly extending flanges and an upwardly extending wall forming a dam surrounding the said perforations in the cover.
5. In a milk cooler, a relatively circular ice compartment comprising an inner wall and an outer wall, with bottom connecting portion, there being an unobstructed passage centrally through said compartment, and the inner wall extending below the said bottom portion, in combination with a flanged and perforated cover member having an upwardly extending dam surrounding the perforations therein.

No. 100,484. Blonse. Blouse.


Sarah Oppenheim, New York City, New York, U.S.A., 21st August, 1906; 6 years. Filed 30th July, 1906. Recelpt No. 138,245.
Claim.-1. A blouse having a hem at the lower odge thereof, with rear slits and forward slits on the inner side of said hem, removable belt sections concealed in said hem, the forward extremities whereof extend through said forward slits and detachably connected to sald blouse, and the rear extremities whereof extends through said rear slits respectively, an adjusting device between said rear slits and adjustably connecting said belt sections.
2. A blouse having a hem at the lower edge thereof, with rear slits and forward slits on the inner side of said hem, belt sections concealed in said hem, the forward extremities whereof extend through said forward slits and have button holes, and the rear extremities whereof extend through sald rear slits respectively, an adjusting device between said rear slits having transverse bars and prongs adapted to hold the belt sections, sald rear extremities of said belt sections passing over and inwardly between said transverse bars and being adjustably held by said prongs, and buttons adapted to engage with said button holes of said belt sections near said forward slits.

No. 100,485. Oil Can Holder. Porte bidon d huile.


Elisha A. Durfey, Penn Yan, New York, U.S.A., 21st August, 1906; 6 years. Filed 28th July, 1906. Receipt No. 138,231.
Claim.-1. A can holder embodying a base provided with an arm, a pair of spaced lugs carried by the arm, a can clamping member pivotally secured between the lugs, \(a\) spring bearing against the member, and a pair of ears carried by the arm and clinched against the spring.
2. A can holder embodying a base, an arm projecting therefrom and carrying a pair of aligned lugs and a terminal lug. a can clamping member embodying a yoke mounted for pivotal movement between the palr of lugs and providel with a terminal cam, and an approximately U-shaped spring secured to the arm and having one member projecting between the pair of lugs and engaging the can, the bend of the spring being normally in engagement with the terminal lug.
3. An oil can holder embodying a base provided with an arm carrying a pair of juxtaposed lugs and a terminal lug. a can clamping member embodying a yoke, piroted between \(8-12\)
the pair of lugs and provided with a terminal cam, an approximately U-shaped spring having its free ends projecting between the pair of lugs and having one member disposed unon the arm, and ears carried by the arm and clinched against the spring.

No. 100,486. Log Loader and Turner.
Charge et tourne billots.


William Robert Way, Beaverton, Ontarlo, Canada, 21st August, 1906; 6 years. Filed 1st August, 1906. Receipt No. 138,377 .
Claim.-1. In a log loader and turner the combination with the wayg, of an arm suitably swung upwardly against the \(\log\) and lowards the carriage as and for the purpose specined.
2. In a log loader and turner the combination with the ways, of an arm suitably swung upwardly against the log and towards the carriage and means on the arm for turning the log, as and for the purpose specifed.
3. In a log loader and turner the combination with the ways, of an arm suitably swung upwardly against the los and towards the carriage, and an endless sprocket chain suitably carried and provided with spicular projections, as and for the purpose specifled.
4. In a log loader and turner the combination with the ways and frame and shaft in the frame and arms secured to the shaft and means for raising the arm, and means on the arm for turning the log, of a supplemental arm, and means for supporting the supplemental arm, so as to swing upwardly with the arm carrying the turning means, as and for the purpose specified.
5. In a \(\log\) loader and turner the combination with the ways and frame and shaft in the frame and arms secured to the shaft and means for ralsing the arm and means on the arm for turning the log, of a supplemental arm, and a laterally extending pin extending from the arm carrying the turning means, as and for the purpose specified.
6. In a \(\log\) roller and turner the combination with an arm suitably swung on the shaft, sprocket wheels carried thereby. a sprocket chain carried by the sprocket wheels and provided with spicular projections, a gear on the shaft carrying the arm, a gear on the stud shaft carrying one of the sprocket wheels meshing with the gear on the shaft, and means for turning the shaft, as and for the purpose specifed.
7. In a log roller and turner the combination with an arm sultably swung on the shaft, sprocket wheels carried thereby, a sprocket chain carried by the sprocket wheels and provided with specular projections, a gear on the shaft carrying the arm, a gear on the stud shaft carrying one of the sprocket wheels meshing with the gear on the shaft, a friction wheel secured on the shaft, a main driving shaft and a friction pinion secured thereon and meshing with the aforesaid friction wheel, as and for the purpose specined.
8. In a log roller and turner the combination with the shaft In proximity to the carriage sultably journalled in the frame, and a shaft more remote from the carriage and sult-
ably journalled in the irame, an intermediate driving shaft, of a loading arm located on the shaft in proximity to the carriage, a chain connected to the lower end of the arm and wound around the shaft more remote from the carriage and connected to the arm above its fulcrum, as and for the purpose specified.
9. In a log roller and turner the combination with the shaft in proximity to the carriage suitably journalled in the frame, the main turning arm secured to the shaft, the gear secured to such shaft and meshing with the gear operating the turning mechanism, a supplemental arm loosely held on the shaft, the arm remote from the carriage suitably journalled on the frame, the chain connected to the supplemental arm at one end and extending around the shaft more remote from the carriage and connected to the supplemental or loading arm above its plvotal point, the main driving shaft, the eriction wheel located on the shaft in proximity to the carriage and the friction wheel located on the shaft more remote from the carriage, the main driving shaft and the friction pinion, and means for carrying such friction pinion into engagement with either friction wheel, as and for the purpose specified.
10. In a log roller and turner the combination with the shaft in proximity to the carriage suitably journalled in the frame, the main turning arm secured to the shaft, the gear secured to such shaft and meshing with the gear operating the turning mechanism, a supplemental arm loosely held on the shaft, the arm remote from the carriage suitably journalled on the frame, the chain connected to the supplemental arm at one end and extending around the shaft more remote from the carriage and connected to the supplemental or loading arm above its pivotal point, the main driving shaft, the friction wheel located on the shaft in proximity to the carriage and the friction wheel located on the shaft more remote from the carriage, the main driving shaft and the friction pinion, a lever through which the shait extends and 1. journalled, suitably fulcrumed on the frame, as and for the purpose specified.
11. In a log roller and turner, a log rolling arm secured on a shaft suitably journalled and a turning arm suitably carried and driven, as and for the purpose specified.

No. 100,487. Mizing Machine. Machine à mélanger.


Fraderick C. Austin, assignee of Oharles E. Bathrick, both of Chicago, Illinois, U.S.A., 21st August, 1906; 6 years. Filed 29th June, 1906. Receipt No. 137,417.
Claim.-1. The combination and organization in a mixing machine, of a cubiform mixing receptacle revoluble about a tilting axis passing through diagonally opposite corner portions and provided with a ring gear encircling the cubiform mixing receptacle and secured thereon in a plane transverse to the axis of rotation and intermediate of said diagonally opposite corner portions, one or both of such corner portions being open in line with the axis of rotation, a tilting frame upon which the cubiform mixing receptacle is revolubly supported at opposite sides of the ring gear, a base support upon which the tilting frame is supported by trunnions, power driven gearing engaging with the ring gear on the cubiform mixing receptacle, power actuated mechanism for oscillating the tilting frame about an axis passing through the trunnions, a clutch for connecting and disconnecting the operating power with and from the mechanism for oscillating the tilting frame, a lever for operating the clutch at will, and a stop device for automatically operating the clutch at each end of a predetermined extent of tilt on the part of the tilting frame.
2. The combination and organization in a mbing machine of a cubiform mixing receptacle having diagonally opposite open corner portions and revoluble about a diagonal axis passing through the open corner portions, a ring gear \(D\) encircling and secured upon the mixing receptacle in a plame transverse to the axis of rotation and intermediate of the open corner portions of the mixing receptacle, a base constructed with uprights, a tilting frame supporting the miring receptacle and hung upon and arranged between the two base uprights, a transverse rotary driving shaft 18 having a bevel gear 19 engaging the ring gear on the mixing receptacle, and also having a gear 25 , an upright counter shaft 27 gear conrected with gear 25, mechanism for actuating the tilting frame and means for operating sald device from the vertical countershaft 27 , a clutch for connecting and disconnecting the tilting device with and from the driving power, a hand lever for manually operating the clutch, and a stop device for automatically operating the clutch at times to arrest the action of the tilting frame.
3. In a mixing machine, a rotary cubiform mixing receptacle supported to revolve about a diagonal tilting axis and corners cut away and flattened as at 23 to avoid sharp interior angles, and means for tilting and means for revolving said mixing receptacle.
4. In a mixing machine, a rotary cubiform mixing receptacle having one corner portion cut away and provided with a discharge nozzle 22, and having its diagonally opposite corner portion cut away and provided with a mouthpiece 3 secured on the mixing receptacle, the mixing receptacle being supported to revolve about a tilting axis passing through the nozzle 22 and the mouthpiece 1.

No. 100,488. Incandescent Gas Iight. Lumidre incandesoonte a gas.


Sidney Mason, Philadelphia, Pennsylvania, U.S.A., 21st August, 1906; 6 years. Filed 17th April, 1906. Receipt No. 134,965.
Claim.-1. A glass globe for inverted incandescing mantles having in the lower part of the body portion a constricted central passage of smaller diameter than the body, and opening into a lower chamber having lateral air openings.
2. A glass globe for inverted incandescing mantles having at its lower end a chamber with a closed bottom and lateral air openings, said chamber communicating with the body of the globe through a constricted central air passage.
3. A glass globe for inverted incandescing mantles provided at its lower end with a chamber having a closed bottom and air openings in its side portions, sald chamber connecting with the globe body through a constricted central air passage.

\section*{No. 100,489. Vapour and Gas Burner. \\ Bruleur a gaz et vapeur.}

John Arthur Mathes, San Diego, California, U.S.A., 81st August, 1906; 6 years. Filed 14th April, 1906. Receipt No. 134,926.
Claim.-1. A vapour or gas burner having a port in that part of the burner from which the gas or vapour issues of a sufficient size when open to cause back fring and a mixing chamber adjacent thereto, a removable closure for said port. aud means to operate said closure upon turning ofl the fael supply to the burner.
2. A vapour or gas burner having a surface upon which the gas or vapour burns with a mixing chamber under said surface and having a port in said surface of sumcient size when open to produce back firing, a pivoted weight having an arm adapted to close said port to prevent back firing, and means tc withdraw said arm from said port when the fuel supply is being turned off.
3. A vapour burner having a distributing chamber provided with a perforated top, sald top having a port therein

of sufficient size when open to cause back firing, a pivoted lever secured to the distributing chamber, said lever having the shorter end thereof heavier than the longer end, an arm secured to the outer end of the heavy end of said lever, said arm being adapted to close the port in the top of the distributing chamber to prevent back firing into the chamber, a valve adapted to control the supply of fuel to the burner, an arm secured upon the stem of the valve and adapted to engage the light end of the pivoted lever and cause it to withdraw the arm on the heavy end from the port in the burner when the fuel supply is being turned off.
IV. 100,480. Eiandie. Po九gnée.


Clarence L. Stockdell, Atlanta, Georgia, U.S.A., 21st August, 1906; 6 years. Filed 12th April, 1906. Recelpt No. 134,865.
Claim.-1. A dumb-bell having a grip or handle comprising a bar cross sectionally of elongated general diamond form. the edges of the bar at the intersection of the sides thereof being curved or rounded.
2. A dumb-bell having a grip or handle comprising a bar provided with a plurality of angularly related sides, said sides being arranged to impart a diamond form in cross section to the bar, the edges of the bar at the points of intersection of the sides being ruunded to give a truncate formation and to fit within the folds of a clasped hand, substantlally as described.

\section*{No. 100,491. Ship Loader. Monte-charge.}

George Henry Hulett, Cleveland, Ohio, U.S.A., 21st August, 1906; 6 years. Filed 26th July, 1906. Recelpt No. 138,183.
Claim.-1. In a loaded apparatus the combination with framework, of a carriage movable horizontally in said framework, a horizontally endless conveyer having its frame movable through the carriage at right angles to the line of travel of the ratter, and driving means co-operating with sald endless conveyer to operate the same or move it bodily endwise.
2. In a loading apparatus the combination with a supportIng frame, of a continuous horizontal conveyer thereon, means for adjusting the same longitudinally and vertically, a hopper, and conveyer receiving material from the hopper and depositigg it on the horizontal conveyer at any adjustnent of the latter
3. In a loading apparatus the combination with a supportIng frame, of a horizontal conveyer frame mounted to move longltudinally thereon, a belt conveyer on the conveyer frame turnfig over follers at the ends of the conveyer irame,
a drive roller for said belt and adapted to move the con veyer frame and conveyer longitudinally when the belt is

locked to either of the end rollers and the drive roller is turned.
4. In a loaded apparatus the combination with a supporting frame, of a vertically movable frame supported thereto and a longitudinally movable horizontal conveyer on said vertically movable frame.
5. In a loading apparatus the combination with a support ing frame, of a vertically movable frame supported thereon, a laterally movable carriage on said vertically movable frame supported thereon, a laterally movable carriage on frame and a continuous horizontal conveyer mounted to be adjusted longitudinally in sald carriage.
6. In a loading apparatus the combination with a supportIng frame, of a vertically movable frame supported thereon means for adjusting said last-mentioned frame vertically a laterally movable carriage on said vertically movable frame, a longitudinally adjustable horizontal conveyer supported by said carriage, a hopper, and a conveyer adapted to recelve material from the hopper and carry it to the horizontal conveyer.
7. In a ship fueling or loading apparatus the combination with a float adapted to be located beside the ship, a supportIng frame on said float, a horizontal conveyer on sald trame means for adjusting the conveyer longitudinally and verti cally, and means for taking fuel or material from a barge beside the float and depositing it onto sald conveyer.
8. In a loading apparatus the combination with a supportIng frame, of a horizontal conveyer frame having longitudinal movement on said supporting frame, a belt conveyer movable around rollers at the ends of the conveyer frame, a drive roller below the horizontal plane of the lower belt section and around which the belt is passed, ide rollers on opposite sides of the drive roller in a horisontal plane above the same, and said drive noller adapted, when the belt is locked to either of the end rollers, to move the conveyer longitudinally. when the drive roller is turned.
9. In a loading apparatus the combination with a aupporting frame, of a vertically movable frame thereon, a hortzontal conveyer frame having roller mounting supportimg the same on the vertically movable frame, a belt converer on said conveyer frame, means for driving said belt and adJusting the conveyer longitudinally, and means for depositing material onto sald conveyer.

\section*{No. 100,492. Conerote Mixer. Mélangour de dion.}

Ernest Leslle Ransome. New York City, New Tork, U.G.A., 21st August, 1906; 6 years. Filed 21st February, 1906. Recelpt No. 133.161.
Claim.-1. In a mixer the combination of a revoluble mix ing drum having an open end, a lifting shelf secured within the same, a chute extending outwardly from the interior of the drum through eaid open end, a bail attached to the chute. means on which the bail is pivotally mounted, a gecond bai connected to the chute, and a lever connected to the second ball to permit the reversal of the chute, for the purpose specifled
2. A mixer having a revoluble drum adapted to recelve material at one end and discharge it at the other, the drum having a centrally orificed head at the discharge end, a shelf secured within the drum and extending along the inner side thereof diagonally with respect to the axis of the drum, the discharge end of the shelf extending to the head at the discharge end of the drum and forming a pocket in connection therewith, an additional shelf secured within the drum and extending diagonally of the axis thereof across the first-named shelf, and a means extending through the said orifice in the discharge head of the drum, for carrying off the material from the drum.
3. A mixing apparatus having a revoluble drum, adaptod to receive the material at one end and discharse it at the
other end, a lifting shelf secured to the drum against the inner side thereof, the shelf extending diagonally with res-


Fect to the axis of the drum for the major portion of the length of the shelf, and said major portion of the length of the shelf being relatively straight, and the shelf terminating at the discharge end of the drum in an offset portion, the concave side of which faces the direction of revolution of the drum, whereby to form a lifting pocket.
4. A mixing apparatus having a revoluble drum adapted to receive the material at one end and discharge it at the other end, and a liftling shelf secured in the drum against the Inner gide thereof, the shelf extending diagonally with respect to the axis of the drum for the major portion of the length of the shelf, and the shelf terminating at the discharge end of thte drum in an offset portion, the concave side of which faces the direction of revolution of the drum, whereby to form a lifting pocket.
5. A mixing apparatus having a revoluble drum adapted to receive the material at one end and discharge it at the other end, a shelf secured in the drum against the inner side thereof, the shelf extending diagonally with respect to the axis of the drum for the major portion of the length of the shelf. and the shelf terminating at the discharge end of the drum In an offset partion, the concave side of which faces the direction of revolution of the drum whereby to form a pocket, and an additional shelf secured in the drum and extending diagonally of the axis thereof across the first-named shelf.
6. A mixing apparatus having a revoluble drum adapted to receive the material to be mixed, and a lifting shelf secured on the drum against the inner side, the shelf extending diagonally with respect to the axis of the drum for a part of the length of the shelf and terminating at one end in an offset portion, the concave side of which faces the direction of revolution of the drum and overhangs the inner surface of the drum at an acute angle whereby to form a lifting pocket, for the purpose specified.
7. A mixing apparatus, comprising the combination with a base, of the drum revolubly mounted thereon, sald drum having open ends respectively for charging and discharging the material being mixed, a rod extending longitudinally through the drum beyond the ends thereof, means at each end of the drum, for mounting the rod on the base independently of the drum, a closure located at each end of the drum and supported from sald rod, a chute adapted to project into the discharge end of the drum, means for tiltably mounting the chute independently of the drum, and means for adjusting the chute.
8. A mixing apparatus comprising a revolubly mounted drum having an oden end, lifting shelves in the drum, a closure located at said open end and comprising two relatively movable parts, and means in connection with one of said parts for mounting the closure independently of the drum whereby to permit the free rotation of the drum independently of the closure, and to allow the other part of the closure to swing, for the purpose specified.
9. In a mixer, the combination of a base, a drum revolubly mounted thereon, and having an inlet opening at one
end, lifting shelves in the drum for the purpose specified, a closure commanding said inlet opening, and means hingedly mounting the closure on the base independently of the drum, whereby to permit the closure to swing into the drum during the charging thereof.
10. The combination with a revoluble drum having an open end, of a guard plate suspended within said open end of the drum, an annular guard plate surrounding said open end and attached to the drum to lie outside of the suspended plate, and a stationary guard plate in lapping relation to the annular guard plate.

1No. 100,483. Boller Flue. Tuyau de ohars.


John M. Crozier, Minneapolis, Minnesota, U.S.A., 21st August, 1906; 6 years. Filed 26th January, 1906. Receipt No. 132,285 .
Claim.-In a boiler the combination with laterally spaced flue sheets having flue seats of the same diameter, of a flue having one end a fixed conical sleeve portion, and at its other end a screw-threaded conical portion, sald two conical sleeve portions having the same diameter and the same taper, and annular packing rliggs of relatively soft material but of high fusibility interposed between said conical sleeve portions and the surrounding seats in said flue sheets, and which packing rings are swaged or upset at their inner and outer portions so that they are permanently secured in the said flue seats, substantially as described.

No. 100,494. Sand Mizer. Mélangeur de sable.


William G. Stockham, Piqua, Ohio, U.S.A., 21st August, 1906;
6 years. Filed 23rd July, 1906. Receipt No. 138,071.
Claim.-1. In a device of the class described, a frame having transporting wheels, a shaft sustained by the frame and operatively connected with and for driving the transporting wheels, a second shaft operatively connected with and driven by the first-named shaft, and cutting blades carried by the second shaft.
2. In a device of the class described, a frame having transporting wheels, rotary crank shaft carried by the frame, a gear connected with and for driving one of the transporting wheels, a chain connection between said gear and crank shaft, a cutter shaft, cutting blades carried thereby. and a gear and chain connection between the crank shaft and cutter shaft for driving the latter.
3. In a device of the class desoribed, a frame having transporting wheels, a gear fixed for rotation with one of
said wheels, a rotary crank shaft sustained by the frame, a pinion fixed on said shaft, a chain travelling upon and connecting the gear and pinion for driving the transporting wheel from the crank shaft, a cutter shaft, cutting blades carried thereby, a pinion fixed on the cutter shaft, a gear fixed on the crank shaft and a chain operatively connecting the latter gear and pinion. whereby the cutter shaft is driven from the crank shaft.
4. In a device of the class described, a frame having transporting wheels, a cutter shaft carried by the frame, cutting blades carried by the shaft, and a power shaft sustained by the frame and operatlvely connected with and for simultaneously driving both the ground wheels and cutter shaft.
5. In a device of the class described, a frame having transporting wheels, arms pivoted to the frame for vertical swinging movement, a cutter shaft carrled by the arms for movement therewith, cutting blades on said shaft, a power shaft, operative connections between the power shaft and transporting wheels and also between the power shaft and cutter shaft.
6. In a device of the class described, a frame having transporting wheels, a pair of arms pivotally connected with the frame to swing in a vertical plane, a cutter shaft carried by and for movement with the arms, means for normally fixing the arms against movement, cutting blades carried by the shaft, a power shaft sustained by the frame, and operative connections between the power shaft and cutter shaft for driving the latter.
7. In a device of the class described, a frame having transporting wheels, a shaft journalled in the frame, mechanism for driving said shaft, and a pair of cutter members fixed upon and for rotation with the shaft, said members each comprising arms radiating from the shaft and blades attached to and carried by the arms, said blades being arranged in pairs, each pair formed from a single length of material bent adjacent its longitudinal center upon itself and the blades of the respective members being arranged in relatively staggered relation and spirally twisted from end to end.
8. A machine for working sand or like material in bulk, the same comprising a frame, a mixing or kneading device mounted upon or carried by the frame and comprising ele\(\mathrm{m}: \mathrm{nts}\) arranged to work the material in the plane of movement of the machine and simultaneously back and forth to effect a blending and a ridging thereof, propelling means supporting the said frame, and actuating means for the mixing or kneading device and for the sald propelling means mounted upon the frame to admit of the machine being run backward and forward.
9. A machine for working sand or like material in bulk, the same embodying a mixing or kneading device comprising blades alternately inclined in opposite directions to the plane of movement of the machine, and actuating means for said mixer or kneader to effect a blending and working of the material by a combined tossing and back-and-1 forth movement thereof without scattering or spreading.
10. A machine for working sand or like material in bulk, the same comprising a mixing or. kneading device and means for rotating sald device, sald rotary mixer comprising blades alternately inclined in opposite directions lengthwise thereof to simultaneously toss the material in the plane of travel of the machine and move it back and forth to effect a thorough blending without scattering or spreading thereof.

\section*{No. 100,495. Concrete Mizer. Mélangeur de béton.}

Milon Joseph Demorest, Belding, Michigan, U.S.A., 21st August 1906; 6 years. Filed 4th July, 1906. Receipt No. 137,508.
Claim.-1. In a concrete mixer, a hopper having a side opening, a horizontally movable and vertically yieldable belt forming a bottom to the hopper, an adjustable gate to the side opening, and means for moving the belt.
2. In a concrete mixer, a hopper having a side opening, a horizontally movable and vertically yieldable belt forming a bottom to the hopper, marginal supports for the belt, means for moving the belt, and a gate to adjust the side opening in the hopper.
3. In a concrete mixer, a sand hopper and a cement hopper each having a side opening and arranged side by side, a single horizontally movable belt forming a bottom for both hoppers, gates to adjust the side opening in the hoppers and means for moving the belt.
4. In a concrete mixer, a driving shaft, a counter shaft parallel with the driving shaft. opposing rolls on said shafts, a sand hopper and a cement hopper above the plane of said rolls, a belt engaging said rolls and forming a horizontally moving and vertically yielding bottom to the hoppers, a mixing drum on the shaft, and a chute below the roll on the driving shaft.
5. In a concrete mixer, the combination of a driving shaft. a truncated conical mixing drum on the shaft, a roll on

the shaft, a chute beneath the roll and extending into the small end of the drum, a counter shaft arranged parallel with the driving shaft, a roll on the counter shaft, a belt engaging the rolls and moved thereby and constitutling a yielding and movable bottom for the hoppers, a plurality of hoppers above the belt, side openings to the hoppers and adjustable gates to saíd openings.
6. In a concrete mixer, a shaft, a tube concentric with the shaft, bands surrounding the tube, rods bent near the middle to partially surround the shaft and having their respective ends extending the tube and bends, and nuts on the ends of the reds.
7. In a concrete mixer, the combination of a hopper, a mixing drum, a chute between the hopper and drum, a hinge supporting one end of the chute upon a horizontal axis, a rigid bale supporting the other end of the chute, a rotating disc, and pins mounted in the disc to successively engage and support the bale.
8. In a concrete mixer, the combination of a sand hopper, a cement hopper, a belt beneath the hoppers, rolls supporting the belt, pins in the end of one of the rolls, a chute below said roll, a pivotal support for the upper end of the chute, a bail supporting the lower end of the chute, the pins in the roll successively engaging and supporting the bail.
9. In a concrete mixer, a sand hopper, a cement hopper, a driving shaft and a countershaft below the hoppers, rolls on the said shafts, a belt engaging the rolls and extending beneath the hoppers, a mixing drum on the driving shaft, a chute beneath the driving shaft, a pivotal support for the upper end of the chute, a bail supporting the lower end of the chute, and pins in the end of the driving shaft drum and successively engaging and supporting the bail.

No. 100,496. Shears. Cisailles.


Whlliam James Hancock, Frecland, Colorado, U.S.A., 21st August, 1906; 6 years. Filed 25th April, 1906. Receipt No. 135,257.
Claim.-1. Shears having portions adapted to be connected by a plvot, said portions being rigid relatively to the blades and each being offset from the plane of its blade in the same direction.
2. Shears having portions adapted to be connected by a pivot, said portions being joined rigidly to the blades, and each portion being offset from the plane of its blade in the same direction, one offset portion leaving a recess or seat in which the other offiset portion is received.

No. 100,497. Concrete Mizer. Mólangeur de béton.


Henry D. Conway. Jackson, Mtchigan, U.S.A., 21st August, 1906; 6 years. Filed 20th June, 1906. Receipt No. 137,083. Claim.-1. In a machine for mixing concrete and the liko the combination of a mixing trougb, a shaft arranged therein, mixing arms spirally arranged on said shaft so that the forward edge of each of said arms projects beyond the plane of the rear edge of the next preceding arm, sand and cement hoppers with discharge openings arranged to deliver on the same transverse line to the forward end of said mixing trough, a hopper for coarse material with discharge opening arranged to deliver to the said mixing trough at a point at a considerable distance from the forward end, force feed devices for said hoppers, and a spray device arranged to deliver a spray of water onto the coarse material and onto the sand and cement in advance of the point of delfvery of the coarse material, co-acting for the purpose specified.
2. In a machine for mixing concrete and the like the combination of a mixing trough, a shaft arranged therein. mixing arms spirally arranged on said shaft, sand and cement hoppers with discharge openings arranged to deliver on the same transverse line to the forward end of said mixing trough, a hopper for coarse material with discharge opening arranged to deliver to the said mixing trough at a point at a considerable distance from the forward end, force feed devices for sald hoppers, and a spray device arranged to deliver a spray ct water onto the coarse material and onto the sand and cenient in advance of the point of delivery of the coarse material, co-acting for the purpose specified.
3. In a machine for mixing concrete and the like the combination of a mixing trough, an agitator arranged to mix the material and convey the same toward the rear of the trough, sand and cement hoppers with discharge openings therein arranged to deliver on the same transverse line to the forward end of said mixing trough, a hopper for coarse material with discharge openings arranged to deliver to said mixing trough at a considerable distance from the forward end, a spray device arranged to deliver a spray of water onto the coarse material and onto the sand and cement in advance of the point of delivery of the coarse materials, spiral conveyers for the said hoppers, and means for driving said conveyers at varying relative speeds, whereby the quantity of material delivered by it is determinedl, for the purpose speciffed.
4. In a machine for mixing concrete and the like the combination of a mixing trough, an agitator arranged to mix the material and convey the same toward the rear end of the trough, sand and cement hoppers with discharge openings arranged to deliver on the same transverse line to the forward end of said mixing trough, a hopper for coarse material with discharge opening arranged to deliver to said mixing
trough at a considerable distance from the forward end. a spray device arranged to deliver a spray of water onto the coarse material and onto the sand and oement in advance of the point of delivery of the coarse material, and spiral cenveyers for the said hoppers for the purpose specified.
5. In a machine for mixing conerete and the like, the combination of a mixing trough, an agitator arranged to mix the material and convey the same toward the rear end of the trough, sand and cement hoppers with discharge openings arranged to deliver to the forward end of said mixing-trough, a hopper for coarse material with discherge openisg arranged to deliver to said mixing trough at a considerable distance from the forward end, and a spray device arranged to deliver a spray of water onto the coarse material as it is delivered to the mixing trough and onto the sand and coment in advance of the delivery of the coarse miaterial, for the purpose specified.
6. In a machine for mixing concrete and the like the combination of a mixing trough, a shaft supported therein, mixing arms on said shaft adapted to mix the material and convey the same toward the rear of said mixing trough, a drum I divided into compartments, adapted to receive the material from said mixing trough, a crank for operating said drum, and spring catches adapted to engage said crank as caid drum is revolved, for the purpose specified.
7. In a machine for mixing concrete and the like the combination of a mixing trough \(A^{1}\), a shaft rectangular in cross section supported therein, mixing arms \(B^{1}\) having notches in their inner ends adapted to embrace satd shaft, and spirally arranged thereon so that the front edge of each arm projects beyond the plane of the rear edge of the next preceding arm, ietaining bolts \(r\) having cams \(r^{1}\) on one side, and wedge blocks \(s\) interposed between said bolts and said shaft whereby said arms are secured in position, for the purpose specified.
8. In a machine for mixing concrete and the like the combination of a mixing trough \(A^{1}\), a shaft rectangular in cross section supported therein. mixing arms \(\mathbf{B}^{2}\) havirig mould broad-like faces concave on their forward surfaces and inclined rearwardly, corresponding to a screw surface, with their outer rear corners cut away at \(z\) to form a narrow cutting edge at its outer end, spirally arranged on said shaft, so that the front edge of each arm projects beyond the plane of the rear edge of the next preceding arm, retaining both \(r\) having cams \(r^{1}\) on one side, and wedge blocks \(s\) interposed between said bolts and said shaft, whereby said arms are secured in position, for the purpose specified.
9. In a machine for mixing concrete and the like the combination of a mixing trough \(\mathrm{A}^{1}\). a shaft rectangular in cross section supported therein, mixing arms \(B^{1}\) with their outer rear corners cut away at \(z\), spirally arranged on said shaft. so that the front edge of each arm projects beyond the plane of the rear edge of the next proceeding arm, retaining boits \(r\) having cams \(r^{1}\) on one side, and wedge blocks \(s\) interposed between said bolts and said shaft whereby said arms are secured in position, for the purpose specifed.
10. In a machine for mixing concrete and the like the combination of a mixing trough, a shaft rectangular in cross section, supported therein, mixing arms \(B\) having notches in their inner ends adapted to embrace said shaft, spirally arranged thereon, retaining bolts \(r\) having cams \(r^{3}\) on one side, and wedge blocks \(s\) interposed between said bolts amd said shafts, whereby sald arms are secured in position, for the purpose specified.
11. In a machine for mixing concrete and the like the combination of a mixing trough, a shaft supported therem. mixing arms with mould board faces, concave on their forward surfaces and inclined rearwardly, correspondiag to a screw surface, having their edges curved convexly and rearwardly toward their outer ends and their outer rear coraers cut away to form a narrow cutting edge at thetr outer ends, spirally arranged on said shaft so that the forward edge of each arm projects beyond the rear edge of the next proceding arm, for the purpose specified.
12. In a mixing machine for concrete and the like the combination of a mixing trough, a shaft supported theretn, mixing arms with mould board-like faces having thetr forward edges curved slightly rearwardly toward thet router end. and having their outer rear corners cut away to form a narrow cutting edge at the outer end, spirally arranged on said shaft, for the purpose specifled.
13. In a machine for mixing concrete and the llke the combination of a mixing trough, a shaft supported therein. mixing arms with mould board-like faces, extending into proximity to the battom of said trough, baving their outer rear corners cut away to form a narrow cutting edge at the onter end thereof, spirally arranged on said shaft, for the purpese specified.
14. In a machine for mixing concrete and the like the combination of a mixing trough, a shaft supported therein. mixing arms with mould board-like faces, extending into proximity to the bottom of said trough, having their rear corners cut away to form a narrow cutting edge at the outer end thereof, spirally arranged on said shaft, so that the formard
edge of each arm projects beyond the plane of the rear edge of the next proceding arm, for the purpose specified.
15. In a machine for mixing concrete and the like the combination of a mixing trough, a shaft supported within said mixing trough, mixing arms on said shaft, hoppers \(C . C^{1}, C^{11}\). for said mixing trough, spiral conveyers \(G\) for said hoppers, suitable shafts for said conveyers, and adjustable guards arranged over the delivery end of said conveyers, for the purpose specified.

No. 100,498. Prenmatic Stacker. Anculonneur pneumatigue.


The Indiana Manufacturing Company, Indianapolis, Indiana, assigne of Samuel David Felsing. Crookston, Minnesota, U.S.A., 21st August, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,087.
Claim.-1. In pneumatic stacker attachments for threshing machines the combination with the stacker frame and with the fan, hopper and delivery chute mounted thereon, of means for connecting the stacker frame to threshers, said connecting means being adjustable in accordance with the different widths of the threshers, substantially as described.
2. In a pneumatic stacker attachments for threshing machines the combination with the stacker frame and with the fan, hopper and delivery chute mounted thereon, of adjustable means for connecting the stacker frame to threshers of different widths and a hood having laterally adjustable side sections for inclosing the space between the stacker frame and the rear end of the thresher.
3. In pneumatic stacker attachments for threshing machines the combination with the stacker frame, of laterally adjustable connections for securing sald frame to the sills of threshers of different widths, and a hood having sides of flexible sheeting for inclosing the space between the stacker frame and the rear end of the thresher.
4. In pneumatic stacker attachments for threshing machines the combination with the stacker trame and with the hopper, fan and delivery chute mounted thereon, of straps arranged to extend beneath the adjacent ends of the sills of the stacker frame and thresher, laterally adjustable bolt connections for securing said straps in place, and suspension rods connected to the rear end of said stacker frame having adjustable bolt connections for engaging the thresher frame.
5. In pneumatic stacker attachment for threshing machines the combination with the stacker frame, of laterally adjustable connections for securing said frame to threshers of different widths, a hood for including the space between the thresher and said frame having laterally adjustable side bars and side walls of texible sheeting.
6. In pneumatic stacker attachments for threshing machines, the combination with the stacker frame, of laterally adjustable connections for securing said frame to threshers cr different widths, a hood for inclosing the space between the thresher and said hood comprising top and end sections, laterally adjustable side bars pivoted to said end section and side walls of flexible sheeting secured to said side bars, end section and stacker frame.
7. In pneumatic stacker attachments for threshing machines, the combination with the stacker frame, of connect!ons for securing said frame to the rear end of the thresher, a hood for inclosing the space between the thresher and said frame comprising an end section mounted upon the rear end of said stacker frame, side bars pivotally secured to the upper end of sald end section to swing laterally and arranged tc be secured to the rear, upper end of the thresher, a top section mounted on said side bars and side walls of flexible sheeting secured to said side bars, end section and stacker trame.
8. In pneumatic stacker attachments for threshing machines, the combination with the stacker frame and with the hopper, fan and delivery chute mounted thereon, of laterally adjustable connections for securing the stacker to threshers oi different widths. suspension rods secured to the rear end of the stacker and having adjustable bolt connections for engaging the stacker frame and a hood for inclosing the space between the thresher and said frame having side walls of dexible sheeting.
9. In pneumatic stacker attachments for threshing mackines, the combination with the stacker frame and with the fan, hopper and delivery chute carried thereby, of a vertically yielding connection for securing the forward end of said frame to the rear end of said thresher, adjustable suspension rods secured to the rear end of said frame and adapted to be secured to the thresher frame and side walls of fiexible sheeting extending between the thresher and said frame.
10. In pneumatic stacker attachments for threshing machines, the combination with the stacker frame and with the fan, hopper and delivery chute carried thereby, of vertically yielding laterally adjustable connections for securing said frame to the sills of threshers of different widths, suspension rcds pivoted to the rear end of said frame and having adjustable bolt connections for engaging the thresher frame and a hood for inclosing the space between the thresher and sald frame having side walls of flexible sheeting adapted to be secured to said stacker frame and to the thresher frame.
-11. In pneumatic stacker attachments for threshing machines, the combination of the stacker frame comprising lower sills and upper forwardly inclined side bars, a straw hopper mounted within the rear end of said frame, a fan delivering into said hopper mounted within the forward end of said frame and arranged to receive the chafl from the thresher sieves, laterally adjustable connections for securing the stacker frame to the sills of stackers of different widths, suspension rods for supporting the rear ends of said frame and \& hood having side walls of flexible sheeting extending between the side bars of said frame and the side walls of the thresher.
12. In pneumatic stacker attachments for threshing machines, the combination of the stacker frame comprising lower sllls and upper forwardly inclined side bars, a straw hopper mounted within the rear end of cald irame, a fan delivering into said hopper mounted within the forward end of said frame and arranged to receive the chaff from the threahes sieves, means for connecting the forward end of said frame to the thresher, suspension rods for supporting the rear end of said frame and a hood comprising an end section mounted upon the rear edge of caid hopper, laterally adjustable side bars pivoted to the upper end of said end section and arranged to engage the thresher frame, a top cover on said side bars and side walls of flexible sheeting aecured to said side bars, end section and to the upper end bars of aald stacker frame.
18. In pneumatic stacker attachments for threahing machines, the combination of the stacker frame comprising lower sills and upper forwardly inclined side bars, a straw hopper mounted within the rear end of said frame, a fan dolivering into said hopper mounted within the forward end of said frame and arranged to receive the chaff from the threshet sieves, laterally adjustable connections for connecting the sills of said stacker frame to the sills of threshers of different widths, adjustable suspension rods for supporting the rear end of said prame, and a hood having side walls of fiexible sheeting adapted to extend between the rear ends of the side walls of said thresher and the upper, side bars of said siacker frame.
14. In pneumatic stackers for threshing machines, the combination with the stacker frame and with the hopper, fan and delivery chute mounted thereon, of a hood for inclosing the space between the rear end of the thresher and aaid stacker frame having an end section disposed in operative position opposite the end of the straw floor or rack of the thresher, said end section being adjustable on sald stacker frame to and from the end of said straw floor or rack.
15. In pneumatic stackers for threshing marhines, the combination with the stacker frame and with the hopper, fan and delivery chute mounted thereon, of a hood for inclosing the space between the rear end of the thresher and said stacker frame, said hood comprising an end section mounted upon the rear end of sald stacker frame and adjustable thereon to and from the rear end of the thresher, and side walls of flexible sheeting extending between said end section and stacker frame.
16. In pneumatic stackers for theshing machines, the combination with the stacker frame and with the hopper, fan and delivery chute mounted thereon, of a hood for inclosing the space between the rear end of the thresher and aadd stacker frame, said hood comprising an end scetion mounted to swing upon the upper rear edge of said hopper, sald bars for connecting the upper edge of said end section and the
thresher frame, and side walls of flexible sheeting secured to said side bars, end section and stacker frame.
17. In pneumatic stacker attachments for threshing machines, the combination with the stacker frame and with the hopper, fan and delivery chute carried thereby. of means for securing sald frame to the rear end of the thresher and a hood for inclosing the space between the rear end of the thresher and said frame comprising an end section mounted upon the rear upper end of said frame and adjustable to and from the end of the thresher, and side walls of flexible sheeting adapted to extend between said end section and frame to the side walls of the thresher.
18. In pneumatic stacker attachments for threshing machines, the combination with the stacker frame, of laterally adjustable connections for securing said frame to the sills of threshers of different widths and a hood for inclosing the space between the thresher and said frame, comprising an and section mounted to swing upon the rear upper edge of said frame, side bars for connecting the upper edge of said section and the thresher frame and side walls of flexible sheeting arranged to extend between said side bars, end sec\(t: 0 n\), stacker frame and the rear end of the thresher.
19. In pneumatic stacker attachments for threshing machines, the combination of a stacker frame comprising lower sills and upper forwardly inclined side bars, a fan and hopper mounted within said frame, laterally adjustable connections for securing the forward end of said frame to the sills of stackers of different widths, adjustable suspension rods for supporting the rear end of said frame and a hood for inclosing the space between the thresher and said frame comprising an end section mounted upon the rear upper edge of said hopper and adjustable to and from the end of the thresher and side walls of flexible sheeting arranged to extend between said end section, said frame and the side walls of the thresher.
20. In gneumatic stacker attachments for threshing machines, the combination of a stacker frame comprising lower sills and upper forwardly inclined side bars, a fan and hopper mounted within said frame, laterally adjustable connections for securing the forward end of said frame to the sills of stackers of different widths, adjustable suspension rods for supporting the rear end of said frame and a hood for inclosing the space between the thresher and said frame comprising an end section mounted to swing upon the rear upper edge of said hopper, adjustable side bars for connecting the upper edge of said end section and the thresher frame, a top cover on said side bars and side walls of flexible sheeting arranged to extend between said side bars, end section, stacker frame and the side walls of the thresher.
21. In pneumatic stacker attachments for threshing machines, the combination of a stacker frame comprising lower sills an upper forwardly inclined side bars, a fan and hopper mounted within said frame, a hood for inclosing the space between the thresher and said frame comprising a swinging end section mounted to swing upon the upper rear edge of said hopper, side walls of flexible sheeting and a sheet metal strip overlapping the joint between sald end section and hopper.
22. In pneumatic stacker attachments for threshing machines, the combination of a stacker frame comprising lower sills and upper forwardly inclined side bars, a fan and hopper mounted within said frame, a hood for inclosing the space between the thresher and said frame comprising a swinging end section mounted to swing upon the upper rear edge of said hopper, adjustable side bars arranged to extend between the top of said end section and the thresher frame, a top cover on said side bars, and side walls of flexible sheeting connected to said side bars, end section and the upper inclined side bars of said stacker frame.
23. In pneumatic stackers, the combination with a frame, of vertically disposed fans and fan casings, inlet openings in the inner side walls of said casings, a fan shaft extending through same, and a separator plate mounted on said shaft between said casings, said separator plate having an angular edge.
24. In pneumatic stackers, the combination with a frame, of vertically disposed fans and fan casings, inlet openings in the inner side walls of said casings, a fan shaft extending through the same and a transverse vertical separator plate mounted on said shaft having oppositely deflected portions on either side of said shaft.
25. In pneumatic stackers, the combination with a frame, of vertically disposed fans and fan casings, openings in opposite sides of each of said casings, a hopper leading to said openings, a fan shaft extending through said casing and agitators mounted on said shaft between said casings beyond the outer sides thereof.

No. 100,499. Chaffer for Grain Beparator. Séparateur.


Alvey D. Dusenbery, Mankato, Kansas, U.S.A., 21st August. 1906; 6 years. Filed 8th May, 1906. Receipt No. 135.687. Claim.-In a grain separator the combination of a main chaffer, an auxiliary chaffer arranged for simultaneous movement therewith, a bottom or deflector arranged below said ariliary chaffer and having its upper surface stepped, and its front end extended over the tillings spout of the shoe, and a flexible closure connected at one end to the deffector and at its opposite end to the rear end of the tallings spout of the shoe, substantially as set forth.

No. 100,500. Separator. Séparateur.


George Boettler, St. Peters, Miss iuri, U.S.A., 21st August,
1906; 6 years. Filed ith June, 1906. Receipt No. 136.630. Claim.-1. A separating cylinder including a plurality of discs, a plurality of rock shafts supported in said discs, and teeth upon successive rock shafts disposed between successivepairs of discs according to the arrangement of the latter longitudinally of the shaft.
2. A separating device for threshing machines including a cylindrical structure supported for rotation and comprising a plurality of spaced discs and a plurality of rock shafts supported circumferentially in the discs, each of said rock shafts having a toothed portion extending between two of the supporting discs.
3. A separating dovice for threshing machines including a cylindrical structure supported for rotation and comprising a shaft, a plurality of discs supported upon said shaft and spaced apart, a plurality of rock shafts extending through all of the discs and each having a toothed portion extending between two of the discs only, cranks upon the rock shafts, and bearing plates having cam grooves engaging said cranks.
4. A separating device for threshing machines including a cylindrical structure supported for rotation and comprising a shaft, a plurality of spaced dises upon said shaft, a plurality of rock shafts extending through all of the discs and each having a toothed portion extending between two of the discs only, cranks upon the rock shafts, and bearing plates havirg cam grooves engaging said cranks, in combination Fith supported straps extending beneath and partially encircling the cylinder, said straps being spaced apart for the passage of the teeth.

\section*{No. 100,501. Grain Separator. Séparateur à grain.}


Edward Horazdovsky, Montgomery, Minnesota, U.S.A., 21st August, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,639.
Claim.-1. A shaking shoe having a grooved crossbar and provided with hinged brackets supporting a tailings trough, in combination with a screen frame supported at its upper edge in said crossbar and engaged at its lower edge by said brackets.
2. A shaking shoe having a grooved crossbar near its upper front portion and an inclined bottom board at its rear portion, and brackets hingedly connected with said shoe and a tailing trough supported by said brackets, in combination with a screen frame supported at is upper edge in the grooved crossbar and at its lower edge upon the upper edge of the bottom board, the lower edge of said screen frame being operatively engaged by the hinged brackets.
3. In a grain separator, a shaking shoe, a screen erama supported therein, a gauge plate connected adjustably with said screen frame, an inclined bottom board in the shoe, a guide board between the bottom board and the gauge plate, a cockle screen disposed to receive material guided thereto by said board, and a curved shield above said cockle screen to protect the latter from the impact of blast from the fan which is a part of the machine.

No. 100,502. Grain Conveyer. Transport à grain.


Edward J. Vraalstad, Buffalo, New York, U.S.A., 21st August, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,077.
Claim.-1. A conveyer comprising a shaft designed to be continuously operated in one direction, a screw conveyer concentric to and operated by said shaft, and means at or near each end of the screw for locking the latter to said shaft to cause it to revolve with or in the reverse direction to the shaft.
2. A conveyer comprising a shaft designed to be continuously operated in one direction, a screw conveyer con-
centric to and operated by said shaft, means for directly locking the conveyer to the shaft, and transmission or reversing mechanism operated by the shaft and with which the conveyer is designed to interlock when free of said locking means.
3. A conveyer comprising a casing having a single inlet and a plurality of outlets, a shaft designed to be constantly operated in one direction, a screw conveyer, means for directly locking the latter to the shaft, and means actuated by the shaft with which the conveyer is designed to interlock when not locked directly to the shaft, said conveyer being caused to revolve with, or in the reverse direction to, the shaft to effect the discharge into the different outlets.
4. The combination with the casing and the shaft continuously operated in one direction, of the screw conveyer having a tubular spindle concentric to said shaft, and means intermediate the shaft and the spindle for causing the conveyer to revolve with, or in the reverse direction to the shaft.
5. The combination with the casing and the shaft continuously operated in one direction, of the screw conveyer having a tubular spindle concentric to said shaft, means for shifting said spindle longitudinally of the shaft, means at one end of the spindle for directly interlocking with the shaft, and transmission or reversing mechanism operated by said shaft with which said spindle at its other end is designed to interlock.
6. The combination with the casing having a hopper at one end and outlets at its two ends, one outlet being beneath said hopper, of a screw conveyer extended longitudinally of the casing, an operating shaft, means for causing said conveyer to revolve with, or in the reverse direction to the shaft, and means for closing off communication to the outlet beneath the hopper when the conveyer is rotating with the shaft.
7. The combination with the casing having a hopper at one end and outlets at its two ends, one outlet being beneath said hopper, of a screw conveyer extended longitudinally of the casing, an operating shaft extended longitudinally through the conveyer and designed to revolve continuously in one direction, a collar on said shaft with which said spindle is designed to interlock, transmission or reversing mechanism actuated by said shaft and having a collar with which said spindle is designed to interlock when shifted in one direction, means for shifting the spindle, and a valve actuated by such shifting means for controlling the outlet beneath the hopper.
8. The combination with the casing and the shaft continuously operated in one direction having a gear pinion on one end, of the screw conveyer having a tubular spindle, through which said shaft extends, an internally toothed wheel at one end of the casing concentric to said shaft, gear wheels intermediate said pinion and said internally toothed wheel, means for causing said conveyer to engage with said internally toothed wheel, and means for locking said screw conveyer to said shaft when the same is disengaged from said wheel.
9. The combination with the casing having an outlet hopper at one end and outlets at its opposite ends, of a screw conveyer located within said casing, means for operating said screw conveyer in either direction, such means comprising a shaft concentric to said screw conveyer, means for positively locking the latter to said shaft, transmission or reversing mechanism actuated by said shaft and with which said screw conveyer is designed to engage when not locked to the shaft, means extending outside of the casing and connected to said screw conveyer for effecting the shifting therof, and means operated by the last-mentioned means for cutting off one of said outlets.

\section*{No. 100,503. Excavator. Excarateur.}

John A. Manion, John P. Mullarkey and John Rowley, each an assignee of a third interest, all of Montreal, Quebec, Canada, 21st August, 1906; 6 years. Filed 19th May, 1906.
Receipt No. 136,069.
Claim.-1. In an excavating apparatus the combination comprising a wheeled supporting frame, an auxiliary frame adjustably secured to the supporting frame, vertical rotary mechanism carried by the auxiliary frame, and a travelling cutting conveyer on the auxiliary frame.
2. In an excavating apparatus the combination comprising a wheeled supporting frame provided with teeth, an auxiliary frame provided with teeth interlocked with the teeth on the supporting frame, bolts adapted to secure the frames together, and a travelling cutting conveyer on the auxiliary frame.
3. In an excavating apparatus the combination comprising a wheeled supporting frame, an auxiliary frame adjustably secured thereto, cutting mechanism carried by the auxlliary irame comprising a vertical shaft and cutting blades projecting radially from the shaft, and a travelling cutting conveyer on the auxiliary frame.
4. In an excavating apparatus the combination comprising a wheeled supporting frame, an auxiliary frame adjustably

secured thereto, vertical rotary cutting mechanism carried by the auxiliary frame, a pair of driven chains on the auxiliary frame, and cutting troughs secured to the chains and extending transversely of the auxiliary frame.
5. In an excavating apparatus the combination comprising a wheeled supporting frame, an auxiliary frame adjustably secured thereto, vertical rotary cutting mechanism carried by the auxiliary frame, a travelling cutting conveyer on the auxiliary frame, a hopper carried by the supporting frame adjacent the cutting conveyer, and an endless conveyer adjacent the hopper.
6. In an excavating apparatus the combination comprising a wheeled supporting frame, an auxiliary frame adjustably secured to the supporting irame, vertical rotary cutting mechanism carried by the auxiliary frame, a travelling cutting conveyer on the auxiliary frame, a conveyer on the supporting frame, a conveyer projecting from the supporting frame, and a series of removable co-operating conveyers extending from the profecting conveyer.
7. In combination with an excavating apparatus, having a rearwardly extending conveyer, a series of co-operating removable conveyers, each comprising a front and rear axle, and branches connecting the axles, front wheels on the front axles, rear wheels of greater diameter disposed on the rear axles at a greater distance apart than the front wheels, and an endless belt on each conveyer of the series.

\section*{No. 100,504. Excavator. E'xcavatcur.}


The Mahony R. R. Ditching Machine Company, assignee of Daniel Henry Mahony, all of Vincennes, Indiana. U.S.A., 21st August, 1906; 6 years. Flled 12th March, 1906. Receipt No. 133,759.
Claim.-1. In a machine of the class described the combination of a carrier frame comprising side members which constitute runners, end members, corner posts at one end of the frame, a vertical frame at the other end of the frame, and braces for said posts, and vertical frame, each post brace and frame brace being connected together at their lower ends.
2. In a machine of the class described the combination of a carrier frame comprising side and end members, corner posts at one end of the frame, rods connecting the upper ends of said posts, an A-frame at the other end of the trame. braces for the A-frame and braces for the post, each post brace having a strip extension secired to the lower end of one of the A-frame braces.
3. In a machine of the class described the combination of a support, an apertured block thereon, a pin vertically confined in said aperture, a head pivoted on said pin and having recesses, a boom, strap extensions on the boom insertible in said recesses, and a horizontal bolt insertible in apertures in the head and strap extensions.
4. In a machine of the class described the combination of a corner post, an apertured block thereon, a headed pin vertically confined in said aperture, a head pivoted on said pin and composed of a block and strap between which ou opposite sides are recesses, a boom, strap extensions on the boom insertible in said recesses, and a horizontal bolt insertible in apertures in the band, block and strap extensious.
5. In a machine of the class described the combination of two corner posts, an apertured block on each post, a headed pin vertically confined in each block aperture, a head pivoted on each pin and provided wlth recesses and horizontal pivot holes, a bracing strap for the vertical pin, a boom having strap extensions insertible in the recesses of either head, and a horizontal pivot bolt adapted to be passed through the head holes and holes in said extensions.
6. In a machine of the class described the combination of a carrier frame, two posts at opposite corners of one end of the frame, a boom adapted to be universally joined to either post, a dipper at the free end of the boom, said dipper having bails connected by a horizontal pivot to a vertically pivoted plate on the underside of the boom. a concave shoulder on the top of the dipper, and a swinging stop arm on the boom adapted to engage said shoulder.
7. In a machine of the class described the combination of a carrier frame, a boom adapted to be pivuted at either side of said frame, a dipper universally joined to the free end of the boom, a shoulder on the top of the dipper and an adjustable stop for engagement with the shoulder.
8. In a machine of the class described the combination of a carrier frame a dipper carrying boom shiftable from side to side of said frame, means for moving the boom, a shiftable inclined guide for the movement of the boom, and a friction roller on the boom for engagement with the guide. said roller being shiftable from side to side of the boom.
9. In a machine of the class described the combination of a carrier frame, a dipper carrying boom shiftable from side to side of said frame, means for moving the boom, a shiftable inclined guide for the movement of the boom, a friction roller journalled in arms pivoted to ears on the boom and permitting the shifting of the roller from one side of the boom to the other, and means for securing the roller in either position.
10. In a machine of the class described the combination of a carrier frame, a dipper carrying boom shiftable from side to side of said frame, a mast carrying sheaves, a rope or cable passing around said sheaves and attached to the boom a vertical support for the mast, and means permitting the shifting of the mast from side to side of the frame center.
11. In a machine of the class described the combination of a carrier frame, a vertical A-frame central of the carrier frame, a support at the upper end of he A-frame, a dipper carrying boom shiftable from side to side of the carrier frame, a mast, sheaves on the mast, a rope or cable passed around said sheaves and attached to the boom, and means for removably fastening the mast towards its upper end to said support and at its lower end to the carrier frame, whereby said mast is shiftable from one side of the frame center to the other
12. In a machine of the class described the combination of a carrier frame, a vertical A-frame central of the carrier frame, a support at the upper end of the A-frame, a dipper carrying boom shiftable from side to side of the carrler frame, a mast removably fastened to said support and to the carrier frame to permit of its being shifted from one side of the center of the frame to the other, a sheave at the upper and of the mast, a sheave at the lower end of the mast, and a rope or cable passing around said sheaves and attached to the boom.
13. In a machine of the class described the combination of a carrier frame, a dipper carrying boom shiftable from side to side of said frame, a mast carrying a sheave, a hoisting rope or cable passing around the sheave and attached to the boom, and an inclined guide for the movement of the boom carried by the mast, said mast and guide being shiftable to bring the latter at either side of the frame and the mast at either side of the frame center.
14. Ion a machine of the class described the combination of a carrier frame, a dipper carrying boom shiftable from side to side of said frame, a mast carrying sheaves, a hoist ing rope or cable passing around said sheaves and attached to the boom, a foldable inclined guide for the movement of the boom. and means for removably supporting the boom to permit the shifting of the latter and guide from side to side of the frame.
15. In a machine of the class described the combination of a carrier frame, a dipper carrying boom, a mast carrying boom hoisting means, a guide for the movement of the boom,
said guide being formed of two foldable plvoted together members, the upper member being removably and adjustably fastened to the mast, and means for securing the guide in extended condition at its lower member.
16. Ino a machine of the class described the combination of a carrier frame, a dipper carrying boom shiftable from side to side of said frame, a shiftable mast carrying boom hoist ing means, a foldable guide for the movement of the boom, the upper guide member being supported from the mast, and said guide being shiftable with the mast, an adjustable brace for the lower end of the guide, and means at each side of the frame for adjustably securing the inner end of the brace. 17. In a machine of the character described the combination of a carrier frame, a dipper carrying boom, means for ralsing and lowering the boom, a guide for the movement of the boom consisting of two foldable sections, a sectional brace for the lower end of the guide, and a rigid adjustable brace for said lower end.
18. In a maching of the character described the combination of a carrier frame, a dipper carrying boom, means for raising and lowering the boom, a guide for the movement of the boom and means for raising and lowering said guide.
19. In a machine of the character described, the combination of a carrier frame, a dipper carrying hoom, a cable for raising and lowering said boom, a sheave around which said cable passes, and a swinging housing for the sheave having its pivot in line with the vertical traverse of the cable.
20. In a machine of the character described the combination of a carrier frame, a dipper carrying boom, a cable for raisinp and lowering said boom, a sheave around which said cable passes, and a reversible swinging housing for the sheave having its pivot in line with the vertical traverse of the cable.

No. 100,505. Mould for Conorete.
Moule pour le béton.


The American Chimney Company, assignee of Carl Stieler, Chicago, Illinois, U.S.A., 21st August, 1906; 6 years. Filed 5th July, 1906. Receipt NQ. 137,568.
Claim.-1. The combination of a pair of shells arranged to form a continuous mould chamber therebetween, with means for changing the forms of said shells to cause the adjacent walls thereof to approach or recede from each other, and means for supporting said shells upon a cast previously formed therebetween, in such a manner that said shells, or their support, do not rest on top of, or obstruct the space immediately above said cast.
2. The combination of a pair of shells arranged one within the other to form a ring-like mould chamber, said shells constructed \(s 0\) that they are resiliently expansible and contractile, means for temporarily expanding the one shell toward the other and contracting the other shell toward said first-mentioned shell, said means being releasable to cause the walls of said shells to move away from each other and a cast formed therebetween and means for raising and supporting said shells progressively upon the cast in such a manner as to provide successive ring-like mould chambers, each of which is concentric with the cast, said supporting means engaging only vertical surfaces upon the cast.
3. The combination of a pair of shells arranged to form a ring form mould chamber therebetween, means for changing the forms of said shells to cause the adjacent walls thereof to approach or recede from each other, and a mechanism for each of said shells which supports same through frictional contact with the vertical walls of a cast or structure moulded by said shells.
4. The combination of an inner and outer shell arranged to form an enclosing cast therebetween, means for temporarily expanding the inner shell, means for temporarily contracting the outer shell, means causing each of said shells to move at least partly away from the other shell on release of said temporary expanding and contracting means, a serles of levers operated friction shoes for supporting each of said shells upon the vertical wall surfaces of a structure moulded by said shells, and means for adjusting or plumbing said shells relatively to said friction shoes and structure.
5. The combination of an outer with an inner shell, each of said shells being in the form of a curved wall the vertical end edges of which substantially meet, a lever operated mechanism for forcing the edges of said outer shell toward and from each other and thereby respectively contract and expand said outer shell, a slightly tapered board 57, or wall section, adapted to be interposed between the meeting edges of said inner shell to force same apart and expand said inner shell, the latter being constructed so that it will contract when said wall section, or board 57 is removed, and means for supporting each of said shells upon the vertical sides of a cast, or moulded structure, formed between said shells.
6. A curved wall or shell having normally separated meetIng edges, said shell constructed to serve as a mould for a column-like structure, a plate arranged to close the opening between said edges without interfering with their movement toward and from each other, a lever operated mechanism for temporarily contracting said shell during each moulding operation and for expanding said shell to release it from a cast formed therewithin, and means for supporting sald shell upon vertical surfaces of the cast.
7. A curved wall, or shell, having normally separated meeting edges, means for moving said edges toward and from each other for the purpose of respectively contracting and expanding said shell, means for closing the open space between said edges when said shell is expanded, and means for supporting sald shell upon the vertical surfaces of a moulded structure.
8. An expansible and contractile cast inclising shell restraining means for forcibly expanding or contracting sald shell, means which cause said shell to resume its normal corm on remnval of said restraining means, and means which support said shell by frictional contact with the vertical wall of a structure.
9. The combination of an inner and outer shell arranged to provide an endless mould chamber therebetween means causing said outer shell to expand and causing said inner shell to contract for the purpose of releasing sald ohells from a cast formed therebetween, a supporting ring for each of said shells, a series of levers having brake shoes thereon arranged to contact with the vertical walls of a structure being moulded by said shells, connecting rods which support said shells upon said rings, and means for adjusting said shells upon said rods.
10. The combination of an outer with an inner shell, sald shells arranged to provide a continuous mould chamber therebetween, means for contracting and expanding the circumferences of said shells, friction contacts arranged to support sald shells on the vertical surfaces of a structure moulded by said shells, means whereby the elevation of said shells releases said friction contacts from fixed engagements with said surfaces, said means being operable by the welghts of said shell to hold said friction contacts in fixed engagement with said surfaces.

No. 100,506. Road Making Maohino.
Machine d faire les chomins.


Stephen Randall, Russell, Iowa, U.S.A., 21st August, 1906; 6 years. Filed 20th June, 1906. Receipt No. 137,093.
Claim.-1. A scraper consisting of supporting beams disposed transversely and connected by means of a beam, a pair of side cutting blades suitably secured thereto, a pair of
inclined inwardly and rearwardly extending cutting blades mounted within said side cutting blades and secured to said beams, and a par of inclined outwardly and rearwardly extending cutting blades secured to said beams intermediate the front ends of said cutting blades.
2. A scraper consisting of supporting beams, side cutting blades suitably secured thereto and providing a recess at their rear and a rearwardly and outwardly extending portion, inwardly and rearwardly extending cutting blades suitably secured to said beams, and A-shaped cutting blades secured to one of said beams intermediate the end thereof.
3. A scraper consisting of supporting beams, side cutting blades suitably secured thereto and provided at their rear with a rearwardly and outwardly extending portion, a pair of cutting blades mounted within said side cutting blades and suitably secured to said supporting beams, and a pair of cutting blades suitably secured intermediate the front ends of said last-mentioned cutting blades.
4. In a scraper the combination with a supporting beams, and side cutting blades suitably secured thereto and provided at their rear with a recess and a rearwardly and outwardly extending portion, of a pair of inwardly and rearwardly extending cutting blades suitably secured to said supporting beams within said side cutting blades and adapted to convey material to said recess and rearwardly and outwardly extending portion.

\section*{No. 100,507. Road Grader.}

Appareil d'égalage de chemins.


Christian Morsing, St. Paul, Minnesota, U.S.A., 21st August, 1906; 6 years. Filed 11th June, 1906. Receipt No. 136,781.
Claim.-1. A road grader including scraping members having shoes, and a roller secured at the rear ends of the scraping members.
2. A road grader comprising scraping members converging rearwardly, and a roller mounted between the convergent end thereof.
3. A road grader comprising scraping members converging rearwardly toward each other, a shaft mounted in the rear ends of the scrapi \(g\) members, a roller mounted upon the shaft, metallic rods crossing each other and connected at their opposite ends to the scraping members to brace the latter, other braces associated with the scraping members, a tongue pivoted to sald braces, a flexible connection between the tongue and scraping members, and a seat upon the body of the scraper.

No. 100,508. Excavator. Excavateur.


Albert N. Cross, Tomah, Wisconsin, U.S.A., 21st August, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136.633.
claim.-1. The combination in an excavating machine, of a frame having a boom, an A-derrick, a guy connecting the derrick to the boom, and means for adjusting said derrick laterally of the frame and independently of the boom.
2. In excavating machine, an adjustably mounted derrick, a rack carried thereby, a pivoted lever for engaging successive teeth of the rack, and a locking yoke for engaging the rack and holding the derrick in adjusted position.
3. The combination in an excavating machine, of a frame having a pair of spaced transversely disposed sill members. an A-derrick having a lower connecting bar arranged between said sill members, supporting feet or lugs projecting from the derrick and engaging the upper surface of sald sill members, a rack carried by the derrick, a lever for engaging the teeth of the rack and adjusting the derrick laterally of the frame, and a pivoted yoke for engaging between the teeth and locking the derrick in adjusted position.
4. In excavating machinery, a walking beam, a scoop or bucket pivotally connected thereto, and a yieldable latching means for holding the bucket in operative position.
5. The combination in excavating machinery, of a pivoted walking beam, a scoop bucket pivoted thereto, a latch, a pivotally mounted pawl carried by the bucket and adapted to engage said latch, and a spring connected to the pawl and holding the same in operative position, the spring yielding under excess pressure to permit release of the pawl.
6. The combination in excavating machinery, of a walking beam, a scoop bucket pivoted thereto, a tooth or pawl pivoted to the upper end of the bucket, a latch for engaging said tooth or pawl, a pair of links pivoted to the lower end of the tooth, a second pair of links forming a connection between the first pair and the mounted frame, and a tension spring extending between the connected links and a fixed point, thereby to permit yielding of the tooth or pawl when the scoop bucket is subjected to excessive strain.

No. 100,509. Snow Thawing Machine. Machine d fondre la neige.


William Elliot, Montreal, Quebec, Canada, 21st August, 1906; 6 years. Filed 5th June, 1906. Receipt No. 136,568.
Claim.-1. In a device of the class described, a conveyer adapted to recelve the snow, an endless belt mounted beneath said conveyer, and means for delivering the snow from the conveyer to the endless belt in thin layers.
2. In a device of the class described, a snow receiving conveyer, a belt mounted beneath said conveyer and travelling in the opposite direction thereto, means for delivering the srow from the conveyer to the belt in thin layers, and means for melting the snow during its travel upon said belt.
3. In a device of the class described, a snow receiving conveyer, a melting belt mounted beneath said conveyer, means for delivering the snow from the conveyer to the belt in thin layers, and means for discharging a plurality of streams of hot water on the snow during its travel upon said melting belt.
4. In a device of the class described, a snow receiving conveyer, ice crushing rolls mounted adjacent one end of said conveyer, a melting belt mounted beneath said conveyer, means for delivering snow and lce from the conveyer and crushing rolls to the belt in thin layers, means for discharg-
ing a plurality of streams of hot water on the snow during its travel upon said melting belt, and means for discharging heated gases to the snow during its travel upon said melting belt.
5. In a device of the class described, a snow receiving conveyer, ice crushing rolls mounted adjacent one end of said conveyer, a melting belt mounted beneath said conveyer, means for dellvering snow and ice from the conveyer and crushing rolls to the belt in thin layers, a water heater, a pump for discharging a plurality of streams of hot water on the snow during its travel upon said melting belt, a motor driving said pump, means for discharging heated gases to the snow during its travel upon said melting belt, and means for discharging water and mud from the device.
6. In a device of the class described, a snow receiving conveyer, ice crushing rolls mounted adjacent one end of said conveyer, an apertured melting belt mounted beneath said conveyer, means for delivering snow and ice from the conveyer and crushing rols to the belt in thin layers, means for regulating the amount of snow delivered by said conveyer, a water heater, a pump for discharging a plurality of streams oi hot water on the snow during its travel upon said melting belt, a motor driving said pump, means for discharging heated gases to the snow during its travel upon said melting belt, means for discharging the water of melted snow, and means for discharging mud from the device.

\section*{No. 100,510. Clam Shell Bucket.}

Seau pour moules en écailles.


Henry P. Horn, Cleveland, Ohio, U.S.A., 21st August, 1906; 6 years. Filed 28th May, 1906. Receipt No. 136,312.
Claim.-1. In a clam shell bucket, the combination of a pair of scoops, closing means therefor to which the scoops are connected, said closing means comprising a pair of bars, and mechanism for causing the same to approach or recede from exch other while remaining parallel.
2. In a clam shell bucket, the combination with scoops of a closing and supporting mechanism therefor, consisting of a pair of slotted bars, links crossing each other and pivoted at their lower ends near the lower ends of said bars, and having their upper ends connected to pins slidable in such slots.
3. In a clam shell bucket, the combination of a pair of slotted bars, scoops plvoted to the lower ends of sald bars, pivotal means connecting the scoops, crossing links plvoted near the lower ends of the bars and at their upper ends carrying pins engaging slots in the bars, a pin connecting sald links where they cross, a sheave on said pin, and mechanism for moving said pin to open the bucket.
4. In a clam shell bucket, the combination of bars, scoops carried at the lower ends thereof, links plvoted near the lower ends of the bars and at their upper ends slidably connected with the opposite bars, additional links connected with the links first-mentioned and themselves connected together, a pivot pin connecting the links first-mentioned where they cross, and means for causing such pin and the pivot conrecting the upper links to approach each other.
5. The combination of a pair of slotted bars, links pivoted near the lower ends of said bars and crossing each other and plvoted together at the cross!ng, pins carried by said links extending through the slots in said bars, a pair of upper links connected to said pins at their lower ends and pivoted together at their upper ends, a sheave on the pivot pin where the lower links cross, and a cable secured to the pivot of the upper links and extending downward beneath said sheave and then upward.
6. In a clam shell bucket the combination of a pair of bars, scoops secured thereto, links plvoted near the lower ends of said bars and crossing each other and carrying near their upper ends, pins occupying slots in the opposite bars, sheaves mounted on said pins, and closing cables extending around the sheaves.
7. The combination of a pair of slotted bars, a pair of links pivoted on opposite sides of one of the bars near its lower end, a pair of links pivoted on the opposite sides of the other bar near its lower end, said pairs of links crossing each other and being connected by a pivot pin, pins occupyiny slots in said bars, said pairs of links being connected at their upper ends to said pins on opposite sides of said slots, sheaves mounted on the projecting portions of said plns. and two cables each of which is secured at its end near one of said pins and then pass around the sheave on the opposite pin.
8. In a clam shell bucket the combination of a pair of scoops, supporting and closing mechanism pivoted thereto and occupying the central plane of the scoops and links governing the spreading of the scoops and connected to the sides thereof.
9. In a clam shell bucket the combination with the pair of pivoted scoops, a pair of links pivoted at their lower ends to said scoops and pivoted together at their upper ends, and a pair of additional links plvoted at their upper ends to the links first-mentioned and pivoted at their lower ends to sald scoops.
10. In a clam shell bucket the combination of a pair of scoops. a pair of links pivoted at their lower ends to the upper inner corners of the scoops and pivoted together at their upper ends, and another pair of links pivoted at their lower ends to the rear of the scoops and pivoted at its upper end to that one of the links first-mentioned which is pivoted to the opposite scoop.
11. In a clam shell bucket the combination of a pair of scoops, a pair of links pivoted at their lower ends to the upper inner corners of the scoops and pivoted together at their upper ends, another pair of links pivoted at their lower ends to the rear of the scoops and pivoted each at its upper end to that one of the links first-mentioned which is pivoted to the opposite scoop, such link construction being duplicated on the opposite edges of the scoops, and a closing and supporting mechanism for the scoops connected therewith.
12. In a clam shell bucket the combination of a pair of scoops, a system of toggle members connected therewith for opening the scoops, and a pawl carried by one of sald members and adapted to come into engagement with a shoulder when the scoops are spread and prevent thetr return.
13. In a clam shell bucket he combinaion with the scoops and their operating mechanism, of a closing and raising cable, an opening cable mounted on the bucket and terminating with it, and means independent of said opening cable for holding the bucket open.
14. A clam shell bucket comprising scoops, toggle links therefor, a closing and raising cable, and an opening cable connected with said links and terminating in an eye movable with the bucket, combined with a support having a hook adapted to engage the cye of the opening cable, and mechanism for holding said hook in engaging position and for releasing it.
15. In a clam shell bucket the combination of a pair of links crossing each other and pivoted together at their crossing, a pal: of additional links pivoted 10 the upper ends of the link first-mentioned and themselves pivoted together, means for forcing toward each other the two pivots mentioned, and scoops carried near the lower ends of the links first-mentioned.
16. In a clom shell bucket the combination of a palr of lower links crossing each other and pivoted together at their crossing, a pair of upper links pivoted to the upper ends of the lower links and extending upwardly therefrom toward each other and themselves pivoted together, means for moving toward each other the pivot at the crossing and the pivot of the upper links, means for moving toward each other the two pivots connecting the upper and lower links, and scoops supported by the lower links.

\section*{No. 100,511. Grader and Excavator.}

Apparcil d'égalage et excavateur.
Stephen H. Bloomer, Seattle, Washington, U.S.A., 21st August, 1906; 6 years. Filed 26th May, 1906. Recelpt No. 136.276.

Claim.-1. A drive mechanism of the class described, comprising a base, a supporting frame mounted thereon, a plurality of sheaves rotatably mounted on said supporting frame and held to rotate in a horizontal plane above the base, said sheaves adapted to receive an endless conveyer cable, gear connections between said drive motor and sald sheaves, substantially as shown and described.
2. A drive mechanism for excavating apparatus comprising a supporting sled, a platform thereon, a horizontal frame supported above sald sled, a plurality of spindles mounted in bearings in said horizontal plane, intermeshing gears on said spindles, sheaves secured to the lower end of said spindles and rotating in the same horizontal plane above the sled platform, and a supplemental shaft mounted on said sled,
gear connections between sald supplemental shaft and said spindle gears, a drive motor, gear connections between said

drive motor and said supplemental shaft, an entrant and exit guideway for sald sled, all beling arranged substantially as shown and described.
3. In a mechanism of the class described the combination with an endless conveyer cable and excavating implements secured thereto, of a drive mechanism comprising a brace, a supporting frame mounted thereon, a plurality of sheaves rotatably mounted on said supporting frame and held to rotate in a horizontal plane above the base, sald sheaves adapted to recelve an endless conveyer cable, gear connections between all of said sheaves, a drive motor, gear connections between suld drive motor and said sheaves. all being so arranged that the excavating implements are passed over the base between the sheaves and the base and through the frame while moving in the same horizontal plane.

No. 100,512. Power Shovel Mechanism. Mécanisme de pelle mécanique.


John Treacy, St. Paul, Minnesota, U.S.A., 21st August, 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,217.
Claim.-1. A shovel tooth having a socket in its end tapering from one end to the other, and a detachable point having a web on one end and a tapered tongue fitting within said socket, substantially as described.
2. A shovel tooth having a vertical socket in its end tapered from the top toward the bottom of the tooth, and a detachable point having a vertical web on one end that terminates in a tongue tapered from its upper toward its lower end and adapted to enter said socket and fit snugly therein, substantially as described.
3. A shovel tooth having a socket in its end in combination with a detachable point having a web on one end and a
tongue to enter said socket, the end of said tooth beving a broad bearing surface on sald point upon each side of said web whereby said point is braced and strengthened, substantially as described.
4. A shovel tooth having a vertical socket in its end tapered from the top toward the bottom in combination with a detachable point having a web on one end and tongue tapered from the top toward the bottom and adapted to enter said socket and fit snugly therein, and the end of said tooth having a broad vertical bearing surface on said point upon each side of said web, and a removable pin passing through said tooth and web, for the purpose specified.
5. \(\Lambda\) shovel tooth having a vertical socket in its end tapering from the top toward the bottom and a detachable point having a tapered tongue to fit within said socket, substantially as described.

No. 100,513. Scraper. Grattoir.


John Francis Coleman, Everett, Massachusetts, U.S.A., 21st August, 1906; 6 years. Filed 21st May, 1906. Receipt No. 136,110.
Claim.-1. In a scraping machine, the combination of a scraper mounted on wheels and provided with means for opening and closing its bottom, means to lower and to raise said scraper, and means to lock said scraper when raised.
2. In a scraping machine, the combination of a suitable frame mounted upon wheels, a scraper hung in sald frame and provided with means to open and to close its bottom, means to lower and to raise said scraper, and means to lock said scraper when raised.
3. In a scraping machine, the combination of a suitable frame mounted upon wheels, a scraper provided with guides and adapted to move upwardly and downwardly in said frame, means to unload said scraper through its base. means to lower and to raise sald scraper, and means to lock said scraper when raised.
4. In a scraping machine, the combination of a frame mounted upon wheels, a scraper provided with supporting guides which are in moving engagement with the sides of said frame. means to unload sald scraper through its base. means to lower and to raise said scraper, and means to lock said scraper when raised.
5. In a scraping machine, the combination of a frame mounted on wheels, and having depending slotted side braces, a scraper provided wilh supporting guides which move in said slotted side braces, means to lower and to raise said scraper, and means to lock said scraper when raised.
6. In a scraping machine, the combination of a frame mounted on wheels and having depending slotted sides, a scraper having supporting guides which move in the slots in said sides, said scraper being provided with means whereby its base may be opened or closed, means to lower and to raise scraper, and means to lock said scraper when raised.
7. In a scraping machine, the combination of a frame mounted on wheels and having depending slotted side braces, a scraper provided wilh .supporting guides which move in said slotted side braces, a plurality to bell crank levers operatively connected tc said scraper to ralse and to lower it and means to lock said scraper when raised.
8. In a scraping machine, the combination of a frame mounted on wheels and havin; depending side braces, a scraper hung on a plurality of bell crank levers which are pivotally attached to said frame and whereby said scraper may be raised or lowered, mear s to lock said scraper when raised, and means to unload said scraper through its base.
9. In a scraping machine, the combination of a frame mounted on wheels and having depending side braces, a scraper provided with supporting guides engaging said side braces, and hung on bell crank levers pivotally attached to said frame whereby said scraper may be raised or lowered, means to operate said bell crank levers, and means to lock said scraper when raised.
10. In a scraping machine the combination of a frame mounted on wheels, a scraper hung on bell crank levers which are plvotally mounted on said frame, said scraper being provided with a bottom which may be opened or closed, means whereby sald bell crank levers may be operated to raise or to lower said scraper and means to lock said scraper when raised
11. In a scraping machine the combination of a frame mounted on wheels and having depending side braces, a scraper having a bottom provided with means for opening and closing it, supporting guides for said scraper engaging said side braces, a plurality of bell crank levers pivotally mounted on said frame and connected to said scraper, means whereby said bell crank levers may be operated to raise or to lower said scraper, and means to lock said scraper when raised.
12. In a scraping machine, the combination of a frame mounted on wheels and having depending slotted side braces, a scraper guides supporting said. scraper and in moving engagement with said slotted side braces, bell crank levers pivotally mounted on said frame and attached to said scraper, means to operate sald bell crank levers to raise or to lower said scraper, and means to lock said scraper when raised.
13. In a scraping machine, the combination of a frame mounted on wheels and having depending slotted side braces, a scraper provided with means for unloading through its base, guides supporting said scraper and in moving engagement with said slotted side braces, a plurality of bell crank levers, pivotally mounted on said frame one end of each being pivotally connected to said scraper, and the other end of each being operatively connected to a lever, said lever to operate said bell crank levers to raise or to lower said scraper, and means to lock said scraper when raised.
14. In a scraping machine, the combination of a frame mounted on wheels and having depending slotted side braces, a scraper, guldes attached to said scraper and provided at their free ends with studs which move in the slots in said side braces, a plurality of bell crank levers pivotally mounted on said frame one end of each being pivotally connected to said scraper and the other end of each being operatively connected to a lever, said lever to operate said bell crank levers to raise or to lower said scraper, lock bars plvotally mounted on said side braces and adapted to engage said guide studs to lock said scraper in a raised position, and a lever operatively connected to said lock bars to operate the same.
15. In a scraping machine, the combination of a frame mounted on wheels and having depending slotted side braces, a scraper provided with means for unloading through its base, guides attached to said scraper and provided at their free ends with studs which move in the slots in said side braces, a plurality of bell crank levers pivotally mounted on said frame, one end of each being pivotally connected to said scraper and the other end of each being operatively connected to a lever, said lever to operate said bell crank levers to raise or to lower said scraper, lock bars pivotally mounted on said side braces and adapted to engage said guide studs to lock said scraper in a raised position, and a lever operatively connected to said lock bars to operate the same.

\section*{150. 100,514. Bcraper. Grattoir.}

James Butler, St. Catherines, Ontario, Canada, 21st August, 1906; 6 years. Filed 16th May, 1906. Recelpt No. 135,960.
Olaim.-1. In a drag scraper the combination with the body, means whereby the handles may be connected to the scraper, and the line of draught changer from a point located near the mouth of the scraper to a point situated centrally, as and for the purpose specified.
2. In a drag gcraper the comblnation with the body having two ping located on the side of the scraper, one near the mouth of the scraper and the other centrally located between the mouth and the top of the back, of means connecting the handles to the pins whereby the line of draught may be changed from the forward pin to the pin centrally located between the mouth and the top of the back of the projections. as and for the purpose specified.
3. In a drag scraper, the combination with the body provided with central and front pins and the handles swung on the pins and having at their lower ends projections at right angles provided with lugs on the inner faces of the same, levers having fingers and provided with fingers projecting at right angles and connecting with the lugs of the projections, as and for the purpose specified.
4. In a drag scraper the combination with the body provided with central and front pins the handles swung on

the pins and having at their lower ends projections at right angles provided with lugs on the inner faces of the same, of slotted levers having projections and provided with fingers projecting at right angles and connecting with the lugs of the projections of the handles, as and for the purpose specified.
5. In a drag scraper the combination with the body of the handles connected together by two crossbars, of means attached to the lower bar whereby the scraper body may be held rigid and adjusted to suit different positions of the scraper, as and for the purpose specified.
6. In a drag scraper the combination with the body provided with central and front pins, and handles, of levers connected to the body by the centrally located pins and provided with slots through which the centrally located pins extend, and having jaw-shaped projections at the front ends to catch the forward pins, as and for the purpose specifled. 7. In a drag scraper the combination with the body and handles of levers connected to the same and provided with key slots having enlarged openings at the inner ends, of the bails having L-shaped onds and shoulders adapted to abut the sides of the levers so as to have the L-shaped ends flush with the inner surfaces of the levers, as and for the purpose specified.

No. 100,515. Scraper. Grattoir.


Thomas Jefferson Waddell, Philbrook, Montana, U.S.A., 21st August, 1906; 6 years. Filed 8th May, 1906. Receipt No. 135,697 .
Claim.-1. Combined in a self-loading vehicle, a shovel or scoop, winding drums, a chain or its equivalent for suspending each end of said shovel from a winding drum, and means operated by the running gear of the vehicle for raising one end only of said shovel.
2. Combined in a self-loading vehlcle, a shovel or scoop, winding drums, a chain or its equivalent for suspending each end of said shovel from the winding drum, means operated by the running gear of the vehicle for raising one end only of said shovel, and a clutch mechanism between said running gear and said operating means.
3. Combined in a self-loading vehicle, a shovel or scoop, winding drums, suspending chain extending from the forward end of said scoop to a winding drum, power operated means for winding one drum, and manual means-for turning the other drum.
4. Combined in a self-loading vehicle, a shovel or scoop, winding drums, suspending chain extending from said shovel to the winding drums, power operated means for winding one drum, manual means for rotating the other drum, means for holding said drums against backward rotation, and means for releasing either of said drums and simultaneously applying a braking device to said relcased drum.
5. Combined in a self-loading vehicle, a shovel or scoop, winding drums, suspending means from each end of the shovel to a winding drum, a door pivoted to the shovel and held closed by a latch, means for winding the drums, and means for antomatically unlatching the door when the rear of the shovel is lowered.
6. Combined in a self-loading vehicle having a frame and running gear, a shovel or scoop, winding drums, suspending means from each end of said shovel to a winding drum, a sprocket wheel to the clutch, chain gearing between the sprocket wheel and one of the drums for winding said drum. a clutch mechanism for holding said drum when wound and a manually operated lever for disengaging said clutch and breaking the speed of said drum when unwinding.
7. Comboned in a self-loading vehicle, a shovel or scoop, winding drums, suspending means from each end of the shovel to a drum, means for separately winding said suspending means on said drums, means for holding said drums against rotation when wound, and independent means for disconnecting said drums and applying a speed breaking device thereto.
8. Combined in a self-loading vehicle, a shovel or scoop. a winding drum, suspending means between the winding drum and the shovel, means for winding said suspending means on said drum, a door pivoted to said scoop, a latch for fastening the door closed, and a conncetion between the latch and the vehicle
9. Combined in a self-loading vehicle, a shovel or scoop. means for suspending and elevating said shovel, and thrust bars pivoted to the shovel and to the vehicle.

No. 100,516. Flnid Excavator. Excavatcur.


Sherman Augustus Jubb, Highland, New Jersey, U.S.A., 21st August, 1906; 6 years. Filed 2nd May, 1906. Receipt No. 135.490.

Claim.-1. An automatic excavator comprising a main cylinder, a jet pipe producing therefrom, a piston on the inner end ot said jet pipe and means for leading fluid into said cylinder over said piston, substantially as described.
2. An automatic excavator comprising a main cylinder, a stuffing box in one end thereof, a jet pipe passing into said cylinder through sald stuffing box, a piston on the inner end of said jet pipe, means for leading fluid into said cylinder over said piston and means for leading fluid into said cylinder under said piston, substantially as described.
3. An automatic excavator comprising a main cylinder, a jet pipe protruding therefrom, a piston on the inner end of said pipe pierced to admit fluid thereto and means for leading fluid into said cylinder over said piston and through it into said jet pipe, substantially as deseribed.
4. An automatic excavator comprising a main cylinder. means for suspending the same. allowing universal motion thereof, a jet pipe protruding therefrom, a piston on the inner end of said jet pipe and means for leading fluid into said cylinder over said piston, substantially as described.
5. An automatic excavator comprising a main cylinder, a stuffing box in one end thereof, a jet pipe passing into saikd cylinder through said stuffing box, a piston on the inner end of said jet pipe and pierced to admit fluid thereto, means for leading fluid into said cylinder above said piston and through it into the jet pipe and means for leading fluid into the cylinder below said piston, substantially as described.
6. An automatic excavator comprising a main cylinder, a jet plpe protruding therefrom, a piston on said jet pipe and
means for controlling the admission of fluid into said cylinder either above or below said piston, substantially as described.
7. An automatic excavator comprising a main cylinder, a jet pipe protruding therefrom, a piston on said jet pipe, a side pipe opening into said cylinder at its opposite ends and means for controlling admission of fluid into said main cylinder or said side pipe at will, substantially as described.
8. An automatic excavator comprising a main cylinder, a jet pipe protruding therefrom, a piston on said jet pipe, a side pipe having two elbows for connecting said side pipe with said cylinder at its ends and a valve on one of said elbows for admitting fluid either directly to the cylinder or through the side pipe at will, substantially as described.

No. 100,517. Excavator and Conveyer Anchoriag System.
Excavateur et transport.


Edwin Montgomery Reese, Los Angles, California, U.S.A., 21st August. 1906 ; 6 years. Filed 23nd April, 1906. Receipt No. 135,185.
Ctuim.-1. An excavator and conveyer comprising a pair of conveying hoists each of which has a drum and means for adjusting the same up and down, and an excavating device between said hoists and operatively connected to said drums.
2. An excavator and conveyer comprising a pair of hoists having adjustable drums and anchorages thereof, and an excavating device between and operately connected to the adjustable drums of said hoists.
3. In an excavator and conveyer an excavating device provided with pivoted tools, some of which are arranged to operate in one direction and others of which are arranged to operate in the other direction, and means for moving said device on the ground in one and the other direction to cause the reversely arranged pivoted tools to operate on the ground in alternation.
4. An excavator and conveyer comprising a digger and scraper provided with pivoted tools, and hoists respectively connected to the forward and rear ends of said digger and scraper.
5. An excavator and conveyer comprising a shell and reversely operating tools mounted pivotally in said shell, and means for moving the shell on the ground in one and the other direction.
6. In an excavator and conveyer a digger and scraper comprising a shell provided with runners and tools plvoted in said shell.
7. An excavator provided with pivotally mounted tools comprising diggers in combination with a pivotally mounted scraper, and means for moving the same on the ground in one and the other direction, sald diggers being reversely arranged so that one will operate in one direction and the other will operate in the other direction.
8. A conveying hoist comprising an anchorage. thrust beams pivoted on said anchorage and a hoist mounted on said beams.
9. A conveying hoist comprising an anchorage, thrust beams pivoted on sald anchorage and a movable hoist and reversing means therefor, said hoist being mounted on said thrust beam.
10. In a conveying hoist an adjustable anchor provided with a crossed lower end.
11. A conveying hoist comprising thrust beams pivotally secured to anchorage and a conveying drum mounted on the free ends of said thrust beams.
12. A conveying hoist comprising thrust beams pivoted to anchorage and spaced apart by a beam at their upper ends, said ends being free to move up and down, a conveying drum
carried by said free ends, and means to ralse and lower the free ends of said thrust beams.
13. A conveying hoist comprising thrust beams pivotally anchored at one end and carrying a transverse shaft on their free onds, a drum on sald shaft provided. With means for shifting longitudinally of said shaft, and means to operate said drum.
14. A conveying hoist comprising spaced thrust beams pivotally secured to an anchorage, a frame on satd añchorage provided with means for raising and lowering said thrust beams, and a longitudinally movable conveying drum mounted on and between said beams
15. A conveying holst comprising spaced thrust beams pivotally secured to an anchorage, a conveying drum mounted on and between said thrust beams and adapted to move through the distance between them, means for raising and lowering said thrust beams and the drum mounted on them.
16. In an excavating apparatus in combination, two adjustable traction members, an excavating device adapted to reciprocate horizontally between said members, said excavating device being provided with soil moving attachments adapted to automatically assume an operative position when the excavator moves toward one, and an inoperative position when the excavator moves toward the other traction member, and means operatively connecting said excavating device with said traction members.
17. In an excavating apparatus in combination, an excavating device adapted to be drawn upon the ground, and traction means for operating said excavating device, said device provided with a soil moving attachment, said attachment having a heel adapted to enter the soll and thereby throw said attachment into operative position.
18. In an excavating apparatus in combination, two traction members, an excavating device adapted to reciprocate horizontally between said members, and a fiexible connection operatively connecting said excavating device with said members, a drum being provided for said connection to pass over and means for raising and lowering said drum.
19. In an excavating apparatus in combination, an excavating device adapted to drawn over the ground, a fiexible conrection secured to said excavating device for drawing the same, a drum for sald connection to pass over, a horizontal rotary shaft on which said drum is slidably mounted to rotate therewith, means for rotating said shaft, and means for supporting said shaft, and raising and lowering the same.
20. In an excavating apparatus in combination, an excavating device adapted to be drawn over the ground, a flexible connection secured to said excavating device for drawing the same, a drum for said connection to wind upon, a horizontal rotary shaft upon which said drum is slidably mounted to rotate therewith, pivoted thrust beams having their free ends secured to said shaft, means for swinging said beams on their pivots, and means for rotating said drum.
21. In an excavating apparatus in combination, a horizontally movable excavating device, a flexible connection secured to said excavating device, for moving the same, a drum for said connection to wind upon, a horizontal shaft upon which said drum is mounted, vertically movable means upon which said shaft is mounted, a irame supporting said moratle means, a motor, and reversible means operatively conrecting sald motor with said shaft.
22. In an excavating apparatus in combination, a horizontally movable excavator, a connection for moving the same, a frame, a drum mounted thereon for said connection to wind upon, means for supporting sald drum and raising and lowering the same, an adjusting pulley, a slide on which said pulley is mounted, an adjusting beam carrying said sllde and plvoted to swing toward and from sald drum, a motor, and flexible connections operatively connecting said pulley with said drum and motor.
23. In an excavating apparatus in combination, an excavator adapted to reciprocate over the surface of the ground, and means for reciprocating said excavator, said excavator being provided with a scraper and ploughs adapted to automatically assume operative position during one reciprocation of the excavator, and to automatically assume inoperative position during the other reciprocation thereof, said scraper being mounted in a position behind the ploughs during the reciprocation in which said scraper and ploughs operate.
24. An excavating apparatus provided with an anchorage having two legs and constructed to straddle the ground to te excavated.
25. An excavating apparatus provided with an anchorage having two legs, the feet of which are parallel with each other and are long and narrow, said legs being arranged to straddle the ground to be excavated.
26. An excavating apparatus provided with an anchorage having two legs, the feet of which are parallel with each other and are long and narrow, and anchors at front and rear of said legs.

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\section*{No. 100,518. Snow Plough. Charrue d netge.}


Howard Grimes, Newcombe, New York, U.S.A., 21st August 1906; 6 years. Filed 6th March, 1906. Receipt No. 133,599.
Claim.-1. In a snow plough the combination of a central runner secured to opposite sides thereof and side runners at both sides of the central runner, said side runner connected together and having a lateral pivotal movement for steering the plough.
2. In a snow plough the combination of a central runner, a platform thereon, posts on the central runner and platform, guides on said posts, ploughs located at both sides of the \(c \in n t r a l\) runner, and bars on said ploughs movable vertically in said guides, and means for adjusting the ploughs vertically.
3. In a snow plough the combination of a runner located iu line with the longitudinal axis of the machine, ploughs attached to sald runner, and a steering sled movably connected with said runner.
4. In a snow plough the combination with a central runner, and a platform thereon, of a steering sled pivoted to the platform, a curved rack on sald steering sled, a vertical shaft on the platform, a pinion on the shaft meshing with the curved rack, and a hand wheel on said shaft.
5. In a snow plough the combination with a central runner, ploughs supported thereby, and a platform secured on said runner, of a steering sled below the platform, a king pin plvotally connecting the rear ends of the platform and sled, a curved rack on the front end of the sled, a vertical shaft on the platform, a pinion on said shaft meshing with the curved rack, and a hand wheel on said shaft.
6. In a snow plough, the combination with a central runner, ploughs supported thereby, and a platform secured on said runner, of a steering sled beneath the platform, pivoted thereto, and comprising two runners, one located at each side of the central runner, downwardly projecting guide blades on the sled runners, and means for changing the angle of the steering sled to change the direction of movement of the snow plough.
7. In a snow plough the combination with a central runner, and a platform secured thereon, of ploughs at opposite sides of the central runner, adjusting screws on the platform adjacent to the rear ends of the ploughs, brackets adjustable vertically on the screws by turning the latter, and wings having movable hinged connection with said brackets.
8. In a snow plough, the combination with a central runner, and a platform thereon, of ploughs at opposite sides of the central runner, adjustable supports on the platform adjacent to the rear ends of the ploughs, wings hinged to said supports, posts on the rear portions of the platform having slots therein, brace rods secured to the wings and projecting through said slots in the posts, and means for securing the rods at various adjustments in the post slots to vary the angle of the wings.
9. In a snow plough, the combination of ploughs, and a sled supporting the same, comprising three normally parallel runners, two of which are constructed to be moved simultaneously to vary the direction of movement of the sled.

No. 100,519. Grader. Apparefl d'fgalage.
Roscoe S. Sheldon, West Allis, Wisconsin, U.S.A., 21st August. 1906; 6 years. Filed 10th April, 1906. Recelpt No. 134,810 .
Claim.-1. The combination of a plough and an earth sooop and means for pirotally connecting such plough and scoop together.
2. The combination of a plough comprising a draft beam, vertical and horizontal cutting blades, a scoop, and means for pivotally connecting the plough and scoop together.

3. The combination of a scoop, a draft beam, cutting blades formed at right angles to each other and secured to said beam, a pivotal bolt connecting the rear end of said beam to one side of the scoop, a diagonal brace bar rigidly connected at one end to the front of said beam and pivotally connected at its rear end to the other side of said scoop, all substantially as set forth.

No. 100,520. Excavator for Trenches, Etc. Excarateur pour tranchées, etc.


William Heffron, Cincinnati, Ohio, U.S.A., 21st August, 1906
6 years. Filed 2nd March, 1906. Receipt No. 133,488.
Claim.-1. In an apparatus for excavating trenches, a framework with a raised platform, an inclined way leading to said platform, a leaf hinged to said way to extend the to said to the ground, said leaf being provided with curved shoes to enter the ground at the bottom of the incline, an opening through the platform and a trip block at the edge of said opening, standards extending above said platform with pulleys mounted thereon and a cable over said pulleys for elevating a scoop to said platform, whereby its contents may be dumped through said opening in the platcontents may be dumped through
2. In an apparatus for excavating trenches, a framework with a raised platform, an inclined way leading to said platform, a leaf hinged to said way to extend the incline to the ground, sald leaf being provided with curved shoes to enter the ground at the bottom of the incline, an opening through the platiorm and a trip block at the edge of said.opening, standards extending above said platform, with pulleys mounted thereon and a cable over said pulleys for elevating a scoop to sald platform, said framework being mounted on skids for the ready removal of said apparatus from place to place, substantially described.
3. In an apparatus for excavating trenches, a framework with a ralsed platform, an inclined way leading to said platform, an opening through the platform and a trip block at the edge of said opening, standards extending above said platform with pulleys mounted thereon and a cable over
said pulleys for elevating a scoop to said platform, whereby its contents may be dumped through said opening in the platform, substantially as described.
4. In an apparatus for excavating trenches, a framework with a ralsed platform, an inclined way leading to said rlatform, an opening through the platform, standards extending above said platform with pulleys mounted thereon and a cable over said pulleys for elevating a scoop to said platform, whereby its contents may be dumped through said opening in the platform, substantially as described.
5. In an apparatus for excavating trenches, a framework with a raised platform, an inclined way leading to said platform, mechanism secured to said inclined way adapted to take into the ground at the bottom of said way, an opening through the platform, standards extending above said platfrom with pulleys mounted thereon and a cable over said pulleys for elevating a scoop to said platform, whereby its contents may be dumped through said opening in the platform, substantially as described.

No. 100,521. Monld. Moule.


Herman Besser, Mlpena, Michigan, U.S.A., 21st August, 1906 : 6 years. Filed 30th June, 1906. Receipt No. 137,451.
Claim.-1. A mould comprising two sections, each section having a triangular mould cavity therein, these cavitios of the two sections registering with each other along a line diagonally placed with respect to the article to be moulded. and means for separating said mould sections from each other.
2. A mould comprising a pair of mould sections each contalning a part of a mould cavity, said part registering with each other, a lever pivotally mounted on one section and having a notch, and a pin mounted on the other section and adapted to enter said notch for locking the sections together.
3. A mould comprising two mould sections and means for locking said sections together, comprising a pair of levers pivotally mounted on the opposite ends of one section, each lever having a notch, and a pin mounted on each end of the other section and adapted to engage said notch, said notch being located in the opposite side of the levers, and said levers being connected together by a handle located further from the pivot of the levers than said notch, whereby the handle will keep the mould locked by the force of gravity.
4. In a mould, the combination of a pair of mould sections. one of said sections being pivotally mounted, a lever for locking said sections together, and means connected with said lever for automatically moving one of the sections when the lever is operated to unlock them from each other.
5. In a mould, the combination of two mould sections, a lever pivotally connected with both of said sections, said lever having a slot, and a locking lever having a pin engaging said slot.
6. In a mould, the combination of two mould sections, a \(l \in v e r\) pivotally connected with both of said sections, said lever having a slot, and a locking lever having a pin for engaging said slot, said slot being located at an angle with respect to a line between the pin and the point at which the lever is pivotally connected with the opposite section.
7. In a mould, the combination of two mould sections, a lever plvotally connected with both of said sections, said lever having a slot of said sections, said lever having a slot. and a locking lever having a pin for engaging said sloi. each of said sections having mounted thereon a fiange constituting a hopper, and a removable plate having tamper guides thereon.
8. A mould having a flange surrounding certain sldes of its upper surface, a removable plate on another side of the upper surface, said flange and plate constituting a hopper, and tamper guides connected with said movable plate.
9. A mould provided with a removable plate constituting a part of a hopper, said plate having projections constituting tamper guldes.
10. A mould having a tamper guide mounted on its upper surface, said guide registering with each of the mould cavities in the mould.

No. 100,522. Moulding Machine. Machine d mouler.


Herman Besser, Alpena, Michigan, U.S.A., 25th August, 1906 ;
6 years. Filed 29th June, 1906. Receipt No. 137,397.
Chaim.-1. A moulding machine, comprising side walls movable relatively to each other, end walls movable relatively to each other, and connections from said side walls to sald end walls for the purpose of forcing sald end walls toward each other in consequence of the movements of sald side walls toward each other.
2. The comblnation of a pair of side walls movable toward and from each other, a pair of end walls movable toward and from each other, and connections from said side walls to said end walls for the purpose of maintaining said side walls and said end walls in a positive working relation.
3. The combination of a plurality of walls for encircling a body to be moulded, rods extending from certain of said walls, and connections from sald rods to the other walls for the purpose of maintaining all of said walls in a definite working relation.
4. The combination of a plurality of walls movable toward and from each other, mechanlsm for maintaining all of said walls in a definite relation to each other, and shields mounted upon certain of said walls for preventing the dropping of the material operated upon into the working parts of the device.
5. The combination of end walls provided with bevels and side walls provided with bevels mating said bevels of sald end walls for the purpose of forcing said end walls in deffnite directions forming angles to the general direction of movement of said side walls.
6. The combination of a plurality of walls provided with grooves, means for moving said walls relatively to each other, and metallic bands detachably mounted within said grooves for the purpose of remaining upon the block after the removal of sand walls therefrom.
7. The combination of a plurality of walls movable toward each other, each of said walls being provided with a groove, the grooves of the respective walls registering with each other, and metallic bands detachable from said walls and sunken within said grooves for the purpose of acting upon the materlal to be moulded between said walls.
8. The combination of a plurality of walls provided with grooves, said walls being movable relatively to each other, metallic bands sunken within said grooves and provided with surfaces flush with the inner surfaces of said walls, and means for permitting said walls to be taken apart.
9. The comblnation of a plurality of walls movable toward and from each other for the purpose of enclosing a mass to be moulded. certain of said walls being provided with bevels and others of said walls being provided likewise with bevels mating said bevels first-mentioned and so disposed that when said first-mentioned walls provided with said first-mentioned bevels move toward each other they force the other walls toward each other.
10. In a mould, the combination of walls movable relatively to each other, guide rods and slideways mounted upon side walls so as to maintain the same in a predetermined relation, a lever mounted upon one of sald walls and provided with locking members for engaging sald guide rods, thereby holding the walls in predetermined fixed positions sultable for moulding.
11. The combination of side walls and end walls movable relatively toward each other and adapted to close around
a mass of material, said end walls being provided with slots extending therethrough, guide rods extending through said slots, and mechanism connected with said guide rods and with said side walls for the purpose of maintaining satd end walls and said side walls in a predetermined warking relation.
12. The combination of side walls movable relatively toward each other, end walls movable relatively toward each other, and mechanism connected with said side walls and actuated thereby for the purpose of drawing said end walls apart when said side walls are moved apart.
13. In a moulding machine, the combination of movable walls, and an adjustable gauge plate disposed intermediate of certain of said walls and disposed edgewise in relation thereto \(s 0\) as to be clamped by said last-mentioned walls when the same are moved toward each other for the purpose of moulding a fragmentary block.
14. The combination of a mould made of parts movable relatively from each other for the purpose of releasing the block from sald mould, and means detachably connected with said mould for holding a part of said block after the release of the mould from the block.
15. The combination of a mould provided with walls movable outwardly from each other for the purpose of releasing a block, and mechanism detachably connected with said mould for temporarily holding a part of said block.
16. The combination of a mould for shaping a block, and mechanism having the general conformity of a part of said block adapted to close the same, said mechanism being detachable from said mould for the purpose of remaining upon said block.
No. 100,523. Mould for Hollow Artioles. Moule pour objets creve.


Herman Besser, Alpena, Michigan, U.S.A., 21st August, 1906 ; 6 years. Filed 29th June, 1906. Recelpt. No. 137,396.
Claim.-1. In a device of the character described, the combination with the mould, of a collapsable core, a cap connected to the core, and means whereby traction upon the cap will collapse the core.
2. In a device of the character described, the combination with the mould, of a collapsable core, a cap movably conwected with the core, and means whereby the movement of the cap from the core may contract said core and whereby movement of the cap toward the core may expand the sald core.
3. In a device of the character described, the combination with a mould, of a core, means for contracting and expanding sald core. a cap in connection with the core, means whereby a preliminary movement of the cap with respect to the core will operate said means to contract the core, and whereby a further movement will lift said core.
4. In a device of the character described, the combination with the mould, of a collapsable coref. a cap having a lost motion connection with said core whereby to permit a limited movement of said core, and means whereby the relative movement of said cap and core will expand and contract the core.
5. In a core, the combination of a flexible shell having overlapping edges, a pair of brackets located opposite each other near said edges, said brackets having projections extending toward and overlapping each other. and outwardly facing extensions on the ends of said projections, said extensions having bearing surfaces facing each other, and. a wedge adapted to pass between said gurfaces and engaging them for positively contracting the shell.
6. In a core, the combination of a flexible shell having two free edges. two pairs of brackets located opposite each other near said edges, each bracket having a bearing surface facing the opposite bracket, a second pair of brackets located
opposite each other near said edges, a third pair of brackets each having overlapping projections provided with bearing surfaces facing each other, and a bar provided with pairs of wedges for engaging the first two pair of brackets, and a third wedge facing in the opposite direction for engaging the third pair of brackets.
7. In a core, the combination of a flexible shell, means for collapsing and expanding the shell comprising a bar having wedges thereon, a cap at the end of the core to which said bar is fixedly connected and a cross tie connected with said bar at a point within the core and connected with the cap at the side opposite to that at which the bar is connected with it.

No. 100,524. Dynamo Electric Machine. Machine dynamo-électrique.


The Allis-Chalmers Company, Milwaukee, and The Bullock Electric Manufacturing Coy., Cincinnati, assignee of Edwin C. Wright, Newport, Kentucky, U.S.A., 21st August, 1906 ; 6 years. Filed 5th May, 1906. Recelpt No. 135,569.
Claim.-1. In the rotatable member of a dynamo-electric machine the combination of a core, a winding thereon having end turns or connections, an end cover forcing said end turns against the core in a direction parallel to the longitudinal axis of the rotatable member and spacing blocks for the purpose of maintaining said end connections at a predetermined distance apart, said blocks being provided. With radial ribs and contracted portions between said ribs to allow ventilating spaces between the end connections.
2. In the rotatable member of a dynamo-electric machine the combination of a core, a winding thereon and means for supporting the end turns or connections of said winding comprising an end cover, an outside cylindrical cover, a supporting momber mounted on the shaft of said core and having an inclined surface wedges mounted on said inclined surfaces, and means also mounted on said supporting member and independent of said cover for moving said wedges to clamp the end turns against the cylindrical cover.
3. In the rotatable member of a dynamo-electric machine the combination of a core, a winding thereon, and means for supporting the end turns or connections of said winding comprising an end cover, an outside cylindrical cover, a winged supporting member, adjustable wedges mounted on the wings of said winged member, and means also mounted on said winged member for forcing said wedges outwardly to claim the end turns against sajd cylindrical cover.
4. In the rotatable element of a dynamo-electric machine the combination of a core built up of laminae, windings thereon and means for supporting the end turns or connections of said windings comprising an outside cylindrical cover, a nut for clamping the laminae in position, independently adjustable wedges mounted on said nut and means also mounted on said nut for forcing the wedges outwardly to clamp the end connections against the cylindrical cover.
5. In the rotatable element of a dynamo-electric machine the combination of a core built up of laminae windings thereon, a winged nut for fastening the laminae in position, and means for supporting the end turns or connections of sald windings comprising an outside cylindrical cover, wedges mounted on the wings of said nut, and means also carried by said nut for forcing the wedges outwardly to clamp the end connections against said cylindrical cover.
6. In the rotatable element of a dynamo-electric machine the combination of a core built op of laminae windings thereon, and means for supporting the end turns of connections of said windings comprising an end cover for clamping said end connections against the core in a direction
parallel to the longitudinal axis of said rotatable member, an outside cylindrical cover, a nut for clamping the laminae in position, adjustable wedges mounted on sald nut, and means also mounted on sald nut independent of the end cover for forcing the wedges outwardly to clamp the end connections agalnst the cylindrical cover.
7. In the rotatable element of a dynamo-electric machine the combination of a core built up of laminae windings thereon, and means for supporting the end turns or connections of said windings comprising an end cover for clamping the end connections against the core in a direction parallel to the longitudinal axis of said rotatable member, an outside cylindrical cover, a nut for clamping the laminae in position, said nut and laminae being provided with communicating passageways, adjustable wedges mounted on said nut, and means independent of the end cover for forcing the wedges cutwardly to clamp the end connections against the cylindrical cover, said cylindrical cover and end cover being provided with openings communicating with the spaces between the end connections and the longitudinal passageways through the core and nut for the purpose of permitting the passage of air to ventilate the core and the windings thereon.

\section*{No. 100,525. Reciprocator for Bleotrical Brushes. Réciprocateur pour brosses électriques.}


The Allis Chalmers Company, Milwaukee, Wisconsin, and the Bullock Electric Manufacturing Company, Cincinnati, Ohio, both in the U.S.A., assignee of Charles W. Johnson, Montreal, Quebec, Canada; 21st August, 1906; 6 years. Filed 6th April, 1906. Receipt No. 134,660.
Claim.-1. In a device for imparting reciprocating motion tc the brushes of a dynamo-electric machine the combination of a brush yoke, roller supports therefor, and means for imparting axial movement to said supports.
2. In a device for imparting reciprocating motion to the brushes of a dynamo-electric machine the combination of a brush yoke, supports therefor, and means for imparting an intermittent axial movement in each direction to said supperts.
3. In a device for imparting reciprocal motion to the brushes of a dynamo-electric machine the combination of a brush yoke, supports therefor, and means comprising an intermittent clutch device for imparting axial movement to said supports.
4. In a device for imparting reciprocating motion to the brushes of a dynamo-electric machine the combination of an eccentric, means for driving said eccentric, rods driven by said eccentric, intermittent clutch devices operated by said rods and means operated by each of said clutch devices for imparting axial movement to the brushes.
5. In a device for imparting reciprocating motion to the brushes of a dynamo-electric machine the combination of an eccentric, means for driving said eccentric from the main shaft of the machine, rods driven by said eccentric, intermittent clutch devices operated by said rods and means cperated by each of said clutch devices for imparting axial movement to the brushes.
6. In a device for imparting axial movement to the brushes of a dynamo-electric machine the combination of an eccentric, gearing for driving said eccentric from the main shaft oi the machine, rods driven by said eccentric, intermittent clutch devices operated by said rods and means operated by each of said clutch devices for imparting axial movement to the brushes.
7. In a device for imparting axial movement to the brushes of a dynamo-electric machine the combination of gearing driven from the main shaft of the machine, an eccentric operated by said gearing, rods driven by said eccentric, a pawl and ratchet driven by each rod and means operated by each of sald ratchets for imparting axial movement to the brushes.
8. In a device for imparting axial movement to the brushes of a dynamo-electric machine the combination of gearing driven from the main shaft of the machine, an eccentric operated by said gearing, rods driven by said eccentric, a pawl and ratchet driven by each rod, a collar secured to each of said ratchets, each of said collars having a roller connected thereto and a follower engaging an inclined groove in fixed support, the rollers forming a support for the brush yoke.
9. In a device for imparting axial movement to the brushes of a dynamo-electric machine the combination of a brush yoke, having its periphery engaged by rollers, fixed sleeve supports for said rollers, said supports having inclined grooves, collars mounted on said supports and each carrying follower engaging said inclined grooves, said collars being connected to sald rollers, and an intermittent clutch device operated from the main shaft of the machine for imparting rotation to said collars.
10. In a device for imparting axial movement to the brushes of a dynamo-electric machine the combination of a brush yoke, having its periphery engaged by rollers, fixed sleeve supports for said rollers, said supports having inclined grooves, collars mounted on said supports and each carrying a follower engaging said inclined grooves, sald collars being connected to sald rollers, and pawl-and-ratchet mechanisms operated from the main shaft of the machine for imparting rotation to said collars.
11. In a device for imparting axial movement to the brushes of a dynamo-electric machine the combination of a brush yoke having its periphery engaged by rollers, fixed sleeve supports for said rollers, said supports having inclined grooves, collars mounted on sald supports and each carrying a follower engaging said inclined grooves, sald collars being connected to said rollers, pawl-and-ratchet mechanism, rods connected to the pawl carrying members and an eccentric for imparting reciprocating motion to said rods. sald eccentric being operated from the main shaft of the machine.
12. In a device for imparting axial movement to the brushes of a dynamo-electric machine the combination of a brush yoke having its periphery engaged by rollers, fixed sleeve supports for said rollers. sald supports having inclined grooves. collars mounted on said supports and each carrying a follower engaging said inclined grooves, sald collars being connected to said rollers, pawl-and-ratchet mechanisms, rods connected to the pawl carrying members. an eccentric for imparting reciprocating motion to said rods and gearing for operating said eccentric from the main shaft of the machine.
13. In a device for imparting axial movement to the brushes of a dynamo-electric machine the combination of a trush yoke, having its periphery engaged by rollers, inxed eleeve supports for sald rollers, sald supports having inclined grooves, collars mounted on said supports and each carrying a follower engaging said inclined grooves, said collars beling connected to sald rollers. pawl-and-ratchet mechanisms, rods connected to the pawl carrying members, an eccentric for imparting reciprocating motion to said rods. gearing for operating said eccentric from the main shaft of the machine. said gearing comprising a belt around the main shaft, a pulley operated thereby and gears between said pulley and eccentric.
14. In a device for imparting axial movement to the brushes of a dynamo-electric machine the combination of a brush yoke having its periphery engaged by rollers, fixed sleeve supports for sald rollers, said supports having inclined grooves, collars mounted on sald supports and each carrying a follower engaging said inclined grooves, said collars being connected to said rollers, pawl-and-ratchet mechanisms. rods connected to pawl carrying members, an eccentric for imparting reciprocating motion to the rods and gearing comprising a belt around the main shaft, a pulley operated therebv, gearing driven by said pulley and a driv!rg shaft extending to the opposite side of the machine and c.earing connected to sald shaft for operating said eccentric.

No. 100,526. Branh Holder for Flectrical Machines.
Porte brosses pour machines.
The Canadian Westinghouse Company, Limited, Hamilton, Ontario. Canada, assignee of Robert Siegiried and Norman W. Storer, both of Pittsburg, Pennsylvania, U.S.A., 21st August, 1906; 6 years. Flled 25th May, 1906. Receipt No. 136,209.
Claim.-1. A brush holder for electrical machine comprising a frame, a brush loosely supported therein, a rod provided with a plurality of transverse holes rotatably mounted in bearings in said frame, one of which has a transverse hole, a spring having one end attached to said rod and its other end resting upon the brush, a steadying
arm loosely supported by said rod and rigidly attached to said spring, and a locking pin that may be removably in-

serted in the hole in the bearing and in elther of the holes in the rod to lock the rod to the frame in each position to which it is rotatively adjusted.
2. In a brush holder, the combination with a frame having a socket and a brush having a sliding fit in said socket, of a spiral spring having one end supported by said frame and having its other end resting upon said brush and a steadying arm rigidly fastened to the spring and having one ond pivotally attached to the frame.
3. In a brush holder, the combination with a frame and a brush mounted to slide therein, of a spring, one end of which rests upon said brush and the other end of which is attached to said frame, and a steadying arm rigidly fastened th said spring and pirotally attached to the frame.
4. In a brush holder, the combination with a frame and a brush loosely supported therein, of a rod rotatably mounted ir bearings in sald frame, one of which has a transverse hole, said rod being provided with a thumb wrench and with a plurality of transverse holes each of which may be caused to register with the hole in the bearing. a spring having one end attached to said rod and its other end resting upon the brush, a pivoted steadying arm attached to said spring, and a removable locking pin adapted to be inserted in either of the holes in the rod and in the hole in the frame.
5. In a brush holder, the combination with a frame ad a brush loosely mounted therein, of a rod rotatably mounted in the frame, a spiral spring having one end attached to said rod and the other end resting upon tho brush, and a steadying arm connecting said rod with an intermediate point in the spring.
6. In a brush holder, the combination with a frame and a brush loosely mounted therein, of a rod journalled in said frame, a removable locking device between the rod and the frame, a spiral spring one end of which is fastened to said rod and the other end of which rests upon the brush and a steadying arm having one end loosely mounted upon said rod and rigidly fastened to the spring between the rod and the brush.
7. In a brush holder, the combination with a frame and a brush loosely mounted therein, of a rod journalled in said frame, a removable locking device between the rod and the frame, a spring having one end attached to the rod and huving a block at its other end that rests upon the brush and a steadying arm for the spring.
8. In a brush holder, the combination with a frame comprising a casting and a rolled metal socket, of a brush of a rotatable rod mounted in the casting, a removable locking device between the rod and the casting, a spiral spring attached to one end of the rod and a steadying arm loosely mounted upon the rod and rigidly fasteneed to the free end of the spring.
9. In a brush holder, the combination with a frame comprising a casting and a rolled metal socket. of a brush loosely mounted in said socket, a rod rotatably mounted in the casting, a removable locking device between the rod and the casting, a spiral spring surrounding and fastened to said rod and having a projecting end provided with a block to rest upon the brush and a steadying arm loosely connected at one end to said rod and rigidly fastened to the projecting portion of the spring.

No. 100,527. Electrical Measuring Instrument.

\section*{Instrunent élcctrique d mosurer.}

The Canadian Westinghouse Company Limited, Hamilton, Ontario, Canada, assignce of Theodore Abymeyer, Wilkinsburg. Pennsylvanla, U.S.A., 21st August. 1906 ; 6 years. Filed 25th May, 1906. Recelpt No. 136,210.
Claim.-1. In an electrical measuring instrument, the combination with a movable member, of a polnter, a spring
concentric with the axis of said movable member and havone end attached thereto, an arbour to which the other end

of the spring is attached, a rotatable scale carried by said arbour, and a stationary index adjacent to said rotatable scale.
2. In an electrical measuring instrument, a stationary coil and a movable coil having coincident axes, a spring concentric with said axes and having one end connected to the movement coil, an arbour to which the other end of the spring is atached, a rotatable scale carried by the arbour, and a stationary index and vernier scale adjacent to said rotatable scale.
3. In an electrical measuring instrument, the combination with a movable member, of two oopositely coiled spiral springs each of which has one end attached thereto, an arbour to which the other ends of the springs are attached, a rotatable scale carried by the arbour, and a stationary index adjacent to said rotatable scale.
4. In an electrical measuring instrument, the combination with a stationary coil, of a movable coil having its axis coincident with that of the stationary coil, pivots for the said movable coil, spiral springs having their inner ends attached thereto, an arbour to which the outer ends of the springs are attached, a pointer carried by the movable coil, a rotatable seale carried by the arbour, and a stationary index adjacent to said rotatable scale.
5. In an elecrical measuring instrument, a stationary coil and a movable coil having coincident horizontal axes, pivots attached to said movable coil, spiral springs each having one end attached to one of said pivots, an arbour to which the other ends of the said springs are attached, a pointer carried by the movable coil, a rotatable scale carried by the arbour, and stationary index and venier scale adjacent to said rotatable scale.
6. In an electrical measuring instrument, the combination with a stationary coil, and a movable coil having a pointer, of a stationary scale and a movable scale adjacent to each other and to the pointer, and a yielding resilient connection between the movable coil and the movable scale.
7. In an electrical measuring instrument, the combination with a stationary coil and a movable coil in inductive relation to each other, said movable coil having a pointer, of a stationary scale and a movable scale adjacent to each other and to said pointeer, and a yielding, resilient connection between the movable scale and the movable coil.
8. In an electrical measuring instrument, the combination with a stationary coil and a movable coil in inductive relation to each other, said movable coil having a pointer, of a stationary index, and a movable scale adjacent to said pointer and one or more springs connecting the movable coil and the movable seale.
9. In an electrical measuring instrument, the combination with a stationary coil and a coil supported upon knife-edge bearings in inductive relation to said stationary coil and provided with a pointer, of a stationary index, a movable scale and one or more springs connecting said movable scale to said movable coil.
10. In an electrical measuring instrument, the combination with a stationary coil, a movable coil mounted upon knifeedge bearings and provided with a pointer, and means for raising and supporting said coil independently of its bearings, of a stationary index, a movable scale and one or more springs interposed between said scale and the movable coil.
11. In an electrical measuring instrument, the combination with a stationary coil and a movable coil pivotally supported in inductive relation thereto and having a pointer, of a stationary index, a rotatable scale, one or more springs connecting said scale to said movable coil and means for rotating said scale.

\section*{No. 100,528. Fan. Evantail.}


The Winton Motor Carriage Company, assignee of Alexander Winton and Harold B. Anderson, all of Cleveland. Ohio, U.S.A., 21st August, 1906; 6 years. Filed 23rd April, 1906. Receipt No. 135,210.
Claim.-1. The combination with an explosive engine of a fan shaft, gears positively connecting the fan shaft and engine, a fan loose on the fan shaft and driving friction surfaces between the fan and its shaft.
2. The combination with an explosive engine of a fan shaft, driving gears positively connecting the engine with the fan shaft, a fan loose on the fan shaft, a friction disc fast on the fan shaft, the hub of the fan having a friction surface, and means for causing the said friction surfaces to co-act for the purpose described.
3. The combination with an explosive engine of a fan shaft, driving gears positively connecting the engine and the fan shaft, a friction disc fast to the shaft, a fan loose on the shaft, the hub of the fan having a friction surface, a frietion disc between the aforesaid friction surfaces, and means for forcing the friction surfaces together.
4. The combination with an explosive engine of a fan shaft, gears positively connecting the engine with the fan shaft. a fan loose on the fan shaft, a friction disc fast on the fan shaft and co-acting with the fan hub for driving the fan, an expanding spring having one end co-acting with the opposite side of the hub from the said friction disc and the opposite end of the spring held by a shoulder' on the fan shaft, the parts co-operating as described.
5. The combination with an explosive engine of a fan shaft, gears positively connecting the engine with the fan shaft, the fan having an elongated hub loose on the shaft, a friction disc fast on the shaft and co-operating with one side of the hub for driving the fan and an expanding spring co-operating with the opposite side of the hub, for the purpose described.
6. The combination with an explosive engine of a fan shaft, gears positively connecting the engine with the fan shaft and a friction member between the shaft and the fan. and so located that the air resistance to the fan blades increases the friction as the air resistance is increased by the increased speed of the fan.
7. The combination of a fan shaft, means for driving it at different speeds, a fan loose on the shaft, friction devices between the fan and its shaft for driving it, the friction devices so located that the air resistance upon the blades of the fan causes the friction to increase or decrease according to the speed of the fan.
8. The combination of a fan shaft, means for driving the shaft at different speeds, a fan loose upon the shaft, friction driving devices between the shaft and the fan, means forcing the friction devices together, the friction devices being so arranged that the air resistance to the blades of the fan will add to the frictional engagement of the friction driving devices when the speed of the fan is increased.

\section*{No. 100,529. Machine for Forming Pulp Fibre.}

Mechine à former des disques de fibre de pulpe
The United States Fibre Stopper Company, assignee of Rudolph William Goeb, all of St. Louis, Missouri. U.S.A. 21st August, 1906; 6 years. Filed 8th March, 1906. Receipt No. 133,646.
Claim.-1. In a machine of the class described, a device for holding liquid pulp fibre, a perforated die and a co-operating die for moulding said pulp fibre into a predetermined form. means for subjecting the face of said body of pulp tibre which is acted upon by the perforated die to air pressure and means for causing said air pressure to force the liqnid 'rom said pulp fibre through said perforated die, substantially as described.
2. In a machine of the class described, a device for containing a quantity of liquid pulp fibre, means for moulding

said pulp fibre into the form of a disc, means for subjectinn che face of said disc to an air vacuum to withdraw the liquil from the fibre, means for subjecting the other face of said disc to a blast of compressed air, and means for causing said blast to force the liquid out through the face of the disc which is subjected to the blast of air, substantially as described.
3. In a machine of the class described, a device for containing liquid pulp fibre, a perforated die, a co-operating die, means for closing said dies to mould the pulp fibre into a predetermined form, a pipe in communication with the perforated die, and means for subjocting the face of said pulp fibre which is acted upon by said perforated die to air pressure whereby the iquid is forced from said fibre out through said pipe, substantially as described.
4. In a machine of the class described, a tank for holding liquid pulp fibre, means for measuring the pulp fibre into predetermined quantities, a cylinder for receiving the pulp fibre, means operating in said cylinder for moulding said fibre into the form of a disc, means for extracting the liquid from said pulp fibre during the moulding operation, and means for ejecting the disc from the machine, substantially as described
5. In a machine of the class described, a cylinder for holding liquid pulp fibre, a perforated die for closing one end of said cylinder, a co operating perforated die reciprocatingly mounted in said cylinder for moulding the pulp fibre into the form of a disc, means for forcing air through said lastnamed die, and a pipe in communication with said die for carrying away the water which is forced through the outer face thereol substantially as described.
6. In a machine of the class described, a cylinder for conthining liquid pulp fibre, a perforated die for closing one end of said cylinder, a co-operating perforated die reciprocatingly mounted in asid cylinder and operating to mould the pulp : inse into the form of a disc, a holiow rod on which said last-nmed die is mounted, a discharge tube located in said pulp material and into said discharge tube, substantially as described.
7. In a machine of the class described, a cylinder for containing lifuid pulp fibre, a perforated die for closing one end of sald cylinder, a co-operating perforated die mounted in said cylitreer, means for actuating said dies to mould the pulp fibre into the form'of a disc, means for forcing the liquid in said pulp fibre through both of said dies, and automatic means for supplying the cylinder with predetermined quantities of liquid pulp fibre, substantially as described
8. In a machine of the class described, a cylinder for containing liquid pulp fibre, upper and lower dies co-operating with said cylinder for moulding the pulp fibre into the form of a disc, actuating mechanism for said dies, means for holding the disc is engagement with one of said dies when they are separated, a carrier, meass for moving said carrier into position between the dies, meats for ejecting the disc onto said carrier, and means for actuating said carrier to remove the disc from the machine, substantially as described.
9. In a machine of the class described, a cylinder for holding liquid pulp fibre, perforated dies for moulding said pulp fibre into a disc, an air pressure operating upon one side of the body of pulp, means for causing said air pressure to force the liquid through the die which operates upon that side of the fibre to force the liquid therefrom, a vacuum operating upon the other side of the body of pulp fibre to draw the liquid therefrom and into a reservoir, and means for automatically discarging the liquid from said reservoir, substantially as described.
10. In a machine of the class described, a cylinder for holding liquid pulp ibre, a perforated die, a rod carrying said die and provided with a bore, a tube communicating with the bore of said rod, means for creating a vacuum in said tube, a co-operating perforated die, a rod carrying said
die and provided with a bore, a supply of compressed air communicating with the bore of said rod, a block mounted in said bore and provided with perforations, a tube extending from said block to the die on said rod a transversely extending bore in said block leading from said tube, and a slot in said cylinder adapted to register with the transversely extending bore of the block, substantially as described.
11. In a machine of the class described, a tank for holding liquid pulp fibre, a plurality of cylinders, a plurality of measuring devices for apportioning the liquid pulp fibre into predetermined quantities, means for conveying the pulp fibre in its liquid state from said measuring devices into said cylinders, co-operating dies for each cylinder to mould the pulp fibre into the form of a disc, and means for extract ing the liquid from said pulp fibra during the mouding operation, substantially as described.
12, In a machine of the class described, a tank for holding liquid pulp fibre, a measuring device, means for operating said device intermittently to measure the liquid pulp fibre into predetermined quantities, a cylinder, means for conveying the pulp fibre in its liquid state from the measuring device to the cylinder, moulding dies for pressing the pulp fibre in the cylinder into the form of a disc, means for actuating sald dies intermittently, and means for extracting the liquid from the pulp fibre during the moulding operation, substantially as described.
13. In a machine of the class described, a vertically disposed cylinder for holding liquid pulp fibre, reciprocating dies for pressing saiil pulp fibre into the form of a disc, a plurality of rock shafts provided with arms, connecting links tetween said arms and said dies, a ylelding connection between one die and its actuating link, and means for operat Ing said rock shafts, substantially as described.
14. In a machine of the class described. means for mould ing pulp fibre into the form of a disc, a tilting table for receiving said disc as it leaves the moulding dies, said table baving a receiving face which is formed of flbrous material and means actuated by the mechanism which moves one of said dies for moving said table into and out of operative pesition, substantially as described.
15. In a machine of the class described, a tank for holding liquid pulp fibre, a plurality of automatically actuating measuring devices for measuring the liquid pulp fibre into predetermined quantitles, a plurality of cylinders which recoive the pulp fibre in its liquid state, a plurally of automatically actuated dies co-acting with said cylinders for moulding the pulp fibre into disc form, a compressed air cupply, and an air vacuum co-operating with each get of dies for extracting the liquid from the pulp fibre during the noulding operation, means for ejecting said discs from the dies, and means for conveying said discs out of the machine. substantially as described.

No. 100,530. Bearing. Coussinet.


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Oscar Junggren, Schenectady, New York, U.S.A., 21st August. 1906 ; 6 years. Flled 8th May. 1906. Recelpt No. 136,669.

Claim.- - . In combination a shaft, a thrust bearing, a guide bearing located beyond the thrust bearing, and a means for supplying lubricant to the guide bearing from which it exhausts and lubricates the thrust bearing.
2. In combination a shaft, a thrust bearing, a guide bearing located beyond the thrust bearing, and a means for discharging high pressure lubricant through the gulde bearing to the thrust bearing so that the guide bearing will always be lubricated and chips caused by cutting of the thrust tearing will be prevented from entering the guide bearing.
3. In combination a shaft, a thrust bearing, a guide bearing located beyond the thrust bearing, a plate for taking the longitudinal thrust on the guide bearing and through it that on the thrust bearing, and means for admitting fluid under pressure between the end of the shaft and the plate and permitting it to flow through the guide bearing and discharge through the thrust bearing.
4. In combination a shaft, a guide bearing therefor, a thrust bearing located beyond the guide bearing, and co-operating therewith to take up thrust, an enclosure for the bearing, and an adjusting means for simultaneously moving the thrust bearing and guide bearings longitudinally.
5. In combination a shaft, a guide bearing therefor, one end of which acts as a part of a thrust bearing, a thrust bearing block carried by the shaft and co-operating with the said end of the guide bearing, a closure for the end of the shaft, and means for discharging lubricant under high Iressure between the end of the shaft and said closure and causing it to flow axially through the guide bearing at full pressure and discharge between the upper end of the gulde bearing and the block on the shaft.
6. In combination a shaft, a guide bearing therefor, a removable end for the guide bearing, a bearing block carried by the shaft and co-operating with said end to form a thrust bearing to resist the thrust of the shaft, and a means for discharging lubricant to the thrust and guide bearings.
7. In combination a shaft, a collar thereon, a bearing block seated thereon, a guide bearing beyond said block, one end of which co-operates with said block to take up the thrust, an enclosure for the bearings, an adjusting plate within the enclosure which engages only with the guide bearing. and a means for discharging high pressure lubricant between said plate and the end of the shaft.
8. In combination a shaft. a support which is subject to changes in position by reason of temperature variations, a spider which is attached to the support at a point remote from the center to minimize the effects of said variations, guide and thrust bearings carried by the spider, and means for supplying lubricant to one bearing from which it fiows through the other bearing.
9. In combination a shaft, a support which is subject to changes by reason of temperature variations, a spider which is attached to the support at a point remote from the center to minimize the effects of said variations, guide and thrust bearings carried by the spider, the thrust bearings being located between the guide bearing and the support. and a means for supplying lubricant to the end of the shaft at high pressure to partially take up the thrust and causing it to flow at high pressure through the guide bearing and discharge through the thrust bearing to take up the remainder of the thrust.
10. In combination a shaft a support which is subject to changes by reason of temperature variations, a spider which is attached to the support at a point remote from the center to mininize the effects of said variations, a hub for the holder, a bearing sleeve surrounding the shaft and located within the bore of the hub, a plate within the bore which adjusts the bearing longitudintlly, a thrust bearing block carried by the shaft and co-operating with one end of the bearing sleeve, and means for discharging lubricant under bigh pressure between the plate and the end of the shaft and causing it to flow through the bearing and discharge between the thrust block and the said end of the bearing.
11. In combination a shaft a support which is subject to change by reason of temperature variations, a spider which is attached to the support at a point remote from the center to minimize the effects of said variations, a hub for the spider which has an open ended bore to receive the shaft, a sleeve located within the bore, a plate engaging the sleeve and out of contact with the end of the shaft, a head for closing one end of the bore of the hub, an adjusting screw carried by the head and engaging the plate, a block on the shaft. a statlonary part co-operating therewith to form a thrust bearing, a conduit which passes through the adjusting screw and discharges lubricant between the plate and the end of the shaft, and means for conveying the lubricant through the bearing and discharging it between the surfaces of the thrust bearing.
12. In comblnation a support having an inset, a spider extending across the inset and provided with openings to permit access to the parts between it and the adjacent wall of the inset, a thrust and a guide bearing carried by the spider, a means for supplying lubricant under pressure to the end of the shaft and causing it to flow through the guide bearing and be discharged between the parts of the thrust bearing, and means for collecting and discharging the exhaust lubricant.
13. In combination a support having an inset, a spider extending across the inset, a hub therefor which is separated axially from the transverse wall of the inset, a thrust block mounted on the shaft, a co-operating bearing surface carried by the spider hub on the end adjacent to the inset, a
guide bearing carried by the hub on the side away from the
inset, an adjustable plate engaging the guide learing but out of contact with the shaft and a conduit for supplying lubricant to the space between the shaft and the plate.
14. In combination a shaft, a bearing therefor, a thrust bearing, an enclosure for the bearings and a peep-hole in the enclosure in line with the plane of separation of the parts of the thrust bearing.
15. In combination a shaft, a bearing therefor, a thrust bearing, an enclosure for the bearings, a peep-hole in the enclosure in line with the plane of separation of the parts of the thrust bearings, and means for closing the peep-hole.
16. In combination a shaft, a guide bearing therefor, a thrust bearing, an enclosure for the bearings, means for discharging lubricant under pressure to the bearings, and means extending through the enclosure whereby the clearances between the shaft and the guide bearings may be determined without disturbing the enclosure.
17. In combination a shaft, a gulde bearing therefor, a thrust bearing, an enclosure for the bearings, means for discharging lubricant under pressure to the bearings and a screw-threaded means extending through the enclosure and eugaging the thrust block on the shaft for determining the clearance between the shaft and the gulde bearing.
18. In combination a shaft, a thrust block carried thereby, a stationary bearing surfaces co-operating therewith, a cylindrical support having a spherical surface and a guide bearing for the shaft having a spherical surface which rests on that formed on the support.
19. In combination a shaft, a thrust block carried thereby, a guide bearing one end of which co-operates with the block to resist the thrust, a cylindrical rib on the bearing having a spherical surface, a cylindrical support having a corresponding spherical surface co-operating with the first and a means for carrying the cylindrical support.
20. In combination a shaft, a thrust block carried by the block to resist the thrust, a cylinder for supporting the guide bearing, the meeting surface between the parts being spherical a means carrying the cylinder, a conduit which passes through the cylinder and discharges lubricant to the space between the shaft and the walls of the guide bearing and passages conveying the lubricant through the guide bearing and discharging it between the end of the guide bearing an. the thrust lock on the shaft.

No. 100,531. Bearing. Coussinet.


The Canadian General Electric Company, Toronto, Ontario. Canada, assignee of William L. K. Emmet. Schenectads.
New York, U.S.A., 21st August, 1906; 6 years. Filed 11th May, 1906. Receipt. No. 135,794.
Claim.-1. The combination of a shaft with a bearing therefor comprising a plurality of strips of wood which form a bearing surface, an enclosing support therefor, and retainers between the strips for holding then in place, as and for the purpose specified.
2. The combination of a shaft with a bearing therefor comprising a plurality of strips of wood with the end of the grain a plurality of strips of wood with with the end of the grain
presented to the periphery of the shaft for supporting it, an enclosing support therefor, and retainers between the strips for holding them in place, the heads of the retainers being below the cylindrical surface presented by the blocks so as form longitudinally extending passages for lubricant, as and for the purpose specified.
3. The combination of a shaft with a bearing therefor comprising a plurality of rows of wooden blocks, each row containing two or more blocks, a support therefor, and longitudinally extending retainers for securing tho blocks to the support, as and for the purpose specified.
4. The combination of a shaft with a bearing therefor comprising a plurality of rows of wooden blocks, each of said blocks having shoulders at its side edges, a support therefor, and retainers having enlarged heads which fit into and engage the shoulders and hold the blocks in place, as and for che purpose specified.
5. The combination of a shaft with a bearing therefor comprising a lining, a shell enclosing the lining, a plurality of wooden blocks arranged in rows and supported by the lining. and retainers located between the blocks for securing them in place, as and for the purpose specifled.
6. A shaft in combination with a bearing therefor comprising a shell having an internal shoulder, a lining mounted within the shell and secured to the shoulder, a plurality of wooden bearing blocks arranged in rows about the shaft, and a retaining ring located at one end of the lining to secure the blocks in place, as and for the purpose specified.
7. A shaft in combination with a bearing therefor comprising a plurality of rows of wooden blocks, each row comprising two or more bocks, a surrounding support, a flange on sald support for holding the blocks at one end, detachable ring serving the same purpose for the opposite end, a plurality of retainers, each divided with sections and arranged between blocks for securing them in place, as and for the purpose specified.
8. As an article of manufacture, a wooden block for a bearing made in the form of a segment of a cylinder made with the grain of the wood extending trausversely, and having top and bottom edges cut in planes transverse to that of the block and sides cut away to form shoulders, as and for the purpose specified.
9. In combination a shaft, a shell which surrounds the shaft, a plate closing one end of the shell, a bearing block supported thereby, a second block mounted in line with the first and normally separated therefrom by a film of lubricant, rows of wooden blocks carried by the shell for centering and supporting the shaft, and means for retaining the rows of blocks, as and for the purpose specified.
10. In a bearing, the combination of a base or support, a shell which is belted to the base and extends through an orifice therein, an adjustable bearing block which is guided by the inside wall of the shell, a removable plate for closing one end of the shell, means between the block and plate to prevent relative rocation, a second bearing block in line with the first, means for securing it to the shaft, and a bearing having its working surface at right angles to the first which is also supported by the shell, as and for the purpose specified.
11. In a bearing, the combination of a support, a bearing block carried thereby, a second bearing block detachably secured to the end of the shaft, a key for preventing relative rotation of the shaft and the block, and pins for guiding the shaft and block in assembling so that the key and the slot recelving it will register, as and for the purpose specifled.
12. In a bearing, the combination of a support, a bearing block carricd thereby, a shaft, a second bearing block of iarger diameter than the shaft and secured thereto, a cylindrical bearing surrounding and supporting the shaft at is point beyond the said blocks, a key for preventing relativ. rotation of the shaft and of one of the blocks, aud long. tudinally extending pins acting to guide the shaft anl block relatively to each other to cause the key to enter the receiving slot when the shaft is slipped through the said cyliudrical bearing.

No. 100,532. Ball Bearing. Conssinct à boules.
John Nicholas Petrrsen, and William Foster Pettit, assignee of a half Interest, toth of New Orleans, Louisiana. U.S.A., \(21 s t\) August, 1906; 6 years. Filed 5th May, 1906 . Receipt No. 135,567.
Claim.-1. A ball bearing comprising a longitudinally grooved journal, a sleeve having a key fitting in the groove of the journal and provided with spaced annular raceways bals in each of the raceways, a spring pressing the sle.ve in the direction of its length, a box. a cup screwing into rach end of the box and engaging with its inner face the balls, the outer cup being closed and the inner one having an opening to receive the sleeve, moans for locking the cups in position, and a dust ring secured to the outer end 8-15
of the inner cup and fitting the peripheral face of the sleeve.

2. A ball bearing, comprising a journal, a spring pressed sleceve having sliding and guided movement on the journal said sleev being provided with spaced annular racewaye, balls in the raceways, a box, a cup secured in each end of the box and engaging the balls, the outer cup being closed and the inner one having an opening to receive the sleeve, means for locking the cups in position, and a dust ring secured to the inner cup and fitting upon the sleeve.
3. A ball bearing. comprising a box, a journal, a sliding and spring pressed sleeve on the journal, said sleeve being provided with spaced annular raceways, balls in the race ways, and cups secured in the ends of the box and engaging the balls.
4. In a ball bearing, a box, a journal, a sliding and spring prossed sleeve on the journal, said sleeve having spaced racrways each formed by an annular groove and a ring secured to the sleeve adjacent to the groove, balls in the race ways, and a cup secured in each end of the box and engaging the balls.
\(\overline{5}\). In a ball bearing, a box, a journal, a sliding and spring prissed sleeve on the journal, said sleeve being provided with spaced annular raceways, balls in the raceways, cups secured in the ends of the box and engaging the balls, a dust ring fitting upon the inner end of the sleeve, a washer engaging the dust ring and end of the inner cup. and a ring nut screwing into the box into engagement with the washer.
6. In a ball bearing box, a journal, a spring pressed sleceve having sliding and guided movement on the journal, said sleeve being provided with spaced annular raceways balls in the raceways, cups screwing into the ends of the box and engaging the balls, and means for locking the cups in position after they have been adjusted.

No. 100,533. Mouth Organ. Harmonica.


Anslow Barrington Rudd, Perth, assignec of Rufus Henry Deacon, Bolingbroke, both in Ontario, Canada, 21st August. 190f; 6 years. Filed 14th July, 1904. Receipt No. 116.936.
claim.-1. In a mouth organ, reed protecting plates having grooves formed longitudinally therein and secured to the boly of the sa!d organ, a mouthpiece or slide having lip contracting portions formed thercon and inwardly turned cdges which are adapted to engage with the sald grooves to fold the sald mouthplece. the said monthpiece being provided with an opening haying folded or rounded edges, substantlally as described.

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2. In a mouth organ, reed protecting plates having grooves formed longitudinally therein and secured to the body of said organ, a mouthpiece or slide having lip contacting portions formed thereon and inwardly turned edges which are adapted to engage with the said grooves to hold the said mouthpiece, the said mouthpiece being provided with an opening having folded or rounded edges, and side guards formed upon the said mouthpiece adjacent to the said opening, substantially as described.
3. In a mouth organ, a movable mouthplece having a longitudinal opening formed therein, in line with the openings oi the reed chambers of the said organ, and adapted to slide longitudinally along the said mouth organ, the edge of the said opening being turned or folded to form a rounded surface, lip contracting members forming a portion of the said mouthpiece, and means for attaching the said mouthp:ece to the body of the organ, substantially as described.
4. In a mouth organ, a movable mouthpiece having a longitudinal opening formed therein, in line with the openings of the reed chambers of the said organ, and adapted 40 slide longitudinally along the said organ, the edge of the said opening being turned or folded to form a rounded surface, and means for attaching the said mouthpiece to the body of the organ, substantially as described.
5. In a mouth organ, a movable mouthpiece having a longitudinal opening formed therein, in line with the opening of the reed chambers of the said organ, said mouthpiece being suitably connected to the body of the organ and adapted to slide longitudinally thereof, the edge of the said opening being turned or folded to form a rounded surface, substantially as described.
6. In a mouth organ. a movable mouthpiece having a longitudinal opening formed therein, in line with the openings \(o\) : the reed chamber of the said organ and adapted to slide longitudinally along the said organ, lip contracting members forming a portion of said mouthpiece, side guards formed upon the said mouthpiece, adjacent to the sald opening therein, and means for attaching the said mouthpiece to the body of the organ, substantially as described.
7. In a mouth organ, a movable mouthpiece having a longi\(t\) lidinal opening formed therein, in line with the openings of the reed chambers of the said organ, said mouthpiece being suitably connected to the body of the organ and adapted to slide longitudinally thereof, and side guards formed upon the said mouthpiece, adjacent to the said opening, substant:ally as described.
8. In a mouth organ, a plurality of reeds, protecting plates disposed over the reds, a mouthpiece longitudinally slidable over said reeds and provided with an opening communicating therewith. and means adapted to secure the mouthpiece to to the protecting plates to prevent lateral displacement of the mouthpiece.
9. In a mouth organ, a plurality of reeds, protecting plates disposed over the reeds, a mouthpiece longitudinally slidable over said reeds and provided with an opening communicating therewith, and co-operative means on the mouthpiece and protecting plates, adapted to prevent lateral displacement of the mouthpiece.
10. In a mouth organ, the combination of the usual reeds, longitudinally grooved protecting plates for said reeds, and a mouthpiece slidably engaging said longitudinal grooves, substantially as described.
11. In a mouth organ, the combination of the usual reeds, longitudinally grooved protecting plates for said reeds, and a mouthpiece overlapping said plates and provided with inwardly turned edges slidably engaging the longitudinal grooves therein, substantially as described.

\section*{No. 100,534. Electric Hammer. Marteau électrique.}

William Franklin Wegner and Alexander Wendelburg, assignee of a half interest, both of New York City, New York, U.S.A., 21st August, 1906 ; 6 years. Filed 23rd August, 1906. Receipt No. 135,198.
Claim.-1. An electric hammer comprising successive coils wound in opposite directions, a hammer proper arranged to reciprocate within the coils, a tool having its shanks projected within the hammer, and means for energizing and deenergizing the coils.
2. An electric hammer comprising successive coils wound in opposite directions, a hammer proper arranged to reciprocate within the coils and provided with socket in its end for receiving a tool shank, and means for energizing and de-energizing the coils.
3. An electric hammer comprising successive coils wound in opposite directions, a hammer proper arranged to reciprocate within the coils and provided with sockets in its opposite ends, one for receiving a tool actuating stem or shank and one for receiving a spring, a spring arranged to enter said socket in one end of the hammer and means for energizing and de-energizing the coils.
4. An electric hammer comprising successive coils wound in opposite directions, a hammer proper arranged to reci-

procate within the coils and provided with a socket for receiving a tool shank, a wearing button location in said socket a tool shank arranged to enter the socket and provided with a hardened end to receive the impact of the hammer and for momentarily holding the magnetism, and means for energizing and de-energizing the coils.
5. An electric hammer comprising successive coils wound in opposite directions, a casing for the coils, a tool holder engaged with the casing at one end, a handle engaged with the casing at the opposite end, a follower of non-magnetic material interposed between the handle and coils, a hammer proper arranged to reciprocate within the coils and provided with a socket in its end toward the handle, a spring guided by the follower and entering the said socket on the hammer, and means for energizing and de-energizing the coils.
6. An electric hammer comprising successive coils wound in opposite directions, a suitable casing for the coils, a holow handle engaged with the casing, discs of insulating material located between the handle and coils and provided with registering contact rings, wires leading from the coils to the rings in one disc, wires leading from the companion disc through the handle, a commutator and source of electric energy for energizing and de-energizing the coils
7. An electric hammer comprising a plurality of coils suitably arranged within a casing, a hammer proper arranged to reciprocate within the coils, a hollow handle attached to the casing, an electric switch located within the handle, said switch comprising a spring actuated plunger under the control of the operator and a spring actuated sub-plunger carried by the said plunger, a source of electric energy and contact pieces within the handle in position to be connected and disconnected by the sub-plunger, said contact pieces being connected the one with the colls and the other with a source of electric energy.

\section*{No. 100,535. Friction Clutch Brake.}

Frein d'embrayage à friction.


Henry Selby Hele-Shaw, Liverpool, England, 21st August. 1906 ; 6 years. Fied 29th December, 1902. Receipt No. 101,742.
Claim.-1. In combination a shaft, a casing, shaft dises and casing discs, said discs being corrugated facsimiles of each other, and means for pressing the disc together, substantially as described.
2. In combination a shaft, a casing, corrugated shaft disc and corrugated casing disc, said discs being formed of sheet metal and being facsimiles of each other so far as their corrugations are concerned. and means for pressing the discs together, substantially as described.
3. In combination a shaft, a casing. shaft discs and casing discs, both sets of discs being of flexible material and provided with facsimile corrugations, and means for pressing the discs together, substantially as described.
4. In combination a shaft, a casing, shaft dises and casing discs, said discs being corrugated and in respect to the corrugations facsimiles of each other, said casing being adapted to inclose the discs and to contain the lubricating fluid, and means for pressing the discs fogether, substantially as described.
5. In combination a shaft, a casing, shaft discs and casing discs, sald discs being corrugated and in respect to the corrugations finsimiles of each other, and means for pressing the discs together comprising a spring case, a spring normally pressing the case toward the discs, said spring case having pins to transmit the spring pressure to the discs and a groove by which it may be held against the spring pressure in the inoperative position, substantially as described.
6. In combination a shaft, a casing, shaft discs and casing discs, sald discs being corrugated and in respect to the corrugations facsimlles of each other, said casing being adapted to inclose the discs and to contain the lubricating fluid, and means for pressing the discs together comprising a spring case, a spring normally pressing the case towards the discs, said spring case having pins to transmit the spring pressure to the discs, and a groove by which it may be held against the spring presure in the inoperative position, substantlally as described.
7. In combination a shaft, a casing, shaft discs and casing discs, said discs being corrugated and in respect to the corrugations facsimiles of each other, said casing being adapted to inclose the discs and being provided with an inlet and an outlet and connecting pipe for the circulation of the lubricating and cooling fluld, and means for pressing the discs together comprising a spring case, a spring normally pressing the case toward the discs, said spring case having pins to transmit the spring pressure to the discs and a groove by which it may be held against the spring pressure in the inoperative position, substantially as described.
8. In combination a shaft with a feathered sleeve keyed thereto, a casing having featherways cut therein, shaft discs and casing discs, said discs being corrugated and in respect to the corrugations facsimiles of each other and provided with teeth to fit respectively the feathered sleeve and the feathered casing, said casing being adapted to inclose the discs and being provided with an inlet and an outlet and connecting pipe for the circulation of the lubriciating and cooling fluid, and means for pressing the discs together comprising a spring case, a spring normally pressing the case toward the discs, said spring case having pins to transmit the spring pressure to the discs, and a groove by which it may be held against the spring pressure in the inoperative position, substantially as described.
9. In combination a shaft, a casing, shaft discs, casing discs and spacing discs, all said discs being corrugated facsimilies of each other, and means for pressing the discs together, substantially as described.
10. In combination a shaft, a casing, corrugated shaft discs, corrugated discs, and corrugated spacing discs, all said discs being formed of sheet metal and being facsimiles of each other so far as their corrugations are concerned and means for pressing the discs together, substantially as described.
11. In combination a shaft, a casing, shaft discs, casing discs and spacing discs, all sets of discs being of flexible material and provided with facsimile corrugations, and means for pressing the discs together, substantially as described.
12. In colmbination a shaft, a casing, shaft discs, casing discs and spacing discs, all said idscs being corrugated and in respect to the corrugations facsimiles of each other, said casing being adapted to inclose the discs and to contain tho lubricating fluid, and means for prossing the discs together, substantially as described.
13. In combination a shaft, a casing, shaft discs, casing discs and spacing discs, all said discs being corrugated and in respect to the corrugations facsimiles of each other, and means for pressing the discs together comprising a spring case, a spring normally pressing the case toward the discs, sald spring case having pins to transmit the spring pressure to the discs, and a groove by which it may be held against the spring pressure in the inoperative position, substantially as described.
14. In combination a shaft, a casing, shaft discs, casing discs oand spacing discs, all said discs being corrugated and in respect to the corrugations facsimiles of each other, sald
casing being adapted to inclose the discs and to contain the lubricating fluid, and means for pressing the discs together comprising a spring case, a spring normally pressing the case toward the discs, said spring case having pins to transmit the spring pressure to the discs and a groove by which it may be held against the spring pressure in the inoperative position, substantially as described.
15. In combination a shaft with a feathered sleeve keyed thereto, a casing having featheredways cut therein, shaft discs, casing discs and spacing discs, all said discs being corrugated and in respect to the corrugations facsimiles of each other, and said shaft discs and casing discs being provided with teeth adapted to fit respectively the feathered sleeve and the feathered casing, said casing being adapted to inclose the disc and being provided with an inlet and an outlet and and connecting pipe for the circulation of the lubricating and cooling fluid, and means for pressing the discs together comprising a spring case, a spring normally pressing the discs together comprising a spring case, a spring normally pressing the case toward the discs, sald spring case having pins to transmit the spring pressure to the discs and a groove by which it may be held against the spring pressure in the inoperative position, substantially as described.
16. In combination a shaft, a casing adapted to contain a lubricant, corrugated shaft discs, and corrugated casing discs, said discs being formed of sheet metal and being facsimiles of each other so far as their corrugations are concerned, spacing discs provided with a lubricating channel, and means for pressing the discs together, substantially as described.
17. In combination a shaft, a casing adapted to contain a lubricant, shaft discs and casing discs, both sets of discsi being of flexible material and provided with facsimile corrugations, spacing discs provided with a lubricating chan\(r: \in l\). and means for pressing the discs together, substantially as described.
18. In combination a shaft, a casing, shaft discs and casing discs, said discs being corrugated and in respect to the corrugations facsimilles of each other, spacing discs provided with a lubricating channel, said casing being adapted to inclose the discs and to contain the lubricating fluid, and means for pressing the discs together, substantially as \(\mathrm{d} \in\) scribed.
19. In combination a shaft, a casing adapted to contain a libricant, shaft discs and casing discs, sald discs being corrugated and in respect to the corrugations facsimilles of each other, spacing discs provided with a lubricating channel, and means for pressing the discs together comprising a spring case, a spring normally pressing the case toward the discs, said spring case having pins to transmit the spring pressure to the disc. and a groove by which it may be held against the spring prossure in the inoperative position, substantially as described.
20. In combination a shaft, a casing, shafts discs and casing discs, sald discs being corrugated and in respect to the corrugations facsimilles of each other, spacing discs provided with a lubricating channel, said casing being adapted to inclose the discs and to contain the lubricating fluid, ard means for pressing the discs together comprising a spring case, a spring normally pressing the case toward the discs, said spring case having pins to transmit the spring pressed to the discs and a groove by which it may be held against the spring pressure in the inoperative position, substontially as described.
21. In combination a shaft, a casing, shaft discs and casing discs, sald discs being corrugated and in respect to the corrugations facsimilles of each other, spacing discs provided with a lubricating channel, said casing being adapted tc inclose the discs and being provided with an inlet and an outlet and connecting pipe for the circulation of the lubricating and cooling fluid, and means for pressing the d:scs together comprising a spring case, a spring normally pressing the case toward the discs, sald spring case having fins to transmit the spring pressure to the discs and a groove by which it may be held against the spring pressure in the inoperative position, substantlally as described.
22. In combination a shaft with a feathered sleeve keyed thereto, a casing having feather ways cut therein, shaft discs and casing discs, said discs being corrugated and in respect to the corrugations facsimilies of each other and provided with teeth adapted to fit respectively the feathered slecvi and the feathered casing, spacing discs provided with a lubricating channel, said casing belng adapted to inclose the dises and being provided with an inlet and an outlet and connecting pipe for the circulation of the lubricating and cooling fluid, and means for pressing the discs together comprising a spring casc, a spring normally pressing the case toward the discs, said spring case having pins to transmit the spring pressure to the discs and a groove by which it may be held against the spring pressure in the inoperative position, substantlally as described.
23. In combination a shaft, a casing adapted to contain a lubricant, shaft discs and casing dises, all aforesaid discs being corrugated and in respect to their corrugations facsimiles of each other, and spacing discs, having a series of lubricating channels formed by corrugating them, and placed between pairs of discs of the same set, and means for pressing the discs together, substantially as described.
24. In combination a shaft, a casing adapted to contain a lubricant, shaft discs, casing disc, spacing discs placed one between each shaft and casing disc, all aforesald discs being corrugated and in respect to the corrugations pacsimiles of each other, and spacing dises provided with lubricating channels formed by corrugating them, and placed one between pairs of discs of the same set, and means for pressIng the discs together, substantially as deseribed.
25. In combination a shaft. a casing adapted to containa lubricant. shaft dises, casing dises. spacing dises plared one between each shaft and casing disc, all aforesaid discs being corrugated and in respect to the corrugations facsimiles of each other, spacing discs, provided with lubricating channels formed by corrugating them, and placed one between pairs of discs of the sameset, and means for pressing the discs together comprising a spring case. a spring normally pressing the case toward the discs and a groove by which it may be held against the spring pressure in the inoperative position, substantially as described.
26. In combination a shaft, a casing. shaft discs. casing discs, spacing discs placed one between each shaft and casing disc, all aforesaid discs being corrugated and in respect to the corugations facsimiles of each other, spacing discs, provided with lubricating channels formed by corrugating them, and placed one between pairs of dises of the same set, said casing belng adapted to inclose the discs and to contain the lubricating fluid, and moans for pressing the discs together comprising a spring case, a spring normally pressing the case toward the discs, said spring cas having pins to transmit the spring pressure to the discs and a groove by which it may be held against the spring pressure In the operative position. substantially as described.
27. In combination a shaft, a casing. shaft dises, casing discs. spacing discs placed one between each shaft and casing disc, all aforesald disc being corrugated and in respect to the corrugations facsimilles of each other, spacing discs, provided with lubricating channels formed by corrugating them. and placed one between pairs of dises of the same set, said casing being adapted to inclose the discs and being provided with an inlet and an outlet and connecting pins for the circulation of the lubricating and cooling fluid. and means for pressing the dises together comprising a spring case, a spring normally pressing the case toward the discs, said spring case having pins to transmit the spring pressure to the dises and a groove by which it may be held against the spring prossure in the inoperative position, substantially as deseribed.
28. In combination a casing, shaft dises, casting dises, and spacing discs with means for pressing the sald dises thgether sald spacing discs providing channels for the passage of fluid, substantially as describen.
29. In combination. a casing. clutch mombers comprising corrugated sheet metal plates with a lubricant between the said plates, and means for controlling the pressure between the said clutch plates, substantially as deseribed.
30. In combination a shaft, a casing. corrugated shaft dises, corrugated casing dises and corrugated dises interposed between the shaft dises and casing dises, all of said dises being facsimiles of each other as to their corrugations. and means for pressing the discs together. all of the sald discs being formed of thin sheet metal, substantially as described.
31. In combination in friction clutches. a casing, a shaft, a plurallty of shaft discs, a plurality of casing dices, both the shaft discs and casing discs being identically circumferentially corrugated. said dises being divided by curvilinear or oblique lines. and means for pressing the dises together, substantially as described.
32. In combination in clutches, a shaft. a casing, dises between the shaft and casing with means for pressing the said discs together, the said casing or sleeve being formed of interlocking semi-circular corrugated plates, substantially as described.
33. In combination in a clutch, a casing, a shaft. a plurality of discs identically corrugated circumferentially, means for pressing said discs together, a sleeve interposed between the discs and the shaft, and a friction clutch for connecting the said sleeve with the shait, substantially as described.

\section*{No. 100,536. Tooth Brush. Brosse d̀ dents.}

Edward Penkala, 15 Frang Josefsplatz, Agram, Kroatien, Austro-Hungarian Empire. 21st August. 1906; 6 years. Filed 28th March, 1906. Receipt No. 131,372.
Claim.-1. A rotary tooth bruch consisting of a circular brush mounted on a spindle and mounted at its lower end in
the brivlge of a spring, sald spring having upwardly extending open arms and sector arms extending from each end of

the spring towards each other and adapted to engage the brush spindle and rotate the same when the sald spring arms are pressed towards earh other and released.
2. A rotary tooth brush consisting of a circular brush mountel on a spindle, a double arm spring having a bridge. means for mounting the lower end of the sald spindle in said bridge so that the spring arms will extend upwardly at either side of the same. sector arms extending towards each other from cach end of the said spring arms, a reduced part to the said brush spindle and means for holding the sector arms of the said spring arms in contact with the sald reduced part of the said spindle, substantially as described.
3. A rotary tooth brush consisting of a circular brush mounted on a spindle having a reduced central portion, a pair of spring arms connceted by a bridge portion, a screw having a pointed end mounted in sald bridge portion of the spring and a conical cavity formed in the end of the brush spindle to engage over said screw point, sector arms attached to each of the ends of the spring arms and extending towards each other and adapted to engage the reduced portion of the brush spindle and a sleeve enclosing the said spindle and having an open shell at the top to partially enclose the circular brush in the manner, and for the purpose substantially as set forth.

\section*{No. 100,537. Show Window and Show Case.} Fenitre d'étalage et boite d'étalage.


Harry Brandenberger, Baltimore, Maryland, U.S.A., 21st August. 1906; 6 ycars. Filed 18th May, 1906. Receipt No. 136,043 .
Clam-1. A rotary tooth brush consisting of a circular ation of glass plates having their edges arranged in close relation, an imner angular vertically extending post against which the inner sides of the edges of the plates are based the post having securing devices at the upper and lower euds thrreof, a facing applied over the outer portions of the contiguous edges of the plates and fastening means extending inwardly from the facing and held in the post. said fastening means passing between the contiguous edges of the plates.
2. In a device of the class set forth the combination of glass plates having edges thereof in contact with each other. an inner post against which the inner portions of the plates are braced, a facing over the outer portions of the plates having angular terminals excrting a pressure on the latter. the post being provided at its upper and lower terminals with securing means serving to hold sald post in positive position and fastening means extending inwardly from the conter of the faces between the contiguous edges of the plates and engaging the post.
3. In a device of the class set forth the combination of g'ass plates with contiguous edges, a post against which the inner portions of the plates are braced, said post having angular securing lugs at the upper and lower ends th:reof a facing extending over the outer portio: ci
the plates and fastening means extending inwardly fr\(\times m\) the facing through the contiguous plate edges and into the post.
4. In a device of the class set forth the combination of glass plates with contiguously arranged edges, a facing over the outer portion of the plate edges. an angular post located at a distance inwardly from the facing and between which and the latter the edges of the plates are inserted, spring devices interposed between the plate edges and post and lastening means extending inwardly from the facing between the plate edges and projecting into the post.

No. 100,538. Bearing for Vertical Shafts.
Coussinet d'arbre verticai.


Edgar W. Broomall, Rochester, New York, U.S.A., 21st
August, 1906; 6 years. Filed 2nd April, 1906. Recelpt No. 134,492.
Chim.-1. The combination with a suitable support, of a shaft supporting sleeve mounted in sald support and open at one side for the driving means, a step bearing in the lower end of the sleeve, a shaft mounted in the sleeve and stepped at its lower end in said step bearing, and means for yieldingly connecting the lower end of the sleeve to the support.
27 h , comb \(n\) ntion with a su table support, of a sieeve provilded with an apertured flange at its lower end and passed upwardly through an opening in said support, screws passed loosely through the flange aperture upwardly into the lower side of the support, and springs between the flange and support
3. The combination with a suitable support, of a shaft supporting sleeve open at one side for the driving connections, a step bearing in the lower end of the sleeve for said shaft, an apertured flange being provided on the sleeve below the support, screws passed loosely through said flange apertures into the lower side of said support, and springs on the screws between the flange and support.
4. The combination with a support and a shaft supporting sleeve passed upwardly through an opening in the support and there provided with an annular plvot ledge, screws passed up loosely through the flange apertures into the lower side of the support, springs between the flange and support, of a cup in the lower portion of the sleeve, three balls in the cup, a plug closing the lower end of the sleeve and holding the cup in place, and a shaft within the slecve and having a pointed lower end stepped between the balls.

No. 100,539. Ball Bearing. Coussinet à boules.
August Riebe, Berlin, Germany. 21st August, 1906; 6 years. Filed 20th April, 1906. Receipt No. 135,104.
Claim.-1. A ball cage double grooved ball bearings with undivided rings consisting of two flat rings \(c, f\), joined together edge to edge having recesses \(k\) in their meeting edges, forming openings or holes. which rings embrace the balls, said rings being held together by cramps or the like fi s.:ch manner that in the movement of the balls a certain expanaion of the cage or forcing apart of the rings can take place. substantially is herein shown and leseribed and for th. \(\quad\),urpose stated.
2. A cage of the character described for ball bearings in which the recesses of the rings forming the ball openings
are further recessed at the points of the greatest speed of the balls, so as to prevent jamming of the latter at those

points, substantlally as herein shown and described and for the purpose stated.

No. 100,540. Brush Manufacture.
Manufacture de brosses.


William Adam Weir, London, England, 21st August. 1906 ; 6 years. Filed 25th May, 1906. Receipt No. 136,237.
Claim.-1. A device for holding bunches of bristles or the llke, applicable for use In the manufacture of flat brushes consisting of a strip of sheet metal slit lonbitudinally, in transverscly arranged serics, at intervals apart, and having the slit parts alternately raised above the depressed below the plane of the strip, so as, together, to form receptacles crosswise of the strip and each adapted to recelve a bunch of doubled bristles, and the outer slit part at one edge of the strip at the location of each receptacle having a waved formation adapting it to act as a stop at the bottom of the receptacle for the bristle bunch to be pulled against while being wired or drawn into position, as set forth.
2. In combination a strip of sheet metal formed and adapted with crosswise receptacles and forming the subject of claim 1, bunches of doubled bristles inserted one into such receptacle, and a wire or wires serving to draw said bristle bunches into and to hold the same in position in the receptacles, as set forth.

\section*{No. 100,541. Floor Ecrubber. Faubcrt.}

Henry Astley Coape-Arnold, Davidson, Sackatillewan. Canarla, 21st August, 1906; 6 years. Filed 13th July. 1906. Receipt No. 137,782.
('laim.-1. In a scrubbing apparatus the combination comprising a casing. rollers adapted to support the casing, a plurality of water holding compartments in the casing. means for permitting the water to flow from the compartments, a plurality of dirty water recoiving compartments. a scrubing member and means for conducting water from the scrubbing member to the dirty water compartments.
\(\because\). In a scrubbing apparatus the combination comprising a casing having hinged covers and a sectional hinged end and having an open space in its bottom, rollers adapted to support the casing, a plurality of water holding compartments in the casing, means for permitting water to flow from the compartments, a plurally of dirty water recelving compartments, a scrubbing member disposed in the open space and means for conducting water from the scrubbing member to the dirty water compartments.
3. In a scrubbing apparatus the combination comprising a casing, rollers adapted to support the casing, a plurality of

water holding compartments in the casing having openings therein, valve casings connceted with the openings and provided with openings, valves disposed in the casings, perforated troughs connected with the valve casings, a plurality of dirty water receiving compartments, a scrubbing member and means for conducting the water from the scrubbing member to the dirty water compartments.
4. In a scrubbing apparatus the combination comprising a casing, rollers adapted to support the casing, a plurality of water holding compartments in the casing having openings therein, valve casings connected with the openings and provided with openings, valves disposed in the casings, perforated troughs with the valve casings, means adapted to normally close the valves, a plurality of dirty water receiving compartments, a scrubbing member and means for conducting the water from the scrubbing member to the dirty water compartments.
5. In a scrubbing apparatus the combination comprising a casing, rollers adapted to support the casing, a plurality of water holding compartments in the casing having openings therein, valve casings connected with the openings and provided with openings, valves disposed in the casings, perforated troughs connected with the valve casings, rods connected to the valves, an actuating rod connected to the rods, a spring adapted to maintain the actuating rod in one position, a plurality of dirty water receiving compartments, a scrubbing member and means for conducting the water from the scrubbing member to the dirty water compartments.
6. In a scrubbing apparatus the combination comprising a wheeled casing, water holding compartments in the casing. water receiving compartments beneath the water holding compartments, a scrubbing member, means for rotating the scrubbing member and means adapted to convey water from adjacent the scrubbing member to the receiving compartments
7. In a scrubbing apparatus the combination comprising a wheeled casing, water holding compartments in the casing, water receiving compartments beneath the water holding compartments, a scrubbing member, means for rotating the scrubbing member and means adapted to convey water from adjacent the scrubbing member to the receiving compartments comprising flanged troughs secured to the receiving compartments and pumps having one end disposed in the troughs and connected with the receiving compartments, and means for actuating the pumps.
8. In a scrubbing apparatus the combination comprising a wheeled casing, water holding compartments in the casing, water receiving compartments beneath the water holding compartments, a scrubbing member, means for rotating the scrubbing member and means adapted to convey water from adjacent the scrubbing member to the receiving compartments, comprising flanged troughs secured to the receiving compartments, and pumps having one end disposed in the troughs and connected with the receiving compartments, a wheel driven from the wheels of the casing, rods connected to said driven wheels, and levers pivoted to the casing and connected to the pumps.
9. In a scrubbing apparatus the combination comprising a wheeled casing, water holding compartments in the casing, water receiving compartments beneath the water holding compartments, a scrubbing member, means for rotating the scrubbing member, and means adapted to convey water from adjacent the scrubbing member to the receiving compartments, comprising flanged troughs sccured to the receiving compartments, pumps having one end disposed in the troughs and connected with the receiving compartments, wheels and connected with the receiving compariments, wheels
driven from the wheels of the casting, rods connected to
said driven wheels, and levers rockably and pivotally connected to the casing and connected to the pumps.
10. In a scrubbing apparatus the combination comprising a wheeled casing, water holding compartments in the casing, water receiving compartments beneath the water holding compartments having inclined walls, pins adapted to bear against the inclined walls, a scrubbing member, means for rotating the scrubbing member, and means adapted to conrey water from adjacent the scrubbing member to the receiving compartments.
11. In a scrubbing apparatus the combination comprising a wheeled casing, water holding compartments in the casing, provided with straps, a pin disposed through the straps, water receiving compartments beneath the water holding compartments, a scrubbing member, means for rotating the scrubbing member, and means adapted to convey water from adjacent the scrubbing member to the receiving compartments.
12. In a scrubbing apparatus the combination comprising a wheeled casing, water holding compartments in the casing, water receiving compartments beneath the water holding compartments, a scrubbing member, means for rotating the scrubbing member, and means adapted to convey water from adjacent the scrubbing member to the receiving compartments, comprising flanged troughs secured to the receiving compartments, and pumps having one end disposed in the troughs and connected with the receiving compartments, strainers disposed across the flanged troughs, and means for actuating the pumps.

\section*{No. 100,542. Punch. Emporte-pièce.}


Ralph G. Whitlock, Los Angeles, California, U.S.A., 21st August, 1906; 6 years. Filed 1st August, 1906. Receipt No. 138,336.
Claim.-1. In a machine of the class described the tcol or operating device or devices, a drum having a plurality of faces carrying devices to co-operate with the tool or tools, a lever for holding the drum in position, and a shaft carrying the lever and means for adjusting the said shaft longitudinally in its bearings so that the drum will be held accurately in the desired position, said adjustment being in a direction transverse to the axis of the drum, substantially \(a_{5}\) described.
2. In combination in a machine of the class described, the tools or operating devices, a gauge, a hand operating device and a connection between the same and the gauge for multiplying the movement of the said hand operating device to the gauge, substantially as described.
3. In combination in a machine of the class described, a gauge, a toothed bar connected therewith, a gear meshing with the toothed bar and hand operating device connected w:th the gear for travelling the same and a toothed bar engaging the gear for multiplying the movement of the hand oferating device. substantially as described.
4. In combination in a machine of the class described, the tool or tools with means for operating the same, a gauge, movable along the surface of the table, a stop, a device for operating the gauge having connections thereto, and an arresting device associated with the said operating device with resting device associated with savice so that ireans for operating the arresting device so that it may pass the stop, substantially as described.
5. In combination in a machine of the class described, the tool or tools with means for operating the same, a gauge, movable along the surface of the table, a plurality of stops, \(y\) device for operating the gauge, an arresting device associated and moving with the operating device with means for throwing the said arresting device out of line with the said stops, substantially as described.
6. In combination in a machine of the class described, a tool or tools with means for operating the same, a gavs movable along the surface of the table, a stop, an operating lever with connections to the gauge, an arresting device asso-
c'ated and moving with the said lever and means carried by the lever for adjusting the arresting device so that it may pass the stop, substantially as described.
7. In combination in a machine of the class described, a tool or tools with means for operating the same, a gauge, a stop, an operating lever with connections to the gauge, an arresting device associated and moving with the sald lever, and means carried by the lever for adjusting the arresting device so that it may pass the stop, said adjusting means including a finger lever with connections to the arresting device, substantially as described.
8. In combination in a machine of the class described, a tool or tools with operating means therefor, a gauge, a hand lever for operating the same, a stop, an arresting device assoclated and moving with the hand lever. a shaft extending through the handle of the hand lever, a finger lever on the said shaft and connections from the sald shaft to the arresting device to withdraw the same from engagement with the stop, substantlally as described.
9. In combination in a machine of the class described, a tool or tools with operating means therefor, a gauge, a lever having connections with the gauge and a horizontally extending handle, a stop, an arresting device associated and moving With the lever, a shaft extending horizontally at the handle, a finger lever for operating the sald shaft and means for connecting the shaft with the arresting device, substantially as described.
10. In combination in a machine of the class described, a tcol or tools with operating means, a gauge, a lever, a slidivg carriage or block having a pin and slot connection with the lever, a connection between the said block and a gauge, a stop, an arresting device carried by the block, and means carried by the lever for withdrawing the arresting device from alignment with the stop, substantially as described.
11. In combination in a multi-press, a drum adapted to be turned, a recess in one face of the drum, a vise jaw associated with said recess, means for operating the vise jaw, a tool cc-operating with the tool held by the vise jaw and means for operating the co-operating tool, substantially as described.
12. In combination in a multi-press, a drum adapted to by rutated, and having a plurality of faces, a tool held on one of the said faces, guldes secured to the said face, a tool cocperating with the tool on the drum and moving in the said guldes, and means for operating the said last-mentioned tool, substantially as described.
13. In combination in a multi-press, a table having a movable section, a drum arranged below the plane of the table surface adapted to be turned. tools on the said drum being adapted to be brought into actions by turning the same, and the movable section of the table being adapted to be adjusted tc. permit this adjustment and a tool co-operating with that on the drum, substantially as described.
14. In a multi-press, a table formed in two sections slidable towards and from each other, a rotary drum or carrier having thereon a plurality of tools, and a carrier for tools to co-operate with those on the drum, the said table sections being moved away from each other to permit the drum to be turned and being returned to normal position when the drum is set, substantially as deseribed.
15. In a punching machine, the combination of a gang of punches, a gear bar toothed from end to end, means for osc!llating the said bar, bars carrying the punches and arranged cpposite the periphery of the gear bar and having tecth to mesh therewith, guides in which the punch carrying bars slide, said guides being adjustable individually towards and from each other and along the toothed gear bar, substantially as described.
16. In combination a series of rack bars carrying punches, means for operating the said rack bars and a hinged bar carrying the said rack bars and adapted to be swung aside to withdraw the rack bars from their operating means, substantially as described.
17. In combination a gear bar having teeth extending irait cnd to end, means for rotating the sald gear bar, rack bars carrying punches engaging the said gear bar, guides or sleeves for guiding the rack bars, and a bar extending parallel with the gear bar and holding the sleeves, said sleeves being individually adjustable towards and from each other, substantially as described.
18. In combination a gear bar toothed from end to end, a series of rack bars engaging the said gear bar. guides or sleeves for the rack bars, a bar extending parallel with the gear bar and adjustably holding the guides or sleeves, and means for pivotally supporting the said slecve bar, substantially as described.
19. In combination a toothed bar, a rack bar engaging the tcothed bar, a block having a way in which the said rack bar is gulded, a bar passing through the guide block and to which the said gulde block is splined, and means for clamping the guide block to the said bar, substantially as described.

No. 100.543. Grain Separator. Séparateur à grain.


Gerhard Spenst, Gretna, Manitoba, Canada, 21st August, 1906;
6 years. Filed 2nd April, 1906. Receipt No. 134,541.
Claim.-1. A grain separator comprising a conveyer, elevator and discharge spout, an upper chamber consisting of hopper with discharge slot. draft passage, settling chambir with regulator and discharge valves. side chambers connecting with said settling chamber, a suction fan between said side chambers and drawing its current from them, and the usual fanning mill arrangיment with shoe carrying food spout, shaker and blast fan, substantially as sot forth.
\(\because\) In a grain siparator. the combination with a fanning mill having blast fan, shoc and shaker, of a conveyer below the fanning mill, an elevator with discharge spout, a hopper with sloping bottom, discharge slot and regulating slide, a draft passage adjacent to said hopper, a feed spout under said passage teeding the fanning mill shoe, a settling chambur with cutrance on top from said passage and a valve controlling sail intrance, discharge valves in said settling chamber, side chambers with entrance at top from the settling chamber, a fan case between said side chambers. and a surtion fan in said fan case, substantially as set forth.
3. In a grain separator, the combination with a fanning mill having blast fan shoe and shaker, a hopper having slotted liseharge mouth, a rigulator over the same, a draft passage adjacent to said hopper, settling chamber with entrance on top from sald passage and discharge slots, a valve controlling said entrance, valuss controlling the discharge slots, side chambers with entrance at top from the settling chamhers, a fan case between said side chambers anl communicating therewith and a suction fan in said fan case, substantially as set forth.

\section*{No. 100,544. Bearing for Armature Bhafts.}

\section*{'o:ossinet pour arbres d'armatur.s.}


Froderick G. Ward and Charles R. Buchheit., co-Inventors, both of Pittsburg. Pennsylvannia. U.S.A.. 21 st August, 1901;: 6 years. Filed 2nd Frbruary, 1906. Receipt No. 132.514.

C'lnim. 1. The combination with a motor having a bearing srat. a gear caso, an 1 an armature shaft projected throush the bearing suat and into the gear case, of a bearing slowe fithed within and projocted beyon 1 the ends of the braring :rat and lowioly embracing the armature shaft. 'aps fitted to the !rojorted ends of the bearing sleeve and "hkating the stat. the outor cap having an annular flange fitting within and rlosing the opening in the gear rage Howogh which the armature shaft passes, anti-friction rollers within the sholl and projected into th. rapi and spacer rings titted within the caps and having bearing openings for the respective rollers.
2. The combination with a motor shell having a bearing seat, and an armature shaft projected through the seat, of a bearing sleeve fitted within the seat and projected at opposite ends thereof, caps fitted to the ends of the sleeve and bearing against the ends of the seat to hold the sleeve in position, anti-friction rollers within the sleeve and projected into the caps and spacer rings fitted within the caps and provided with openings receiving the respective rollers.
3. A bearing of the class described comprising an openended sleeve, caps embracing the ends of the sleeve and projected beyond the same, each cap having an intornal annular channel located outwardly from the adjacent end of the sleeve, spacer rings carried within the channels, and anti-friction rollers having their ends journalled upon the rings.
4. A bearing of the class described comprising an openended sleeve which is externally serew threaded at opposite ends, threaded caps embracing the screw-threaded ends of the sleeve and provided with inner annular channels docalod lwtween their serew-threaded portions and their batks. spacer rings fitted within the channels, and anti-friction rollers having theidr ends journalled upon the spacer rings.
5. A bearing of the class described having spacer rings provided with polygonal bearing openings, anti-friction rollers journalled in said polygonal bearing openings.
6. A bearing of the class described, having spacer rings provided with polygonal bearing openings intersecting the inner peripheral edges of the rings, and anti-friction rollers journalled in said polygonal bearing openings.
7. A bearing of the class described having spacer rings provided with bearing openings intersecting the inner periiheral edges thereof, that portion of each opening which intersects the inner edge of the ring being contracted, and anti-friction rollers journalled in the bearing openings, th. walls of the contracted portions of the openings operating io prevent lateral displacement of the rollers.
8. A bearing of the class described having spacer rings provided with polygonal bearing openings intersecting the inner peripheral edges thereof, that portion of each bearing opening which intersects the inner edge of the ring being contracted, and anti-friction rollers journalled in said openings, the walls of the contracted portions of the openings constituting means to prevent lateral displacement of the rollers.
9. A bearing of the class described comprising an openended cylindrical sleeve which is externally screw threaded at oyposite ends, internally serew-threaded caps embracing the screw-threaded ends of the sleeve and provided with internal annular channels located between the backs oi the raps and the respective ends of the sleeve, spacer rings fitted within the channels and provided with polygonal bearing openings intersecting the inner edges of the rings, that portion of each opening which intersects the inner edge of the ring being contracted, and anti-friction rollers within the sleeve with their ends projected beyond the ends of the sleeve and mounted in the openings of the rings, the walls of the contracted portions of the op nings constituting means to grevent lateral displacement of the rollers.
10. A bearing of the class described comprising an openended sleeve, and caps fitted to the ends of the sleave and provided with corresponding openings for the reception of a shaft, one of the caps having an external annular flange surrounding the opening therein.
11. A bearing of the class described comprising an openended sleeve, caps fitted to the ends of the sleeve and provided with corresponding shaft receiving openings, each of which openings is of a diameter less than that of the external diameter of the sleeve, spacer rings located between the ends of the sleeve and the backs of the respective caps and provided with bearing openings extending entirely through the rings, and anti-friction rollers journalled in corresponding openings of the ring and free to move endwise therethrough, the backs of the caps lying in the path of the endwise movements of the anti-friction rollers and constituting stops to receive the end thrusts of the rollers.

\section*{No. 100,545. Ball Bearing for Vertical Shafts.} Coussinet à boule pour arbres vertical.
August Riebe, Berlin, Germany, 21st August, 1906; 6 years. Filed 1st March, 1906. Receipt No. 133,431.
Claim.-A cage for ball bearings for vertical shafts with a double grooved course or ball path in which an elasticity, especially in the rotary direction of the balls and at the same time a radial displacement of the latter, can take place, said cage consisting of two perforated dises or rings connected together at a fow points only and holding the balls above and below their center, the perforations of which
rings are elongated radially of the axis of the bearing or inwardly and outwardly corresponding to the displacement of

the balls that may arise substantially as herein shown and described and for the purpose stated.

No. 100,546. Apparatus for Impregnating Wood. Appareil pour imprégner le bois.


Paul Lafitte, Paris, France. 21st August, 1906; 6 years. Filed 9th March, 1:05. He"e!pt No. 123.231.
Claim.-1. In an apparatus for impregnating wood, a cap or cover provided upon its under side with a continuous circular rib). triangular in cross section and having its inner face decidedly conical and terminating in a continuous blade cdge, the said cap or cover being provided with a fluid feed duct leading into the space enclosed by the rib aforesaid.
2. In an apparatus for impregnating wood, a cap or cover provided upon its under side with a continuous circular rit triangular in cross section and having its inner face decidedly conical and terminating in a continuous blade edge, the ea 1 inncr conical face being provided with screw threads.
3. In an apparatus for impregnating wood, a cap or cover provided upon its under side with a continuous circular rib triangular in cross section, and having its inner face decidedly conical and terminating in a continuous blade edge. said inner concal face being provided with screw threads and said cap or cover provided with a fluid feed duct leading into the space enclosed by the threaded inner wall of the rib aforesaid.

No. 100,547. Process of Enamelling Wooden Surfaces.

\section*{Procédé pour émailler des surfaces de bois.}

Hilmar Bindewald, Friedberg, Hesse, Germany, 21st August, 1:06: 6 years. Filed 19th January. 1906. Receipt No. 132,035.
Claim.-An art or process of enamelling wooden surfaces consisting of thoroughly grinding and mixing in a suitable vessel soaked ordinary glue, body color and collodion, preparing the wooden surface by carefully smoothening it and filling the pores with size, coating the wooden surface thus prepared with the said mixture and, after the coating thus applied has become dry, polishing it with wax, substantially as herein above set forth.

No. 100,548. Cellulose Manufacture.


Einar Morterud, Christiana, Norway, 21st August, 1906; 6 years. Filed 10th January, 1906. Receipt No. 131,743.
Claim.-1. In the manufacture of sulphite cellulose the process which consists in discharging the contents of the digester or only the liquid and gaseous contents of the same into a closed chamber, in which a low pressure, about or below atmospheric pressure, is maintained, drawing off the gases and vapours formed in this chamber and passing them through a closed apparatus in direct contact with water or other suitable liquid of a suitable temperature so as to cause a condensation of the vapours and avoiding an absorption of gases and utilizing the gases so obtained in any suitable way. 2. In the manufacture of sulphite cellulose the process, which consists in discharging the contents of the digester or only the liquid and gaseous contents of the same into a closed chamber, in which a low pressure, about or below atmospheric pressure, is maintained, drawing off the gases and vapours formed in this chamber and passing them through a closed apparatus in direct contact with water or other suitable liquid of a suitable temperature so as to cause a condensation of the vapours and avoiding an absorption of gases, passing the gases leaving this apparatus through an apparatus containing absorption material for the purpose of obtaining solution for the digesting process.
3. In the manufacture of sulphite cellulose the process which consists in discharging the contents of the digester or only the liquid and gaseous contents of the same into a closed chamber, in which a low pressure, about or below atmospheric pressure, is maintained, drawing off the gases and vapours formed in this chamber and passing them through a closed apparatus in direct contact with water or other sultable liquid of a suitable temperature so as to cause a condensation of the vapours and avoiding an absorption of gases, passing the obtained heated liquid through an apparatus capable of reducing its temperature and returning the cooled liquid to the condensing apparatus for treating the next charge in the same manner.
4. In the manufacture of sulphite cellulose, the process which consists in discharging the contents of the digester, or only the liquid and gaseous contents of the same, into a closed chamber in which a suitable low pressure is maintained, drawing off the gases and water vapour, condensing the water vapour without absorbing appreciable quantities of gases, and finally recovering the gases for treatment of the next charge, substantially as and for the purpose set Porth.
5. The combination with a digester, of a closed vessel having a liquid seal at its bottom into which said digester discharges, means to recelve the vapours and gases from the discharge of the digester, means to supply cooling water in contact with the gases and vapours to condence the vapours with as little absorption of gas as possible, and means to subsequently absorb the gases, substantially as and for the purpose set forth.

\section*{No. 100,549. Overhead mlectric Cerrier. Transport aéricn électrique.}

Henry McL. Harding, New York City, New York, U.S.A., 21st August, 1906; 6 years. Filed 30th November, 1905. Recelpt No. 130,686
Claim.-1. In an overhead carrying device the combination of a telpher adapted to travel along a rall, a supporting trailer connected to said telpher and also adapted to 1 ravel along sald rail, a connecting device supported from ard below the telpher and trailer, and a weight carrying device.
2. In an overhead carrying device the combination of a telpher adapted to travel along a rail, a supporting trailer,

a connection between the telpher and the traller and a spreader supported from the telpher and trailer and a hoisting and welght carrying device, substantlally as described.
3. In an overhead carrying device the combination of a telpher adapted to travel along a rall, a supporting trailer connected to sald telpher and adapted to travel along said rall, a connecting beam supported from said telpher and traller, and a hoisting device carried by said connecting beam, substantially as described.
4. In an overhead carrying device the combination of a telpher adapted to travel along a rail, a supporting trailer connected to said telpher and adapted to travel along said rail, a spreader connected to and suspended below said telpher and traller and a holsting nd weight carrying device also connected to the telpher and traller, substantially as described.
5. In an overhead carrying device the combination of a telpher adapted to travel along a rail, a supporting traller connected to said telpher adapted to travel along said rail, and a beam supported from said telpher and trailer, substantially as described.
6. In an overhead carrying device the combination of a telpher, a supporting traller connected to the telpher, said telpher and trailer being adapted to travel, links connected to the telpher and traller, and a spreader connected to the links by a swivel connection, substantially as described.
7. In an overhead carrying device the combination of a telpher and trailer, the telpher and traller adapted to travel along a rail, a pivoted connection between the telpher and traller, hangers extending from the telpher and trailer \(z_{2}\) and a spreader pivotally connected to the hangers.
8. In an overhead carrying device the combination of a telpher and trailer, said telpher and traller being adapted to travel along a rail, the telpher and trailer being pivotally connected to each other, hangers suspended from the telpher and trailer, a connecting beam connected to the hangers by swivel joints, and a hoisting device connected to said beam.

No. 100,550. Tirbine Engine. Turbine.
Gaston C. E. de Bonnechose, Paris, Franc6, 21st August, 1906; 6 years. Filed 13th January, 1905. Feceipt No. 121,583.
Claim.-1. A rotary turbine device for the purpose specified, having a plurality of buckets composed of conduits, each conduit having a succession of altornating contractions and enlargements of its width, which latter increases in a direction from one end toward the other of the condult, and having an undeviating and unobstructed central vein through sald condult.
2. A rotary turbine device for the purpose specined, having a plurality of buckets formed of laterally undulating walls, and of partitions, the same being disposed to form conduits each with a succession of alternating contractions and enlargements of its width, which increase progressing in the direction from one end toward the other of the passage through the conduit, said passage having an undeviating central vein
3. A rotary turbine device for the purpose apecined, having a plurality of buckets, each provided with laterally undulat ing walls, the undulations in said opposite walls being so disposed and aligned as to form a succession of alternating contractions and enlargements of the passage through the condult, and substantially normal to the fiow of fuld in the turbine.
4. A rotary turbine device for the purpose specified, having a plurality of buckets, each provided with laterally undulating walls, the undulations in said opposite walls being so disposed and aligned as to form a succession of alternating contractions and enlargements of the passage through the condult, and said buckets each provided at the fuld outlet with a curved wall to utilize the live force remaining in changing the relative velocity of the fuld.
5. A rotary turbine device for the purpose specified, formed of a disc, hollow interiorly in such a manner as to present a

serles of undulations substantially normal to the flow of the lluid through the interior of said rlisc, the interior space thus formed augmenting in section from one end toward the other, as set forth.
6. A rotary turbine device for the purpose specifled, formed of a disc, hollow interiorily in such a manuer as to present a series of undulations substantially normal to the flow of fluid through the interior of the disc, and presenting also on its outer faces series of similar undulations, and an outer casing in which satd dise rotates, said casing serving to receive the counter pressure from the fluid.
7. A rotary turbine device for the purpose specified, consisting of a hollow disc having constructed interiorly with a series of undulations substantially normal to the flow of the fluid within the disc, and with a series of undulations on each of its outer faces, and a casing in which the disc rotates, sald casing having a series of undulations on the inner faces of its walls, which are substantially normal to those of the disc.

\section*{No. 100,551. Food Compound. ('mmonc' d'aliment.}

Curt Köhler, Altenburg, Saxe-Altenburg, Prussia, Germany, 21st August. 1906; 6 years. Filed 18th April, 1905. Recelpt No. 124,389 .
Claim.-1. A powdery nutritive preparation, consisting of the white of eggs, spinach, peas, and sugar, prepared substantially as described.
2. A nutrituive preparation consisting of the dried and pulverised spinach, dried and pulverized peas, and pulverized sugar, preferably sugar candy, prepared substantially as described.

\section*{No. 100,552. Telephone. Téléphone.}

Frank Finley Howe, Cleveland, Ohio, U.S.A., 21st August, 1906; 6 years. Filed 30th April, 1906. Receipt No. 135,378.
Claim.-1. The combination of a laterally projecting bracket having at its outer end a transverse arm provided at its opposite ends with upwardly projecting stops, the swinging carrier pivoted at its inner end and swinging at its outer end laterally across the transverse arm and between the stops thereof, readjusting means for normally holding the carrler midway between the stops, a rocker for connection with a telephone switch. sald rocker being pivoted at one end, provided between its ends with an elevated portion for engagement by the carrier and depressed on opposite sides of said elevated portion, whereby the movement of the carrier laterally in either direction will permit an upward movement of the rocker, means in connection with the swinging carrier for holding a telephone receiver, and a latch operating in connection with the bracket and movable into and out of position to hold the carrier out of normal position, substantially as set forth.
2. The combination of a bracket having the transverse arm with the upwardly projecting spaced apart stops, a swinging

carrier movable between said stops, means whereby said carrier when in normal position midway between said stops will close a telephone switch, means in connection with the swinging carrier for supporting a telephone receiver and springs supported by the bracket and operating upon the opposite sides of the swinging carrier and adapted to hold the same yieldingly in normal position, substantially as set forth.
3. The combination of a laterally projecting bracket having a base plate, a carrier swinging relatively to said bracket, and having means for supporting a telephone receiver, and a plate underlying the base plate of the bracket, substantlally as and for the purposes set forth.
4. The combination in a support for telephone receivers, of a rocker for connection with a telephone switch, said rocker being pivoted at one end and having intermediate its ends an clevated portion and having depressed portions on opposite sides of the intermediate elevated portion and a iaterally swinging spring pressed carrier movable normally to a position over the intermediate elevated portion of the rocker, whereby to close the switch in the normal position of the carrier, and means connected with the carrier for holdino a telephone receiver, substantially as set forth.
5. The combination of the bracket having a transverse bar at its outer end, a rocker pivoted at one end to said bar, provided between its ends with an elevated portion and depressed on opposite sides of said elevated portion, a spring pressed carrier extending over the sald transverse bar and resting normally on the elevated portion of the rocker and movable laterally in both directions to release the rover. and a latch pivoted to the transverse bar and having an upwardly projecting portion whose opposite sides may be engaged with the spring pressed carrier to hold the same in one or the other of its positions when moved out of normal position, substantially as set forth.
6. The combination of a bracket, a laterally swinging spring pressed carrier, a rocker for operation by said carrier whereby to close the switch and means for supporting the receiver from the swinging carrier, said means including inner and outer sections having offset portions jointed together by a horizontal pivot, the inner section being secured to the swinging carrier and receiver securing devices connected with the outer section, substantially as set forth.
7. The combination in a telephone attachment, of a shaft provided near its outer end with a transverse groove having its inner wall sloped, a receiver carrying tube fitting over said shaft and movable therealong, and spring actuated pins extending through the tube and arranged to bear against the shaft and to enter the groove therein, wherebly to limit the outward movement of the tube, substantially as set forth.
8. The combination of the shaft having a transverse groove, the tube telescoping on and movable along the shaft, a spring yoke encircling the tube and having its ends operating in the groove of the shaft and means for supporting a telephone receiver from the tube, substantially as set forth.
9. The combination in a telephone attachment, of a carrier provided with means for supporting a telephone recelver and spring pressed iuto normal position and movable from said normal position in both directions, and a rocker for connection with the telephone switch, and having a central elevated portion engaged by the carrier and depressed on opposite sides of the elevated portion, the rocker being actuated by the carrier when the latter is in normal position, and freed by the movement of said carrier in either direction out of normal position, substantially as set forth.

\section*{No. 100,553. Telephone Hook Switch. Commutateur de téléphone.}


Josephus M. Clement, Mineral Bluff. Georgia, 21st August., 1906; 6 years. Filed 14th May, 1906. Receipt No. 135.922.
Claim.-1. In an electric switch, a rigid contact, independently movable flexible contacts arranged on oppozite sides of said rigid contact, and an operating member serving to force one or other of the flexible members into engagement with the rigid contact without positive movement of the second member, sald flexible contacts automatically moving from engaging position when released, the rigid contact serving as a means for limiting movement of the operating member.
2. In a teleyhone hook switch, a rigid contact, flexible contact, and means operable on movement of the hook for forcing one or other of the flexible members into engagement with the rigid contact, the latter serving as a means for limiting movement of the hook.
3. In a telephone hook switch, a rigid contact, a pair of flerablie contactit arranged one on each side of the rigid contact, and a receiver supporting hook serving on movement in either direction to force one of the flexible contacts into engsgement with the rigid contact, the latter serving also as a means for limiting movement of the hook.
4. The combination with a frame, of a contact formed of an approximately rigid strip of metal having its opposite ends fixed to the frame, a pair of flexible strips also carried by the frame and insulated from each other and from the rigid strip, and a pivotally mounted telephone receiver hook having a pair of lugs or blocks for engaging the flexible strins and forcing the same against the rigid strip, the latter serving also as a means for limiting movement of the receiver hook.
No. 100,554. Prong Insulator. Isolufcur.


Louis Steinberger. New York City. New York, l'S.A., 21st August, 1906; 6 years. Filed 6th July, 1906. Receipt No. 137.583.
('lain.-1. An insulator comprising a body member of insulating material having a frusto-conical portion provided with spouts and with shelter portions disposed intermediate of said syouts, and a metallic member connected with sald body member of insulating material and provided with prongs disposed in alingment with said sheltering portion.
2. An insulator comprising a body portion of insulating material provided with spouts, sald spouts being so positioned that divers of them are staggered relatively to other spouts, and also inverted relatively thereto.
3. An insulator comprising a body portion of insulating material provided with spouts, and a metallic member connected with said body portion and provided with prongs disposed intermediate of said spouts.
4. An insulator comprising a body portion of insulating material provided with oppositely disposed spouts. certain of said spouts being intermediate of certain other of said spouts and inverted relatively thereto so as to render said body portions reversible, all of said spouts being provided with raised walls for directing the flow of moisture. and a metallic member connected with said body portion of insulating material, said body portion being provided with different groups of spouts located upon opposite sides thereof, the spouts of one group being inverted relatively to the spouts of another group.
6. An insulator comprising a reversible member provided with a plurality of spouts, certain of said spouts being inverted relatively to others, and means for mounting said nember.
7. An insulator comprising a reversible body portion of insulating material provided with spouts, one of said spouts being inverted relatively to another, and a metallic member having a shank anchored within said body portion of insulating material and provided with means for supporting a conductor.

No. 100,555. Ball Bearing Trolley Wheel Bushing. Coussinct à boule, virole de rouc de trollée.


Muhlon Shaaber, Reading. Pennsylvania, U.S.A., 21st August, 1906; 6 years. Filed 12th July, 1906. Recelpt No. 137,744.
Claim.-1. The combination with a trolley wheel rim and a trolley hary having a cross-sectionally angular pin engaged therein, of a sleeve having a cross-sectionally angular longitudinal passage in which the pin is snugly fitted, said sleeve comprising a majo: end portion, a reduced middle insion and a furth•r reduced and threaded end portion and having a ball race in the angle between the major and intermediate portions. a bearing cone engaged upon the threaded portion of the sleeve and having a race, a ring disposed about the sloeve ulld heving end races in co-operative relation to the races of the sleeve and cone respectively. said ring being snugly fitted in the rim, and balls in the races.
2. A bushing for trolley wheels comprising a sleeve comprising a major end portion, an intermedlate reduced portion and a further reduced end portion provided with threads. sald sleeve having a race in the angle between its major end intermediate portions, a cone engaged upon the thread end portion of the sleeve and provided with a race, and a ring encircling the slecve ond having end races in co-operative relation to the sleeve and cone respectively and bearing balls engaged in the races.

\section*{No. 100,556. Multiple Unit Control Eystem.} Systome de controle.


Henry McL. Harding. New York City, New York, U.S.A., and Charles M. Clark, Summit, New Jersey, U.S.A., 21st Aukust, 1406; 6 years. Filed 21st June, 1906. Receipt No. 137.134.
(laim.-1. In a multiple unit control system. a single pilot wire extending throughout the train, and means for controt-
ling the motor circuits of the several cars to forward, stop, or reverse conditions therefrom.
2. In a multiple unit control system, a single pilot wire extending throughout the train, and branch connections in the several cars for securing forward, stop, or reverse conditions of the car motors by varying the potential of said pllot wire.
3. In a multiple unit control system, a single pilot wire extending throughout the train, branch connections therefrom within the several cars, and magnetic devices within the several cars and operable from said pilot wire for setting the motors to forward, stop, or reverse movement.
4. In a multiple unit control system, a single pilot wire extending throughout the train, magnetic devices within the several cars for controlling the motor circuits thereof, and branch connections from said pilot wire to said motor circults for arranging them in forward, zero or reverse relation 0 : the motors.
5. In a multiple unit control system, a single pilot wire extending throughout the train, magnetic devices within the several cars for controlling the motor circuits thereof, and branch connections from said pllot wire for arranging said motor circuits in any desired relation by varying the potential of said pilot wire.
6. In a multiple unit control system, magnetic devices withis the several cars having differential or opposed windings, a single pilot wire extending throughout the train, and connections from said pilot wire to gaid magnetic devices at points between the opposed windings.
7. In a multiple unit control system, magnetic devices upon the several cars having opposed or differential windings, means for normally impressing a continuous current in series through said opposed windings, a pilot wire extending throughout the train, and branch connections from said pilot wire to said magnetic devices at points between the opposed Findings.
8. In a multiple unit control system, magnetic devices on the several cars having opposed or differential windings, means for impressing a continuous current in series through said windings, a pilot wire extending throughout the train and connected to said windings, and means for varying the potential of said pilot wire whereby the relative effect of the opposed windings of each magnetic device is changed.
9. In a multiple unit control system, a pilot wire extending throughout the train, pilot controller arms connected thereto, resistance contacts in the path of said arms and respectively connected to the trolley and to the track return, and magnetic devices upon the several cars for setting the motors to forward, zero or reverse rotation by the varying potential of said wire.
10. In a multiple unit control system, magnetic devices upon the several cars having opposed windings through which the potential drops from its maximum value to zero, a pilot wire extending throughout the train, and branch connections for varying the distribution of the potential drop through said windings of the magnetic devices.
11. In a multiple unit system, a magnetic device constantly energized by the power circuit, a pilot wire connected to the windings of said magnetic device, and means for varying the potential of said pilot wire.

No. 100,557. Wall Plug for Incandescent Electric Lights.
Bouton de nours pour lumičres électriques à incandescence.


Charles J. Malish, Toledo, Ohlo, U.S.A., 21st August, 1906; 6 years. Filed 17th June, 1906. Recelpt No. 136,813.
Claim.-In a device of the described character, a two-part body portion composed of suitable insulating material and having corresponding recesses in their meeting faces, detacharle axially disposed plvotal connections between the two
parts of the body portion, a pair of contacting metal rings in the meeting faces of the two parts of the body portion, a flexible conductor connected with one of said rings, a flexible conductor connected with said pivotal connections, said two flexible conductors leading through suitable apertures in the end of one of the body parts into the chamber formed by the \(r \in c e s s e s\) in the meeting faces of the two body parts, and conductors leading from the terminals of said flexible conductors through the other body part and adapted for connection with the terminals of a wall socket.

No. 100,558. Trolley Pole. Pcrihe de trolléo.


Angus S. Weaver, Sodus, New York, U.S.A., 21st August, 1906; 6 years. Filed 23rd April, 1906. Receipt No. 135,208.
Claim.-In a trolley pole the combination with a base, a supporting section pivoted thereon and a contact section journalled on the supporting section, of a spring supported on the base and a lever attached to the spring and connections between it and the contact section for operating the latter in one direction.
2. In a trolley pole the combination with a base, a supForting section pivoted thereon at its lower end and a contact section journalled at its outer end, of a spring supported on the base, a lever pivoted to the base and having one of its ends connected to the spring and a connection between the other end of said lever and the contact section.
3. In a trolley pole the combination with a pivoted tubular supporting section split at the end to form side arms, and a similar split contact section having arms pivoted on those of the supporting section and means for moving the outer end of the supporting section upwardly and also operating the contact section upwardly on its pivot.
4. In a trolley pole the combination with a pivoted supporting section composed of a tube having a bifurcated end forming parallel arms and a contact section having similar arms, of pivoted connections beitween said arms, a pin secured between the arms on the contact section and means connected to said pin for revolving said section in one direction on its pivot.
5. In a trolley pole the combination with a base, a supporting section and a contact section pivoted thereto, of a jrurnal on the base carrying the supporting section, a lever also carried on the journal, a spring attached to the lever and connections between the latter and the contact member for revolving the latter upon its pivot and operating the supporting section in one direction on its journals.
6. In a trolley pole the combination with a base having a spring mounted thereon, a hinged supporting section and a contact section pivoted thereon, of a pivoted lever arranged in alignment with the supporting section, having one arm connected to the spring and the other connected to the contact section.
7. In a trolley pole the combination with a base, a supporting section pivoted thereon and a contact section journalled on the supporting section, of a pivoted lever having one end connected to the contact section, rods connected to the other end of the lever, guides movably supporting the rods on the base and a spring located between the rods and operating them in one direction.
8. In a trolley pole the combination with a base, a supporting section and a contact section pivoted thereon, of a lever having one arm connected to the contact section, a guide on the base, a movable member thereon, a spring operating said member in one direction, and connections between the latter and the other arm of the lever.
9. In a trolley pole the combination with a base, a supporting section and a contact section pivoted thereon, of a lever located in alignment with the supporting section having one arm connected to the contact section, a guide on the
base and a movable member thereon, a spring operating the member in one direction and adjustable rods connecting said member with the other arm of the lever.
10. In a trolley pole the combination with a base, a supporting section pivoted thereon and a contact section journalled on the supporting section, of a spring supported on the base, a lever attached to the spring, connections between it and the contact section for operating both sections upon their pivots and a stop for limiting the movement of the supporting section in one direction.
11. In a trolley pole the combination with a base, a supporting section pivoted thereon and a contact section journalled on the supporting section, of a spring supported on the base, a lever attached to the spring, connections between it and the contact section for operating both sections upon their pivots and a stop formed by an extension on the supporting section adapted to engage the base to limit the movement of sald supporting section in one direction.

No. 100,559. Trolley Pole Catcher.
Attrape perche de trollćc.


John Henry Walker, Lexington, Kentucky, U.S.A., 21st August, 1906; 6 years. Filed 26th March, 1906. Receipt No. 134,294.
Claim.-1. The combination of the turntable having the projecting lug provided with the slots for the ends of the track rail, the track rail consisting of a bar of metal bent at its middle and having its ends secured in the slots of the turntable lug, the side sections of the track being arranged vertically edgewise and being toothed in their lower edges, the trolley pole having a main pivot at its lower end in connection with the turntable, the carrier having a box or body embracing and slldable along the track, the rocker pivoted at its upper rear end to the body or box of the carrier and provided at its lower front end with a dog extending beneath and normally free from engagement with the teeth of the track ralls, the rods connecting such rocker with the trolley pole, and the spring secured to the body or box of the carrier and having a rounded boss engaging with the rocker, whereby to hold the same yieldingly in both positions, substantially as and for the purposes set forth.
2. The combination in an apparatus substantially as described, of the track extending longitudinally from the base of the trolley pole, the trolley pole, a carrier slidable along the track and having a rocker provided with a dog movable Into and out of engagement with the track and connections between the rocker and the trolley pole.
3. The combination in an apparatus substantlally as described, of the track, the trolley pole, a carrier slldable along the track and having a rocker provided with a dog movable
into and out of engagement with the track, connections between the rocker and the trolley pole and means for holding the dog of the rocker normally out of engagement with the track.
4. The combination with the rack and the trolley pole, of a carrier movable along the track and comprising a box or body embracing the track. and a rocker plvoted to said box or body and provided with a dog movable into and out of engagement with the track, and a spring for yieldingly holding the rocker in its different positions, substantially as set forth.
5. The combination with the turntable having the projecting lug, of the track composed of a bar bent forming opposite side sections secured at their free ends to the lug of the turntable, the trolley pole, the carrier having a box allding along the track, and a rocker plvoted to the box and having a dog movable into and out of engagement with the track connections between the rocker and the pole, and a spring for holding the rocker in its different positions, substantially as set forth.
6. The combination of the trolley pole, the turntable having a projecting lug, the track composed of a bar bent between its ends forming the side sections secured at their ends te the lug of the turnable, and toothed on their lower edges the carrier comprising a box or body slidable along the track, and the rocker pivoted at its upper rear end to the box and provided at its lower front end with a dog to engage with the teeth of the track section, the spring secured to the box or body and having a rounded boss engaging with the rocker to secure the same in its different positions and connections between the rocker and the trolley pole, substantially as and for the purpose set forth.
7. The combination with the track and the trolley pole, of a carrier movable along the track and comprising a box or body embracing the track, and a rocker pivoted at one end to such box or body and provided at its other end with a dog movable into and out of engagement with the track and conrcctions between the trolley pole and the rocker.
8. The combination of a trolley pole having a main pivot at its lower end, a track extending longitudinally from the base of the trolley pole, a rocker movable longitudinally along said track and provided with a dog which may be set into and out of engagement with the track and connections between the rocker and the trolley pole whereby the latter on its sudden upward movement when it has escaped from the wire, will throw the dog into engagement with the track to limit the upward movement of the trolley pole, substantially as described.
9. The combination with the trolley pole, and the track of a carrier sliding on the track and comprising a box or body embracing the track, and a hood pivoted to the box or body and having means for engagement with the track, and a spring operating between the box or body and the hood for securing the latter in its different positions, substantially as set forth.
10. The combination in an apparatus substantially as described, of the carrier box or body, the rocker consisting of a hood plvoted to the box or body, whereby it may rock in connection therewith, and a dog having side lugs secured to the rocking hood, and a spring operating between the box or body and the hood for securing the latter in its different positlons.
11. The combination of the trolley pole having a main pivot, the longitudinally extending track, a sliding carrier movable along the track and having locking means for engagement with the track, to lock the trolley against upward movement on its sudden escape from the wire and means whereby the inltial upward movement of the trolley pole on escaping from the wire will throw such locking means into engagement with the track to lock the trolley pole against further upward movement.
12. The combination in an apparatus substantlally as described, of a trolley pole having a main pivot at its lower end, a track extending longitudinally from the base of the trolley pole and provided with a rack, and a dog carrier by the trolley pole, the dog and rack being movable relatively and arrangel to be thrown into engagement on the initial unward movement of the trolley pole on escaping from the with whereby to lock the trolley pole against further upward movement substantially as described.
13. The combination in an apparatus substantially as described. a trolley pole, the track extending longitudinally from the base of the trolley pole, and provided with a rack, a dog movable longitudinally along the track and into and out of engagement with the track, and connections between the dog and the trolley pole.
14. The combination with the trolley pole, of a track extending longitudinally from the base of the trolley pole, a carrier movable along the track, a rocker pivoted at one end to the carrier and movable therewith along the track, and provided at its other end with a dog movable Into and out of engagement with the track, and a connecting rod between the rocker and the trolley pole.

\section*{No. 100,560. Electrical Brush Holder.}

Porte brosse électrique.


Moffat St. Clair, Fort Wayne, Indiana, U.S.A., 21st August, 1906; 6 years. Filed 14th April, 1906. Receipt No. 134,9e8.
Claim.-1. In a commutator brush holder, a supporting casting having in connection therewith a rest, a guide slot in said rest, a contact plate in connection with a brush, the former ranging in said slot, and the latter seated upon said rest, a retracting spring having connection with said casting, and also with sald contact plate, and acting to hold the brush against said rest, and an adjustable spring acting to hold the brush in contact with the commutator.
2. In a commutator brush holder, a supporting casting having in connection therewith a rest, a commutator brush, a rontact plate in fixed relation with the brush. tension means In connection with the casting and contact plate to hold the brush against the rest, and an adjustable spring acting to hold the brush into contact with the commutator.
3. In a commutator holder, a supporting casting having a rest with a guide slot therein, a commutator brush seated akainst the rest and having means in connection therewith which extends into said slot to guide the brush, and two adjustable springs, one acting to hold the brush on said rest and the other to press the brush into contact with the commutator.
4. In a commutator brush holder, a supporting casting having in connection therewith an adjustable commutator brush. a rocking lever pivoted on said casting, one end of the lever having means in connection with the brush to act against the latter to hold it into contact with the commutator, the opposite end of the lever having an adjusting screw, and an upwardly curved lug in connection with the casting, affording a rest for the end of said adjusting screw.

No. 100,561. Static Electric Machine. Machine statique électrique.


Theodorus H. Patee, Indianapolis, Indiana, U.S.A., 21st August, 1906 ; 6 years. Filed 9th May, 1906. Receipt No. 135,743.
Claim.-1. In a static electric machine having the electric current generators within a closed cabinet, an equalizer, and means extending outside of the cabinet for changing its position.
2. In a static electric machine having the electric current generators mounted within a closed case, an equalizer rotatably mounted around the center shaft of the machine, and means extending from the outside of the closed case for osc:llating said equalizer.
3. In a static electric machine, an equalizer, a closed case surounding same, a hub on the central shaft of the machine to which the equalizer is secured, said hub extending to the outside of the case, and means on the outside of the case for rocking said hub.
4. In a static electric machine, an equalizer, a closed case surrounding same. a sleeve through the wall of said case, a hub on the central shaft of the machine to which the equalizer is secured, said hub extending to the outside of the case, and means on the outside of the case for rocking said hub.
5. In a static electric machine, an equalizer including a rod extending diametrically across the plates, a laterally extending crossbar from each end of said rod near the edge of said plates, rods secured to the crossbars between each pair of plates and a metal brush secured to each of said rods so as to engage the surface of the discs.
6. In a static electric machine having a series of plates, an cqualizer including side rods extending diametrically across the series of plates in said machine, crossbars connecting the ends of said rods. short rods extending from said crossbars between each series of plates, and a metal brush secured to ealch of said rods adjacent to the plates.
7. In a static electric machine having the electric current gencrators within a closed cabinet, an equalizer, and means for changing the distance between the points of equalization of the equalizer and collectors without opening the case.
8. In a static electric machine having the electric current generators within a closed cabinet, an equalizer, and means extending outside of the cabinet for changing the distance of the points of electrical transmission on the collectors.
9. In a static electric machine, an equalizer comprising two side rods extending diametrically across the discs, conducting crossbars connecting the ends of said side rods, the short rods extending from said crossbars between each series of discs on the opposite sides of the machine, combs secured to said short rods adjacent to the discs in the machine, and brushes secured in said rods that contact with sald discs.
10. A static electric machine having inclosed electric genorators and practical means for precipitating the moisture in said inclosure upon a predetermined portion of the inclosing case.
11. A static electric machine having inclosed electric generators and means outside of said closure for precipitating the molsture in said interior.
12. A machine having an electric generator, an inclosing case for the generator having means for opening sald case to permit access to said generator and having a smaller openirg. a refrigerant located outside of the case, and a removable portion separating the refrigerant from the interior of the case, said removable portion being inserted or withdrawn from said smaller opening and forming a closure therefor when inserted.
13. In a static electric machine, a cabinet containing the electric generators and means for cooling a limited portion of said cabinet to cause a precipitation of the moisture of the interior thereon.
14. In a static electric machine, a cabinet containing the electric generators, an ice box outside of said cabinet and a metal plate separating the interior of the cabinet from the ice box.
15. In a static electric machine, a cabinet containing the electric generators, a portion of said cabinet made of a material that is a good conductor of heat, and means for lowering the temperature of said portion below the temperature of said portion below the temperature of the interior of the cabinet.
16. In a static electric machine a cabinet containing the electric generators, a sliding bottom portion of said cabinet made of a material that is a good conductor of heat. and means for lowering the temperature of said slide below the temperature of the interior of the cabinet.
17. In a cablnet containing an electric generator, a means for warming one portion of the cabinet interior while cooling another portion.
18. In a static electric machine, a cabinet containing the clectric generators, metal plates in the bottom of said cabinet containing the electric generators. metal plates in the bottom of said cabinet and means for heating one portion of said bottom and cooling the other. substantially as described and shown.

1!. In a static electric machine a rod having a hollow end. a ca! on the hollow end of the rod and a brush impinged between the rod and the cap.
20. In a statice electric machine. a rol having a hollow -nd. an onening through the wall of sall hollow portion. a brush with one end introduced into the hollow rod through
the opening in its wall and a cap on the hollow end of the rod to clamp and hold the brush.
21. In a static electric machine, a brush consisting of a tube, a bundle of fine metal wire bent at the middle, and having said middle drawn into the tube and an insulating knob on the end of the tube from the brush to prevent electrical leakage, in combination with a rod holder and a cross plate to which the rod is fastened.
22. In a static electric machine, a rod having a hollow end, an opening through the wall of said hollow portion, a cap on the hollow end of the rod having as portion of its side wall removed, and a bundle of fine metal wire having one of its ends introduced into the hollow rod through the openings in the walls of the rod and cap.
23. In a static elęctric machine inclosed within a case, a static electric generating disc provided with a non-conducting rim.
24. In a static electric machine an electric plate provided with a marginal shield of non-conducting material and a case inclosing sald plate and generative mechanism.
25. In an electric machine, a plurality of electric discs having insulating rims, a series of brush rods and another series of comb rods between and at the sides of the discs, said brush rods and comb rods and a plate secured to the said rims to which plate the brush rods and comb rods are secured.
26. In a static electric machine comprising generating discs, stationary comb rods and brush rods, and a plate to which the stationary comb rods and brush rods on the same \(s^{\text {d }}\) de of the generating discs are secured.
\(2 i\). In a static electric machine, a suitable electric plate, an insulating rim around the same and automatic means for varying its length to meet changed conditions due to expansion and contraction.
28. In a static electric machine, a suitable electric plate and a flexible rim of insulating material around the edge of said plate.
29. In a static electric machine, a suitable electric plate, a hard rubber rim around the same and an elastic coupling connecting the mecting ends of the rim.
30. In a static electric machine a suitable electric plate, a hard rubber rim around the same, a plate of hard rubber overlapping the foint and fastened to the ends of the rim, one of the fastenings being through a longitudinal slot permitting adjustment in diameter of the rim and a spring to draw the ends ot the rim together.
31. In a statle electric machine, a main shaft, a series of groups of plates mounted on the shatt, ent rnally theaded sleeve or sleeves mounted on the shaft, having flanges, suitable rings and washers around said threaded sleeve separating it from its disc, a nut screwing on the sleeve to tighten the washers and disc against the Hange and means tor securing the sleeve to the main shaft.
32. In a static electric machins, a main shaft, a series of sleeves secured thereon. said sleeves having a flange at one end and an external screw thread from the other end to the Hange, said sleeves being arranged in pairs as to their tlanged ends which are placed adjacent to each other, a revolving plate mounted on each sleeve and a pair of stationary plates at the flanged ends of the slecves between the revolving plates.
33. In a static electric machine, a main shaft, a serics of sleeves mounted thereon, glass plates mounted on the sleeves and elastic bearings between the plates and the sleeves.
34. In a static machine, a main shaft, ball bearings to support said shaft, a series of plates mounted on the shaft, an equalizer diametrically surrounding the series of plates with rods extending between the plates, said equalizer being mounted on the shaft.
35. In a static electric machine, the generators. the electrodes. the Leyden jars and the bases for sald jars having a series of sockets of different diameters.
36. In an electricstatic machine a current make-and-break device moving between the positive and negative electrio forces generated by the machine and means to take the current from said device.
37. In a static electrical machine, the stationary and the revolving glass disc, the operating shaft, the combs and the conductors through which the electricity generated passes off, a revolving electric current make-and-break device adapted to be carried by the said shaft and make-andbreak contact with said conductors as the device is revolved, and means to take the current off of the revolving device.
38. In an electric machine of the class described, a current make-and-break device revolving between the poles of the machine, said device consisting of a plate with marginal conductors of electriclty having switches to break the circuit, and means to take the electricity off of the plate.
39. In an electric machine of the class described, a curront make-and-break device revolving between the poles o! the machine, said devices consisting of a disc with an
tregular outline, said plate having marginal conductors of electricity and brushes to take the electricity off of the plate.
40. In an electric machine of the class described, a current make-and-break device revolving between the poles of the machine, sald device consisting of a plate with an outline that is not a true circle, said disc having marginal electric conductors, switches to make and break the crcuit in said conductors and brushes to take the electric current off of the plate.
41. In a static electric machine, the main shaft, an extension removably secured thereto, a current make-and-break device loosely mounted on the shaft extension, a cone pulley mounted adjacent thereto, a connecting belt, a pulley on the same shaft as the second cone pulley connected with a belt to the mae-and-break device.
42. In a static electric machine, a main shaft, an extension removably secured thereto, and a current make-andbreak device mounted on the extension.
43. In a static electric machine a cabinet containing the clectric generators and means for simultaneously heating and cooling different portions of the interior of the cabinet.
H. In a static electric machine a cabinet containing the -lectric generators, a compartment outsids of the cabinet having communication with the interior of said cabinet and a removable partition between said cabinet and the sald outside compartment.
4j. In a static electric machine, an equalizer, and means exiending outside of the machine for changing its position. 46. In a static electric machine, an equalizer rotatably mounted around the center shaft of the machine. and means extending from the outside of the machine for oscillating said equalizer.
47. In a static electric machine, an equalizer including a rod extending diametrically across the disc, a laterally extending crossbar from each end of said rod near the periphery of said discs. short rods extending from sald bars between the discs, and a metal brush secured to each of said rods so as to engage the surface of the discs.
48. In a static electric machine having a series of discs. an equalizer including side rods extending diametrically across the series of disc in said machines, crossbars connecting the ends of said rods. short rods extensing from said crossbars between each series of discs, and a metal brush serured to each of said rods and short rods ad,acent to the discs.
4!: In a brush, a rod having a hollow ent. adjustable brush wires each of which has one end inserted in and the opposite end protruding from said hollow, and mwans for removably and adjustably securing said brush wires within sald hollow.
jo. In a static electrle machine having eleciric generators locutrd within a case, a movable conducting m dum to servo between the positive and negative parts as means for modifying and regulating the electric current while said current is passing from the generators to the sliding electrodes or other terminals, said conducting medium having means available from outside of the case fo: ohanging fts position.
5i. In a static electric machine having electric gencrators located within a case, a movable condu ting medium to serve as a means for modifying and controlling the plactric current while said current is passing from the genera. tors to the sliding electrodes or to other terminals. said conducting medium having means available from outaide of the case tor changing its nosition.
52. In a static electric machine having electric current gellerators located within a case, a movablo condurting medium acting ugon and regulating the polarized current while the current is flowing irom the generators to the combs, brushes or other receiving or distributing mechanism for passing said current to the sliding electroles or other terminals, said conducting medium having \(m\) ans available ouside the case for changing its position.
53. In a static electric machine having an electric generator with an inclosing portion of the machine, a morable conducting medium to serve as a means for changing, mo.ifying. and regulating the action of the polarized current while said current is flowing from the generator to the receiving or distributing mechanism for passing said current to the sliding electrodes or other torminals, sald conducting medium having means available from outside of said inclosure for changing its position.

\section*{No. 100.562. Credit Eystem Apparatus.}
ipperiril de système dr crédil.
Jacob Oscar Greenwald. Milwaukee. Wisconsin, U.S.A., 21st August. 1906; 6 years. Filed 23rd May, 1906. Recelpt No. 136,192.
Claim.-1. In a device of the character described, a magnetic check punching device comprising a solenoid, a coro
therefor, a spring retracted punch member in the path of the core and adapted to be struck and moved thereby, punch

pins carried by the punch member, a plate having perforations in which the punch pins project. and a die adapted to receive a check and having perforations into which the punch pins may be driven through the check when the punch member is struck by the solenold core.
2. In a device of the character described, a magnetic check piunching device comprising a solenoid, a core therefor, a punch member in the path of the core and adapted to be struck and moved thereby, punch pins carried by the punch member, a plate having perforations in which the punch pins project, said member having a shouldered reduced portion, a punch rest connected to the plate and having an opening through which the reduced portion of the punch member passes, a coll spring surrounding the reduced portion of the punch member, and bearing against its shoulder and against the punch rest, and a check receiving die mounted on the plate and having perforations into which the punch pins are adapted to be driven through the check when the punch member is struck by the solenoid core.
3. In a device of the character described, a check punching means comprising a solenoid, a core tube for the solenoid extending beneath the same, a core operating in the core tube, a plate to which the core tube is rigidly secured, a punch member having a reduced portion projecting into the core tube and adapted to be struck and moved by the core, a series of punch pins carried by the punch member, a top plate connected with the before-mentioned plate at a distance, therefrom and having perforations into which the punch pins extend, a punch rest mounted on the top plate for supporting the punch member and having an opening through which the reduced portion of the punch member extends, a coil spring surrounding and engaging the reduced portion of the punch member and bearing on the punch rest, a check receiving die strip on the top plate having perforations into which the punch pins are adapted to be driven when the punch member is struck by the solenoid core, a bracing strip on the die strip adapted to prevent its bsing bent out of position, and guides on the top plate for determining the position of a check to be operated upon by the punching means.

\section*{No. 100,563. Jump Spark Apparatug.} Appareil d'étincelles à bond.

Herman Charles Mueller, Fond du Lac. Wisconsin, U.S.A., 21 st August, 1906 ; 6 years. Filed 4th June, 1906. Recelpt No. 136,530
Claim.-1. In sparking apparatus the combination with a source of current, of induction coils having separate cores, and primary and secondary windings and a contact breaker comprising an adjustable contact piece and a vibrating armature arranged between ends of the cores and said contact plece, said primary coils being connected with gaid source
of current, contact piece and armature and with each other in series. substantially as described.

2. In a jump spark apparatus, a pair of induction coils having their primary windings connected in serles, a separate core for each coil, and a contact breaker provided with an armature plate having its face adjacent to the ends of the cores, substantially as described.
3. In a pump spark apparatus, a pair of electrically connected induction coils mounted parallel to each other, a separate core for each coil, and a contact breaker provided with an armature plate of substantially unlform magnetic permeability throughout, substantially as described.
4. In a jump spark apparatus the combination of a plurality of secondary windings each of which is located about a separate primary winding, an independent core for each of the primary windings, and a contact breaker provided with an armature plate supported by a spring at each end and having its face adjacent to the ends of the cores, substantially as described.
5. In an electric circuit, a pair of induction coils mounted parallel to each other and having separate cores, a contact breaker provided with a spring mounted armature having its face adjacent to ends of the cores, and a condenser shunted across the contact breaker, substantially as described.
6. In a jump spark apparatus the combination with a suitable casing of a pair of parallel induction coils having separate cores and a condenser in the casing embedded in and separated by a body of non-conducting material, and a contacting breaker for the coils provided with a spring mounted armature having its face adjacent to the ends of the cores, substantially as described.

\section*{No. 100,564. Circuit Breaker.}

Interrupteur de circuits.


George Gale Stout, Parkersburg, West Virginia, U.S.A., 21st August, 1906; 6 years. Filed 16th June, 1906. Recelpt No. 136,994.
Claim.-1. In an electric circuit breaker the combination with a switch, of a resistance coil connected across the poles of said switch, a magnet core loosely suspended within sald coll, a balance beam connected to said suspended core and actuated thereby in such manner that the voltage may be determined, a magnet coll connected across the poles of said switch with an open circuit switch, a locking bolt associated with said latter coil, a movable contact adapted to be moved by sald balance beam to close said open circuit and cause said latter coll to actuate said switch locking bolt to release said switch.
2. In an electric circuit breaker the combination with a switch, of a resistance coll connected across the poles of said switch, an armature associated with said coil, a magnet coil connected across the poles of said switch with an open circuit switch, connecting means between said open circuit switch and said armature, a switch locking element associated with said last-mentioned coil, said circuit being adapted to be closed by the movement of said armature which causes said last-mentioned coil to actuate said switch locking elements to release said switch.
3. In an electric circuit breaker the combination with a switch, of a series of resistance coils connected in series to each other and in multiple on the circuit, a magnet core loosely suspended within one of said resistance coils, a balance beam connected to sald suspended core and actuated thereby in such manner that the voltage can be determined, a magnet coil connected across the poles of said switch with an open circuit switch, a locking bolt associated with said latter coil, a movable contact adapted to be moved by said balance beam to close said open circuit and cause said latter coil to actuate said switch locking bolt to release said switch.

No. 100,565. Furnace. Fournaise.


Robert William Hillyard and John Baird, co-inventors, both of Ottawa, Ontario, Canada, 21st August, 1906; 6 years. Filed 12th June, 1906. Receipt No. 136,827.
Claim.-1. A mechanical feeder for furnaces having in combination an annular grate, a bell-mouthed chamber in communication therewith, an arcuate extension secured to the said chamber, a slot therein having lugs arranged adjacent thereto, a lever pivoted between the said lugs, the lever end of which is formed with a projection, and a feeder, suitably supported in the said extension, having a corresponding slot tc receive the projection on the lever and adapted to be orerated thereby, substantially as described.
2. In a mechanical feeder for furnaces in combination an arnular grate, a bell-mouthed chamber in communication therewith, having an arcuate extension, a hopper in communication with the chamber, and a fuel check arranged between the hopper and the grate, sald check being provided with an auxiliary check, a feeder, and means for operating the same, substantially as described.
3. In a mechanical feeder for furnaces in combination an annular grate, a bell-mouthed chamber communicating therewith having an arcuate extension, a feeder arranged to operate within the said extension, an articulated head in the sald feeder and means for operating the feeder, substantially as described.
4. In a mechanical feeder for furnaces in combination an annular grate, a bell-mouthed chamber communicating therewith having an arcuate extension, a feeder arranged to operate within the said extension, a fuel hopper communicating with the said chamber, an articulated head in the said feeder, provided with a rearwardly extending portion adapted te close the mouth of the fuel hopper when the feeder is in its advanced position, and means for operating the said feeder.
5. In a mechanical feeder for furnaces in combination an annular grate, means for revolving the same, a bell-mouthed chamber communicating with the said grate having an arcuate extension, a feeder arranged in the said extension, an articulated head in the said feeder, an anti-friction support for the rear end of the feeder and a lever having a ball and socket connection with the said feeder to operate the same, substantially as described.
6. In a mechanical feeder for furnaces in combination an arnular grate, means for revolving the same, a bell-mouthed 8-17
chamber communicating with the said grate, a fuel hopper opening into the chamber, a feeder, means for operating the same, and a positively operated fuel check arranged in the said chamber, substantially as described.

No. 100,566. Seed Cleaner and Grain Separator. Nettoyeur de graine et séparateur à grain.


James E. Benson, Troy, New York, U.S.A., 21st August, 1906;
6 years. Filed 25th June, 1906. Receipt No. 137,265.
Claim.-1. In a machine of the class described, the combination with a hopper, and a grain separating shoe suprorted on a main frame for reciprocal motion thereon, of an upper chaff shoe and a lower chaff shoe inclined in opposite directions to each other, the lower chaff shoe being inclined in an opposite direction to the grain separating shoe, sald chaff shoes being disposed between the hopper and the separating shoe, said upper chaff shoe having a screen, a metal bottom plate below said screen and having a discharge outlet, said lower chaff shoe comprising a pair of screens arranged in different planes and each extending about half the length of the shoe, oil cloth curtains over said lower chaff shoe screens, and a sheet metal top over the upper screen of the lower chaff shoe, and means for longitudinally reciprocating both of said chaff shoes and said separating shoe.
2. In a machine of the class described, the combination with a hopper, and a grain separating shoe supported on a main frame for reclprocal motion thereon, of an upper chaff shoe and a lower chaff shoe inclined in opposite directions to each other, the lower chaff shoe being inclined in an opposite direction to the grain separating shoe, said chafl shoes being disposed between the hopper and the separating shoe, said upper chaff shoe having a screen, a metal bottom plate below sald screen and having a discharge outlet, said lower chaff shoe comprising a pair of screens arranged in different planes and each extending about half the length of the shoe, oll cloth curtains over said lower chafi shoe screens, and a sbeet metal top over the upper screen of the lower chaff shoe, and means for longitudinally reciprocating both of said chafil shoes and said separating shoe, and for vertically reciprocating one of said chaff shoes.
3. In a machine of the class described, the combination with a hopper, and a grain separating shoe supported on a main frame for reciprocal motion thereon, of an upper chaff shoe and a lower chaff shoe inclined in opposite directions to each other, the lower chaff shoe being inclined in an opposite direction to the grain separating shoe, said chaff shoes being disposed between the hopper and the separating shoe, said upper chaff shoe having a screen, a metal bottom plate below sald screen and having a discharge oully said lower chaff shoe comprising a pair of screens arranged in different planes and each extending about half the length of the shoe, cil cloth curtains over said lower chaff shoe screens, a sheat
metal top over the upper screen of the lower chaff shoe, rad an air blast device for causing an air blast between the up\(p \in r\) and lower chaff shoes, substantially as shown and \(d s\) cribed.
4. In a machine of the cass described, the combination with a hopper, and a grain separating shoe supported on a main frame for reciprocal motion thereon, of an upper chaff shor. and a lower chaff shoe inclined in opposite directions to earh other, the lower chaff shoe being inclined in an opposite direction to the grain separating shoe, sail chaff shoes being cisposed between the hopper and the separating shoe, said upper chaff shoe having a screen, a metal bottom plate below said screen and having a discharge outlet, said lowor chat shoe comprising a pair of screens arranged in different planes and each extending about half the length of the shoe, oil cloth curtains over said lower chaff shoe screens, a shect metal top over the upper screen of the lower chaff shoe, an air blast device for causing an air blast between the upper and lower chaff shoes, means for controlling sald air biasr devices to regulate the supply of air emitted from the air blast devices, and means for longitudinally reciprocating both of sald chaff shoes and said separating shoe and for: vertically reciprocating one of said chaff shoes and for operating said air blast device.
5. In a machine of the class described, the combination with a hopper, and a grain separating shoe supported on a main frame for reciprocal motion thereon, of an upper chaff shoe and a lower chaff shoe Inclined in opposite directions to ench other, the lower chaff shoe being inclined in an opposite direction to the grain separating shoe, said chaff shoes being disposed between the hopper and the separating shoe, said upper chaff shoe having a screen, a metal bottom plate below said screen and having a discharge outlet, said lower chaff shoe comprising a pair of screens arranged in different planes, and each extending about half the length of the shoe, oil cloth curtains over said lower chaff shoe screens, a sheet metal top over the upper screen of the lower chaff shoe, and an air blast device for causing an air blast between the upper and lower chaff shoes, a second air blast device for causing an air blast between the lower chaff shoe and the separator shoe, means for controlling both of said air blast de\(v: c e s\) to regulate the supply of air emitted therefrom, and means for operating said air blasting devices and longitur, dinally reciprocating both of said chafi shoes and said separator shoe and for vertically reciprocating one of said chaff shoes, substantially as shown and described.
6. In a machine of the class described, the combination with a hopper, and a separator shoe supported on the main frame for reciprocal motion thereon, of an upper and lower chaff shoe mounted for reciprocal movement between the hopper and the separator shoe, the upper chaff shoe and the separator shoe lying in parallel planes, the lower chaff shoe lying in a plane inclined diagonally between the upper chaff shoe and the separator shoe, inclined hangers pivotally secured to the upper end of the upper chaff shoe, and to the frame of the machine, hanger bars secured near the other end of the upper chaff shoe, angle irons pivotally secured to the frame of the machine each including a long and a short arm, the short arm of each angle iron being connected to one of said hanger bars of the upper chaff shoe, bars pivotally secured to the upper end of the lower chaff shoe and pivotally secured to the long arm of the angle Irons, means for rocking said angle irons to impart longitudinal reciprocal movement to the chaff shoes and vertical reciprocal movement to the upfer chaff shoe, and means for reciprocating the separator, shoe, substantially as shown and described.
7. In a machine of the class described, the combination with a hopper, and a separator shoe supported on the main frame for reciprocal motion thereon, of an upper and lower chaff shoe mounted for reciprocal movement between the hopper and the separator shoe, the upper chafl shoe and the separator shoe lying in parallel planes, the lower chaff shoe lying in a plane inclined diagonally between the upper chaff shoe and the separator shoe, inclined hangers pivotally secured to the upper end of the upper chaff shoe and to the frame of the machine, hanger bars secured near the other end of the upper chaff shoe, angle irons pivotally secured to the irame of the machine each including a long and a short arm, the short arm of each angle iron being connected to one of said hanger bars of the upper chaff shoe, bars pivotdlly secured to the upper end of the lower chalf shoe and pivotally secured to the long arm of the angle irons, faparis for rocking said angle irons to impart longitudinal reciprocal movement of the chaff shoes, and vertically reciprocal movement to the upper chaff shoe, and means for reciprocating the separator shoe, said last-named means comprising a pair of vertically disposed levers pivotally fulcrumed to the lower brace bars of the machine frame, a transverse rod connecting said levers together and bearing members on the under side of the separator shoe for engaging said transverse :od and a means for operating said levers, substantially as shown and described.
8. In a machine of the class described, the combination with a hopper, and a separator shoe supported on the main frame for reciprocal mo'ion thereon, of an upper chaff shoe and a lower chaff shoe inclined in opposite directions to each cther, the upper chaff shoe lying in a plane parallel with the separator shoe, an agitator carried by the upper chaff shoe and projecting into the hopper, said hopper having a discharge outlet, an adjustable gate for opening and closing said discharge outlet of the hopper, air blast devices discharging between the upper and lower chaff shoes and between the lower chaff shoe and the separator shoe, and means for operating said air blast devices for imparting longitudinal reciprocal motion to the separator shoe, for imparting longitudinal reciprocal motion to both chaff shoes and for imparting vertical reciprocal motion to the upper chaff shoe, all being arranged substantially as shown and described.

No. 100,567. Display Rack. Ratelier de montre.

G. H. North, W. F. Brewster and C. S. Smith, co-inventors, all of Pocatello, Idaho, U.S.A., 21st August, 1906; 6 years. Filed 10th March, 1906. Receipt No. 133,729.
Claim.-1. A display rack comprising a ring-shaped base, the inner margin of the ring being at right angles to the upper face, and the upper face of the ring flattened to form a bearing, said upper face having a plurality of openings for receiving oil, and a turntable having on its under face a ring-shaped plate, the inner margin of sald ring-shaped plate having a depending flange fitting within the inner margin of the ring-shaped base, and the face of said ring-shaped plate being flattened to form a bearing resting upon the bearing of the base, and provided with oll holes, for the purpose set forth.
2. A display rack comprising a ring-shaped base, the inner margin of the ring being at right angles to the upper face, and the upper face of the ring flattened to from a bearing and a turntable having on its inner face a ring-shaped plate, the inner margin of said ring-shaped plate having a depending flange fitting within the inner margin of the ring-shaped base, and the face of said ring-shaped plate being flattened t. form a bearing resting upon the bearing of the base, for the puurpose set forth.

\section*{No. 100,568. Window Cleaner. Nettoyeur de fenétre.}

Ernest Butland, Montreal, Quebec, Canada, 21 st August, 1906; 6 years. Filed 2nd February, 1906. Receipt No. 132,537.
Claim.-1. A window cleaner comprising a foldabe handle. a crossarm rigidly attached to the upper end of said handle, plates secured to the extremities of said crossarm, and a removable cleaning fabric to said plates.
2. A device of the class described comprising a jointed foldable handle, a crossarm rigidly attached to the upper end of said handle, plates attached to the extremities of said crossarm at right angles thereto, a cleaning labric removably attached to the other plate.
3. In a device of the class described, a handle comprising two members hingedly connected together, means for main-

taining sald members in aligment ,a crossarm rigidly attached to the upper extremity of said handle, suitable plates secured to the extremities of sald crossarm, a cleaning fabric removably secured to the outer face of one of said plates, and a polishing fabric removably secured to the outer face of the other plate.
4. In a device of the class described, a handle comprising two members hingedly connected together, a pivoted link connecting the extremities of said members, a ferrule sliding on one of said members and adapted to maintain said members in alignment, a shoulder adapted to limit the downward movement of said ferrule, a crossarm rigidly attached to the upper extremitles of said handle, plates gecured to the outer extremities of sald crosmarm, a cleaning fabric secured to one of said plates, and a polishing fabric to the other plate.

No. 100,569. Picture Making Procesm.
Procédé pour faire des images.


Sidonie Chadzynska, Peczenizyn, Gallcia, Austria, 21st August, 1906 ; 8 years. Filed 7th March, 1906. Receipt No. 133,612.
Claim.-A process for the production of pasted pictures, which consists in bringing together flnely divided silk threads or cloth pleces upon a pasted ground, the silk threads or the cloth pleces being thereafter treated by means of suitable tools to give them rellef shape, afterwards the parts of the picture may be coloured for the purpose of reviving the plastic effect of the subject.
No. 100,570. Locomotive Erhanet.
Tryas d'Emiseion de locomotices.


John Joseph Conolly and John Herron, co-Inventors, both of Marquette, Michigan, U.B.A., 21st August. 1906; 6 years. Filed 4th June, 1906. Recelpt No. 136,528.
Claim.-1. In mechanisms of the class described, the combination of a locomotive provided with the ueual maln
exhaust pipe connected with the cylinders, an auxiliary exhaust pipe, a detachable connection between the main and auxiliary exhaust plpes and valve mechanism in the connection, the valve mechanlsm being wholly exterior to the main exhaust pipe.
2. In mechanism of the class described the combination of a locomotive provided with the usual main exhaust pipe connected with the cylinders, an auxiliary exhaust pipe, a detachable connection between the main auxiliary exhaust pipes, and automatically operating valve mechanism in the connection, the valve mechanism beling wholly exterior to the main exhaust pipe.
3. In mechanism of the class described, the combination of a locomotive provided with a main exhaust pipe connected with the cylinder mechanism, an auxiliary exhaust pipe connected with the main exhaust pipe in the smoke box of the locomotive, valve mechanism in the connection between the main and auxillary exhaust plpes for opening and closing said auxiliary exhaust valve, a lifting shaft arm on said locomotive, a reach rod pivotally connected therewith and leading to the cab of the locomotive, and auxiliary rod mechanism connected with the auxiliary valve mechanism and leading therefrom to the cab of the locomotive and having slotted engagement with the reach rod mechanism so as to permit automatic and independent movements of said auxiliary valve, substantially as described.
4. In mechanism of the class described, the combination of a locomotive provided with a main exhaust plpe connected with the cylinder mechanism, an auxiliary exhaust pipe connected with the main exhaust pipe in the smokebox of the locomotive, transversely arranged auxlliary valve mechanism in the connection between the main and auxiliary exhaust pipes, a valve rod for sald auxiliary valve mechanism arranged transversely of the smoke box and extending outside of the same, a lifting shaft arm for said locomotive, a reach rod pivotally connected therewith and reaching to the cab of the locomotive, a reach rod pin forming the pivotal connection between said reach rod and lifting shaft arm and having an outwardly extending portion, compound auxiliary rod and lever mechanism having slotted engagement with said reach rod pin connected with the rod of sald auxiliary valve at one end and leading to the cab of the locomotive at the other end, whereby said auxiliary exhaust valve may be operated automatically and independently as desired, substantially as described.

No. 100,57 1. Broom. Balai.


Edwin Carter Crompton, Brantford, Ontario, Canada, 21st August, 1906; 6 years. Filed 20th December, 1905. Recelpt No. 131,193.
Chaim.-1. An attachment for a broom comprising a bracket having a lower crossbar adapted to extend across one side of the besom and an upright portion comprisiag two
bars forming a continuation of the bent ends of the crossbar, and extending upwardly on the opposite side of the besom to the stick, and sultably and adjustably attached to the stick, as and for the purpose specified.
2. An attachment for a broom comprising a bracket having a lower crossbar adapted to extend across one side of the besom, and an upright portion comprising two bars forming a continuation of the bent ends of the crossbar, and extending upwardly on the opposite side of the besom to the stick and having arc-shaped ends designed to straddle the stick, as and for the purpose specified.
3. An attachment for a broom comprising a bracket having a lower crossbar adapted to extend across one side of the besom and an upright portion comprising two bars forming a continuation of the bent ends of the crossbar, and extending upwardly on the opposite side of the besom to the stick and suitably and adjustably attached to the stick, and a projecting cover for the bar, as and for the purpose specined.

No. 100,572. Weigher and Register. Balance et registre.


David Petrie Davidson, Pahiatus, New Zealand, 21st August, 1906; 6 years. Filed 15th May, 1905. "Recelpt No. 125,214.
Clatm.-1. A measuring vessel divided into sections and supported upon pivots in such a manner that the vessel shall be capable of tipping alternately to each side, as matter is fed into it, in combination with a loosely mounted lever, a two-armed lever having one arm in position to be operated by the lever first-named and also having a pawl carried by its other arm, a ratchet engaged and driven in one direction by said pawl, a weight connected with said ratchet and provided with a pointer for advance along a scale, and means including a trip operated by sald weight, for shutting off the supply of material to the measuring vesisel.
2. In milk weighing machines and the like, a tipping measuring vessel in combination with a ratcheted wheel mounted on the outside of the vessel, means whereby the tipping movements of the measuring vessel will impart a rotatory movement to the ratchet wheel, a flexible cord one end of which is wound upon the ratchet wheel, a vertical guage beam down the front of which the other end of the cord is led, an indicator pointer secured upon such cord, a catch upon this top end of the gauge beam adapted to be opened by the engagement therewith of the indicator pointer, a weighted lever arm controlling the valve of the supply pipe, and a flexible cord attached to the lever arm and provided with a catch plece adapted to engage with the catch upon the gauge beam, substantially as and for the purposes herein specined.

\section*{No. 100,573. Waterproof Fabric.}

Tissu d l'épreuve de l'eau.
Alwin Doelling, Tannenbergsthal, near Jägersgrun, Saxony, Germany, 21st August, 1906; 6 years. Filed 30th April, 1906. Recelpt No. 135,382.

Olaim. -The method for the manufacture of waterproof, washable material of valvety appearance, consisting in coatIng the surface of fabric, paper or the like, with an adhesive substance such as varnish, and applying to the surface thus coated a powder consisting of finely divided silk or raw materials commonly used for the manufacture of velvet and the like.

\section*{No. 100,574. Fountain Brush. Brosse fontaine.}

William I. Ferris, Stamford, Connecticut, U.S.A., 21st August, 1906; 6 years. Filed 29th May, 1906. Recelpt No. 136,376.
Claim.-1. In a fountaln brush the combination of a reservoir closed except at one end, a nozzle extension of such
open end, and a brush secured within such nozzle of such size and form relative to the size and form of the interior of

said nozzle as to provide an air passage and a caplllary ink passage between said brush and the interior of sald nozsle, substantially as shown and described.
2. In a fountain brush the combination of a reservoir closed except at one end, a nozzle extension of such open end, and a brush secured within such nozzle at some point removed from its open end, said brush being of such sise and form of the interior of said nozzle as to provide an air passage and a capillary ink passage between said brush and the interior of said nozzle, substantially as shown and described.
3. In a fountain brush the combination of a reservoir closed except at one end, a nozzle extension of such open end, and a brush secured within such nozzle at some point removed from its open end, said brush being of such size and form relative to the size and form of the interior of said nozzle as to provide an air passage and a caplllary ink passage between said brush and the interior of said nozzle and provide a capillary overfiow space within the nozzle at and near its open end, substantially as shown and described.

No. 100,575. Landing Not. Pettt flet.


John William Graham, Nanaimo, British Columbla, Canada, 21st August, 1906; 6 years. Filed 17.th April. 1906. Receipt No. 134,946.
Olaim.-1. In combination with a common form of hand landing net, a weight secured to the bottom of the net.
2. In combination with a common form of hand landing net, an annular welght secured to the bottom of the net.
3. In combination with a common form of tand landing net. an annular weight secured to the bottom of the net by knotting the strands of the net around the weight.
4. A landing net comprising a handle, a hoop secured to the handle, a meshed member having its upper end secured to the hoop, and an annular weight secured to the strand of the meshed member at its lower end.

No. 100,576. Means of Attaching Crossbars to Hollow Columns.
Moyen d'assujétir les barres de traverses aum colonnes crouses.


Louls C. Hamel, Appleton, Wisconsin, U.S.A., 21st August, 1906; 6 years. Filed 5th March, 1906. Recelpt No. 133,541.
Claim.-1. The combination in a sign post of a hollow column having openings in its opposite sides, arms extending through the openings and projecting from the opposite sides of the column, s binding member mounted and longitudinally movable within the column and having arm receiving openings, and means for moving said binding member in the direction of its length in order to clamp the arms between the end walls of said openings.
2. The combination in a sign post of a hollow column provided with openings in its opposite side walls, arms extending through the openings and projecting from the opposite sides of the column, a tubular binding member arranged within the column and also provided with openings, and means for moving said binding member in the direction of its length to thereby clamp the arms to the column.
3. In combination a sign post including a hollow column having openings formed therethrough, a tubular binding member arranged within the column and having openings registering with the column openings, arms inserted through the openings, and means for exerting pressure upon the upper end of the binding member to effect clamping of the arms against the column.

\section*{No. 100,577. Artificial Wood. Bots artifoiol.}

Jacob Laeufer, Lima, Ohio, U.S.A., 21st August, 1906; 6 Jears. Filed 25th June, 1906. Recelpt No. \(137,267\).
Olaim.-1. The herein described substitute material comprising vegetable matter, Portland cement, plaster of paris, and animal blood, in or about the proportions mentioned.
2. The herein described material comprising vegetable matter, Portland cement, plaster of paris, sulphur and animal blood, in or about the proportions mentloned.
3. The herein described material comprising vegetable matter, Portland cement, plaster of Paris, sulphur, sugar, and animal blood, in or about the proportions mentioned.
4. The hereln described substitute material comprising vegetable matter, Portland cement, plaster of paris, oil, and animal blood, in or about the proportions mentioned.
5. The herein described substitute material, comprising vegetable matter, Portland cement, plaster of paris, sulphur, oll, and animal blood, in or about the proportions mentioned.
6. The herein described material comprising vegetable matter, Portland cement, plaster of paris, animal hair, cream fioated barytes, and animal blood, in or about the proportions mentioned
7. The herein described material consisting of vegetable matter, Portland cement, plaster of paris, sulphur, oil, animal hair, cream floated barytes, and animal blood in or about the proportions mentioned.

No. 100,578. Steam Trap. Purge d rapeur.


John T. Lindstrom, Allentown, Pennsylvania, U.B.A., 21st August, 1906; 6 years. Filed 15th June, 1906. Recelpt No. 136,940 .
Claim.-1. In a valve structure for steam traps and the like, a casing, a valve seat therein having a cylindrical chamber, a valve in said chamber comprising disc-shaped members and a substantially triangular body portion connecting said disc-shaped members, a float, and a stem lever having a bifurcated end connected with said disc members o! the valve.
2. In a valve structure for steam traps and the like a casIng having an outlet and an internal boss formed with a threaded socket and a discharge passage leading therefrom to the outlet, a valve seat screwed into said socket and formed with a shoulder bearing against the upper side of the boss, and also formed at its upper end with a cylindrical chamber provided in its sides with bearing openings and having a lateral inlet, the seat being further formed with a vertical passage leading from said chamber to the discharge passage, a valve mounted within said chamber and comprising disc-shaped members, an intermediate triangular body portion and squared extremities bejond the disc-shaped members, said disc-shaped members being journalled in and closing the bearing openings in the ends of the chamber and mounting the valve therein for oscillatory movement, a lever stem provided with a forked end, the arms of said forked end being apertured to recelve the square extremities of the valve, and a float secured to sald lever stem.
No. 100,579. Ship Construotion. Construction de vaisseau.


George William Maytham, Buffalo, New York, U.S.A., 21st August, 1906; 6 years. Filed 10th June, 1905. Receipt No. 125,925 .
Claim.-1. A ship having a series of hoppers in its hold and diagonal bars extending from the bottom of the pold to
the deck on which the inclined sides of the hoppers are supported, said bars being arranged in pairs and the bars of each pair being inclined in opposite directions.
2. A ship having a series of hoppers in its hold and diagonal bars extending from the bottom of the deck on which the inclined sides of the hoppers are supported.
3. A ship having a series of hoppers, a hatchway arranged over each hopper and diagonal bars extending from the upper end of two adjacent hoppers to the deck, said bars being secured to the deck between said hatchways.
4. A ship having a series of hoppers, a hatchway arranged over each hopper and diagonal bars extending from the upper end of two adjacent hoppers to the deck.
5. A ship having a series of hoppers, a hatchway arranged over the center of each hopper and diagonal bars connected at the upper end of two adjacent hoppers and extending to the deck for connection near the sides of two adjacent hatchways.
6. A ship having bars extending from top to bottom in the hold and shifting plates secured to said bars.
7. A ship having diagonal bars and shifting plates secured to said diagonal bars.
8. A ship having diagonal bars arranged in pairs and a shifting plate secured to each pair of said bars.
9. A ship having diverging bars connected together and to the deck and a shifting plate secured to the separated ends of said bars.
10. A ship having diverging bears connected together and to the deck, a shifting plate secured to the separated ends of said bars and a shifting plate secured to the connected ends of said bars.
11. A ship divided by transverse bulkheads into a number of cargo compartments and having one or more hoppers in the bottom of each compartment, diagonal bars extending from the bottom of the hoppers along the front and rear inclined walls of the latter and being connected together at the upper ends of said inclined walls and a hatchway in the deck above each hopper.
12. A ship having a series of hoppers in the bottom of its hold, a hatchway centrally over each hopper, and diagonal bars on which the inclined walls of said hoppers are supported, said bars extending from the bottom of the hold to the deck having their upper ends secured to the deck between said hatchways.

No. 100,580. Ship Construction.
Construction de vaisseau.


George Whlliam Maytham, Buffalo, New York, U.S.A., 21st August, 1906; 6 years. Filed 20th July, 1905. Receipt No. 127,039.
Claim.-1. A ship provided with a collapsible main deck by means of which a single hold or an upper and lower hold may be provided.
2. A ship provided with a collapsible deck between the spar deck and the bottom of the hold and comprising a number of swingine sections attached to the walls of sald
compartment a distance above the bottom of the hold, said deck sections when swung into a horizontal position serving to form a deck, and means for retaining said deck sections in a horizontal position.
3. A ship provided with a series of compartments, and swinging deck sections attached to the walls of said compartments a distance above the bottom of the hold, said deck sections when swung into a horizontal position serving to form a deck, and means for retaining said deck sections in a horizontal position.
4. A ship provided with a series of compartments, swinging deck sections attached to opposite walls of each of said compartments and shifting boards pivotally attached to prevent the shifting of grain or to sub-divide the compartments.
5. A ship provided with a series of compartments, shifting boards pivotally attached to opposite walls of each compartment, and means for connecting opposite shifting boards.
6. A ship provided with a series of compartments, shifting boards pivotally attached to opposite walls of each compartment and boards connecting the ends of said shifting boards and forming in effect a continuous shifting board.
7. A ship provided with shifting boards pivotally attached to a fixed portion of the ship, at least two of said shifting boards being in line and boards connecting all aligned shifting boards to serve as continuations of the latter.
8. A ship provided with a series of compartments, each compartment being provided with a hopper bottom having a central horizontal portion, keelsons on which said horizontal portions are supported and transverse bars ernm said keelsons and serving also to support said horizontal portions of the several hopper bottoms.
9. A ship provided with a double wall forming a water ballast compartment, and means for directing compressed air to said water ballast compartment or to the hold of the ship.
10. A ship provided with a double wall forming an airtight water ballast compartment, of an air pipe outside of said compartment and having an outlet leading to the latter for displacing the water therein with compressed air.
11. A ship provided with an air-tight hold and having an air pipe outside of the hold with an outlet leading to the latter for displacing water therein with compressed air.
12. A ship provided with a double wall forming a water ballast compartment, an air pipe above said compartment and a three-way valve connected to said air pipe and having an air outlet leading to the hold and to said water ballast compartment, and means for operating said valve t^ \({ }^{\text {pa }}\) compressed air from said air pipe to said water ballast compartment or to the hold.
13. A ship provided with a series of cargo compartments separated by transverse walls, a water ballast compartment partly surrounding each of said cargo compartments, an air pipe arranged lengthwise of the ship, three-way valves secured to said air pipe, one being provided for each cargo compartment and its surrounding water ballast compartment, and means for operating each of said valves to force compressed air from said air pipe into the cargo compartments or into the water ballast compartments.

No. 100,581. Propeller and Float for Boats, Etc. Propulseur et flotte pour bateaux.


Hans Mikorey, Schoneberg, near Berlin, Germany, 21st August, 1906 . 6 years. Filed 16th November, 1905. Receipt No. 130,173.
Claim.-1. A propelling and floating device for boats and the like characterized in that the boat is at each side provided with a float which is in pivotal connection with the rim of the boat and of such area that its upper and lower sides, whilst diverging from their pivotal connection are joined to a cylindrical main body and join each other at the bow of the boat in cutter-like fashion.
2. A propelling floating device for boats and the like characterized in that the two floats are, on turning on their pivotal connection, made adjustable in their level by means of rods pivotally connected thereto and adapted to be operated in strut-like fashion through the medium of a right and left hand screw-threaded coupling for the purpose of making the boat capable for different loads and that each of the floats is at its rear end provided with a propelling motor and the propeller, the propelling motors being connected to their generator or equivalent source which is placed in the boat itself through the medium of a three-way cock or other equivalent device so that the propulsion may be effected either by both motors, or for steering purpose by any one of them only.

No. 100,582. Reversing Gear for Steam Engines. Mécanisme de renversement pour machines à vapeur.


William J. D. Miller, Hillsboro, Missouri, U.S.A., 21st August, 1906; 6 years. Filed 15th January, 1906. Receipt No. 131,873.
Claim.-1. In a reversing gear the combination with a shaft, of a frame secured on the said shaft and provided with radial slots at its middle part and guides at its sides, an eccentric provided with projections which are slidable in the said guides, wedge-shaped plates slidable in the said radial slots and engaging with the said eccentric, and means for sliding the said plates longitudinally whereby the said eccentric is slid crosswise of the said shaft.
2. In a reversing gear the combination with a shaft, of a frame secured to the said shaft and provided with radial slots, said frame having also slotted wings at its sides, an eccentric provided with guide ribs which engage with the slots of the said wings, wedge-shaped plates slidable in the said slots and engaging with the said eccentric, and means for sliding the said plates longitudinally whereby the said eccentric is slid crosswise of the said shaft.

\section*{No. 100,583. Machine for Straightening Shafting, Etc.}

Machine à redresser les arbres de couches, etc.


Walter James Muncaster, Cumberland, Maryland, U.S.A., 21st August, 1906; 6 years. Filed 1st August, 1906. Receipt No. 138,335.
Claim.-1. In a machine for straightening cylindrical bodies the combination of two pairs of rolls and an intermediate roll, the paired rolls and single roll being arranged with their axis oblique to each other and to the common axis about which they are grouped, and at varying points in the length of said axis, and means for imparting rotation to at least two of said rolls.
2. In a machine for straightening cylindrical bodies, the combination of two pairs of supporting rolls, an intarmediate roll, and means for imparting rotation to at least two of said rolls, the several rolls being arranged about a common axis and having their axis oblique to said common axis and to each other.
3. In a machine for straightening cylindrical bodies the combination of two pairs of rolls and a roll intermediate the proximate ends of the two roll pairs, the several rolls being grouped about a common axis and having their axis oblique thereto and to each other, and the paired rolls being movable longitudinally toward and from the intermediate roll.
4. In a machine for straightening cylindrical bodies, the combination of two pairs of rolls, and a roll intermediate the proximate ends of the two roll pairs, the several rolls being grouped about and movable toward and from a common axis, and having their axis oblique to said common axis and to each other.
5. In a machine for straightening cylindrical bodies the combination of two pairs of rolls, and a roll interposed between the proximate ends of the two roll pairs, the geveral rolls being grouped about and movable toward and from a common axis, and having their axis oblique to said axis and to each other, and the paired rolls being longitudinally movable toward and from the intermediate roll.
6. In a machine for straightening cylindrical bodies the combination of a suitable frame work having guideways converging toward a common axis, roll carrying carriages mounted and longitudinally movable upon said guideways, an intermediate roll carrying carriage movable radially or in a right line perpendicular to said axis, and connections between one of the longitudinally movable roll carriages and the radially movable carriage, for imparting to it such radial movement.
7. In a machine for straightening cylindrical bodies the combination of a suitable frame having three or more sets ot guideways converging toward a common axis, three roll pairs mounted in carriages arranged and to end upon the lower sets of guideways, the intermediate pair being fixed against longitudinal movement, and the outer pairs being longitudinally movable toward and from the intermediate pair, and independent roll carrying carriages mounted upon the upper guideways, in alteration with the lower carriages and rolls, said independent carriages and rolls being longitudinally movable toward and from each other.
8. In combination with girders \(\mathbf{U}, \mathrm{U}\), converging toward a common axis, and with roll carrying carriages mounted and longitudinally adjustable thereon, roll carrying carriages mounted upon the guideways intermediate of said longitudinally movable carriages and movable toward and from said common axis, girder \(V\) having guideways likewise converging toward the common axis and having twice the degree of inclination of the girders \(\mathrm{U}, \mathrm{U}\), and roll carrying carriages mounted and movable on the guideways of girder V .
9. In combination with paired rolls \(L, M\) and \(R, S\), intermediate roll N , gearing for imparting rotation to said rolls L. \(M\) and \(N\), and telescopic shaft connections between. the rolls and gearing, whereby said rolls are adapted to be longitudinally adjusted without becoming disconnected from the gearing.
10. In combination with a frame comprising girders \(U, U\) and \(V\), having guideways converging toward a common axis, carriages mounted and longitudinally movable on said guideways and provided with rolls, other roll carriages mounted at the midlength of the girders \(\mathbf{U}, \mathbf{U}\), provided with rolls, and movable radially to said common axis, yokes \(\mathrm{C}^{1}, \mathrm{D}^{\prime}\), connected with the longitudinally movable carriages, means for causing said yokes to approach and recede from each other, and wedges carried by two of the longitudinally movable carirages and passing between the radially movable carriages and the girders on which they are supported, whereby the radially movable carriages are caused to move simultaneously with the longitudinally moving carriage.
11. In combination with girders or supports having converging guideways, roll carriages mounted and longitudinally movable upon said guideways, roll carriages mounted upon the guideways intermediate of the longitudinally movable carriages and movable radially toward and from the common axis toward which the guideways converge, and means for simultaneously moving the several carriages toward and from said common axis.
12. In a machine for straightening cylindrical bodies the combination of a frame provided with guideways convergent toward a common axis, roll-carrying carriages mounted on said guideways and movable longitudinally thereon to cause their endwise and axial approach, interposed roll-carrying carriages movable radially toward and from said common axis, and means for thus adjusting the roll carriages, said carriages having their coll receiving bearings swivelled upon their bases, substantially as deseribed, whereby the angle
of roll axes may be varled to accord with the approach or separation of the rolls.
1\%. In combination with a sultable frame comprising girders \(U, U\), and \(V\), having convergent guideways, roll-carrying carriages mounted and longitudinally movable on said guideways, yokes \(C^{1}, D^{1}\), connected with some of said carriages, a two-part rod \(\mathrm{C}^{1}\), having its proximate ends reversely threaded, a nut \(E^{1}\) connecting the rod sections, and means, substantially such as described, for rotating said nut.
14. In combination with a main frame and roll-carrying carriages mounted and longitudinally movable thereon toward and from each other yokes \(C^{1}, D^{1}\), connecterl with said carriages, a divided rod \(G^{1}\), having its sections connected with the respective yokes, a nut \(\mathrm{E}^{1}\) connecting the rod sections, a worm wheel \(F^{1}\) carried by said nut. a worm \(H^{1}\) meshing with said worm wheel, a shaft \(I^{1}\) carrying said worm, and means for turning said shaft.
15. In combination with girders \(U, U\), having guldeways convergent toward a common axis, a girder \(V\) having guideways also convergent toward sald axis, but at twice the angle of those of the girders U, U, roll-carrylng carriages mounted on the several guideways and longitudinally adjustable thereon, and screws swivelled in the girder \(V\) and threaded in the carriages thereon, for moving said carriages longitudinally upon their guideways.
16. In a machine for stralghtening cylindrical bodies, a main frame comprising a base, two triangular frames mounted thereon, girders extending from one to the other of said frames connecting the same, and provided with convergent guideways and tie rods connecting the girders at points intermediate of the triangular frames, substantially as shown and described.
17. In a machine for straightening cylindrical bodies the combination of three pairs of rolls, an intermediate opposing roll or rolls between the first and second pairs of rolls, an intermediate opposing roll or rolls between the second and third pairs of rolls, all of said rolls being grouped about and movable toward and from a common axis, and having their axes oblique to one another and to the common axis, the rolls being longitudinally adjustable, and means for imparting rotary motion to at least two of the rolls.
18. In a machine for straightening cylindrical bodies a series of rolls grouped about and radially adjustable toward and from a common axis and also longitudinally adjustable, said rolls being bevelled at their forward or receiving ends to faciliate entrance of a cylindrical body between them and having their axis oblique to one another and to the common axis, and means for rotating at least two of said rolls.
19. In a machine for straightening cylindrical bodies a series of rolls grouped about a common axis and having their axes oblique to one another and to said common axis, and means for imparting rotation to at least two of said rolls, the rolls being set at varying points in the length of said comon axis and being adjustable toward and from said axis and also longitudinally thereof.

No. 100,584. Trawl Net. F'ilet.


Richard Rippon Obee, New York City, New York, U.S.A., 21st August, 1906; 6 years. Filed 11th May, 1906. Rec:ipt No. 135,804.
Claim.-1. In a trawl net. the combination with the spreader board of two-part overlapping angular brackets secured thereto and a shackle connecting the aplces of the brackets, as and for the purpose specified.
2. In a trawl net, the combination with the spreader board of a two-part bracket adapted when not in use to overlap and lie parallel with the board and a shackle adapted to connect the two parts of the bracket when in use, as and for the purpose specified.
3. In a trawl net. a longitudinally extending pocket closed at the front and open at the rear and being in connection with the rear portion of the net and a yielding trap section in the end in front of the opening of sald pocket, as and for the purpose specified.
4. In a trawl net, a yielding trap section for the same. a rocket extending along the side of the net being closed and open at the rear and in communication with the rear portion of the net, as and for the purpose specified.
5. In a trawl net, a shaping and weighting member thereof consisting of a piece of material such as wire and rope wound on said piece, the meshes of the net being on said piece between the convolutions of said rope.
6. In a trawl net, a spreader board at the mouth thereof, the same being provided with a shoe at bottom braces at the rear and top, the same being continuous of said shoe and means for connecting the net with sald board at the rear braces.

\section*{No. 100,585. Muffer for Exhausts.}

Assourdissoir pour émission de la vapeur.


John M. Porter, Parkersburg, West Virginia, U.S.A., 21st August, 1906 ; 6 years. Filed 28th December, 1905. Receipt No. 131,375.
Claim.-1. A muffler comprising a series of cells or cylinders arranged one within the other, each inside cylinder being of a smaller diameter and of a shorter length, substantially as described.
2. A muffler comprising a series of cells or cylinders arranged one within the other, said cells or cylinders having a common base and independent tops or caps, substantially as described.
3. A muffler comprising a scries of cells arranged one withir the other, said cells or cylinders having independent tops or caps, substantially as described.
4. A muffier comprising an inner cell or cylinder into which the exhaust is led, said inner cell or cyllinder having one end closed and provided with an opening near its other end, a cell or cylinder enclosing said inner cell or cylinder into which the exhaust passes from said inner cell or cylinder, said enclosing cell or cylinder being provided with an opening at one end, a second enclosing cell or cylinder into which the exhaust passes from said enclosing cell or cylinder, said second enclosing cell or cylinder having one end closed and provided with an opening to allow the exhaust to pass therefrom, said enclosing cell or cylinder being of a larger diameter and longer than said inner cell or cylinder, substantially as described.
5. A muffler comprising an inner cell or cylinder having a closed end against which the exhaust strikes, an enclosing cell or cylinder constructed to receive the exhaust from said inner cell or cylinder, one end of said enclosing cell being provided with an opening through which the exhaust passes, a second enclosing cell having a closed end against which the exhaust strikes passing from said enclosing cell. substantially as described.
6. A muffler comprising an inner cell having a closed end forming an air cushion against which the exhaust strikes, an enclosing cell having one of its ends provided with an opening through which the exhaust passes, and a second enclosing cell having one of its ends provided with an opening through which the exhaust passes, and a second enclosing cell having one of its ends closed and constructed to form therein an air cushion beyond the end of said enclosing cell against which the exhaust strikes passing from said ecclosing cell, substantially as described.

No. 100,586. Locomotive. Loconotive.


Hugh Reid, Springburn, and David McNab Ramsay, 20 Sunnyside avenue, Uddington, both in Scotland, 21st Augugt, 1906; 6 years. Filed 20th June, 1906. Receipt No. 187,088.
Claim.-1. A motor car carrying an isolated steam electric generating plant having a steam turbine in combination with an air cooled condenser consisting of piping for the exhaust steam, means for maintaining a vacuum therein, and means for producing a current of air therein, as described.
2. A motor car carrying an isolated steam electric generating plant having a steam turbine in combination with an air cooled condenser consisting of piping for the exhaust steam, means for maintaining a vacuum therein, an air chamber in which said piping is located, means for producing a current of air therein, and means for introducing air heated therein into the steam generator of the plant to maintain combustion, as described.
3. A motor car carrying an isolated steam electric generating plant, having a steam-turbine in combination with an air cooled condenser consisting of piping for the exhaust steam, means for maintaining a vacuum therein, an air chamber in which said piping is located, means for introducing air heated therein into the steam generator of the plant to maintain combustion, and a structure inclosing said isolated plant and having said air chamber located in its walls and roof and provided with openings to the outside, as described.
4. A motor car carrying an isolated steam electric generating plant, having a steam turbine in combination with an air cooled condenser consisting of piping for the exhaust steam, means for maintaining a. vacuum therein, an air chamber in which said piping is located, means for producing a current of air therein, means for introducing air heated therein into the steam generator of the plant to maintain combustion, a structure inclosing said isolated plant and having said air chamber located in its walls and roof and provided with openings to the outside, and shutters for said openings, some of sald shutters projecting forward and some rearward, as described.

No. 100,587. Steam Theap. Purge d vapeur.
Edward John Ryan, Danville, Illinois, U. S. A., 2lst August, 1906 ; 6 years. Filed 17th April, 1906. Receipt No. 134,984.
Claim.-1. A steam trap comprising a vessel having heads, means connecting the heads to hold them in place on the vessel, hollow inlet and outlet trunnions on which one of said heads is mounted to swing, a lever fulcrumed between its ends and connected at one end by a link with the free end of the vessel, and a weight carried on the other end of the lever.

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2. A steam trap comprising a vessel mounted to swing and provided at its fulcrum end with an inlet and a dis-

charge, a lever fulcrumed between its ends and connected at one end by a link with the free end of the vessel, a weight carried on the other end of the lever, and a stop bracket located between the ends of the said vessel and provided with stops of yielding material, for limiting the up-and-down swinging motion of the said vessel, the lever heving its fulcrum on the said stop bracket.
3. A steam trap comprising a vessel having heads, means connected with one head and engaging the other head to hold the heads in position on the vessel, hollow inlet and outlet trunnions on which one head is mounted to swing. the inlet trunnion being connected with a steam supply pipe, a pipe extending lengthyise in the vessel and discharging into the outlet trunnion, the inlet end of said plpe extending to near the bottom of the vessel, a water discharge pipe connected with the outlet trunnion, a valve in the water discharge pipe, and a bracket removably attached to the sald vessel and counected with the said valve, to open and close the latter.
4. A steam trap comprising a vessel. hollow inlet and outlet trunnions on which one end of said vessel is mounted to swing, the inlet trunnion being connected with a steam supply plpe, a pipe extending lengthwise in the vessel and discharging into the outlet trunnion, a poke having a hollow arm with which the outlet trunnion connects, a water discharge pipe connected with the hollow arm of the yoke, a valve in the water discharge pipe, the valve being so arranged that the pressure from within the vessel is exerted on the top of the valve to assist in holding the valve to its seat, and a connection between the valve stem and the pivoted end of said vessel.
5. A stream-trap comprising a cylindrical vessel having heads, hollow inlet and outlet trunnions on which one of said heads is mounted to swing, the inlet trunnion being connected with a steam supply pipe, a pipe extending lengthwise in the vessel and discharging into the outlet trunnions, a yoke suitably supported and having a bearing at the end of one arm, the other arm of sald yoke being hollow, the inlet trunnion being secured in said bearing and the outlet trunnion screwing at its outer end into the said hollow arm, a discharge-pipe connected with the hollow arm of the yoke, and a valve in sald plpe connected with the pivoted end of said vessel, the pressure from within the vessel being exerted on the top of sald valve to assist in holding the valve to its seat.

No. 100,588. Locomotive. Locomotive.


Francis O'Neal Whealon, St. Paul, Minnesota, U.S.A., 21st August, 1906 ; 6 years. Filed 1st May, 1906. Receipt No. 135,444.
Olaim.-1. A locomotive having a steam cylinder provided with an exhaust port which is connected with the smoke
chamber, a piston, a steam chest, a passageway leading from said exhaust port to the open air and having a bravch to said steam chest, valve mechanism connected with said passageway, means for operating sald valve mechanism and a check valve in said branch.
2. In combination with a locomotive cylinder, its piston and steam chest, a passageway connected with said steam chest and the exhaust port leading from said cylinder and having a branch outlet and a valve in said passageway.
3. In combination with an engine cylinder, its piston and steam chest, a passageway connecting said steam chest with the exhaust outlet leading from said cylinder and having an outlet and an automatic valve in said passageway.
4. In combination with a cylinder, steam chest and valve, having live and exhaust steam connections, a communication between said live and exhaust steam connections having a branch outlet and a valve in said communication adapted to open into the steam chest when live steam is cut off and the piston is in motion and close when live steam enters said steam chest.
5. In combination with the cylinder of a steam engine, its piston, exhaust opening and live steam inlet, a valve for modifying said exhaust opening, a passageway connecting the exhaust opening with said live steam inlet, a valve in said passageway to close the same when live steam is entering the cylinder and open it when the supply of live steam is checked, and an outlet leading from said passageway at a point between said exhaust opening and said last described valve.
i. In combination with a locomotive, its steam chest and exhaust passageway from the cylinder to the smoke chamber, of an auxiliary passageway leading to a point outside of said smoke chamber for the exhaust steam, a valve in said auxiliary passageway, means for operating said valve, a connection between said steam chest and said auxiliary passageway and an automatic valve in said connection to open the same when the supply of live steam to said chest is checked.
7. A device of the class set forth consisting in combination with a locomotive having a smoke chamber, its cylinders, and a main exhaust passageway leading from the cylinders and projecting into sald smoke chamber, of an auxillary passageway connected with said main exhaust passageway having valve mechanism for modifying the size of the same, a connection between the auxiliary passageway and the steam chest in each of said cylinders and an automatic valve in said connection.
8. In combination with a locomotive having a main passageway forming an exhaust outlet between the cylinders and the smoke chamber, a branch passageway from said main passageway leading to the exterior of said smoke chamber, means for modifying the size of said branch passageway, a connection between the steam inlets of said cylinders and said branch passageway and automatic valve mechanism in said connection.
9. A device of the class set forth comprising a passageway between the cylinders and smoke chamber of a locomotive for the exhaust steam, a branch passageway from said first passageway to the exterior of said smoke chamber, valve meohanism for regulating the size of the outlet of said branch passageway, lever mechanism for operating said valve mechanism, a connection between the branch passageway and the live steam inlets of said cylinders and valve mechanism in said connection.
10. An engine cylinder having an exhaust port, a piston, a steam chest, a passageway leading from said exhaust port to the open air, a valve in said passageway, means for operating said valve, a branch from said passageway connected with said steam chest and a valve in said branch.
11. An engine cylinder having an exhaust port, a piston, a steam chest, a passageway opening from said exhaust port and having a branch connected with said steam chest, and valve mechanism in said passageway and its connection.
12. A locomotive having steam cylinders each provided with a piston, steam chest and exhaust port connected with the smoke chamber, passageways between the exhaust ports and steam chests of said cylinders, valve mechanism connected with said passageways to close the same when live steam is entering said cylinders and open when the supply of live steam is checked and a branch to said passageways leading from said smoke chamber.
13. A locomotive having a steam cylinder provided with a piston, steam inlet and outlet ports, a valve controlling sald ports, draft mechanism in the locomotive, a passageway connecting the outlet port with the outer air, a connection between the steam inlet ports and sald passageway and valve mechanism in said connection.
14. A locomotive having a steam cylinder provided with inlet and exhaust ports, a valve to control sald ports, a draft passageway leading from the exhaust port and having a branch opening into the outer air to form variable exhaust mechanism, a connection between said branch and inlet ports and valve mechanism in sald connection.
15. A locomotive having draft mechanism, a steam cylinder provided with live and exhaust steam ports, a piston. a steam chest, a valve controlling sald ports, a passageway connecting the exhaust port with the outer air, a connection between said live steam ports and said passageway and valve mechanism in said passageway and connection.
16. A locomotive having a steam cylinder provided with live and exhaust steam ports, the latter connected with the smoke chamber, a piston, a steam chest, a passageway leading from said exhaust port to the outer air, a connection between said live steam ports and passageways and a relief or back pressure valve in said connection.
No. 100,589. Rack for Burial Caskets. Ratelier pour ceroentls.


Charles O. Whitcomb, Oxford, Michigan, U.S.A., 21st August,
1906 ; 6 years. Filed 21st March, 1906. Receipt No. 134,114. claim.-1. In a device for the purpose set forth, the combination of a pedestal to support a casket in a vertical position, a rack hinged to the pedestal to support the casket in a horizontal position. movable braces attached to said rack and connected with the pedestal to extend when the rack is in a horizontal position, and retract them when sald rack is swung to a vertical position.
2. In a device for the purpose set forth, the combination of a pedestal, a rack hinged to the pedestal to swing in the arc of a circle, braces hinged to said rack to automatically cxtend when the rack is moved to a horizontal position, and retract them when the rack is swung to a vertical position. 3. In a device for the purpose set forth the combination of a pedestal, a foldable rack consisting of supporting bars movably mounted on the pedestal, braces hinged to said pedestal to support the rack in a horizontal position, and means for preventing longitudinal movement of the casket on said rack.
4. In a device for the purpose set forth the combination of a pedestal, a casket supporting rack, links movably connecting the rack with the pedestal, said links and pedestal supporting the rack in a horizontal position, the links carrying the rack when swung to a vertical position
5. In a device for the purpose set forth the combination of a pedestal, a casket supporting rack, links pivotally connected to the rack and to the pedestal, and means for limiting the movement of sald links.
No. 100,590. Straw Rack for Threshing Machine. Ratelier à paille pour moulin a battre.


Charles E. Whitney, Webster, South Dakota, U.S.A., 21st August, 1906; 6 years. Filed 21st July, 1906. Receipt No. 138,014.
Claim.-A framework, rock shafts supported therein and having forwardly and rearwardly extending arms, hangers
depending from sald arms, two Independently movable straw rack members supported by the hangers depending respectively from the forwardly and from the rearwardly extending arms, a driven shaft having oppositely extending cranks, pitmen connecting said cranks with the straw rack members, slotted arms depending from the rock shafts, a link rod connected adjustably with said slotted arms to transmit motion between the rock shafts of variable extent, and a pitman connecting one of the slotted arms adjustably with a crank upon the driven shaft.

No. 100,591. Cane knife. Canc coutcau.


Owen Rufus Wingate, Duval, Florida, U.S.A., 21st August, 1906 ; 6 years. Flled 14th November, 1905. Receipt No. 130,073.
Claim.-1. A knife including a blade having a longitudinal cutting edge and a cutting edge at its end, said last-named cutting edge terminating in a hook.
2. A knife including a blade having a longitudinal cutting edge and having its end formed with a cutting edge and directed upwardly and rearwardly above the back of the blade to form a hook.

\section*{No. 100,592. Eydraulic Drill.} Forêt hydraulique.


Waclaw Wolski, Lemberg, Austria, 21st August, 1906; 6 years. Filed 28th June, 1906 Receipt No. 137,376.
Olaim.-1. In a hydraulic drill the combination with a tubular casing adapted to be connected with a hollow pump rod and to be suspended thereform, of a partition in sald tubular casing whereby two chambers above and below are formed, a piston guided in said partition and fromed in a tube, a drill guided in the lower part of sald tubular casing and having a bore for the rinsing water, a tube connecting satd drill with said piston, a helical spring in the lower chamber of said tubular casing and bearing with its upper end on sald piston and with its lower end on a shoulder of said tubular casing, a plate with a plurallty of arms guided in the upper chamber of said tubular casing and adapted to periodically close as a valve the cavity of said piston, two helical springs in the upper chamber of said tubular casing on both sldes of said plate and adapted to normally hold the latter at a helght above said piston.
2. In a hydraulic drill the combination with a cylindrical vessel having a neck which is adapted to be connected with a hollow rod and to be suspended therefrom, of a stumng box screwed into the lower end of said cylindrical vessel, a piston vertically gulded in said stuming box and formed as a tube with a flange at the lower end, a plate with a plurallty of arms guided in said cylindrical vessel and adapted to periodically close as a valve the cavity of sald piston, a first helical spring Inserted between said plate and the shoulder of sald cylindrical vessel. a second helical spring inserted between sald plate and said stuffing box, a vertical tube screwed on said stuming box, a vertical gulding tube screwed into the lower end of said vertical tube, a helical spring tapering upwards and inserted between the flange of said piston and the upper face of said vertical guiding tube, a drill guided in said vertical gulding tube and having a bore for the rinsing water, and a tube screwed at its upper end into said piston and at its lower end into said drill, sald first helical spring and said second hellcal spring being adapted to normally hold sald plate at a height above said piston.

No. 100,593. Cheok for Time Recorders. Registre horaire.


The Dey Time Register Company, assignee of John Dey and Alexander Dey, all of Syracuse, New York, U.S.A., 218t August, 1906 ; 6 years. Filed 27th May, 1905. Receipt No. 125,545.
Claim.-1. In a time recorder mechanism adapted to print records each of which indicates both by character and position the day upon which it was made.
2. In a time recorder in combination mechanism adapted to make a character distinctive of the day upon which it was made, and a card adapted to co-act therewith having a space distinctive of sald day adapted to recelve an impression from said mechanism.
3. In a time recorder in comblnation automatic mechanism adapted to print a record indicative by its character of the day upon which it was made, and means adapted to position a card to co-act with said mechanism and form a record distinctive by its position upon said card of the day upon which the record was made.
4. In a time recorder in combination printing mechanism adapted to form a record indlcative by its character of the day upon which it was made, a card recelver, and means adapted to move said card receiver relative to said printing mechanism.
5. In a time recorder in combination printing mechanism adapted to form a record indicative by its character of the day upon which it was made, a card receiver, and mean adapted to move said card recelver relative to said printing mechanism in a plurality of directions.

No. 100,594. Exhauet Valve. Soupape d'émission.


Russell E. Winger and Claude Bennet, assignees of Wesley Jennings Inman, all of Fort Worth, Texas, U.S.A., 21st August. 1906; 6 years. Filed 11th June, 1906. Receipt No. 136.763.
Chim.-1. Valve gear comprising a suitable steam chest, a shaft rotated in said chest, a rotary valve carried by said shaft and having a port therethrough and face ports toward the cnd of said chest for exhausting a seat for said valve formed in said chest and provided with exhaust ports therethrough, an oscillatiug valve loosely mounted on said shaft and co-operating with said rotary valve, sald oscillating valve having combined inlet and exhaust ports, and said chest having suitable inlet and exhaust ports and pipes to be conected with an engline cylinder.
2. Valve gear comprising a suitable steam chest, a rotary valve having an inlet port therethrough operating in said chest, a seat formed in said chest for said valve having exhaust ports therethrough, an oscillating valve having combined inlet and exhaust ports therethrough co-operating with sald rotary valve, and suitable combined inlet, and exhaust plpes communicating with said oscillating valve and to be connected to an engine cylinder, said rotary valve having face exhaust ports communicating with said seat ports and said oscillating valve.
3. Valve gear comprising a steam chest, combined inlet and exhaust pipes communicating with said steam chest and to be connected to an engine cylinder, an oscillating valve mounted in said chest and provided with combined exhaust and inlet ports to co-operate with sald pipes, a rotary valve having an inlet port therethrough and face exhaust ports adjacent to sald oscillating valve, and a seat having exhaust ports co-operating with ports in said rotary valve.
4. Valve gear comprising a steam chest, means for spplying said chest with steam, an oscillating valve mounted in said chest and provided with ports for alternately feeding and exhausting, combined feeding and exhausting pipes communicating with said ports, a rotary valve having an inlet port therethrough co-operating with said oscillating valve and face exhaust ports co-operating with said oscillating valve, and a seat formed in said chest for said rotary valve having exhaust ports therethrough.
5. Valve gear comprising a steam chest, a rotary feed valve mounted in said chest having a port therethrough, combined exhaust and feed pipes communicating with said chest, and an oscillating feed and exhaust valve co-operating with said pipes and said rotary valve for starting, stopping or reversing an engine, sald rotary valve being provided with face exhaust ports adjacent to said oscillating valve.
6. Valve gear comprising a steam chest, a rotary feed valve mounted in said chest having an inlet port therethrough, two combined feeding and exhaust pipes communicating with said chest, each pipe having a double connection with said chest, a seat for said rotary valve having exhaust ports therethrough, and an oscillating valve having ports therethrough for feeding and exhaust purposes for starting, stopping or reversing purposes sald oscillating valve forming the connection between sald pipes and said rotary valve and said rotary valve having exhaust ports co-operating with said oscillating valve ports.
7. Valve gear comprising a steam chest, combined feeding and exhausting pipes connected with each end of said chest, an oscillating valve having combined feed and exhaust ports therethrough mounted in each end of said chest and co-operating with said pipes, a rotary valve having a feed port therethrough mounted in each end of said chest adjacent to said oscillating valves and provided with face exhaust ports, a seat for each valve having a plurality of exhaust ports therethrough, the casing of said chest having a circular duct communicating with each seat port at each end and a longitudinal duct connecting the two circular ducts, and an exhaust pipe connected to one of said ducts.

No. 100,595. Vise, Rack and Screw. Etau et vis.


Georgiana R. Ellis and William Helfenberger, both of Indianapolis, Indiana, U.S.A., 21st August. 1906; 6 years. Filed 16th July, 1906. Receipt No. 137,848.
claim.-1. In a vise, a housing provided with an aperture, a channelled rack bar engaging said aperture, an integral wall formed in the forward end of sald channelled rack bar
to provide a head for said bar, a notch in said read, a movable jaw on said channelled rack bar, and a rotatable and removable means engaging both the notch and the head of said channelled bar and the movable jaw, to move said jaw independently of said channelled rack bar.
2. In a vise, a housing provided with an aperture, a rack bar engaging said aperture, means on the housing to limit the movement of said rack bar, a jaw movably mounted on the rack bar, means rotatably mounted on the rack bar to move the jaw independently of sald bar, and a slot in the rack bar to receive the rotatable means.

No. 100,596. Speed Indicator. Indicateur de vitesse.
Fig. 1


Helurich Froost, Westend and Karl Ring, Berlin, both in Germany, 21st August, 1906 ; 6 years. Filed 12th January, 1906. Recelpt No. 131,786.
Claim.-1. In a speed indicator the combination with a centrifugal governor, a non-rotating sleeve encircling said governor and slidably arranged thereon, of a rotating shaft operatively connected to said sliding sleeve and operating the pointer speed indicator travelling a scale, the disc speed indicator and the speed recorder, as and for the purpose specifled.
2. In a speed indicator the combination with a centrifugal governor, a non-rotating sleove encircling sald governor and slidably arranged thereon, of a scale, a pointer, a counter driven from the shaft of said centrifugal governor, a disc speed indisator, a speed recorder and a rotating shaft operatively connected to sald sliding sleeve and operating said pointer, disc speed indicator and speed recorder, as and for the purpose specifled.
3. In a speed indicator the combination with a centrifugal governor, a non-rotating sleeve encircling said governor and slidably araanged thereon, of a scale, a pointer, a clock, a counter driven from the shaft of said centrifugal governor, la disc speed indicator, a speed recorder and a rotating shaft operatively connected to sald sliding sleeve and operating said pointer, disc speed indicator and speed recorder, as and for the puropse specified.
4. In a speed indicator the combination with a centrifugal governor, a non-rotating sleeve encircling said governor and slidably arranged thercon, of two discs in the same plane and provided with big figures, two windows, a pointer and scale, a speed recorder and a rotating shaft operatively conneoted to said sliding sleeve and operating said pointer, disc speed indicator and speed recorder, as and for the purpose specified.
5. In a speed indicator the combination with a centrifugal governor, a non-rotating sleeve encircling said governor and slidably arranged thereon, of two discs in the same plane and provided with big figures, two windows, a mechanism for intermittently feeding said two discs past said two windows, a scale, a pointer, a clock, and connections between the sleeve of said centrifugal governor, said mechanism and said pointer, as and for the purpose specified.
6. In a speed indicator the combination with a centrifugal governor, a non-rotating sleeve encircling said governor and slidably arranged thereon, of a counter driven from the shaft of sald centrifugal governor, a scale, a pointer, a clock, a register work driven from said clock, two discs in the same plane and provided with big figures, two windows and a rotating shaft operatively connected to said sliding sleeve and operating said pointer, disc speed indicator and speed indicator, as and for the purpose specified.
7. In a speed indicator the combination with a centrifugal governor, a non-rotating sleeve encircling said governor and slidably arranged thereon, of a contact system and a rotating shaft operatively connected with said sleeve and operating said contact system coincidentally with the other parts. as and for the purpose specined.
8. In a speed indicator the combination with a centrifugal governor, a non-rotating sleeve encircling sald governor and slidably arranged thereon, of a scale, a pointer, a contact system adapted to close a circuit for actuating an alarm device, and a rotating shaft operatively connecting to said sleeve and operating'said alarm system and pointer, as and for the purpose specified.
9. In a speed indicator the combination with a centrifuga governor, a non-rotating sleeve enclrcling said governor and slidably arranged thereon, of two discs in the same plane and provided with big figures, two windows, a mechanism for intermittently feeding said two discs past said two windows, a contact system adapted to close a circuit for actuating an alarm device and a rotating shaft operatively connected with said sleeve and operating said discs and contact system, as and for the purpose specified.
10. In a speed indicator the combination with a centrifugal governor, a non-rotating sleeve encircling said governor and slidably arranged thereon, of two disos in the same plane and provided with big figures, two windows, a mechanism for intermittently feeding said two discs past said two windows, a scale, a pointer, a contact system adapted to close a circult for actuating an alarm device and a rotating shaft operatively connected with sald sleeve and operating said discs, pointer and contact system, as and for the purpose specifled.
11. In a speed indicator the combination with a centrifugal governor, a non-rotating sleeve encircling said governor and slidably arranged thereon, of two discs in the same plane and provided with big figures, two windows, a mechanism for intermittently feeding said two dises past said two windows, a scale, a pointer, a clock, a recorder, a contact system adapted to close a circuit for actuating an alarm device and a rotating shaft operatively connected to said sleeve and operating said discs, pointer, recorder and contact system, as and for the purpose specified.
12. In a speed indicator the combination with a centrifugal governor, of two discs in the same plane and provided with big figures, two windows, a mechanism for intermittently feeding said two discs past sald two windows, a scale, a pointer, a clock, a register work comprising two paper rolls and a paper band and driven from said clock, a subsidiary clockwork for winding said paper band on one of said two paper rolls and thus assisting said clock, and connections between the sleeve of sald centrifugal governor, said mechanism, said pointer and the pencil of sald register work, as and for the purpose specifed
13. In a speed indicator the combination with a centrifigal governor, of a counter driven from the shaft of said centrifugal governor, a scale, a pointer, a clock, a register work comprising two paper rolls and a paper band and driven from said clock, a subsidiary clockwork for winding said paper band on one of said two paper rolls and thus assisting sald clock, two discs in the same plane and provided with big igures, two windows, a mechanism for intermittently feeding said two discs past said two windows, and connections between the sleeve of said centrifugal governor, said mechanism, said pointer and the pencil of said register work, as and for the purpose specified.
14. In a speed indicator the combination with a centrifugal governor, of two discs in the same plane and provided with big ftgures, two windows, a mechanism for intermittently feeding said two discs past said two windows, a scale, a pointer, a clock, a register work comprising two paper rolls and a paper band and driven from said clock, a subsidiary clockwork for winding sald paper band on one of said two paper rolls and thus assisting said clock, a contact system adapted to close a circuit for actuating an alarm device, and a rotating shaft operatively arranged between the sleeve of said centrifugal governor, said mechanism, said pointer, the pencil of said register work and said contact system, as and for the purpose specified.
15. In a speed indicator the combination with a centrifugal governor, of a counter driven from the shaft pf said centrifugal governor, a scale, a pointer, a clock, a register work comprising two paper rolls and a paper band and driven from said clock, a subsidiary clockwork for winding sald paper band on one of said two paper rolls and thus assisting sald clock, two discs in the same plane and provided with big figures, two windows, a mechanism for intermittently feeding said two discs past said two windows, and a shaft operatively arranged between the sleeve of said centrifusal governor, said mechanism, said pointer and the pencil of said register work, as and for the purpose speciled.
16. In a speed indicator the combination with a centrifugal governor, of a frame, a toothed segment rocking in said frame, a link connecting said toothed segment with the sleeve of said centrifugal governor, a shaft rocking in said frame, a pinion fast on said shaft and meshing with said toothed segment, a pointer fast on said shaft, a scale therefor, a spur wheel fast on said shaft, two discs in the same plane and provided with big igures, two windows, a mechanfem driven from sald shaft for intermittenty feeding sald
two discs past said two windows, a clockwork, a register werk with a paper band and driven from sald clockwork a rack meshing with said spur wheel and longitudinally guided in said frame, and a pencil fast on said rack and adapted tn write on said paper band, as and for the purpose specifled.
17. In a speed indicator the combination with a centrifugal governor, of a frame, a toothed segment rocking in said frame, a link connecting said toothed segment with the sleeve of said centrifugal governor, a shaft rocking in said frame a pinion fast on said shaft and meshing with said toothed efgment, a pointer fast on sald shaft, a scale therefor, a spur wheel fast on sald ghaft, two discs in the same plane and provided with big figures, two windows, a mechanism driven from said shaft for intermittently feeding sald two discs past sald two windows, a clockwork, a register work with a paper band and driven from said clockwork, a rack meshing with said spur wheel and longitudinally guided in said frame, a pencll fast on sald rack and adapted to write cn said paper band, a commutator, an arm fast on said rack, an insulated contact spring on said arm and adapted to longitudinally slide over said commutator, and a clrcult connected with said commutator and said contact spring and adapted for actuating an alarm device, as and for the purpose specifled.
18. In a speed indicator the combination with a centrifugal governor, of a frame, a toothed segment rocking in said frame, an arm connected by means of a ball-bearing with the sleeve of said centrifugal governor and guided in said frame, a link connecting said arm with said toothed segment, a shaft rocking in said frame, a pinion fast on said shaft and meshing with said toothed segment, a pointer fast on sald shaft, a scale therefor, a spur wheel fast on seid shaft, two discs in the same plane and provided with big figures, two windows, a mechanism driven from said shaft for intermittently feeding said two discs past said two windows, a clockwork, a register work with a paper band and driven from said clockwork, a rack meshing with said spur wheel and longitudinally gulded in said frame, and a pencil fast on said rack and adapted to write on said paper band, as and for the purpose specified.
19. In a clock for a speed indicator the combination with two parallel plates, of a large spring barrel secured on the outside of one of said two parallel plates, a spring shaft mounted in said spring barrel and in the adjoining plate to turn, a ratchet wheel fast on said spring shaft, a gear wheel loose on eald spring shaft within said two parallel plates, a pawl on said gear wheel and engaging said ratche wheel, and a going train within said two parallel plates and driven by said gear wheel, as and for the purpose specified.
20. In a clock for a speed Indicator the combination with two parallel plates, of a large spring barrel secured on the outside of one of sald two parallel plates, a spring shaft mounted in sald spring barrel and in the adjoining plate to turn and provided with a hole at its internal end, a ratchet wheel fast on sald spring shaft, a sear wheel loose on said spring shaft within said two parallel plates, a pawl on said gear wheel and engaging said ratchet wheel, and a going train within said two parallel plates and driven from said gear wheel, said going train comprising a shaft which is adapted to drive the minute hand and is mounted to turn in the hole of sald spring shaft and In the opposite plate, as and for the purpose specifled.
21. In a clock for a speed indicator the combination with a casing, of a large spring barrel secured on the outside of said casing, a spring shaft mounted to turn in sald spring barrel and in the adjoining wall of said casing, a going train within said casing and driven from said spring shaft and comprising a shaft which makes a revolution per hour, a second shaft mounted to turn in said casing at right angles to said shaft, two like pinions fast on said shaft and said second shaft and meshing with each other. a first spur wheel loose on said second shaft, means for yleldingly holding sald first spur wheel on said second shaft, a minute hand at the nave end of said first spur wheel, a second spur wheel loose on the nave of said first spur wheel, a pin mounted in said casing to turn, and two change wheels fast on said pin and engaging sald two spur wheels, as and for the purpose specitied.
22. In a clock for a speed indicator the combination with a casing. of a large spring barrel secured on the outside of said casing. a spring shaft mounted to turn in said spring barrel and in the adjoining wall of said casing. a going train within said casing and driven rom said spring shaft and comprising a shaft which makes a revolution per hour. a second shaft mounted to turn in said casing at right angles to said shaft. two like pinions fast on said shaft and sald sccond shaft and meshing with each other. a first spur wherl loose on said second shaft. means for yieldingly holding sail frst spur wheel on said second shaft, a minute hand at the nave end of said first spur wheel, a second spur wheel
lcoss: on the nave of sald first spur wheel, an hour hand at the nave end of said second spur wheel, a pin mounted in said casing to turn, twi change wheels fast on said pin and meshing with said two :pur wheels, and a device comprising a pinion which engag's in the larger of said two change whecls for adjusting sald minute hand and said hour hand, ar and for the purpose spicified.
23. In a clock for a speel indicator the combination with a caring. of a large spring barrel secured on the outside of sald casing, a spring shaft mounted to turn in said spring barril and in the adjoining wall of said casing, a going train within sald casing and driven from said spring shaft and comprising a shaft which estends to without, a fluted roller on the external part of sajd shaft, a second shaft mounted to tu; \(n\) in said casing at ri.,ht angles to said shaft, two pinlons fast on said shaft and said second shaft and meshing with each other, a first spur wheel loose on sald second shaft. means for yieldingly holding said first spur wheel on sald second shaft. a minute hand at the nave of sald first spur wheel, a second spur wheel loose on the nave of said first spur wheel, an hour hand at the nave end of said second spur wheel, a pin mounted in said casing. two change wheels on said pin and engaging said two spur wheels, a second pin on said casing, a paper roll on said second pin, a clockwork in said casing and comprising a roll shaft which extends to without. a second paper roll on said roll shaft. a plurality of guiding rollers mounted to turn on pins on the outside of said casing. a paper band passing from said paper roll over said fluted roller and said plurality of guiding rollers to sa:d second paper roll, a lever rocking on said casing, a roller coated with india rubber on said lever and adapted to hear cn said fluted roller, a spring pressing on said lever, a cam mounted to turn on a pin on said casing and bearing against said lever and adapted to detach the roller on said lever from said fluted roller, and means for actuating said cam, as and for the purpose specifled.
24 . In a clock for a speed indicator the combination with a casing. of a large spring barrel secured on the outside of said casing, a spring shaft mounted to turn in said spring barrel and in the adjoining wall of said casing a going train within said casing and driven from sald spring shaft and comprising a shaft which extends to without, a fluted roller on the external part of said shaft, a pin on sald casing, a paper roll on said pin. a clockwork in said casing and comprising a roll shaft which extends to without, a second paper roll on said roll shaft, a plurality of guiding rollers mounted to turn pins on the outside of said casing. a paper band passing from said paper roll over said fluted roller. and said plurality of guiding rollers to said second paper roll. a lever rocking on said casing, a roller coated with india rubber on said lever and adapted to bear on said fluted roller, a spring pressing on said lever, a cam mounted to turn on a pin on said casing and bearing against said lever and adapted to detach the roller on said lever from said fluted roller, and neans for actuating said cam, as and for the purpose specifled.
25. In a speed indicator the combination with centrifugal governor, of a casing, a commutator turnable in said casing and provided with two connected metallic parts on two different places, an arm on said commutator without said casing, a signal on said arm, means for securing said commutator in efther of two positions. a contact spring guided in said casing and adapted to slide over said comutator, a e:rcuit congected with said contact spring and the metallic parts of said commutator and adapted for actuating an alarm device, and connections beetween the sleeve of said contrifugal governor and said contact spring, as and for the purpose specifled.
26. In a speed indicator the combination with a centrifugal governor, of a worm on the shaft of said centrifugal governor, a casing, a counter in said casing, a shaft mounted in said casing to turn, a worm wheel last on said shaft and meshing with said worm, a replaceable gear wheel on said shaft, a lever on said counter, means for adjusting said lever, and a gear wheel on said lever and adapted to mesh with said replaceable gear wheel on the one hand and with the searing of said counter on the other hand, as and for the purpose specifled.
27. In a speed indicator the combination with a scale, of a pointer, a centrifugal governor comprising a plurality of springs, of which one normally bears on its sleeve and the springs are adapted to act only consecutively upon the sleeve after the latter has put back certain distances, and connections between the sleeve of said centrifugal governor and said pointer. as and for the purpose speciferd.
28. In a speed indicator the combination of a pointer, a centrifugal governor comprising a plurality of springs. of which one normally bears on its sleeve and the other springs :rr allated to act only conserutively upon the sleceve after the lattor has put back rertain distances, and connections belwer \(n\) the sleeve of satil centrifugal governor and said pointer, said pluratity of springs having different strengths,
sc as to render uniform the division of said scale, as and for the purpose specified.
29. In a speed indicator the combination with a shaft adapted to be driven from without, of a part on said shaft. a sleeve longitudinally movable on said shaft and prevented from turning. links in pairs connecting said part with said sleeve two weights in the points of union of said links, a tube on said part concentric with sald shaft, a second tube on said sleeve and adapted to engage said tube, a helical spring surrounding said tube and said second tube and adapted to bear on said part and said sleeve, and further hellcal springs within said tube and said second tube concentric therewith and adapted to act only consecutively after said sleeve has put back certain distances, as and for the purpose specified.
30. In a speed indicator the combination with a register work comprising a paper band, a pencil of hard material and provided with a fine central perforation, an ink reservoir communicating with the perforation of said pencil, and means for moving said pencil, as and for the purpose specified.
31. In a speed indicator the combination with a register work comprising a paper band, of a rod longitudinally guided in the casing of said register work at right angles to said paper band, a guide adjustable on said rod about at right angles to the face of said paper band, a pencil guided in said guide and provided with a fine central perforation, a spring in said guide and adapted to press said pencil forward, and an ink reservoir on said pencil and communicating with its perforation, as and for the purpose specified.
32. In a speed indicator the combination with a centrifugal governor, of a frame, a shaft mounted to rock in said frame at right angles to the shaft of said centrifugal governor, a toothed segment on saíd shaft, a link pivotally connecting the sleeve of said centrifugal governor with said toothed segment, a pinion mounted to turn in said frame and meshing with said toothed segment, two parallel pins in said frame, two discs in the same plane and turnable on said two parallel pins and bearing big figures, two pinions rigidly connected with sald two discs and provided with alternating short and long teeth, two toothed discs each provided in the periphery with a plurality of notches and on one side with a plurality of pairs of teeth, the spaces between which correspond with the notches; said two toothed discs meshing with said two pinions in the manner that the periphery of each toothed disc bears on the two long teeth of the respective pinion and permits the latter to turn through an angle of two tooth pitches only in case a long tooth engages in its respective notch whereupon the short teeth of the pinion work with its teeth, a transmission from said pinion for rotating said two toothed dises in the same direction and two windows past which said two discs are intermittently fed. as and for the purpose specifed.

\section*{No. 100,597. Means of Converting Motion.}

Moyen de changer de moucement.


Ralph Abraham Schoenberg, assignee of Charles Julius Klein, New York City, New York, U.S.A., 21st August, 1906; 6 ycarrs. Filed 17th April, 1906. Receipt No. 134.952.

Claim.-1. Improved means of the character described comprising two members having different motion, one of such members comprising a body provided with a plurality of operative relatively angularly disposed facial portions grouped about a central axis of said body, and the other of said members being arranged to be directly operatively engaged with said facial portions in such arrangement that said facial portions are interposed directly between sai.l latter member and said axis of said other member.
2. Improved means of the character described comprising two members having different motion, one of said members comprising a body of varying transverse sectional areas and provided with a plurality of operative relatively angularly disposed facial portions grouped about a central axis of said body, and the other of said members being arranged to be operatively engaged with said facial portions in such arrangement that said facial portions are interposed directly between said latter member and said axis of said other member.
3. Improved means of the character described comprising two members having different motion, one of said members comprising a body provided with a plurality of operative relatively angularly disposed smooth facial portions grouped about a central axis of said body, and the other of said members being arranged to be directly operatively engaged with said smooth facial portions in such arrangement that said facial portions are interposed directly between said latter member and said axis of said other member
4. Improved means of the character described comprising a rotary member, a tension member and a reciprocating member, said tension member being connected with one of said other members and comprising two tensionally relatively separable portions, and the other of sald other members being provided with a plurality of diversely inclined operative portions with which said tension member is engaged.

No. 100,598. Buffor. Tampon.


The Canadian General Electric Company. Toronto. Ontario Canada, assignee of William L. R. Emmet, Schenectady. New York, U.S.A., 21st August. 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,207.
Claim.-1. A buffer having a base provided with a stuffed pad on its lower surface and with an upwardly extending ledge about its upper edge. a cover for said pad, said cover consisting of a sheet of flexible material contracted at the top to constitute a pocket for receiving the base, the contracted portion of the top having an opening of a smaller size than the top of the base and an elastic binding on the inner edge of said opening for the purpose of retaining the cover upon the base and permitting the same to be readily removed therefrom
2. A buffer having a base provided with a stuffed pad on its lower surface and with an upwardly extending ledge about its upper edge, a cover for sald pad, said cover consisting of a sheet of flexible material contracted at the top to constitute a pocket for receiving the base, the contracted portion of the top having an opening of a smaller size ithan the top of the base, an elastic binding on the inner edge of sald opening for the purpose of retaining the cover upon the base and permitting the same to be readily removed therefrom, a handle consisting of a plate fitting the Fedge on the base, sald handle having a pin and the base having a perforation for receiving the pin, a screw extending upwardly from the base, said handle having a slot for recelving said screw and a nut mounted on the screw in a horizontal position, the handle belng provided with an opening through which the nut projects whereby the handle may be secured to the base.
3. A buffer comprising a base having a pad on the lower side thereof, the base being provided with a convex upper surface surrounded by a projecting fiange and having a screw projecting from said convex surface, and a handle consisting of a plate having a lower surface adapted to fit said flange and to cover sald convex surface, the handle being provided with a passage for the reception of sald screw and an enlarged passage communicating with the first-mentioned passage, and a nut mounted in said enlarged passage and engaging the screw, said nut projecting from the sides of the handle whereby it can be readly operated from without.

\section*{No. 100,589. Power Generator. Générateur.}


The Canadian General Electric Company, Toronto. Ontarin, Canada, assignee of William L. R. Emmet. Schenectady. New York, U.S.A., 21st August, 1906: 6 years. Filed 3r January, 1906. Recelpt No. 131,534.
Claim.-1. In combination two or more high pressure reciprocating engines, a lower pressure turbine which is common thereto and separates nozzles or other fluid dis charging devices which receive the exhaust from the engine and discharge it into the turbine. as specified.
2. In combination two or more high pressure reciprocat ing engines, a low pressure turbine which is common there. to, nozzles or other devices which discharge fluid to the turbine and a conduit that extends from the low pressure cylinder of each of the reclprocating engines to a nozzle or other fluid discharging device, as specificd.
3. In combination two or more high pressure reciprocating engines, a low pressure turbine that is common to and receives the exhaust from the engines, a separate device which discharges the fluid from each engine to the turbine, and shut-off valves that control the passage of exhaust steam to said devices, as specified.
4. In combination two or more high pressure reciprocating engines, a low pressure turbine that is common to and receives the exhaust from the engines, a separate device which discharges the fluid from each engine to the turbine and a rellef valve for each reciprocating engine which opens upon a definite increase in exhaust pressure, as specifiet.
5. In combination a high pressure reciprocating engine. a low pressure turbine receiving exhaust from the engine, a condenser connected to the turbine, a nozzle on the turbine through which the exhaust from the engine passes, and another nozzle also on the turbine having a greater ratio of expansion than the first through which steam of higher pressure passes, as specified.
6. In combination a high pressure reciprocating engine, a low pressure turbine receiving exhaust from the engine, a condenser connected to the turbinc, a nozzle on the turbine through which the exhaust from the engine passes, another nozzle also on the turbine having a greater ratio of expansion than the first through which steam of higher pressure passes, and a high pressure main that supplies the high pressure reciprocating engine and the last-mentioned nozile, as specifled.

\section*{No. 100,600. Generation of Power.}

Génératcur de pouvodr.
The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of William L. R. Emmet, Schenectady. New York, U.S.A., 21st August, 1906; 6 years. Filed 3rd January, 1906. Receipt No. 131,523.
Claim.-1. In combination one or more high pressure reciprocating engines, a header recelving the exhaust therefrom, one or more low pressure turbines receiving energy from the header, a relief valve discharging from the header to a sultable exhaust, and a condult for admitting high pressure fluid to the turbine for overhead conditions of service, as and for the purpose specified.
2. In combination one or more high pressure reciprocating engines, a header receiving the exhaust therefrom, one or more low pressure turbines receling energy from the header and a condenser into which the turbines exhaust, in combination with a by-pass connection by which the reciprocating engine or engines can be started as condensing units, as specified.
3. In combination one or more high pressure reciprocating engines, a header receiving exhaust therefrom, one or more low pressure turbines receiving energy from the header, and a conduit for admitting high pressure fluid to the turbine or turbines for overload conditions, as specified.
4. In combination one or more high pressure reciprocating engines, a header receiving exhaust therefrom, a relief valve
governing the admission of motive fluid to the turbine, as specifled.

4. A high pressure reciprocating engine, a low pressure turbine receiving the exhaust from the engine in combination with a heat storage device receiving the exhaust from the engine and discharging it into the turbine and comprising a liquid containing tank and a means for discharging the exhaust from the engine into the liquid in the tank, as specified.
5. In combination a hfgh pressure reciprocating engine, a header receiving the exhaust from the engine, a heat storage device receiving the exbaust from the engine after it passes through the header and comprising a liquid containing tank and a means for discharging the engine into the liquid therein, and a low pressure turbine arranged to receive the exLaust from the engine after it passes through the header and storage device, as specified.
6. A high pressure reciprocating engine and a low pressure turbine receiving the exhaust therefrom in combination with a heat stordge device through which the exhaust piasses that comprises a liquid containing tank and a device that discharges the exhaust in the form of small jets or streams into and through the liquid in the tank, as specified.
7. In combination a high pressure reciprocating engine, a header connected thereto for receiving the exhaust, a plurality of heat storage devices connected to the header and receiving the exhaust therefrom, and one or more low pressure turbines arranged to receive the fiuld discharged by the heating devices, as specified.
8. In comblnation a high pressure reciprocating engine, a header connected thereto for receiving the exhaust, a plurality of heat storage devices connected to the header and receiving the exhaust therefrom, a conduit for equalizing the pressures of the fluid discharged by the heat storage devices, and one or more low pressure turbines arranged to be driven from the fluid by said devices, as specifled.
9. In combination a high pressure reciprocating engine, a heat storage device arranged to receive the exhaust therefrom, a low pressure turbine arranged to receive the engine exhaust after it passes through said device and a conduit for conveying high pressure fluid to the turbine for emergency conditions, as specified.

\section*{No. 100,602. Head Coupler Ior \(\Delta 1\) igmed Cylinderz. Joint pour tettes de oylindres.}

The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of William L. R. Emmet, Schenectady. New York, U.S.A., 21st August, 1906; 6 years. Filed 19th January, 1906. Receipt No. 132,027.
Claim.-1. A separable head coupling for aligned cylinders comprising two cylinder heads having shanks removably secured together, one of the heads when released beins arranged to permit its ghank to telescope within the ehank of the other head.
2. A separable head coupling for aligned cylinders comyrising two cylinder heads each having a shank provided with segmental lateral flanges, the flanges of both shanks being removably secured together and arranged to permit the assembling of the heads and the telescoping of one shank within the other when the flanges are released.
3. A separable head coupling for aligned cylinders comrising two cylinder heads, one having a shank provided with inwardly projected segmental lateral flanges and the other head having a shank provided with outwardly projected seg-
mental lateral flanges, the flanges of both shanks being removably secured together and arranged to permit the as-

sembling of the heads and the telescoping of one shank within the other when the flanges are released.

No. 100,603. Milking Machine.
Machine à traire les rachcs.


The Hydraulic Hand Milker Company, assignee of George Hutchinson, both of Wellington, New Zealand, 21st August, 1906; 6 years. Filed 27 th March, 1906. Receipt No. 134,322 .
Claim.-1. In suspensory apparatus of milking machines in combination, a pole, a bow spring at one end thereof by which it is connected to an overhead beam, a tension spring at the opposite end of said pole and a notiched bracket upon said beam from which the tension spring is supported, substantially as specified.
2. The means for connecting the under arm to the body bow comprising in combination the body bow, a bracket secured upon the end thereot adapted to receive the end oi the under arm, a curved recess upon the upper edge and a curved projection upon the under edge of the end of said arm and a curved projection and a curved recess in said bracket to receive and engage respectively with the projection and recess in the end of the arm. and a sot pin screwing through the bracket engaging with and \(r\) gulating the yosition of the said arm, substantially as specified. 3. In combination the under arm shaped at its end to the contour of the body of the animal, a stuffed pad fitting such shaped portion and a fin upon the upper edge of the uader arm for maintaining said pin in position, substantially as specifled.
4. The combination in means for connecting a trat press to a carrying arm of a ball upon a stem projecting from the teat press, a recess in the end of the arin to rec.ive the ball, saw cuts in said recessed end, and a socket serewing upon sald end, substantially as sperified.
5. A teat press having rigid outer walls integrally formed, collapsable pouches within said walls. a reiess in one of said walls to recelve the tubes conveying alr to the pouches. and a screw pin passing through one wall and screwing into the opposite wall for holding the pouches in position, substantially as specified.
6. In a teat press the combination with the collapzablo pouches of metal plates secured to sail pouches a?apted to coincide with walls of the press and a projection from each plate adapted to take into a corresponding channel in one of the walls, substantially as specified.
7. In a teat press the combination therewith of a tubular slreve passing through the press between the opposing collapsable pouches and having its ends folded over the top
and bottom of the press and an elastic band securing said cinds, substantially as specified.
8. In a milking machine in combination teat presses having upper and lower collapsable pouches within a rigid outer wall, air pumps connected one to the upper and one to the lower of said pouches and means for reciprocating the pistons of said air pumps, substantially as specified.
\(!\). In combination teat presses having independent upper and lower collapsable pouches, air pumps connected one to the upper and the other to the lower of said pouches, means for reciprocating the pistons of said pumps and calves to admit air to said pumps, substantially as specified and illustrated.
10. In combination teat presses having independent upper and lower collapsable pouches, air pumps connected one to the upper and the other to the lower of said pouches, means for adjusting the stroke of the pistons of said air pumps to regulate the pressure in said pouches, means for reciprocating said pistons and valves to admit air to said pumps when required by the variation of the stroke of the pistons, substantially as specified and illustrated.
11. In combination teat presses having upper and lower collapsable pouches, air pumps connected one to the upper and one to the lower of said pouches, a trunnion spindle carried in lugs projecting from said cylinders, a foundation frame and bearings thereon receiving said spindle, a piston reciprocable within each cylinder, a rod for each piston and a jaw with a draw pin upon each rod, oscillating levers depending from a bar fixed in said foundation frame, the levers having holes to receive said draw pins, a shaft journalled in the foundation frame, cams upon said shaft, one for each lever, a friction roller upon each lever, springs adapted to draw the rollers into contact with the cams, a rocking standard pivoted upon the frame to which the said springs are connected, an arm connected to the rocking standard, a lever pivoted upon a fixed bar pivotally connected to said arm, the arm extending rearwardly and engaging with said bar to hold the springs extended, substantially as specified.
12. In combination teat presses having upper and lower collapsable pouches, air pumps connerted one to the upper 'and one to the lower of said pouches, a trunnion spindle carried in lugs projecting from said cylinders, a foundation frame and bearings thereon receiving said spindle, a piston reciprocable withln each cylinder, a rod for each piston and a jaw with a draw pin upon each rod, oscillating levers depending from a bar flexed in said foundation frame, the levers having holes to receive said draw pins, a shaft journalled in the foundation frame, cams upon said shaft, one ior each lever, a friction roller upon each lever, springs adapted to draw the roller into contact with the cams and means for throwing out of action the said springs, substantially as specified.
13. In a milking machine in combination teat pressure having upper and lower collapsible pouches, oscillating air pumps connected one to the upper and one to the lower of saill pouches, oscillating levers for reciprocating the pistons of said air pumps, means for actuating said levers and means for connecting the ends of the rods of said pistons to said levers, substantially as specifled.
14. In a milking machine in combination teat presses having upper and lower collapsable pouches, oscillating air pumps connected one to the upper and one to the lower of said pouches, jaws one upon the piston rod of each pump, a draw pin slidable in each jaw and means for operating sald draw pins, oscillating levers to which the jaws are adjustably connected and means for oscillating sald levers, substantially as specified.

No. 100,604. Pipe Wrench. Clé à écrou.


The Roemer Pipe Tong Company, assignee of Joseph Roemer, all of Santa Maria, California, U.S.A., 21st August. 1906; 6 years. Filed 12th July, 1906. Receipt No. 137.739.
rlaim.-1. A device of the character described comprising a head provided with a work recelving jaw, a lever or handle
pivotally connected to said head, and a flexible gripping member connected at one end to said handle and arranged for adjustable connection to the head, connection between one end of said chain and the handle consisting of a plate formed with an angular slot producing two sockets one in advance of the other, and a connecting stud mounted in said slot and adapted to be held in either one of said sockets.
2. A device of the character described comprising the head, the lever or handle connected to said head, a flexible gripping member embodying links arranged for adjustable connection tis the head and also adjustably connected to the lever, one of said connections embodying a slotted plate and means for securing the adjacent link of the chain to said plate at different longitudinal positions with respect to the latter.
3. A device of the character described comprising a head, a handle connected to said head, and a flexible gripping member adapted to encircle the work, said flexible gripping member embodying a slotted connecting link 12 formed with an angular slot, the two portions of said slot producing sockets one in advance of the other, and said gripping member also embodying links provided with connecting studs, one of which is received in said slot and is adapted to be held in either one of said sockets, as and for the purpose set forth.
4. A device of the character described comprising a head cmbodying two spaced apart plates provided with recesses constituting a work receiving jaw, a handle pivotally connected to said plates at one end and mounted between the same, and a flexible gripping member embodying a serics of spaced apart plates, a single intermediate plate and studs pivotally connecting the same, and also embodying one link in the form of a slotted plate connected to the handle in advance of the pivot point of the latter, the said last-named plate being received between the two spaced apart plates of the next adjacent portion of the gripping member, and the slot of said plate being angular and producing two sockets one in advance of the other, sald slot receiving the adjacent pivot stud, and the latter being adapted for engagement in either one of sald sockets.
5. A device of the character described comprising a head, a lever pivotally connected to the head, a flexible gripping member adapted to encircle the work, said gripping member being arranged for connection to the head and also connected to the handle, and means for limiting the relative movement of the pivot handle with respect to the head at different predetermined points, as and for the purpose set forth.
6. In a device of the character described, the combination oí a head, a flexible gripping member adapted to encircle the work and arranged for connection to the head, a handle connected to said head and arranged for a relative oscillating movement with respect to the same, the gripping member being connected to said handle whereby a back and forth motion of the latter will effect an alternate binding and loosening of the gripping member on the work. and means for limiting the relative movement of the handle with respect to the head and for varying the limit of said movement.
7. In a device of the character described, the combination of a head, a flexible gripping member adapted to encircle the work and arranged for connection to said head, and a handle pivotally connected to said head and connected to said gripping member and arranged to draw upon one end of said gripping member by a relative movement of the handle with respect to the head, and a tappet arm adapted to limit the relative movement of the handle with respret to the head.
8. In a device of the character described, the combination of a head, a gripping member adapted to encircle the work and arranged for connection to said head, a handle connected to said head and having a relative movement with respect to the same, one end of said handle being connected to the gripping member for the purpose specified. and an adjustable tappet arm carried by the handle and adapted to contact with the head at different points, whereby to limit the movement of the handle with respect to the head.
9. In a device of the character described, the combination of a head, a flexible gripping member adapted to encircle the work, and arranged for connection to said head, a handle pivotally connected to the head, the head being provided with a series of notches, and a tappet arm carried by the handle and arranged to engage in any one of said notches, as and for the purpose set forth.
10. In a device of the character described, the combination of a head, a flexible gripping member adapted to encircle the work, and arranged for connection to said head, a handle livotally connected to the head, the head being provided with a series of notches, a tappet arm carried by the handle and adapted to engage in said notches as the handle is moved with respect to the head, and means for holding said tappet arm at different inclinations with respect to the handle whereby its engagement with any of said notches may be regulated.
11. In a devien of the character described, the combination of a head, a flexible gripping member adapted to encircle the work, and arranged for connection to said head, the head be-
ing provided at its sides with notches, a handle pivotally ccnnected to said head and connected to said gripping member and a pivoted tappet arm carried by sald handle and arranged for engagement with either set of notches, as and for the purpose set forth.
12. A device of the character specified comprising a head, a handle connected to the head to receive an oscillatory movement and a work gripping member having adjustable connection with both the head and handle.

\section*{No. 100,605. Electric Conductor.}

\section*{Conducteur électrique.}

The Parker-Clark Electric Company, Jersey City, New Jersey, assignee of Walter G. Clark, New York City, New York, U.S.A., 21st August, 1906; 6 years. Filed 2nd May, 1906. Receipt No. 135,484.

Claim.-1. The herein described composition of matter. consisting of a combination of carbon and sillcon which is a good conductor of electricity when cold.
2. A composition of matter consisting of a combination of carbon and silicon produced by decomposing gaseous compounds of carbon and compounds of silicon in the presence of each other.
3. The herein described composition of matter consisting of a combination of carbon and silicon which is produced at a temperature less than that required to fuse carborungum and is a conductor of electricity when cold.

No. 100,606. Dress Stay Making Machine.
Machine a faire des renforts de robes.


Charles Andrew Kelly, Derby. Connecticut, and Christopher M. Kelly, assignee of a third interest, Grand Rapids, Michigan, U.S.A., 28th August, 1906; 6 years. Flled 1st August, 1906. Receipt No. 138,342.
Claim.-1. The combination of means for applying a covering to a strip of steel, means for severing the same in predetermined lengths, and means for applying metal tips to said lengths, all combined and arranged to operate in succession, and means for automatically operating the same.
2. The combination of a pasting roll, a folder, a pair of cover compressing rolls, cutting dies, two pairs of tip compressing rolls, two tip hoppers, rolls to reverse the motion of the stock, and means for automatically operating the various rolls and the cutting dies.
3. The combination of a pasting roll, a folder, a pair of cover compressing rolls, a guideway, cutting dies, feed rolls, two pairs of tip compressing rolls, a tip hopper at one side of each pair of tip compressing rolls, rolls adapted to reverse the motion of the stock, an inclined guide to direct the stock, and means for automatically operating the various pairs of rolls and the cutting dies.
4. The combination of a pasting roll, a folder, a driving shaft, cover compressing rolls one of which is mounted on said shaft, gears connecting said rolls, cutting dies, a cam to operate the dies, a cam shaft, change gearing connecting the cam shaft and the driving shaft, two pairs of tip compressing rolls, two tip hoppers, gearing to drive the tip compressing rolls, means for connecting said gearing with the driving shaft, and means for conveying the stock from one pair of tip compressing rolls to the other pair of the same.
5. The combination of means for applying a covering to a strip of material, a cutting die, a driving shaft, means for applying tips to the ends of the severed portions of the stock, a bed plate supporting said means and adjustable toward and from the cutting dies, a counter shaft connected to the driving shaft, a gear to operate the means for applying tips, and a gear engaging the same and adjustable on the countershaft.
6. The combination of a pasting roll, a shaft to operate the same, a folder, a pair of compressing rolls, a driving
shaft supporting one of said rolls, gears connecting said rolls, gears connecting the driving shaft and pasting roll shaft, cutting dies, a lever to operate the same, a cam to operate the lever, a cam shaft supporting the cam, gears connecting the cam shaft and the driving shaft, feed rolls, means for operating the same, two grooved rolls mounted on a single shaft, means for connecting said shaft with the driving shaft, a roll engaging the upper side of one grooved roll, means for operating the sald rolls. and means for transferring the stock from one grooved roll to the other grooved roll.
7. The combination of a pasting roll, a folder, a pair of compressing rolls, gears connecting the same, a driving shaft supporting one of the compressing rolls, a shaft supporting the pasting roll, gears connecting the said shaft with the driving shaft, cutting dies, a cam to operate the dies, a shaft on which the cam is mounted. a change gear to drive the cam shaft. a gear on the driving shaft. an idler gear connecting the same with the change gear and mounted on an adjustable arm, and a set screw to hold the arm.
8. The combination of two grooved rolls, mounted side by side, a roll engaging the upper side of one grooved roll: a roll engaging the under side of the other grooved roll, rolls to recelve the stock from one grooved roll and transfer it to the other grooved roll, and an inclined guide to move the stock laterally.
9. The combination of two pairs of tip compressing rolls, one of each pair being on the same shaft side by side, a middle roll extending opposite the same, rolls at opposite sides and opposite ends of the middle roll, and mounted on the ends of pivoted and crossed levers, rolls on the other ends of said levers, gearing connecting the rolls on one of the levers, means for operating the rolls, and an inclined guide to direct the stock.
10. The combination of two pairs of tip compressing rolls, two tip hoppers, means for operating said roll, a middle roll, rolls normally engaging the opposite sides of the middle roll, plvoted levers movably supporting said rolls at one end, intermediate pivot supports for said levers, rolls supported on the opposite ends of said levers one of which is nearer the first-named rolls to change the direction of the stock, gearing connecting the rolls on one lever and means for operating the rolls.
11. In combination with tip compressing rolls and means for operating the same, transfer mechanlsm comprising a middle roll, rolls normally engaging opposite sides of the middle roll, pivoted levers movably supporting the said rolls and extending diagonally across each other, rolls supported on the other ends of said levers, one of said rolls being nearest to the middle roll and gears connecting the rolls on one lever.
12. In a machine for making dress stays in combination with cutting dies for severing the stock, a presser foot adapted to yleldingly engage the stock during the operation of the cutting dies.
13. In a machine for making dress stays in combination with cutting dies, a spring actuated presser foot attached to the movable die and adapted to yieldingly engage the stock.

\section*{No. 100,607. Steel Car. Char en aoier.}


The Pressed Steel Car Company, Pittsburg, assignee of Charles Augustus Lindstrom, Allegheny, both in Pennsylvania, U.S.A., 28th August, 1906; 6 years. Filed 2nd August, 1906. Receipt No. 138,371 .
Clifin-1. A car having longitudinal center sills extending the entire length of the car body and having an upper surface of less width than its lower surface, the upper member of the sill being of \(T\)-form, substantially as described.
2. A car having a longitudinal center sill whoso upper surface is flat and is substantially flush with and forms a part of the car bottom, and which is of less width than its lower surface, the upper portion of the sill being in the form of a T, substantialiy as described.
3. A car having a longitudinal center sill extending the entire length of the car body and having an upper surface of less width than its lower surface, and a T -iron having its web secured between the upper flanges of the longitudinal sill members, substantially as described.
4. A car having a longitudinal center sill whose upper sur face is of less width than its lower surface. the upper portion of the sill being in the form of a \(T\) having a depending flange or flanges secured to the upper portion of the lower member of the sill, and whose upper surface is substantially flush with and forms a part of the bottom of the car, substantlally as described.
5. In a flat bottom gondola car having bottom doors, a longitudinal center sill below the car floors. formed of two members consisting each of a lower horizontal flange, a lower vertical web portion, an upper inclined portion below the inner edge portions of the doors and permitting movement thereof, and an upper vertical portion to recelve the door hinges, and an independent top flange or flanges secured to said members, and having its upper surfaces substantially flush with the surfaces of the doors, substantially as described.
6. A flat bottom gondola car having a longitudinal center sill formed of two metal members, each of which has a horizontal flange at its lower edge, and a web which is vertical at its upper and lower portions and is inclined at its intermediate portion, together with a top member secured to said members and having a flat upper surface substantially flush With the car floor, substantially as described.
7. A car having a longitudinal sill with an upper surface of less width than its bottom. bolsters having upper surfaces of less width than their bottoms, and downwardly opening doors whose surfaces are substantially flush with the upper surfaces of both the sills and the bolsters, substantially as described.
8. A steel car having at the end a fller plate formed by upper and lower portions parallel with and secured to the end sheet of the car, and an intermediate inwardly bent portion having an upper inclined shedding surface, substantially as described.
9. A steel car having a Z-shaped member secured to the sides at the corners and having parts of its lower flanges projecting downwardly, substantially as described.
10. A steel car having Z-shaped members extending from the end along the side to or slightly beyond the bolster with outwardly projecting flanges and flattened end portions secured to the side structure of the car, substantially as described.
11. A car having a longitudinal center sill with a raised portion above its normal height, the upper member of the slll forming such raised portion being in the form of a \(T\) and acting as a support for the doors, its upper surface beIng in the plane of and forming the floor surface between the doors, substantially as described.
12. A flat bottom car having a narrow longitudinal stationary central floor member in the form of a \(T\) connected to and extending above the center sill proper, and having its upper surface substantially flush with the floor of the car, doors hinged below said member and extending along each side thereof, the upper surfaces of said doors when closed being substantially flush with the surface of said member, tho lower edges of the car sides being elevated sufficiently above the center slll proper to enable the outer ends of the doors to be lowered to the proper angle for discharging the load, substantially as described.

\section*{No. 100,608. Etump Puller. Arrache-souches.}

Johan Heinrich, Neudorf, Saskatchewan, Canada, 28th August. 1906; 6 years. Filed 1st August, 1906. Receip No. 138,329.
Claim.-1. In a stump puller the combination comprising a base, upper and lower bearing plates supported by one base. a shaft journalled in the upper and lower bearing plates, a drum on the shaft, means for preventing reverse motion of the drum, a perforated plate carrled by the shaft, a lever adapted to rotate around the shaft, and means for locking the lever to the plate.
2. In a stump puller the combination comprising a rotatable drum, a ratchet carried by the drum, a pawl pivoted adjacent the ratchet, a spring adapted to maintain the pawl in engagement with the ratchet, a bell crank lever pivotally supported adjacent the pawl, a link connecting the bell crank lever with the pawl. a plate secured to the drum, a lever, and means for locking the lever to the plate.
3. In a stump puller the combination comprising a rotatable shaft, means for preventing reverse rotation of the shaft, a perforated plate secured to the shaft, a strap disposed around the shaft, a lever secured to the shaft. a guide strap secured to the lever. a plunger disposed through the guide strap and adapted to engage the perforated plate, a segmental rack secured to the lever, a short lever plvoted
to the segmental rack and having its end connected to the plunger, a pawl carried by the lever and adapted to engage

the segmental rack, and means for maintaining the lever against upward movement on the shaft.
4. In a stump puller the combination comprising a rotatable shaft, a drum on the shaft, means for preventing reverse rotation of the drum, a perforated plate secured to the shaft, a lever, a strap disposed around the shaft and having its end secured to the lever, a pin disposed transversely through the shaft above the strap, means for securing and releasing the lever from engagement with the plate, and anchor receiving members secured to the device.

No. 100,609. Doorway Guard for Elevators. Garde porte d'élevateur.


William Henry Allsop, East Melbourne, Victoria, Australia, 28th August, 1906; 6 years. Filed 9th August, 1906. Recelpt No. 138,521.
Claim.-1. In apparatus for guarding the doorways leading from the floors of buildings to the elevator shaft the combination of an elevator to the top of which ropes are attached, said ropes passing over pulleys at the top of the shaft, then down the back of the shaft, then under pulleys at the bottom of the shaft and then attached to the bottom. of the cage, means for tightening said ropes, all as and for the purpose hereinberfore described and as illustrated in the drawings.
2. In apparatus for guarding the doorways leading from the floors of buildings to the elevator shaft, and in combination, cross beams above or below a cage, adjusting bolts passing through one of satid cross beams, spiral springs on the inner end of said adjusting bolts, minor ropes attached
to said adjusting bolts or to a rack on each of the said ad justing bolts, major ropes attached to sald minor ropes, each of said minor ropes passing over pulleys at the top of the shaft and pulleys at the bottom of the shaft, all as and for the purposes hereinbefore described and as illustrated in the drawings.
3. In apparatus for guarding the doorways leading from the floors of buildings to the elevator shaft, stationary ropes attached to the top of the front of a lift shaft, said ropes descending and passing under pulleys at the top of the front of the cage, then over pulleys at the back of the top of the cage, under pulleys at the bottom of the back of the cage, over pulleys at the front of the bottom of the cage, descending to the lift shaft bottom and there anchored, said ropes being with or without network, means for adjusting said ropes, all as and for the purpose hereinbefore described.
4. In apparatus for guarding the doorways leading from the floors of buildings to the elevator shaft a cage in combination with major ropes passing over pulleys at the top and bottom of the shaft, minor ropes at both ends of said major ropes, each minor rope passing over a pulley at the end of an arm, the outer end of each arm passing through an open mouthed aligner fixed to the well, said minor ropes being adjustably secured to the top and bottom of the cage, all as and for the purpose hereinbefore deacribed and as illustrated in the drawings.
5. Improvements in apparatus for guarding the doorways leading from the floors of buildings to the elevator shaft. conslsting of a lift cage in a lift well, ropes attached to said cage and passing over pulleys at the top and the bottom of the said lift well, or said ropes having minor ropes at each end, each of said minor ropes passing over a pulley at the outer end of an arm and attached to an adjusting bolt or to a rack, rope allgners having a mouth therein situated near each landing, all as and for the purposes hereinbefore described and as illustrated in the drawings.

No. 100,610. Crate. Mannc.


Herbert Harvey Cummer, Cadillac, Michigan, U.S.A., 28th August, 1906; 6 years. Filed 8th August, 1906. Receipt No. 138,499.
Claim.-1. A crate having openings in oppositely disposed walls near the edges thereof, bails attached at the edge of one of said walls adjacent to the opening therein, and a bottom having a free connection with said bails, and the edges whereof project into sald openings, and cover having members projecting laterally therefrom and engaging the edges of the walls connecting said first walls.
2. A crate having a body with openings in a pair of opposite walls thereof near their lower edges, bails attached to one of said walls at the lower edges thereof and making a pivotal connection at said edge, and a bottom having a sliding connection on said bails and adapted to be shifted laterally so that its edges may lie in said openings, said cover having laterally disposed cleats adapted to engage the lower edges of said body, certain of said cleats affording means for locking said bottom against later movement.
'3. A crate having a body with openings near the lower edges of opposite walls, a bolster disposed longitudinally at one end of said edges, bails fastened loosely about said bolster, a bottom making a slidable connection with said balls and adapted to have its edges thrust into said openings, said bottom having transversely disposed cleats projecting under the edges of the walls connecting said opposite walls. and another cleat constituting means for abutting the face of the wall opposite said bolster, said last cleat being adapted to pass with the edge of said bottom Into the adjacent opening.

No 100,611. Piling Apparatus for Ore, Cosl, Etc.
Appareil d empiler pour minerais, charbon etc.


Robert Allison Chambers, New Glasgow, Nova Scotia, Canada, 28th August. 1906; 6 years. Filed 7th August, 1906. Receipt No. 138,471.
Claim.-1. A method of stacking ore, coal and the like which consists in erecting a portable bridge structure at a suitable point, connecting said structure with a track. dumping the material from said portable structure. and intermittently shifting said structure in a forward direction.
2. A method of stacking coal and the like which consists in erecting upon the pile a portable truss having track rails laid thereon, connecting said truss to a track, dumping the material from the front end of said truss, and intermittently elevating and moving said truss in a forward direction.
3. In a device of the class described, a track. a portable bridge connected thereto, and means for intermittently elevating the forward end of said bridge.
4. In a device of the class described. a track, a portable bridge structure connected thereto, and means for intermittently moving said bridge in a forward direction.
5. In a device of the class described, a track, a portable bridge structure connected to sald track, means for forwarding and elevating said bridge, and means for dumping a car from the forward end of said bridge.
6. In a device of the class described, a track, a portable truss connected to said track, means for forwarding and elevating the front end of said truss, cars travelling upon said track, and means for dumping said cars at the forward end of said truss.
7. In a device of the class described, a sectional track, a portable truss connected thereto. means for forwarding and elevating the front end of said truss, cars carried upon said track, endless cables attached to said cars, and means for dumping said cars from the front end of said truss.
8. In a device for stacking ore, coal and the like, a sectional track. a portable bridge connected to said track, means for shifting said bridge in a forward direction, cars travelling upon said track, cables attached to said cars, and means for dumping said cars at the front end of said bridge.

\section*{No. 100,612. Heating System. Systime de chauffage.}

David Mein Nesbit, London, England, 28th August, 1906; 6 years. Filed 6th August. 1906. Receipt No. 138.446.
Claim.-1. In a one plpe heating system the combination of a pjpe and a dividing web extending across and separating the area of said pipe into two portions, serving as independent flow and return passages.
2. In a one pipe heating system the combination of a pipe and a dividing web integral with sald pipe extending across and separating the area of said pipe into two portions of the same or different area.
3. In combination with a heating system. employing a single pipe divided into two compartments, means for connecting one of such passages to a corresponding passage in an adjacent length of piping.
4. In a one pipe heating system in combination, a plpe, a dividing web separating the pipe into two passages, and a ferrule or nipple into the end of pach passage for connection to an adjacent length of piping.
5. In combination with a heating rystem employing a single pipe divided into two passages, means for controlling one of such passages.
6. In combination with a heating system. employing a single pipe divided into two passages, a double ported valve for controlling both passages.

7. In combination with a heating system, employing a single pipe divided into two passages, means for connecting two lengths of such piping one being at substantially a right angle to the other.
8. A heating system comprising in combination, a single undivided flow main, a series of double pipe branches extending therefrom, the flow main being in feed connection with the flow side of the double pipes, radiators connected to such double pipe branches, and a single undivided return main in connection with the return side of said double pipe branches.
9. A heating system comprising in combination a double pipe supply main, double pipe branches extending therefrom and radiators connected to such double pipe branches.

No. 100,613. Ewitch. Aiguille.


Edward Platt Robbins, Mansfleld. Ohio, U.S.A., 28th August, 1906; 6 years. Filed 4th August, 1906. Receipt No. \(138,425\).
Claim.-1. In a switch, a trunnioned support secured to the trolley nole underneath the trolley wheel, rotating levers mounted thereon, rollers secured to the free ends of the levers, pawls pivoted to said levers, means for retaining said levers in a predetermined position under tension, means for releasing said levers permitting them to rotate, means for conducting an electric current to a shifting rall mechanism connected to the pivotal rail of the switch alternately closing and opening said switch at the will of the operator, as described and set forth.
2. In an automatic electric switch for street railways, a trolley mechanism secured to the trolley pole, contact plates suspended on both sides of the trolley wire, means for bringing the trolley mechanism in contact with the plates, solenoids sccured to a case or box in aligament with each other, a plunger fitted to reciprocate in apertures in said solenoids. an arm secured to said plunger, a shifting rod attached to said arm, a connecting rod secured to one end of the rod with the opposite end secured to the pivotal rall of the switch, means for conducting an electric current to the solenoids exciting them alternately, and forcing the shifting rod to reciprocate and throw the switch to correspond with the direction it is desired to move the car in. signal lights connected to and operated in conjunction with the shifting mechanism, as described and set forth.
3. In an automatic electric switch for street railways, a trolley mechanism secured underneath the trolley wheel contact plates suspended on each side of the trolley wire, a box placed underneath the surface of the ground having an auxiliary bottom, solenoids attached to said bottom, a plunger having enlarged ends fitted to reciprocate in suitable apertures provided therein, means for charging said solenoids alternately with an electric current, connecting mechanism secured to the pivotal rail and the plunge? brackets attached to the side of the box, a bar mounted therein, forked contacts adjustably mounted on said bar, an arm attached to the shifting rod, a knife contact attached to the end and adapted to be brought in and out of contact with the forked contacts, means for making an electrical connection with a light series
4. In an electrically operated switch, a trolley mechanism sccured to the trolley pole, contact plates having the under portion made concave with both ends curved upward. said plates being hung on each side of the trolley wire, a trolley clamp suspended from an insulated shell resting on the wire, a box placed under the surface of the ground, solenoids attached to an auxiliary bottom, a plunger fitted to apertures provided therein, an arm secured to said plunger, a shifting rod adjustably secured to the free end of said arm, a connecting rod secured to the projecting end of the shifting rod on one end and the pivotal rod on the opposite end, an arm secured to the shifting rod having a knife contact attached to the free end, forked contacts sccured to a bar and adapted to contact therewith when the plunger is operated, said contacts being wired to a light series.
5. In an automatic switch, a trunnioned support clamped to the trolley nole, levers mounted thereon having their free ends projecting upwardly at an incline, rollers journalled to bolts passing through apertures in the free ends, pawls pivotally secured to the inner faces of the lever, collars made contiguous with the journals of the trunnioned support having notches formed in the periphery thereof and adapted to mesh with the hooked portion of the pawls stop pins secured to the face of the collars meshing with slots formed in the lower portion of the levers, volute helix springs attached to the end of the levers, cones adapted to inclose said syrings, one end of said cones being connected to the bent end of the small coil in such a manner as to connect the cone and levers tog ther under tension with means of decreasing or increasing the tension of the spring, whereby the levers are made to rotate when the pawls are released, as described and set forth.
6. In an automatic electric switch, comprising a trunnioned support adjustably secured to the trolley pole, rotating levers secured to said support under tension, means for releasing said levers, means for limiting the rotation of sald levers, contact plates suspended on each side of the trolley wire, means for regulating the throw of the levers to contact with the piates and conduct the currents from the trolley to excite or charge the solenoids operating the shifting mechanism, as described and set forth.
7. In an electric switch comprising a trolley mechanism, contact plates, a shifting mechanism, brackets, a rod, forked contacts secured to said rod, an arm carrying a knife contact, means for alternately making a circuit with lights placed in a box behind different coloured bull's eyes, as described and set forth.
8. An automatic switch for street railways, comprising a support having projecting lugs made integral forming a trunnion, levers journalled on said lugs, pawls pivotally secured to said levers, collars having notches formed in the periphery thereof, a guard secured to the trolley pole, a spiral spring connected to the levers, cones adapted to inclose the lugs and springs, said springs being compressed and exerting a pressure against the lower portion of the levers preventing lateral motion.
9. In an automatic switch, a trunnioned support secured to the trolley pole, levers journalled on said trunnions with the free ends extending on each side of the trolley wheel, pawls pivotally secured to said levers, volute helix springs, cones inclosing said springs, ears made integral with said levers, contact plates suspended on each side of the trolley wire, means of conducting an electric current to a shifting rail mechanism, as described and set forth.
10. In an electric switch mechanism. comprising a trolley mechanism, cantact platis s ssend d on each s:de of the trolley wire, a shifting rail mechanism adapted to impart movement to the switch rail, brackets secured to one side of a box placed under the ground, a bar sumported by said brackets, forked contacts a ljustably secure 1 to sald bar, an arm secured to the shifting mechanism, a knife contact secured thereto and adapted to be moved in and out or contact. with the forked contacts whereby an electrical consection is made with a light series connected to lights placed in a suitable box, as described and set forth
11. In an automatic electric switch, a trunnioned support, levers rotatably mounted thereon under tension, pawls secured thereto and adapted to retain said levers in a pre-
determined position, contact plates, means for bringing the trolley mechanism in and out of contact with said plates. a shifting mechanism connected to the switch rail means for operating said mechanism by an electric current transmitting from the trolley with a signal light mechanism operated in conjunction with said shifting mechanism whereby the position of the switch is indicated by lights placed in a box behind bull's eyes of different colours, said light mechanism being electrically connected with light series alternately

\section*{No. 100,614. Cooking Utensil. Ustensile de cuisine.}


Jacob Johan Sophus and Ernest Newman Butler, co-inventors, both of Montreal, Quebec, Canada, 28th August, 1906; 6 years. Filed 3rd August, 1906. Receipt No. 138,391.
Claim.-1. A device of the class described comprising a casing, a filling of non-conducting material within said casing said filling being provided with suitable apertures, an inner covering for said apertures, and an outer cover adapted to fit tightly over the sides of the casing.
2. A device of the class described comprising a box, a filling of non-conducting material for said box, suitable apertures within said filling, a diaphragm covering said filling, an inner lid adapted to cover said apertures, and an outer lid adapted to envelope the sides of the box.
3. A device of the class described comprising a box or casing, a filling for said casing comprising non-conducting material, suitable apertures in said filling, a diaphragm enveloping said filling and apertures, an inner cover of nonconducting material, and an outer flanged cover adapted to fit over the sides of the box.

No. 100,615. Boiler. Bouillotte.


Roch Ouimet. Montreal, Quebec, Canada, 28th August, 1906; 6 years. Filed 1st August, 1906. Receipt No. 138,328.
Claim.-1. A boiler having a flange and having openings adjacent the base of the flange.
2. In combination with a boiler having a flange and having openings adjacent the base of the flange, a closure having a vertical flange adapted to engage the vertical wall of the bciler and having a horizontal flange adapted to project therefrom.
3. A boiler having openings adjacent the top of the wall, a flange secured to the wall below the openings, and a closure for the boiler.
4. A boiler having a top flange, and a closure for the boiler provided with a flange and provided with openings adjacent the base of the flange.
5. A boiler having a top flange, and a closure for the boiler having a coinciding flange of less width than said boiler flenge and provided with openings adjacent the base of its flange.

No. 100,616. Heating Apparatus.
Appareil de chauffage.


Joseph Leonard Carter, North Sydney, Cape Breton, Nova Scotia, Canada, 28th August, 1906; 6 years. Filed 8th August, 1906. Receipt No. 138,490.
Claim.-1. In combination with a hot water heater, a steam dcme secured in connection therewith, and means connecting the steam dome and the hot water heater adapted to indicate the steam pressure in the dome.
2. In combination with a hot water heater, a cylindrical steam dome disposed above the heater and in connection therewith, a pipe leading from the steam dome, a pipe leading from the bottom of the heater and connected with said first pipe, a steam gauge operatively connected with sald pipes, and a water gauge carried by one of said pipes.
3. In combination with a water heating boiler, a dome connected therewith and adapted to collect the steam from the water heated.
4. In combination with a water heating boiler having a flanged outlet in tis top, a flanged steam recelving dome disposed over the flanged opening, and provided with an outlet.

No. 100,617. Railway Tie. Dormant de chemin de fer.


Charlie J. Kopf, Paducah, Kentucky, U.S.A., 28th August 1906; 6 years. Filed 31st July, 1906. Receipt No. 138,308
Claim.-1. A railway tie having transverse grooves in the urper face thereof, adapted to receive the rail flanges, and having longitudinal grooves in the upper face thereof, keepers slidably mounted in sald latter grooves, said tie further having transverse grooves disposed behind said keepers, cotters slidably mounted in said last grooves and abutting against the rear extremities of said keepers, to force the same against the rail, a resilient member attached to said cotters and presenting a head adapted to engage the edge of said tie to retain said cotters, and a fiber block supporting the rail on sald body.
2. A railway tie baving a body with transverse grooves in the upper face thereof adapted to recelve the rails and having projecting tongues adapted to engage the rail flanges, said body having longitudinal grooves disposed opposite said tongues, keepers received in said grooves and engaging the rail flanges, cotters slidably mounted in said last grooves and affording means for holding said keepers against the rails, sald cotters having grooves therein, and springs carried in said grooves, having heads adapted to engage the edges of said body to retain the said cotters.
3. A railway tie having a body adapted to support the rails thereupon, keepers slidably mounted on the upper face of said
body and adapted to engage the rails. cotters adapted to engage said keepers and having resilient retaining tongues on the under sides thereof adapted to engage said body, said body having recesses in the faces thereof near said resilient nembers, facilitating the removing of said cotters.

No, 100,618. Sawmill. Scierie.


William Henry Trout, Milwaukec, Wisconsin, U.S.A., 28th August, 1906; 6 years. Filed 3rd August, 1906. Receipt No. 138,396 .
Claim.-1. In sawmill set works the combination with the set shaft, of a vertical shaft geared therewith, a driver and a gear loosely mounted on sald vertical shaft and provided with clutch members, a sleeve splined on said vertical shaft between said driver and grar and having clutch members movable into and out of engagement with the clutch members of said driver and gear, and another driver connected with said gear for turning the set shaft in the opposite direction, substantially as described.
2. In sawmill set works the combination with the set shaft, of a vertical shaft having a friction power transmitting connection with said set shaft, a driver and a gear loosely mounted on said vertical shaft, a sleeve splined on said vertical shaft and having clutch members movable into and out of engagement with opposing clutch members attached to said driver and gear, and another driver connected with sald gear for turning the set shaft in the opposite direction, substantially as described.
3. In sawmill set works the combination with the set shaft. of a vertical shaft geared therewith, a receding sheave and a gear loosely mounted on sald vertical shaft and provided with clutch members, a sleeve splined on said vertical shaft between said sheave and gear and having clutch members movable therewith into and out of engagement with the clutch members on said sheave and gear, and a setting sheave located in the same horizontal plane with the receding sheave and connected with said gear, substantially as described.
4. In sawmill set works the combination with the set shaft of a vertical shaft having an adjustable friction driving connection with said set shaft, a sheave and gear loosely mounted on said vertical shaft, a sleeve splined on said vertical shaft and having clutch members movable into and out of engagement with opposing clutch members on said sheave and gear, and a sheave connceted with said gear, substantlally as described.
5. In sawmill set works the combination with the set shaft, of a vertical shaft connected therewith and having a gear and sheave revolubly mounted thereon and each provided with a friction clutch member, a sleeve splined on said vertical shaft and provided with eriction clutch members adapted to be engaged with the opposing members on said sheave and gear, another sheave mounted in the same horizontal plane with the first-named sheave and connected with the gear on said vertical shaft, substantially as described.
6. In sawmill set works the combination with the set shaft of a vertical shaft connected therewith and provided with a sheave and a gear loosely mounted thereon and with a sleeve splined thereon and carrylng eluteh members which are movable therewith from a middle neutral position into engagement efther with said genr or with said sheave. means tending to return said s'ecve into and to hold it in its middle position, a lever for moving said slerve up and down from its middle position on said vortical shaft, and another sheave mounted in the same horimotal hane with said firstmentioned sheave and comnected with said gear, substantially as described.
7. Ina sawmill set works in combination with the carriage and set shaft, of two sheaves mounted on the carriage in the same horizontal plane, means adapted to connect rither of said sheaves with the set shaft and to turn the same in opposite directions for setting and receding, driving and guiding sheaves arranged in the carriage way, one in a vertical plane and the other in an oblique plane, and an endliss driving cable passing around said driving and guiding sheaves and in opposite directions around the setting and receding sheaves on the carriage, substantially as described.
\(x\). In sawmill set works the combination with the carriage and set shaft, of two sheaves mounted on the carriage in the same horizontal plane, means for connecting either of said sheaves with the set shaft to turn the same in opposite directions for setting and receding, driving and guiding sheaves arranged in the carriage way, one in a vertical plane and the other in an oblique plane in positions to deliver the driving cable to one of the sheaves on the carriage and to receive said cable from the other sheave on the carriage, the guiding sheave being movable towards and from the driving sheave, a weight connected with the guiding sheave and tending to move it away from the driving sheave and an endless driving cable passing around said driving and guiding sheaves and in opposite directions around the sheaves on the carriage, substantially as described.
9. In sawmill set works the combination with the set shaft havilng a bevel gear loosely mounted thereon, a friction clutch member splined on said shaft and held in adjustable engagement with said gear, a vertical shaft, a spur gear and a sheave loosely mounted on said vertical shaft and provided with clutch members, connected clutch members splined on said vertical shaft between said spur gear and sheave, a level for moving said connected clutch members from their middle neutral position so as to carry either one of them into engagement with the opposing clutch member on said spur gear or sheave, another sheave arranged in the same horizontal plane with the first-mentioned sheave and connected with the spur gear on said vertical shaft, and a diriving cable arranged to turn said sheaves in opposite directions. substantially as deseribed.
10. In sawmill set works the combination with the set shaft, of setting and receding members for turning said shaft in opposite directions, an operating lever for connecting sa:d shaft with either of said members, a stop shaft geared witis said set shaft and having a ratchet wheel fixed thereon, a setting arm provided with means for locking it to said ratchet wheel. stops for determining the movement of said arm, a pawl for preventing backward movement of the ratchet wheel in setting, and a connection between said pawl and operating lever adapted to throw the pawl out of engagement with the ratchet wheel when said lever is carried into position to connect the set shaft with the receding member, substantially as described.
11. In sawmill set works the combination with the set shaft and means for turning said shaft, of a shaft geared to said set shaft and provided with a ratchet wheel, a setting arm provided with means for locking it to said ratchet wheel. stops for determining and limitiug the movement of said arm. a pawl for preventing backward movement of said ratchet wheel in setting, and means for throwing and holding said pawl out of engagement with the ratchet wheel after the first tooth of the ratchet wheel in its advance passes the pawl, and for throwing said pawl into engagement. with the ratchet wheel as the setting arm arrives at the front stop, substantially as described.
12. In sawmill set works the combination with the set shaft and means for turning said shaft, of a shaft geared to said set shaft and provided with a ratchet wheel, a setting arm provided with means for locking it to said ratchet wheel, a stop for limiting the advance of said arm, a pawl for preventing backward movement of the ratchet wheel in setting, and a spring actuated bolt engaging an arm on said pawl. one of said engaming parts having a doutle incline arranged to hold said pawl after it passes a central position either in or out of engagement with the ratchet wheel, the passage of the first tooth of the ratchet wheel in its advance carrying said pawl arm past its central position in one direction, and the setting arm upon its arrival at said stop, carrying said pawl arm past its central position in.the opposite direction, substantially as described.

\section*{No. 100,619. Water Cooling Tower.}

\section*{Tour à refroidir l'eau.}

Ovid Miner Gould. Montreal, Queber. Canada. 2Sth August, 1906; 6 years. Filed 16th May, 1906. Receipt No. 135,964.
Claim.-1. An aerating and cooling device having a central upward profection upon its topand a pair of spparated down ward projectings upon its bottom and a pair of angula, aerating and cooling surfaces leading from opposite sides of the upper projection to the said lower projections. substantially as described and for the purpose set forth.
2. An aerating and cooling bar presenting a pair of downwardly converging sides terminating in a longitudinal recess

and having a projection of triangular cross section extending along the middle of the top thereof, substantially as described and for the purpose set forth.
3. An aerating and cooling bar presenting a pair cf downwardly converging sides terminating in a longitudinal recess and having a projection of triangular cross section extending along the middle of the top thereof, such top presenting surfaces one at each side of and inclined downwardly away from the triangular projection, substantially as described and for the purpose set forth.
4. An aerating and cooling bar presenting converging sides terminating in a bottom side and having a member of triangular cross section secured along the middle of the top thereof, a pair of members of triangular cross section secured a short distance apart along the said bottom side and forming a continuation of the said converging sides, substantially as described and for the purpose set forth.
5. A water cooling tower comprising means dividing the water supplied into a plurality of falling bodies, and means maintaining such subdivisions during the fall thereof throughout the tower, substantially as described and for the purpose set forth.
6. A water cooling tower comprising a pair of wire lattice Work frames, a plurality of aerating and cooling bars supported in diagonal rows by such lattice work and presenting diagonal air passages between them and extending from one side to another of the tower and means for supplying the water to be cooled to the top of such tower, substantially as set forth.
7. A water cooling tower comprising a pair of interlaced wire lattice work frames, a plurality of serating and cooling bars supported in diagonal rows by such lattice work and presenting diagonal passages between them and extending from one side to another of the tower and means for supplying the water to be cooled to the top of such tower, substantially as described and for the purrose set forth.
8. In a water cooling tower the combination with a plurality of aerating and cooling devices, of a water distributing device supported above the said aerating and cooling devices and comprising a horizontal member h.iving a plurality of apertures, and valvular devices controlling such apertures, substantially as described and for the purpose set forth.
9. In a water cooling tower the combination with a plurality of aerating and cooling devices, of a water distributing platform supported above the sald aerating and cooling devices and having a plurality of crevices. and a plurality of angle irons supported in valvular relation to the crevices. substantially as described and for the purpose set forth.
10. In a water cooling tower the combination with a plurality of aerating and cooling bars each presenting an angular apex extending throughout its length, of a water distributing platform made up of a series of separated boards with the spaces therebetween located over the apices of the bars, and means dividing the water falling through such spaces and causing the same to fall upon opposite sides of the said apices, substantially as described and for the purpose set forth.
11. In a water cooling tower the combination with a plurality of aerating and cooling bars each presenting an angular apex extending throughout its length, of a water distributing platform made up of a series of separated boards with the spaces therebetween located over the apices of the bars, and means dividing the water falling through such spaces and causing the same to fall upon opposite sides of the said apieces, and means maintaining such division during the fall of the water throughout the tower, substantially as described and for the purpose set forth.
12. In a water cooling tower the combination with a plurality of serating and cooling bars each presenting an angular apex extending throughout its length, of a water distributing platform made up of a series of separated boards with the spaces therebetween located over the apices of the bars, and angle irons dividing the water falling through such spaces and causing the same to fall upon opposite sides of the said apices, and means maintaining such division during the fall of the water throughout the tower, substantially as described and for the purpose set forth.
13. A water cooling tower comprising a pair of wire lattice work frames, a plurality of aerating and cooling bars supported by such lattice work and each presenting a longitudinal apex of angular cross section, the sides of each bar converging downwardly and the lower ends thereof being separated by an upwardly extending recess, a water distributing platform supported above the said bars and having a plurality of crevices parallel to and in vertical line with the bars, a plurality of angle irons, and means supporting such angle irons in valvular relation to the said crevices, substantially as described and for the purpose set forth.
14. A water cooling tower comprising a pair of wire lattice work frames, a plurality of aerating and cooling bars supported by such lattice work and each presenting a longitudinal apex of angular cross section, the sides of each bar converging downwardly and the lower ends thereof being separated by an upwardly extending recess, a water distributing platform supported above the sald bars and having a plurality of crevices parallel to and in vertical line with the bars. a plurality of angle irons, and adjustable means supporting such angle írons in valvular reiation to the said crevices, substantially as described and for the purpose set forth.

No. 100,620. Vegetable Boiler. Bouillotre pour légumes.


Alice Maud Ham, Kent, Washington, U.S.A., 28th August. 1906; 6 years. Filed 8th August, 196. \(R\) ceipt No. 138,481.
Claim.-1. A receptacle for boiling vegetables comprising a body nortion having a nose, a rack having longi udinal slots therein, the upper end of the rack having oppositely projecting arms which are pivotally mounted in apertures in the wall of the receptacle, with a space intervening between said rack and the entrance to the spout. sail rack adapted to swing within the receptacle with its lower end a slight distance above the bottom of the latter, as set forth.
2. \(\Lambda\) receptacle for bolling vegetables comprising a body portion having a nose, a rack having longitudinal slots therein, the upper end of the rack having opposite'y projecting arms which are pivotally mounted in aperture; in the wall of the receptacle, with a space intervening between sald rack and the entrance to the spout, said rack atlipted to swing within the receptacle with its lower end a slight distance above the bottom of the latter. a \(c\) ver. anl a strap fastened over the top of the receptacle and adipted to hold the forward edge of the cover to the receptacle, as set forth.
3. A recoptacle for boiling vegetables comprising a body portion having a nose, a rack having longitudinal projecting arms which are pivotally mounted in apertures in the wall of the receptacle, with a space intervening between said rack and the entrance to the spout, sald rack adapted to swing within the receptacle with its lower end a slight distance above the bottom of the latter, a cover, a strap fastened over the top of the receptacle and adapted to hold the forward edge of the cover to the receptacle, a loop secured to the kettle, an eye upon the cover over which said loop engages, a key passing through sald eye, and a handle for tilting the receptacle, as set forth.

\section*{No. 100,621. Portable Honse. Maison portative.}


James E. Walker, Los Angeles, California, U.S.A., 28th August, 1906; 6 years. Filed 26th July, 1906. Receipt No. 138,172
Claim.-1. In a portable house, a bent including a cross sill, uprights connected therewith, rafters supported by the uprights, a casting connecting said rafters, and cross team or nlate members connected with the upper ends of the posts and supported by an intermediate casting suspended from the cap casting.
2. A cross beam or sill having bevelled ends and provided with clips extending beyond sald ends. posts insertible into the clips and having bevelled recesses engaging the bevelled ends of the cross piece, and connecting wedges.
3. A cross piece, uprights connectizd with the ends thereof, castings supported upon said uprights and having inclined sleeves, and rafters fitted in sald sleeves and having abutting ends.
4. A cross plece, uprights at the ends thereof, connecting members supported upon said uprights and inclining inclined slecves and recesses having laterally exteuding brackot plates, a ridge cap, rafters extending through the sloeves and into the ridge cap, a rod depending from the latter, a supporting member connected with sald rod and having supporting brackets and flanged guard members, and cross beams supported at the outer ends in the recesses of the connecting members and the upper end of the posts and provided near their inner ends with grooves engaging the llanged guards of the supporting member.
5. A cross piece, uprights connected detachably with the ends thereof. connecting members supported upon the uprights and having inclined sleeves, a cap member, and rafters engaging said sleeves and cay member, the sald rafters being provided with recesses forming shoulders abutting upon the slecves and cap members.
6. In a portable building. bents each including a cross piece, uprights supported at the ends thereof, connecting members supported upon said uprights and including inellned sleeves, recesses having laterally extending brackets and laterally extending supporting flanges having llanged guards at the ends thereof, inclined cap members having laterally cxtending supporting flanges and flanged guards at the sides thereof, rafters engaging the inclined sleeves of the connccting members and the cap members, rods depending from the latter cruciform supporting member connected with said rods and provided with pairs of flanged guards ugon the four sides thereof. and cross momb ra having prooves engaging oppositely disposed llanged guards of said supporting members and supported at their outer conds in the rocesses of the connecting members at the outer ehils of the posts, in combination with side plate memb res, ridge beam members and longltudinal stringer members. 1 ich having grooves near the ends thereof engaging flanged guards of the connecting members. the ca! beam members and the cruciform supporting members respectively.
7. A nortable building in which a plurality of bents are connected by stringer beams, cap beam members and longitudinal ridge beam members detachably conneected with said bents.
8. In a portable building having rafters projecting beyond the side walls, a flexlble rool provided at the edges thereof with fo!ds having s'its for the admission of the ends of the rafters.
9. In a portable building having rafters extending beyond the end walls and provided with recesses in their upper sides at the outer ends thereof, a flexible roof having folds provided with stiffening members to engage the recesses in the rafters and provided with tucks adapted for connection with the side plates of the building.
10. In a portable building having rafters extending beyond the side walls thereof to form eaves, a flexible roof having folds provided with slits for the reception of the ends of the rafters, and tucks for engagement with the side plates.
11. In a portable building having rafters extended beyond the side walls to form eaves and provided with cornice members at the gable ends, a Hexible roof having side and end folds grovided with stiffening members and with slits for the admission of the ends of the rafters and of the cornice members. stiffening members supported in sait folis for engagement with the rafters and cornice members, and tucks provided with eyelets for the temporary attachment of the roof.
12. In a portable bui!ding, cross pieces provided with clips at the ends thereof, uprights engaging said clips and having recesses at their lower ends, side plates, flexible side walls attached to said side plates provided with seams at their lower edges, stiffening members in said seams engaging their recesses at the lower ends of the posts or uprights and wedges engaging the clips at the ends of the cross pieces to secure the uprights and the stiffening members at the lower ends of the side walls.

No. 100,622. Portable House. Maison portative.


Edwin C. Mahony, Vancouver, British Columbia, Canada, 28th August, 1906: 6 years. Filed 17th July, 1906. Receipt No. 137,928.
Claim.-1, As a portable house, a base sill constructed of a water table on the outside, an intermediate distance piece kaving spaces for the reception of the studs of the wall frame and an inner portion forming a joist rest; the three parts of the sill being bolted together, wall frame studs socketed in the sill, said studs rebated on the adjacent sides from the inner side to receive wall sections, wall sections each composed of section studs rabetted on the outer side to receive ar outer facing of rustic or clap boards, and having on the inner side a lining of tongue and groove boards, a door frame section adapted to fit the rabetted aperture between adjacent wall studs. cover boards secured to the inner sides of the wall frame studs, and a wall plate secured by eye bolts to the tops of the wall studs, said wall plate being rabetted to downwardly overlap the outside of the wall sections and notched to receive the roof rafters.
2. In a portable house having a built-up sill in which wall studs are socketed and wall sections fitting the spaces between such studs, a wall plate secured by eye bolts on the tops of the wall studs, said wall plate being notched to receive the roof rafters, a roof composed of ties resting on the wall plate and having rafters secured thereto, said rafters notched to rest upon the wall plate and project beyoud the wall, each of said rafters longitudinally grooved to receive a tongued dividing rafter leaving a roof section seat on each sue of the dividing rafler and having a drain groove inewn each section seat, a ridge timber having dowel pins through it adapted to enter dowel holes in the upper end of each rafter, the upper edge of which ridge timber is bevelled \(t\), the pitch of the roof, roof sections each composed of section rafters and a lower end cross rall over which section rafter and rail are secured shiplap boards having an outer covering of water shedding material such as painted canvas or ruhberoid, cover boards secured to the upper side of tine ridge timber and projecting over the outer surface of the roof sections and cover boards secured to the divisional rafter and projecting over the upper surface of the roof sections, zaid cover boards being throated on the under side of such overlap.
3. In a portable house having a built-up sill in which wall studs are socketed and wall sections fitting the spaces \(b\) ? tween such studs, window sections comprising section studs the lateral thickness of which partly fits the rebate in the wall studs and a window frame fitting the remainder of the wall stud rebate.

No. 100,623. Cement Block Making Machine.
Machine à faive des blocs de ciment.


Moses Crogan, Sarnia, Ontario, Canada, 28th August, 1906; 6
years. Filed 13th July, 1906. Receipt No. 137,770.
Claim.-1. In a cement block machinc the combination of a mould having an opening in its bottom for the passage of a core, a core support vertically movable on the frame of the mchine, a roller centrally journalled under the core support, a shaft journalled on the frame of the machine, an arm secured to the shaft and provided with a curved slot engaging the roller, and a hand lever secured to the shaft, substantially as described.
2. In a cement block machine the combination of a mould having an opening in its bottom for the passage of a core, a core support vertically movable on the frame of the machine. a roller centrally journalled under the core support, a shaft journalled on the frame of the machine, an arm secured to the shaft and provided with a curved slot engaging the roller, a hand lever secured to the shaft, a second arm secured to the shaft, and a counterbalancing weight on said arm, substantially as described.

\section*{No. 100,624. Band Cutter and Feeder. Coupe-hart et alimentateur.}

Samuel Dunkelberger, Newton, Kansas, U.S.A., 28th August, 1906; 6 years. FHled 9th July, 1906. Receipt No. 137,664.
Claim.-1. In a band cutter and feeder, the combination with a driving shaft, of a separate driven shaft, friction dises carried by the shafts and disposed in overlapping relation, one of said discs being movable toward and from the other, a yielding pressure device for urging the movable disc toward said other disc, a longitudinally movable support located transversely of the shafts and having a swinging movement on its longitudinal axis, a friction wheel journalled on the support and swinging therewith, being interposed be-
tween and having frictional engagement with the dises, said wheel having its axis disposed in angular relation to the axis

of the discs and being urged into frictional engagement with one of the discs by pressure against it of the spring pressed niovable disc, a conveyer driven from the driven shaft, and means located over the conveyer for moving the friction wheel toward and away from the axes of the shafts.
2. In a band cutter and feeder, the combination with' ;a suitable frame, of a bracket secured to one side of the frame, gubstantially parallel shafts arranged between and journalled tpon the bracket and frame, friction discs carried by the shifts, means for untring one of said shafts, a conveyer having a connection with the other shaft, a longitudinally movable supporting rod arranged in a plane between the discs and carrying a depending journal, a friction wheel mounted on the fournal and having frictional engagements with the discs, a rock shaft journalled over the conveyer and having a crank arm, adjustable connections between the crank arm and suppcrting rod, and depending arms secured to the rock shaft and disposed over the conveyer.
3. In a band cutter and feeder, the combination with a conveyer, of means for driving the conveyer, speed varying nechanism interposed between the driving means and the conveyer and connected therewith for securing the continuous movement of the conveyer at varying rates of speed, a novable actuating device for operating the speed varying mechanism located over the conveyer and having a connection with said mechanism, said device comprising depending spaced arms located over the conveyer in advance of its rear end and in the path of movement of abnormal amounts of grain carried thereby, and band cutting mechanism including gyratory knife bars carrying knives, certain of said knives operating between the arms downwardly in advance thereof and beneath the lower ends of sald arms and others having gyratory paths of movement in rear of the lower ends of the arms and directly adjacent to the rear end of the conveyer.
4. In a band cutter and feeder, the combination with a conveyer, of means for driving the conveyer, speed varying mechanism interposed between the driving means and the conveyer and connected therewith for securing a continuous movement of the conveyer at varying rates of speed, a movable actuating device for operating the speed varying mechanism, located over the conveyer and having a connection with said mechanism, said device comprising a rock shaft having a connection with the speed varying means, spaced depending rearwardly curved arms having their lower ends spaced above the conveyer in advance of its rear end. a crank shaft journalled above the lower ends of the arms, and gyratory knife bars connected with the crank shaft and having depending cutter blades, certain of said blades operating between the a.ms downwardly in advance of the same and beneath the lower ends of said arms in proximity to the conreyer, and others operating over the rear end of the conveyer entirely in rear of the arms.
5. In a band cutter and feeder the combination with a bed comprising an upwardly inclined front portion and a downwardly inclined rear portion forming an apex, of an endless conveyer apron movable over the downwardly and upwardly Inclined portions, means for driving the conveyer including speed varying mechanism, a float suspended above the conveyer and connected with the speed varying mechanism, said float holding downwardly and rearwardly inclined spaced arms extending over the apex of the bed, the lower ends of said arms being disposed above the downwardly inclined portion of the bed contiguous to its upper end, and band cutting mechanism supported above the lower ends of the float arms and Including cutters that move between the arms lownwardly in advance of the same and rearwardly at tho lower ends of said arms, said cutters extending over tho anex of the bed and co-operating with both the upwardly and downwardly inclined portions therenf,
6. In a band cutter and feeder the combination with a crank shaft. of a driving shaft geared to the crank shaft, a driven shaft disposed alongside the driving shaft, a conveyer including a shaft, a connection between the drlven shaft and conveyer including a clutch, a speed governor carried by the crank shaft for effecting the operation of the clutch, overlapping friction discs carried respectively by the driving and driven shafts, a friction wheel Interposed between and in frictional engagement with the adjacent faces of the discs said wheel being movable toward and from the axes of movement of the discs, means for effecting the movement of said friction wheel including a plurality of depending float arms disposed over the conveyer, and band cutting mechanism including gyratory cutter bars secured to the crank shaft and having knives operating through the spaces between and also below the depending arms.
7. In a band cutter and feeder the combination with a crank shaft, of bearing boxes journalled on the crank shaft, a bracket fixed to each bearing box and having spaced depending arms provlled with longitudinal slots, a pair of knife bars for cach bracket extending transversely of the arms. and bolts passing through the bars and through the slots in the arms for adjustably connecting the knife bars with the bearing boxes.
8. In a band cutter and feeder the combination with a conveyer belt having an upwardly inclined front portion and a downwardly inclined rear portion, of a threshing cylinder located in rear of. below, and spaced from the said down wardly inclined portion, a rotary retarding device journalled between the said downwardiy inclined portion of the belt and the threshing cylinder in soaced relation thereto and in substantial alignment therewith, and gyratory band cutting means operating over the conveyer belt and the retarder and having its near portion inclined downwardly to correspond substantially to the path of travel of the material over the rear portion of the belt and retarder, the front portion of said gyratory band cutting means being set at an inclination and operating over the upwardly inclined front portion of the conveyer belt.
9. In a band cutter and feeder the combination with a machine frame, of a conveyer platform extended upwardly and rearwardly and then downwardly and rearwardly, a conveyer travelling over said platform, a shaft above the plat form having a number of crank arms thereon extended in different directions, = jearing box on each crank arm, a bracket having slotted sides fixed to the under surface of each pair of blocks, a pair of knife bars for each pair of brackets extended longitudinally of the machine irame, their forward end portions being substantially horizontal and their rear ends inclined downwardly and rearwardly substantially parallel with the downwardly and rearwardly inclined portion of the platform, bolts passing through the bars and through the slots in the brackets for adjustably connecting the knife bars with the bearing blocks. one or more knife blades at the forward end of cach knifs bar, sald blades having smooth front edges substantially at rlght angles to the kn!fe bar and sharpened rear edges inclined downwardly and forwardly from the knife bar, a knife blade on each knife bar at a point substantially above the highest part of the platform, said knife having its edges tapered toward each other and both edges being sharpened, one or more knives on the downwardly and rearwardly inclined portion of each knife bar having smooth front cdges inclined downwardly and forwardly, and hangers for supporting the rear ends of each pair of knife bars.
10. In a band cutter and feeder the combination with a threahing cylinder, of a conveyer having a downwardly inclined rear end that is located in advance of the upper portion of the cyllnder, a shaft for operating the conveyer, a driving shaft, means for transmitting motion from the driving shaft to the conveyer shaft, a speed governor for varying the speed of the conveyer shaft with respect to that of the driving shaft while both are in motion, a rotary retarder located between the conveyer and cylinder, below the rear end of said conveyer and in advance of the upper portion of the cylinder, said retarder comprising a shaft extending transversely of the machine and rotating in the same direction as the conveyer, sald shaft having a number of outwardly projecting arms recelving the material from the conveyer and delivering it to the cylinder, means for operatively connecting the retarder with the conveger, and gyratory cutter bars extending over the conveyer and retarder.
11. In a band cutter and feeder the combination with a driving shaft, of a conveyer, a shaft for operating the conveyer, a float above the conveyer, a iriction wheel operatively connected with the colnveyer shaft, a small friction wheel in enogagement with the aforesaid iriction wheel and operatively connected with the driving shaft, and means controlled by the float for moving the small iriction wheel to and from the central porion of the large friction wheel for varying the speed of the conveyer shaft relative to that of the driving shaft while both are in motion. a retarder beneath the dis.
charge end of the conveyer comprising a shaft extending transversely of the machine and rotating in the same direction as the conveyer, said shaft having a number of outwardly projecting arms, and means for operatively connecting the retarder with the conveyer.
12. In a band cutter and feeder the combination with a threshing cylinder and concave, of a band cutter and feeder frame located at some distance above the concave, a curved board detachably connected to the concave at one end and detachably connected with the feeder frame, a flexible strip at its other end, an endless conveyer on the band cutter and feeder, said conveyer having cross pieces which during their return movement engage said flexible strip, a stationary cross plece above the lower portion of the conveyer, and a flexible strip thereon extending downwardly to engage the upper surface of the lower portion of the conveyer directly above the first-mentioned flexible strip.
13. In a band cutter and feeder the combination with a conveyer, of driving and driven shafts, a connection between the driven shaft and the conveyer, friction discs carried by the shafts, a friction wheel movable between and in frictional engagement with the discs, a movable support for the friction wheel, said driving and driven shafts being in the line of movement of the support, a roller bearing for the support, and a movable float located over the conveyer and having connections with the friction wheel support.
14. In a band cutter and feeder, the combination with a threshing cylinder, of a feeder bed arranged in advance of the cylinder and having a downwardly inclined rear end, a conveyer apron movable over the bed, a revoluble retarding device interposed between the rear end of the bed and the cylinder and having teeth located in proximity to the teeth of said cylinder, gyratory cutter bars having downwardly inclined rear portions that extend over the downwardly inclined portion of the bed and over the retarder, and cutter blades secured to the bars.
15. In a band cutter and feeder, the combination with a crank shaft, of bearing blocks journalled on the crank shaft, a bracket having slotted sides fixed to the under side of each bearing block, a pair of knife bars for each bracket, and bolts passing through the bars and through the slots in the bracket for adjustably connecting the knife bars with the bearing blocks.
16. In a band cutter and feeder, the combination with a bed provided with a front upwardly inclined portion and a rear downwardly inclined portion, forming at their adjacent ends an apex, of a conveyer belt movable over said bed, crank arms arranged substantially over the apex of said bed, links pivotally supported in rear of the crank arms, continuous rigid cutter bars having connections with the crank arms and links, said bars having intermediate bends disposed above the apex of the bed, and cutter blades secured to the bars, the lower ends of said blades being located in lines substantially parallel with the inclination of the bed.
17. In a band cutter and feeder, the combination with a bed provided with a front upwardly inclined portion and a rear downwardly inclined portion, forming at their adjacent ends an apex, of a conveyer belt movable over the upwardly and downwardly inclined portions of the bed, crank arms arranged subtantially over the apex of said bed, links pivotally supported in rear of the crank arms, continuous rigid outer bars having connections with the crank arms and links, said bars having intermediate bends at the crank arms and disposed above the apex of the bed, and cutter blades rigidly secured directly to the bars and located on opposite sides of the apex, the lower ends of said blades being located in lines substantially parallel with the inclination of the bed, and the blades in rear of the apex having cutting edges.
18. In a band cutter and feeder, the combination with a conveyer belt, of a threshing cylinder, a concave located in rear of and spaced from the belt, said cylinder having teeth, downwardly extending grain directing means bridging the space between the rear end of the conveyer and the concave, a rotary retarding device journalled between the belt and threshing cylinder and having rotary teeth, said rotary teeth co-acting directly with the teeth of the cylinder at the rear side of the retarder and delivering the material from the conveyer belt to the cylinder, and said retarder being disposed above the horizontal plane of the center of the cylinder and wholly above the grain directing means, and gyratory band cutting means having knives operating over the rear portion of the belt and over the retarder.

\section*{No. 100,625. Band Cutter and Feeder. Coupe-harts et alimentateur.}

Samuel Dunkelberger Newton, Kansas, U.S.A., 28 th August, 1906; 6 years. Filed 9th July, 1906. Receipt No. 137,668. Claim.-1. In a band cutter and feeder, the combination with a conveyer, of means for controlling the movement
of the conveyer including a rock shaft carrying a guide that is disposed transversely of said rock shaft, actuating me-

chanism for the rock shaft comprising straw engaging means adjustably movable on the guide toward and from the rock shaft, and means for securing the straw engaging means against its adjustable movement.
2. In a band cutter and feeder, the combination with a conveyer, of means for controlling the movement, of the conveyer including a rock shaft, a guide rod rigidly extending therefrom, straw engaging means adjustably movable on said guide rod toward and from the rock shaft, and means for securing the straw engaging means against such adjustable movement.
3. In a band cutter and feeder the combination with a conveyer, of band cutters operating at variable rates of mechanism for driving the conveyer at variable rates of speed, and means for effecting the movement of the said speed varying mechanism, said means including a straw actuated device movably suspended over the conveyer and having the band cutters operating therethrough and in advance thereof, said device being adjustable bodily toward and from the front end of the conveyer and the front limit of movement of the said band cutters.
4. In a band cutter and feeder, the combination with a conveyer, of gyratory band cutters operating over the conveyer and having fixed paths of movement, mechanism for driving the conveyer at variable rates of speed, and means for affecting the variation of the said speed varying mechanism, said means including a movable support located over the conveyer and connected to the speed varying mechanism, and a straw actuated device secured to the support, said device being bodily adjustable toward and from the support to vary its position with respect to the front limit of movement of the band cutters, said cutters operating through the said device and in advance thereof.
5. In a band cutter and feeder, the combination with a conveyer, of band cutting mechanism, and means for controlling the movement of the conveyer including a rock shaft located over said conveyer, and straw engaging means adjustably suspended from the rock shaft and movable toward and from the axis of movement thereof, said means being disposed over the conveyer and swinging toward and from said conveyer with said rock shaft as an axis of the swinging movement.
6. In a band cutter and feeder, the combination with a conveyer, of means for controlling the movement of the conveyer, said means including a rock shaft, swinging float arms adjustably suspended from the rock shaft, the axis of the swinging movement of said arms being coincident with the axis of the rock shaft, said arms being movable toward and from the rock shaft, and means for moving the arms toward and from the rock shaft.
7. In a band cutter and feeder, the combination with a conveyer, of means for controlling the movement of the conveyer, said means including a rock shaft having projecting guides, boxes slidably mounted on the guides, a crossbar necting the boxes, and float arms secured to the crossbar and suspended therefrom over the conveyer.
8. In a band cutter and feeder, the combination with a conveyer, of means for controlling the movement of the conveyer, said means including a rock shaft having projecting guides, boxes slidably mounted on the guides, a crossbar connecting the boxes, float arms secured to the crossbar and suspended therefrom over the conveyer, and means connecting the crossbar and rock shaft for relatively moving the same.
9. In a band cutter and feeder, the combination with an endless conveyer apron, of means for controlling the movement of the conveyer apron, said means including a rock shaft journalled thereover, guides secured to the rock shaft, a crossbar slidably supported on the guides, an adjusting screw connecting the crossbar and rock shaft, depending rearwardly extending float arms secured to the rock shaft, and gyratory band cutters operating between and in advance of the arms
10. In a band cutter and feeder, the combination with threshing mechanism, of a conveyer, a rotary retarding device disposed between the conveyer and threshing mechanism and located wholly in rear of the conveyer, said retarder comprising a shaft having projecting fingers, a guard interposed between the shaft and threshing mechanism and permitting the passage of the fingers, a support for the guard located in rear of the same and in rear of the lower portion of the retarder, the upper portion of the guard extending over the shaft and being spaced from said support, and spaced connections secured to the lower portion of the guard below said retarder shaft, said connections being spaced from the upper end of the guard to form an exit for the straw in rear of the retarder.
11. In a band cutter and feeder, the combination with threshing mechanism, of a conveyer, a rotary retarding device disposed between the conveyer and threshing mechanism and comprising a shaft having projecting fingers, a guard interposed between the shaft and threshing mechanism and com prising spaced plates permitting the passage of the fingers therebetween, sald plates having terminal hooks at their upper ends that engage over the shaft, and a support for the guard located on the opposite side of the shaft to said guard and having spaced connections with the plates, sald connections extending below the guard.
12. In a band cutter and feeder, the combination with a conveyer, of a revoluble retarding device located in rear of the conveyer and having projecting fingers, a supporting bar extending longitudinally of the retarding device, guard plates extending between the fingers, and brackets connecting the plates and the supporting bar.
13. In a band cutter and feeder, the combination with a conveyer, of a revoluble retarding device located in rear of the conveyer and comprising a shaft carrying radially disposed retarding fingers, a channel bar disposed longitudinally of the shaft, a plurality of guard plates extending beneath the shaft and having hooked portions at their upper ends that engage over the same between the fingers, and separate brackets connecting the channel bar and the lower end of the grard plates.
14. In a band cutter and feeder, the combination with a threshing cylinder, of a conveyer having its rear end spaced therefrom, a rotary retarding device located between the conveyer and cylinder, and spaced rearwardly projecting stationary teeth supported beneath the retarder and having their rear ends directly adjacent to the cylinder.
15. In a band cutter and feeder the combination with a conveyer, of a revoluble retarding device located in rear of the conveyer, a guard extending over the retarder, supporting means for the guard, and rearwardly projecting teeth disposed below the retarder and securing the guard to the supporting means.
16. In a band cutter and feeder the combination with a conveyer, of a retarder shaft disposed in rear of the conveyer and having radially disposed fingers, a guard comprising plates that extend between the fingers, brackets having their icwer ends disposed contiguous to the lower ends of the plates, and rearwardly projecting teeth arranged at the lower ends of the plates and comprising means for securing said plates to the brackets.
17. In a band cutter and feeder the combination with threshing mechanism, of a feeding conveyer therefor, driving means for the conveyer including a clutch having a movable element, a detent for operating the movable element of the clutch to stop the conveyer, and means for holding sald detent in active position with respect to the movable element when the threshing mechanism is below a predetermined speed, sald means comprising a shaft, a loose member, another member fixed to the shaft, a jaw carried by the fixed member and having a friction roller that is movable into and out of engagement with the loose member, and a connection between the sald loose member and the operating means for the clutch element.
18. In a band cutter and feeder the combination with threshing mechanism, of a feeding conveyer therefor. drivIrg means for the conveyer including a clutch having a novable element, a detent for operating the movable eleneent of the clutch to stop the conveyer, means for holding said detent in active position with relation to the movable element when the threshing mechanism is below a predetermined speed, said means comprising a shaft driven from the threshing mechanism, a member loosely mounted on the shaft and having a bearing surface, another member
fixed to the shaft adjacent to the loose member, a jaw pivot c? upon the fixed member, a roller journalled on the free end of the jaw and movable into and out of engagement with the bearing surface of the loose member, and a spring bearing against the roller for resisting the rotation thereof.
19. In a band cutter and feeder the combination with threshing mechanism, of a feeding conveyer therefor, driving means for the conveyer including a clutch having a movable olement, a detent rod movable into and out of the path of movement of said movable element for operating the same to stop the conveyer, and means for moving the rod into said path of movement when the threshing mechanism is below a predetermined speed, said means comprising a shaft driven from the threshing mechanism, a member loosely journalled on the shaft and having a connection with the detent rod. said loose member also having an annular flange, another member fixed to the shaft, oppositely disposed jaws pivoted to the fixed member, a yoke connecting the jaws, rollers journalled on the free ends of the jaws and movable into and out of engagement with the flange of the loose member, and coiled springs bearing against the rollers for resisting the movement of the same when in engagement with said nange.
20. In a band cutter and feeder the combination with a driving shaft operating in one direction, means for driving the shaft, of a conveyer shaft operating in an opposite direction, a disc loosely journalled on the shaft and having an operative connection with the other shaft, another disc fixed to the shaft carrying the loose disc. a friction wheel located between the discs and capable of a swinging movement on an axls transverscly of its axis of rotation to move its perlphery toward and from the peripheries of the disc, a conveyer operated by the conveyer shaft, and a straw actuated float movably located over the conveyer and having a connection with the friction wheel.
21. In a band cutter and feeder the combination with a driving shaft operating in one direction, of a conveyer shaft operating in an opposite direction, means for actuating the Criving shaft, a friction disc fixed to the driving shaft. another dise loosely journalled on said shaft and having a geared connection with the conveyer shaft, a friction wheel located between the discs and capable of a swinging movement on an axis transversely of the axis of rotation to move its periphery toward and from the peripheries of the discs a conveyer belt passing about the conveyer shaft and driven thereby. and a stray actuating float movably located over the conveyer belt and actuated by an abnormal amount of grain thereon, said float having a connection with the friction wheel for swinging the same.
22. In a band cutter and fecter the combination with a driving shaft of a conveyer, a friction disc secured to the driving shaft, a loosely journalled friction disc having a rub, gear connections between the hub and the convoyer shaft, a friction wheel Interposed between the discs and having peripheral engagements with both. sald friction wheel bring capable of oscillation on an axis transversely of its axis of rotation, a conveyer driven by the conveyer shaft and a straw actuated float movably located over the conveyer and having a connection with the friction wheel to osclllate the same.
23. In a band cutter and feeder the combination with a driving shaft, of a conveyer shaft, a friction disc secured to the driving shaft, another friction disc loosely journalled on the driving shaft and having a hub. a sprocket whee carried by the hub and located between the discs. a sprocke chain conncction with sald sprocket wheel and the conveyer shaft, a conveyer operated by the conveyer shaft, a straw actuated float movably located over the conveyer, a friction wheel having a peripheral engagement with the discs and located between the same, said wheel having a swinging movement transversely of the axis of rotation and having an operative connection with the float.
24. In a band cutter and feeder the combination with a suitable frame, of a conveyer, means for driving the same including speed varying mechanism, said mechanism having rock stems, the movement of which stems changes the speed of the mechanism, supports for said stems carried by the frame, a connection between the stems, friction wheels car ried by the stems, a straw actuated float movably located over the conveyer and an extensible connection between the float and stem, said connection being adjustable toward and from one of the stems for varying the amount of movement of said stems upon a predetermined movement of the float.
25. In a band cutter and feeder the combination with a conveyer of means for driving the same including speed varying mechanism, said mechanism having rock stems, the movement of which stems varies the sperd of said mechan ism. journal supports for the rock stems. friction wheels carrled by the stems, said stems being provided with oppositely extending arms, a connection between the arms, another arm carried by one of the stems, a straw actuated float movably located over the conveyer and a link having a connection with the last-mentioned arm and adjustable
thereon toward and from the stem to vary the movement of the stephs with respect to the movement of the float.
26. In a band cutter and feeder the combination with a machine frame, of a conveyer, means for driving the same including speed varying mechanism, said mechanism having rock stems, the movement of which stem varies the speed of the mechanism, journal sleeves for the rock stems mounted on the frame, a connection between the stems, an arm carried by one of the stems and having a longitudinally disposed slot, friction wheels carried by the rock stems, a swinging straw actuated float located over the conveyer, an extonsible link connected to the float and an adjustable connection between the link and arm. said connection being adjustable in the slot thereof and varying the movement of the arm with respect to the movement of the float.
\(\because-\). In a band cutter and feeder the combination with a threshing cylinder, of a conveger therefor having its rear portion spaced from the cylinder, a rotary retarder located in the space between the conveyrr and eylinder, gyratory euther hars located and operating over the rear portion of the conveycr, the retarder and the cylinder, a rock shaft journalled over the cutter bars and deflector tines depending from the rock shaft and extending rearwardly and downwardly between the cutter bars and over the retarder and cylinder.
2s. In a band cutter and feeder the combination with a casing. of a threshing cylinder, a conveyer for feeding material to the threshing cylinder, means for varying the speed of the conveyer, said means including a float having dopending spaced arms, a deflector comprising a rock shaft fournalled transversely in the casing and having downwardly extendin.s spaced tines. the lower ends of which are located adfacent to the cylinder, means for sccuring the rock shaft against movement and in different positions, gyratory knife hars operating between the tines and the float bars and having depending cutter blades. a crank shaft connected with the knife bars and located betwern the float arms and tines, and suspending links connected to the rear ends or the knife bars in rear of the tines.
\(\because 4\). In a band cutter and feeder the combination with a conveyer, of a driving shaft driving and driven elements mounted on the shaft, connections between the said elements for affecting the relative variable movements thereof mans for moving the connections to vary the relative movements of the driving and driven clements, connections between the driven element and conveyer including a clutch and means mounted on the driving shaft for effecting the movement of the clutch.
30. In a band cutter and feeder the combination with a conveyer, of a driving shaft. driving and driven elements mounted on the shaft. said driving element being fixed to the shaft, the driven element being loose thereon, connections betwren said elements for effecting the relative variable movement thereof, connections between the driven element and the conveyer, including a cluteh, a device for operating the clutch and a centrifugal governor mounted on the shaft and connected to the device for operating said clutch.
31. In a band cutter and feeder the combination with a conveyer, of a driving shaft, a driving element fixed upon the shaft, a driven element, means interposed between the elements for effecting the relative variable movement thereof, connections between the driven element and the conveyer including a clutch, and a governor for operating the cluteh, said governor including elements mounted on and operated by the said driving element.
32. In a band cutter and feeder the combination with a conveyer, of a driving shaft, a driving element flxed upon the shaft, a driven element means interposed between the clements for effecting the relative variable movement thereof, connections between the driven element and the conveyer including a clutch, and a governor for operating the clutch. said governor including centrifugal arms mounted on and rotatable with the driving element.
33. In a band cutter and feeder the combination with a conveyer, of a driving shaft, a driving element secured to the shaft, a driven element revolubly mounted on the shaft at one side of the driving element, means interposed between the elements for moving the same at variable speeds, connections between the driven eloment and the conveyer including a clutch, a governor element looscly mounted on the shaft on the side of the driving element opposite the loosely mounted driven element. centrifugally operated means carried by the driving element and co-acting with the loose governor element, and means operated by the said loose governor eloment for actuating the clutch.
34. In a band cutter and fecter the combination with a conveycr. of a threshing eylinder located in rear of the same, a rotarv retarder located hetween the conveyer and threshing cylinder, and a deflector frame comprising a crossbar, a plurality of guard platos that co-art with the retarder and brawes robwting the guard plates and erosshar, sad braces having shanks that are curved upwardly toward the rotary retarder.
35. In a band cutter and feeder the combination with a conveyer, of a threshing cylinder, a rotary retarder having radially disposed fingers located between the conveyer and threshing cylinder, a plurality of guard plates having hooked upper ends engaging over the retarder, the spaces between the plates being of sufficient width to permit the passage of the fingers and braces connected to the lower ends of the plates beneath the retarder, sald braces being narrower than the plates.
36. In a band cutter and feeder the combination with a conveyer, of means for controlling the movement of the conveyer, including a swinging support, a crossbar swinging with the support and adjustable upon the same toward and from its axis of movement, and a grain actuated float suspended from the crossbar and adjustable with the same, said float being located over the conveyer and actuated by an abnormal amount of grain carried thereon.
37. In a band cutter and fceder the combination with a conveyer, of a driving shaft, a friction dise tight upon the shaft, a friction disc loose upon the shaft, a friction wheel interposed between the discs, a float located over the conveyer and having conncctions with the friction wheel, a conveyer shaft, connections between the loose disc and conveyer shaft including a clutch, and a speed governor including an actuating device for the clutch mounted on the shaft and means for engaying and moving the actuating device, said means being carried by the fixed friction disc.
38. In a band cutter and feeder the combination with a conveyer, of a driving shaft, a friction disc tight on the shaft, a friction disc loose on the shaft, a friction wheel interposed between the discs, a float located over the conveyer and having connections with the friction wheel, a conveyer shaft, a clutch mounted on the shaft and including a sprocket wherl loose thereon, a chain connecting said sprocket wheel and loose friction dise, and a speed governor including an actuating device for the clutch mounted on the shaft and centrifugally operated arms co-acting with the actuating device and carried by the fixed disc.

No. 100,626. Device for Moistening and Delivering Gummed Binding Tape.
1phareil ì humerter it distrilnuer le ruban gommé pour border.


Henry Pitt Roberts. Boston, Massachuetts, U.S.A., 28th August. 1!06; 6 years. Filed 28th May, 1906. Recejpt No. \(136,315\).
Claim.-1. In a tape moistener, a holder for a gummed roll of tape, an adjustable tension device restraining rotation of the roll of tape, a series of fixed guides for the tape in its line of fecd, a pan, an absorbent pad in the pan, a carrying frame pivoted on the pan, a moistening roll normally resting on the pad pivoted at one end of the carrying frame. a bight of the tape leading from a fixed guide, passing over the opposite end of the carrying frame and leading to another fixed guixle. a bracket to hold the tape normally clear of the moistioning roll, and a cutter to position the tape' above the roll and to sever the tape when moistened, substantially as deseribed.
2. In a tape moistrner, a holder for a gummed roll of tape, and a frictional let-off therefor combined with a movable moistening roll. means to sever the portion moistened and means to support the loose end clear of the said roll, substantially as described.
3. In a tape moistener the combination with a pan, an absorbent pad in the pan, and a moistening roll yicldingly pressed against the pad, of devices to support gummed tape above the moistening roll and means to move the roll from the absorbent padinto contact with the gummed side of the tape. substantially as described.
4. In a tape moistener, a pan containing an absorbent pad, and a moistening roll in yielding contact with the pad, combined with devices to guide and support a strip of gummed tape, and means to remove the moistening roll from the pad to touch the said roll to the tape when the tape is pulled. substantially as described.
5. In a tape moistener in combination, means for restraining, directing the positioning a strip of gummed tape, a movable molstening roll, and means actuated by said roll for separating the end of the tape and the surface of the roll after the tape has been fed and severed.
6. In a tape moistener the combination with means to restrain, guide and position a strip of gummed tape, of a movable moistening roll and mechanism connecting the tape with the roll, such that varying feeding stress in the tape will chango the position of the moistening roll with relation to the tape, substantially as described.

No. 100,627. Life Preserver. Ceinture de satuetage.


Laughlin James O'Shaughnessy, Halifax, Nova Scotia, Canada, 28th August, 1906 ; 6 years. Filed 3rd May, 1906. Receipt No. 135,519.

Claim.-1. A life preserver comprising the combination of a neck band, a body band, a band connecting the neck and body bands and a plurality of inflated receptacles carried by the neck band.
2. In a life preserver the combination comprising a neck band of non-elastic material, a body band of elastic material, a connecting band connecting said neck and body bands and a plurality of receptacles carried by the neck band.
3. In a life preserver the combination comprising a neck band provided with means for securing its ends together. an elastic body band provided with means for securing its ends together, means for securing the neck and body bands together, and a plurality of inflated receptacles carried by the neek band.
4. In a life preserver the combination comprising a horizontally disposed inflated receptacle, a pair of vertically disposed inflated receptacles provided with pointed ends, and means for securing the receptacles to the body of the wearer.
5. In a life preserver the combination comprising a horizontally disposed convex ended inflated receptacle, means for securing the receptacle to the back of the wearer. a plurality of pointed ended vertically arranged inflated receptacles, and means for securing the latter receptacles adjacent the front position of the body of a wearer.
6. In a life preserver the combination comprising a neck band, a plurality of inflated receptacles carried by the neck band, loops secured to some of the receptacles, an elastic band disposed through the loops and provided with fastening means on its ends and a non-elastic member adapted to secure the neck and body bands together.

\section*{No. 100,628. Oil Lamp. Lampe à huile.}

Thomas Samuel Tarling, 17 Tess Road, Fleetville, St. Albans, Hertford. England, 28th August, 1906; 6 years. Filed 17th April, 1906. Receipt No. 134,476.
Claim.-In a lamp the combination of the lamp body, a burner support secured to the top of sald body, said burner support being provided with a stationary guard plate, spring operated rods passing through said guard plate, extinguishing devices carried by the upper parts of said rods, springs located beneath said guard plate and surrounding said rods, a support for said springs, a weighted rod centrally located in sald lamp and carrying a portion adapted to engage with
said support, normally preventing its downward movement, and a part adapted to engage the hand of the operator and

prevent the movement of said rod when the lamp is moved in the ordinary manner, substantially as described.

No. 100,629. Abdominal Corset. Corset abdominal.


Charles Munter, New York City, New York, U.S.A., 28th August, 1906; 6 years. Filed 17:h April, 1906. Receipt No. \(134,9 \mathrm{~s} 2\).
Claim.-An abdominal corset constructed of pliable material and adapted to conform to the shape of the waist, abdon:en and hips of the wearer, and comprising a body section having a stay at one edge and a rear inturmediate scetion having a stay in its edge opposite to the other stay, said stays being provided with relnasable fastening deviees, and said body section and intermediate section each having parallel stays at its other edge, with a row of eyelets threrebtween, and independent laces passed betwren corresponding eyelets, crossed and given an upward direction to the waist line at the front portion, stid laces being brought together and provided at their ends with tabs having hooks adaptrd to engage with eyes located on said body section at the upper end or waist portion of the corset. vhereby the tendracy is to lift the parts enclosed upwardy and at the same time compress sald parts.

\section*{No. 100,630: Floor Dressing Machine.}

Marhine a polir les planchers.
Cyra Bissel Wattles, Providence, Fhode Island, U.S.A., 2sth August. 190t; 6 years. Filed 10th April, 190f. Receipt No. 134,507 .
Claim.-1. The combination with a floor dressing machine having a frame, a handle pivotally secured to the frame. wheels rotatably sceured to the frame, a dressing roll rotatably seeured in bearings in the frame, a motor serured to the frame and means for operatively conrecting the motor with the dresing roll to ravolve the roll. or means for allomatically collowting and holling the dast ralused by the abrasive action of the dressing roll on a floor. 2. A floor dressing machine comprising a frathe, a handle powtally secured to the frame. wherls rotatably securad to the frame, a dressing roll rotatably secured in bearings is the frame, a motor serured to the frame. means for operatively connecting the motor with the dressink roll to revolve the roll, a fan operatively connected with the motor, a dust receptacle, and means for operatively connecting the
fan with the dressing roll and the dust receptacle whereby dust caused by the abrasive action of the dressing

roll on a floor is collected adjacent the dressing roll and deposited in the dust receptacle.
3. A floor dressing machine comprising a frame, a handle pivotally secured to the frame, wheels rotatably secured to the frame, a dressing roll rotatably secured in bearings in the frame, a motor secured to the frame, means for operatively connecting the motor with the dressing roll to revelve the roll, a fan operatively connected with the motor, a easing inclosing the fan and having the inlet and outlet ojenings, a hood adapted to cover the dressing roll, a pipe connecting the hood with the inlet opening of the fan casing, a dust receptacle in the form of a bag made of burlap or similar fabric, and a pipe connecting the dust receptacle with the outlet opening of the fan casing, whereby dust caused by the abrasive action of the dressing roll on a floor is caught by the hood, sucked up through the pipe by the fan and forced through the fan casing and the pipe into the dust receptacle, as described
4. The combination with a floor dressing machine, of a fan \(k\) operatively connected with the motor of the machine, a casing \(l\) adapted to inclose the fan and having the inlet opening \(l^{1}\) and the outlet opening \(l^{2}\), a hood \(m\) secured to the frame of the machine over the dressing roll, and having the outlet opening \(m^{1}\), a pipe \(n\) connecting the outlet opening \(m^{1}\) of the hood with the inlet opening \(l^{1}\) of the fan casing, a dust receptacle \(o\) in the form of a bag constructed of burlap or similar fabric and shaped to have the constructed mouth \(o^{1}\), a pipe \(p\) connected with the mouth \(o^{1}\) of the dust receptacle and the outlet opening \(l^{2}\) of the fan casing, and means for removably securing the dust receptacle o to the machine, as described.
5. In a floor dressing machine the combination of a frame \(a\), a handle \(b\) pivotally secured to the frame, wheels c crotatably secured to the frame, a motor \(e\) secured to the frame, a dressing roll shaft \(f\) rotatably secured in bearings in the fiame, a dressing roll \(g\) secured to the shaft, a sheet of abrasive material \(h\) secured to the dressing roll, means for operatively connecting the motor with the dressing roll shaft \(f\), a fan \(k\) operatively connected with the motor \(o\), a casing \(l\) adapted to inclose the fan and having the inlet opening \(l\) and the outlet opening \(l^{2}\), a hood \(m\) secured to the frame \(a\) over the dressing roll \(g\) and having the outlet opening \(m^{3}\), a pipe \(n\) connecting the outlet opening \(m^{1}\) of the hood with the inlet opening \(l^{1}\) of the fan casing, a dust receptacle \(o\) in the form of a bag constructed of burlap or similar material and shaped to have the contracted mouth \(o^{1}\), a pipe conuected with the mouth \(o^{1}\) of the dust receptacle and the outlet opening \(l^{2}\) of the fan casing, and means for removably securing the dust receptacle \(o\) to the handle \(b\), as described.

\section*{No. 100,631. Rotary Engine. Machine rotatoire.}

Daniel B. Stalker, Hot Springs, Arkansas, U.S.A., 23 th Aug ust, \(1906 ; 6\) years. Filed 7th April, 1906. Receipt No. 134,722.
Claim.-1. In a rotary engine, a fixed hub having live steam and exhaust ports therein, said hub having a cross slot., a slidable valve mounted in said slot, a revoluble cylinder having a passage extending part way around the hub within said cylinder, said passage ending in a shoulder, means to reciprocate said slidable valve, and means to place said live steam in communication with said passage.
2. In a rotary engine, a fixed hub having live steam and exhaust ports therein, said hub having a cross slot, a slidable valve mounted in said slot, a revoluble cylinder having an eccentric passage ending with a pocket mounted around said hub, and means to place said live steam ports alternately into communication with said eccentric passage.
3. In a rotary engine, a fixed hub having live steam and exhaust ports therein, said hub having a cross slot, a

slidable valve mounted in said slot, a revoluble cylinder having an eccentric passage ending in a pocket mounted around said hub, an exhaust passage communicating with said exhaust ports, means to place said live steam ports alternately into communication with said passage and means to place said exhaust ports alternately into communication with said passage.
4. In a rotary engine, a fixed hub having live steam and exhaust ports therein, said hub having a cross slot, a slidable valve mounted in said slot, a revoluble cylinder having an eccentric passage ending in a pocket mounted around said hub, an exhaust passage communicating with said exhaust ports said valve having means to place said live steam ports, alternately into communication with said eccentric passage, and means to place said exhaust ports alternately into communication with said passage
5 . In a rotary engine, a fixed hub having live steam and exhaust ports therein, said hub having a cross slot a slidable valve mounted in said slot, a revoluble cylinder having an eccentric passage ending in a pocket at each end each pocket opening toward the passage, said valve hav ing means to place said live steam ports alternately into communication with said eccentric passage, and means to convert said live steam ports into exhaust ports and vice versa, whereby the engine may be reversed.
6. In a rotary engine, a fixed hub having live steam and exhaust ports therein, said hub having a cross slot and pas sages from said live steam and exhaust ports to said slot, a slidable valve mounted in said slot, said valve having re cesses or cavities on both faces opposite said passage, a cylinder having an interior cut-out portion forming a pas sage between said hub and cylinder, said cylinder having an interior shoulder and means to reciprocate said valve whereby the live steam ports are alternately placed in communication with the passage between said cylinder and hub
7. In a rotary engine, a fixed hub having live steam and exhaust ports therein, said hub having a cross slot and pas sages from said live steam and exhaust ports to said slot a slidable valve mounted in said slot, said slot having re cesses or cavities on both faces opposite said passages, a cylinder having an interior eccentric cut-out portion form ing a passage between said hub and cylinder, said lastnamed passage ending in a pocket, said sliding valve adapt cd to be reciprocated by the eccentric form of said passage and said live steam ports alternately placed into communi cation with said eccentric passage.
8. In a rotary engine, a fixed hub having four ports, a cross slot, yassages connecting each of said ports with said slot and an exhaust passage connecting with an other central nort, a steam chest arranged at the opening of said ports, a reversing valve having a passage therein adapted to cover either pair of diametrically opposite ports and place them in communication with the exhaust passage a slidable valve mounted in said cross slot, a revoluble cylinder having an eccentric cut-out portion ending in a pocket between said hub and cylinder, and means to place said live steam ports alternately into engagement with said last-mentioned passage.
9. In a rotary engine, a fixed hub having a cross slot, a slidable valve mounted in said slot, said valve having re cesses or cavities in each of its faces separated by pack ing strips, a rotary cylinder mounted around said hub and having an eccentric inner surface adapted to reciprocate said valve, said hub having live steam and exhaust ports adapt ed to be alternately placed into communication with the interior of the cylinder by way of the recess in said valve and said cylinder having pockets for the steain whereby said cylinder is rotated.

Ne. 100,63R. Mould for Rubber Soles. Moule pour semelles en caoutchove.


Thomas Miller, Auburn, Rhode Island, U.S.A., 28th August, 1906; 6 years. Filed 23rd March, 1906. Receipt No. 134,186.
Claim.-1. In a device of the character described, a mould adapted to form the heel, sole and foxing portion of a shoe from rubber or other elastic material, means for applying heat to said mould for vulcanizing its contents, means for applying pressure to said mould while vulcanizing, and means for causing resistance to the plastic material so the same will be forced into the pores of the upper.
2. In a device of the character described, a mould adapted to form the heel, sole and foxing portion only of a shoe, a last adapted to fit into said mould and assist in the formation of said heel, sole and foxing portion therein, said mould being so formed as to closely engage the foxing line of said last to cause a resistance and prevent the free flowing of the material therefrom, and means for applying heat and pressure to the material.
3. In a device of the character described, a mould adapted to form the heel, sole and foxing portion of a shoe, a last over which a shoe may be formed the same being adapted to fit the mould and assist in the formation of the heel, sole and foxing therein, means for applying heat and pressure to the material and means in said last and mould for causing resistance to the plastic material so that the same will be formed into the pores of the upper.
4. In a device of the character described, a mould adapted to form the heel, sole and foxing portion of a shoe, a last over which a shoe may be formed the same being adapted to fit the mould and assist in the formation of the heel, sole and foxing therein, said mould being so formed as to closely fit the upper on the last at the foxing line thereof to cause a resistance and insure the plastic material being formed into the pores of the upper, and means for applying heat and pressure to the material.
5. In a device of the character described, a mould adapted to form the heel, sole and foxing portion of a shoe from rubber or other plastic material, means for applying heat to said mould for vulcanizing its contents, a last or form to assist in the formation of the heel, sole and foxing portion, means for applying pressure to sald mould while vulcanizing and means engaging the foxing line to better retain the material while under pressure.
6. In a device of the character described, a mould adapted Into one piece adapted to form the heel. sole and foxing portion of a shoe, a last adapted to fit into said mould and assist in the formation of sald heel, sole and foxing portion therein, said mould being so formed as to closely engage the foxing line of said last to cause a resistance and prevent the free escape of the material in order to compress and harden the same, means for applying heat and flexible means for applying pressure to the material.
7. In a device of the character described, a mould made in one piece adapted to form heel, sole and foxing portion only of a shoe, a last over which a shoe may be formed. flexible means for applying pressure to sald last, said last adapted to fit the mould and assist in the formation of the heel, sole and foxing portion thercin. said mould being so formed as to close fit the upper on the last at the foxing line thereof to cause a resistance when under pressure and insure the plastic material being forced into the pores of the upper and adhere to the same, and means for applying heat to the material.

\section*{Ne. 100,633. Steam Boiler Mechanism.}

\section*{Mécanisme de chaudierc d rapcur.}

George Francois Jaubert, Paris. France, 2Xth August, 1906 ;
6 years. Filed 24th November, 1905. Receipt No. 130,383.
Claim.-1. The herein described method of using steam boilers for submarine propulsion, especially during the sub-8-21
mersion period which consists in supplying the steam generator furnace with oxygen or oxygenated air, difuted with an inert gas such as the combustion gases.

2. The herein described method which consists in supplying oxygen or oxygenated air, diluted with inert, gas to the hydro-carbon burnersof a flash or instantaneous vapourization generator adapted for use in connection with steam boilers.

No. 100,634. Steam Boller. Chaudíre d napeur.


Johann Schutte. Langfuhr-Danzig. Prussia, Germany, 28th August. 1906; 6 years. Filed 20th March, 1905. Recelpt No. 123.524.
Claim.-1. In a steam boller the combination of a fire tube boiler, a steam chamber arranged above the water level of the fire tube boiler. a roomy short tube forming an open connection between the fire tube boller and said steam chamber, a water chamber, water tubes connecting said water chamber with the steam chamber, and a fire srate below the fire tube boiler, as set forth.
2. In a steam holler the combination of a fire tube boiler having the top part of its rear wall inclined, a steam chamber above the water level of the fire tube boiler, a roomy short tube forming an open connection between the fire tube boller and said steam chamber, the lower open end of said roomy tube being connected to the inclined top part ot the rear wall of the fire tube boller, a water chamber, water tubes connecting sald water chamber with the steam chamber and a fire grate below the fire tube boller, as set forth.
3. In a steam boiler the combination of a fire tube boller. a steam chamber arranged above the water level of the fire tlibe boiler, a roomy short tube forming an open connection between the fire tube boiler and said steam chamber, a steam tube passing through said roomy connectlag tube and adapted to lead steam from the steam chamber into the steam receiver of the fire tube boller, a water chamber. water tubes connecting said water chamber with the steam chamber and a fire grate below the fire tube boller, as set ferth.

4. In a steam boiler the combination of a fire tube boiler having the tap part of its rear wall inclined, a steam chamber above the water level of the fire tube boiler, a roomy short tube having its lower open end connected to the inclined top part of the rear wall of the fire tube boller and said steam chamber, a steam tube passing through said connecting tube and conveying steam from the steam chamber into the steam receiver of the fire tube boiler, a water chámber, and water tubes connecting said water chamber with the steam chamber, and a fire grate below the fire tube boiler, as set forth.
5. In a steam boller the combination of a cylindrical fire tube boiler, a steam chamber higher than the water level. o: the fire tube boiler, a roomy short tube forming an open connection between the fire tube boiler and sald steam chamber, a water chamber, water tubes connecting said water chamber with the steam chamber and a fire grate below the fire tube boiler, as sat forth.
6. In a steam boiler the combination of a cylindrical fire tube boller having the top part of its rear wall inclined, a steam chamber above the water level of the fire tube boller, a roomy short tube forming an open connection between the fire tube boller and said steam chamber, the lower open end of said roomy tube being connected to the inclined top part of the rear wall of the fire the boiler, a water chamber, water tubes connecting said water chamber with the steam chamber and a fire grate below the fire tube boiler, as set forth.
7. In a steam boiler the combination of a cylindrical fire tube boiler, a steam chamber arranged above the water level of the fire tube boller, a roomy short tube forming an opening connection between the fire tube boiler and said steam chamber, a steam tube passing through the roomy connecting tube to conduct steam from the steam chamber into a steam receiver of the fire tube boiler, a water chamber, water tubes connecting said water chamber with the steam chamber and a fire grate below the fire tube boller, as set forth.
8. In a steam boiler the combination of a cylindrical fire thbe boller, having the top part of its rear wall inclined, a sieam chamber above the water level of the fire tube boller, a roomy short tube forming an open connection between the fire tube bailer and said steam chamber, the lower open end of sald roomy tube being connected to the inclined top part of the rear wall of the fire tube boiler, a steam tube passing through the roomy connecting tube and conducting steam from the steam chamber into a steam receiver of the fire tube boiler, a water chamber, water tubes connecting said water chamber with the steam chamber, and a fire grate below the fire tube boiler, as set forth.
9. In a steam boiler the combination of a fire tube boiler, a steam chamber above the water level of the fire tube boiler, a roomy short tube forming an open connection between the fire tube boller and said steam chamber, a water chamber, water tubes connecting said water chamber with the steam chamber, a fire grate below the fire tube boller, two roomy water tubes connecting the fire tube boller with the water chamber of the water tube boiler, one of said roomy tubes opening into the front wall of the fire tube boiler while the other passes through the front wall of the fire tube boller and extends therein to near the back wall of the fire tube boiler, as set forth.
10. In a steam boiler the combination of a fire tube boller having the top part of its rear wall inclined, a steam chamber above the water level of the fire tube boiler, a roomy short tube forming an open connection between the fire tube boiler and said steam chamber and having its lower end connected to the inclined top part of the rear wall of the fire tube boiler, a water chamber, water tubes connecting said water chamber with the steam chamber, a fire grate provided below the fire tube boller, two roomy water tubes, connecting the fire tube boiler with the water chamber of the water tube boller, one of said roomy tubes being connected to the front wall of the fire tube boiler and the other passing through the front wall of the fire tube boller and extending therein to a point near the back wall thereof, as set forth.
11. In a steam boiler the combination of a fire tube boller, a steam chamber above the water level of the fire tube boiler a roomy short tube forming an open connection between the fire tube boller and said steam chamber, a steam tube passing through the roomy connecting tube and adapted to lead steam from the steam chamber into the steam dome of the fire tube boller. a water chamber, water tubes connecting said chamber with the steam chamber, a fire grate below the fire tube boiler, two roomy water tubes connectiing the fire tube boiler with the water chamber of the water tube boiler, one of sald water tubes opening into the front of the fire tube boller while the other passes through the front wall of the fire tube boller and opens therein near the back wall thereof, as set forth.
12. In a steam boller the combination of a fire tube boller having the top part of its rear wall inclined, a steam chamber above the water level of the fire tube boller, a roomy short tube forming an open connection between the fire tube boiler and said steam chamber, the lower open end of said roomy tube being connected to the inclined top part of the rear wall of the fire tube boller, a steam pipe passing through the said connecting tube and adapted to lead steam from the steam chamber into the fire tube boiler, a water chamber, water tubes connecting said chamber with the steam chamber, a fire grate provided below the fire tube boiler, two roomy water tubes connecting the fire tube boiler with the water chamber of the water tube boller, one of said water tubes belng connected to the front wall of the fire tube boller while the other passes through the front wall of the fire tube boller and has its inlet near the back wall thereof, as set forth.
13, In a steam boiler the combination of a cylindrical fire tube boller, a steam chamber arranged above the water level of the fire tube boller, a roomy short tube forming an open connection between the fire tube boiler and said steam chamber, a water chamber, water tubes provided to connect said water chamber with the steam chamber, a fire grate below the fire tube boiler. two water tubes connecting the fire tube boiler with the water chamber of the fire tube boller, one of said tubes opening into the front of the fire tube boiler while the other passes through the front wall of the fire tube boiler and opens therein near the back wall thereof, as set forth.
14. In a steam boiler the combination of a cylindrical fire tube boiler having the top part of its rear wall inclined, a steam chamber above the water level of the fire tube boiler, a short tube forming an open connection between the fire tube boiler and said steam chamber, the lower end of said tube being connected to the inclined part of the rear wall of the fire tube boiler, a water chamber, water tubes connecting said water chamber with the steam chamber, a fire grate below the fire tube boller, two water tubes connected to the water chamber of the water tube boiler, one of said tubes being also connected to the front wall of the fire tube boller while the other tube passes through the front wali of the fire lube boiler and has its inlet near the back wall thereof, as set forth.
15. In a steam boiler the combination of a cylindrical fire lube boller, a steam chamber above the water level of the fire tube boller, a roomy short tube forming an open connection between the fire tube boiler and said steam chamber, a steam tube passing through the roomy connecting tube and conducting steam from the steam chamber into a steam receiver of the first tube boller, a water chamber, water tubes connecting said water chamber with the steam chamber, a fire grate below the fire tube boller, two roomy water tubes connecting the fire tube boiler with the water chamber of the water tube boller, one of said roomy tubes being connected to the front wall of the fire tube boiler while the other passes through the front wall of the fire tube boiler and opens therein to near the back wall thereof, as set forth.
16. In a steam boiler the combination of a cylindrical fire tube boller having the top part of its rear wall inclined, a steam chamber above the water level of the fire tube boller, a roomy short tube forming an open connection between the tire tube boiler and said steam chamber, the lower end of said tube being connected to the inclined top part of the rear wall of the fire tube boller, a steam tube passing through the roomy connecting tube and conducting steam from the steam chamber into the fire tube boiler, a water chamber, water tubes connecting said water chamber with the steam chamber, a fire grate below the fire tube boiler, two water tubes connecting the fire tube boller with the water chamber of the water tube boiler, one of said water tubes being connected to the front wall of the fire tube boller while the other passes through said front wall and has its inlet end near the back wall of the fire tube boiler, as set forth.

\section*{No. 100,635. Steam Boller. Chaudière à vapcur.}

Joseph Alexander Mumford, Roslyn, New York, U.S.A., 28th August, \(1906 ; 6\) years. Filed 15th February, 1905. Recelpt No. 122,533.
Claim.-1. The combination with a boiler having an internal fire box and fire tubes of a superposed water drum. water legs connecting the drum and the main boiler, a casing. a return flue or passage within the casing and between the boiler and drum connecting at one end with the stack, a chamber at the rear end of the boiler projecting downwardly below the lowermost fire tube and protective material within the chamber upon which the deposited products of combustion fall.
2. The combination with a tubular boiler having a main shell and a superimposed drum, of a casing extending longitudinally the whole length of the drum and vertically extending tangentially from the main shell to the drum, a cham-
ber formed at the rear of the main shell by an extended portion of said casing and forming the connection between
the outlets from the tubes and the return flue within said casing. substantially as set forth.
3. The combination with a tubular boller having a main shell and a superimposed drum, of a series of flanged plates secured together longitudinally and connecting the shell and drum tangentially and flanges or ribs on said shell and drum to which the upper and lower flanges of said plates are secured, !sald plates forming a casing to constitute a return flue, substantially as set forth.
4. The combination with a tubular boller having a main shell and a superimposed drum, of a casing secured tangentially to the sides of the shell and drum to form a return flue and a chamber at the rear end of the main shell formed by a continuation and downward extension of said casing below the lowest tubes and a protective insertion within the said chamber adjoining the shell end and the bottom of said chamber, substantially as set forth.

No. 100,636. Rair Crimper. Fer à friser.


John B. Hall, assignee of James Fabre Martin, both of Philadelphia, Pennsylvania, U.S.A., 28th August, 1906 ; 6 years. Filed 17th April, 1906. Receipt No. 134,944.
Claim.-1. A hair crimper comprising members movably connected together at their ends, one of said members being formed at its free end with a recess and projecting portions adjacent thereto, the other member having at its free end a cutaway portion adapted to engage said projections whereby accidental displacement of the member is prevented.
2. A hair crimper comprising members movably connected at their ends, one of sald members being formed at its free end with a recess or opening and the other member having at its free end a cutaway portion adapted to engage the said recess or opening whereby accidental displacement of the momber is prevented.
3. A hair crimper comprising members movably connected together at their ends, one of said members beling formed at its free end with a projecting portion and the other member having at its free end, means adapted to engage the said projection whereby accidental displacement of the members is prevented.

\section*{No. 100,637. Explosive Engine. Machine explosive.}

The Robertson Manufacturing Company, assignee of William Robertson, all of Buffalo. New York. U.S.A., 28th August. 1906; 6 years. Filed 11 th November, 1905. Receipt No. 129,987.
Claim.-1. In an explosive enginc the combination with a suitable frame, a crank shaft mounted in said frame, a cylinder and guide rods, of a plston reciprocal with the cylindrr, a crosshead guided on said guide rods, a piston rod having one end secured to the piston and its other end threaded into sald crosshead to permit adjustment of the piston within the cylinder and a connecting rod connecting said crosshead with the crank shaft.
2. In an explosive engine the combination with a suitable frame having a cylinder and parallel guide rods having opposite ends secured to the cylinder and frame respectively. and a crank shaft journalled in said frame, of a piston re-
ciprocal in said cylinder, a crosshead guided on said guide rods. a piston rod having one end rigidly secured to the

pistun and its other end threaded into said crosshead to permit adjustment of the piston within the cylinder and a connecting rod connecting said crosshead with the crank shaft.
3. In an explosive engine the combination with a sultable frame having a cylinder and parallel guide rods, of a crank of a crank shaft journalled in said frame, gulde rods secured at one of their ends to said frame and at their other ends entering said sockets, a piston reciprocal within sald cylinder, a crosshead gulded on said gulde rods, a piston rod rigidly affixed at one end to said piston and at its other end frame having a cylinder and parallel guide rods, of a cronk connecting said crosshead with the crank shaft of the adjustably affixed to sald crosshead, and a connecting rod engine.
5. In an explosive engine the combination with a suitable frame having a cylinder and parallel guide rods, of a crank shaft journalled in said frame, a piston reciprocal within said cylinder, a cross head guide for movement of said gulde rods ant comprising a cross member and side members connected by said cross member and having grooves in their outer faces to receive sald gulde rods, shoes within said grooves underneath said guide rods and having depending lips lying against the ends of said side members and adjusting nuts entering said side members from the underside thereof and bearing against said shoes to permit of adjusting the latter, a piston rod rigidly secured at one end of said piston and having its other end adjustably threaded Into the crosshead and a connecting rod connecting sald crosshead with the crank shaft.

No. 100,638. Mannfacture of Pyrozylin Collars, Cufis, Etc.
Fabrication de cols, manchettcs, etc., cn pyrosylin.


The Arlington Company, assignec of James Allen Osborne, all of Arlington, New Jersey, U.S.A.. 28th August, 1906 : 6 years. Filed 17th April, 1906. Recelpt No. 134,954.
Claim.-1. A die or former for proxylin collars or cuffs comprising layers or plies of textile fabric, and means for holding the same together in alignment or registry.
2. A die or former for pyroxylin collars or cuffs, comprising layers or plies of textile fabric, and means along one edge to hold the plies In alignment or registry.
3. A die or former for pyroxylin collars or cuffs comprising a series of layers or plies of textile fabric united by stitching along one edge.
4. A die or former for pyroxylin collars or cuffs comprising two series of layers or plies of textile fabric, the whole united along one edge, and means for securing the layers or plies together along their respective edges.
5. A die or former for pyroxylin collars or cuffs comprising two series of layers or piles of textile fabroc, the whole united along one edge and lacing for securing the layers or plies together along their respective edges.
6. A die or former for pyroxylin collars or cuffs comprisIng two series of layers or plies of textile fabric and a plate having the outline of a collar or cuff underlying the layers or plies of one serles.
7. A die or former for pyroxylin collars or cuffs comprisIng two series of layers or plies of textlle fabric united along ine edge, and a plate having the outline of a collar or cuff underlying the layers or piles of one series.
8. A die or former for pyroxylin collars or cuffs comprising two serles of layers or plies of textile fabric and a plate having the outline of a collar or cuff interposed between the layers or plies of one series, sald plate having offset or deflected edges.
9. A die or former for pyroxylin collars or cuffs comprising two series of layers or plies of textile fabric along one edge and rows of stitching on the contiguous fabric layers of the two series.
10. A die or former for pyroxylin collars or cuffs comprising two series of layers or plies of textile fabric united along one edge, rows of stitching outlining the collar or cuff on the contiguous fabric layers of the two series, and stitching outlining button holes on one or both of sald contiguous layers.
11. A tile or former for pyroxylin collars or cuffs comprising two series of layers or plies of textile fabric united along one edge, a plate having the outline of a collar or cuff and having offset or deflected edges interposed between the layers or plies of one serles, and rows of stitching on the contiguous layers of the two serles adapted to overlie the dffiset edges of said plate when the two series are folded together.
12. A die or former for pyroxylin collars or cuffs comprisIng two serles of layers or piles of textile fabric united along one edge, a plate having the outline of a collar or cuff and having offset or deflected edges interposed between the layers of the two series adapted to overlie the offset edges of said plate when the two series are folded together, and stitching on one or both of sald contiguous layers outlining the button holes in the collar or cuff.
13. A die or former for pyroxylin collars or cuffs comprising two series of layers or plies of textile fabric, the series being united along one edge, lacing securing the several layers of each series together along one edge, a plate having the outline of a collar or cuff, and having offiset or deflected edges interposed between the layers or plies of one series, and rows of stitching on the contiguous layers of the two series adapted to overlie the offset edges of said plate when the two series are folded together.
14. A die or former for pyroxylin collars or cuffs comprisIng two serles of layers or plies of textile fabric, the serles being united along one edge, lacing securing the several layers of each series together along one edge, a plate having the outline of a collar or cuff and having offset or deflected edges interposed between the layers or plies of one series, rows of stitching on the contiguous layers of the two series adapted to overlie the offset edges of said plate when the two series are folded together, and stitching on one or both of said contiguous layers outlining the button holes in the coltar or cuff.
15. A die or former for pyroxylin collar or cuffs comprisIng two series of layers or plies of textile fabric united along one edge, a plate having the outline of a collar or cuff interposed between the layers of one series, and guides secured to the face of one of said series for holding the collar or cuff blank in registry with said plate.
16. A die or former for pyroxylin collars or cuffs comprising two series of layers or plies of textile fabric united along one edge, a plate having the outline of a collar or cuff interposed between the layers of one series, and guides secured to the face of one of said series of holding the collar or cuff blank in registry with said plate, each of said guides comprising a base secured to the fabric face and spring prongs attached to said base.
17. A die or former for pyroxylin collars or cuffs, said die having an impression surface of textile fabric provided with raised stitching.
18. A die or former for pyroxylin collars or cuffs, said die having an impression surface of textile labric provided with raised stitehing and having an underlying shaping or forming mould.

No. 100,639. Weather Strip. Bourrelat de portes.


The Chamberlin Metal Weather Strip Company, Detrolt. Michigan, assignee of Josiah C. McMahon, Pittsburg, Pennsylvania. both in the U.S.A., 28th August, 1906; 6 years. Filed 16th July, 1906. Receipt No. 137,839.
Claim.-1. The combination with a framo member provided with a runway and a sash member mounted to cooperate with said runway, one of said members being provided with a groove, of a weather strip interposed between said members comprising two opposing sheet metal parts, one of said parts having a securing flange and an outwardly extending rib arranged to project into said groove, and the other of said parts comprising a pair of connected spring flanges each free at its outer edge and adapted to contact with the side surfaces of said rib, the connecting portion intermediate said spring flanges being rounded laterally. rreans passing through said rounded connecting portion for securing said spring flanges in place whereby their free edges are freely movable within said groove and also whereby said spring flanges may bodily rock in a lateral direction, the side walls of the groove belng spaced apart from the free edges of the spring flanges whereby ample space is provided to permit said flanges to spring or rock laterally without interference from said side walls, and a sealing portion of the spring flanges and the member to which fit is attached.
2. The combination with a window frame, of a metal weather strip located in the runway thereof and provided with a sealing flange extending outwardly therefrom, a sash member having a groove into which the said sealing flange enters, a metallic member in the groove having an inwardly bent spring part engaging the side of said flange, means for securing the last-mentioned metallic member in its groove whereby it may rock in a lateral direction, and a sealing packing interposed between the said metallic member and the part to which it is secured.
3. The combination of a window frame, of a metal weather strip located in the runway thereof and provided with a sealing flange extending outwardly therefrom, a sash member having a groove into which the said sealing flange enters, a metallic member in the groove having an inwardly bent spring part engaging the side of said flange, means for securing the last-mentioned metallic member in its groove whereby it may bodily shift in a lateral direction, and a sealing packing interposed between the said metallic member and the part to which it is secured.
4. The combination with two parts. one movable relative to the other, of a weather strip therebetween comprising two members, one carried by each part and adapted to coact to seal the space therebetween, means for fastening one of said members to one of the parts whereby it may have lateral movement, and a packing between said laterally movable member, and the part to which it is secured.
5. The combination with two parts, one moving, relative to the other, of a weather strip therebetween comprising two members one carried by each part and adapted to coact to seal the space therebetween, means for fastening cne of said members to one of the parts whereby it may rock laterally, and a packing between said laterally rocking member and the part to which it is secured.
6. The combination with two parts, one movable relative tc the other, of a weather strip for sealing the space therebetween comprising two metallic members one carrled by each part. one of said members comprising a securing flange and a sealing rib or flange and the other member a substantially U-shaped strip formed to receive said sealing rib or flange, and a sealing packing interposed between the connected edge portion of said last-mentioned. strip and the part to which it is attached.
7. The combination with two parts, one movable relative to the other, of a weather strip for sealing the space there-
between comprising two metallic members, one carried by each part, one of said members comprising a securing flange and a sealling rib or flange and the other member a substantially U-shaped strip mounted to shift in a lateral direction, and a sealing packing interposed between the connected edge portion of said last-mentioned strip and the part to which it is attached.
8. The combination with two parts, one movable reLative to the other, of a weather strip for sealing the space therebetween comprising two metallic members one carried by each part, ane of said members comprising a securing flange and a sealing rib or flange and the other member a substantially U-shaped strip rounded to rock in a lateral direction, and a sealing packing interposed between the ccamected edge portion of said last-mentioned strip and the part to which it is attached.
9. The combination with two parts, one movable relative to the other, of a weather strip for sealing a space therebetween comprising two members one carried by each part, and adapted to co-act to seal the space therebetween, one one of said members being formed of sheet metal bent upon itself to form a groove and the other of sald members having a sealing rib or flange projecting into said groove and a packing between the base of said grooved member and the part to which it is secured.
10. The combination with two parts, one movable relative to the other, and one of sald parts being provided with a groove, of a weather strip therebetween comprising two members one carried by each part and adapted to co-act to seal a space therebetween, one of said members being fcrmed of sheet metal bent upon itself to form a groove, and the other of said members having a sealing rib or flange adapted to project into said groove, means passing through the base of sald grooved member for securing the same within and to the base of the grooved part, and a packing interposed between said base of said grooved member and the base of said grooved part.
11. The combination with a frame member and a sash member mounted to co-operate therewith, one of said members being provided with a groove, of a weather strip interposed between said members comprising two opposing sheet metal parts. one of said parts having a securing flange and an outwardly extending rib arranged to project into sald groove, the thickness of said rib being considerably less than the width of said groove, and the other of said parts consisting of a resilient member approximately pear shaped in cross section having spring flanges free at their edges and contacting with the side surfaces of the rib, and means for securing said resilient member in the groove with Its connecting edge at the base of the groove whereby spaces are left between the side walls of the groove and the free ends of the spring flanges and between the edge of the rib and the inner sides of said flanges within which the parts rasy play in elther lateral direction.
12. The combination with a frame member and a sash member mounted to co-operate therewith, one of said members being provided with a groove, of a weather strip interposed between sald members comprising two opposing sheet metal parts, one of said parts having a securing flange and an outwardiy extending rib arranged to project into said groove, the thickness of said rib being considerably less than the width of said groove, and the other of said parts conslating of a resilient member approximately pear-shaped in cross section having spring fianges free at their edges and contacting with the side surfaces of the rib, and means for securing sald resillent member in the groove with its connecting edge at the base of the groove whereby spaces are left between the side walls of the groove and the free ends of the spring flanges and between the odge of the rib and the inner sides of said flanges within which the parts may play in either lateral direction and the relatively wide or connected edge of the resilient pear-shaped member being of transverse formation permitting it to bodily rock in either lateral direction.
13. The combination with a frame member and a sash member mounted to co-operate therewith, one of said members being provifed with a groove, of a weather strip interposed between said members comprising two opposing sheet netal parts, one of said parts having a securing flange and an outwardly extending rib of increasing thickness arranged to project into said groove, the maximum thickness of said rib being considerably less than the width of said groove, and the other of said parts consisting of a resilient member approximately pear-shaped in cross section having spring flanges free at their edges and contacting with the side surfaces of the rib, and means for gecuring sald resilient member in the groove with its connecting edge at the base of the groove whereby spaces are left between the side walls of the groove and the free ends of the spring flanges and between the edge of the rib and the inner sides of said flanges within which the parts may play in either lateral direction.

No. 100,640. Peeket Ieniter.
Allumoir de pocho.


The MacDonald Match and Magazine Company, Davenport, Iowa, assignee of William C. MacDonald and Clayton E. MacDonald, Rock Island, Illinois, U.S.A. 28th August, 1906 ; 6 yéars. Filed 25th May, 1906. Receipt N6. 136,263.
Claim.-1. A pocket lighter comprising a casing. a magazine wheel mounted to rotate in the said casing and having spaced cells for containing fulminating pellets, an igniting device held on the outside of the casing and in communication with a cell at a time and a plunger for forcing a pellet out of a cell and into the igniting device for igniting the pellet outside of the casing.
2. A pocket lighter comprising a casing, a magazine mounted to rotate in the said casing and having spaced cells for containing fulminating pellets, an igniting device held on the outside of the casing and in communication with a cell at a time, a plunger for forcing a pellet out of a cell and Into the igniting device for inniting the pellet outside of the casing, and means controlled by the said plunger for intermittently rotating the ald magazine wheel.
3. A pocket lighter comprising a casing, a magazine wheel mounted to rotate in the sald casing and having cells for containing fulminating pellets, an igniting device held on the outside of the casing and in communication with a cell at a time, a plunger for forcing a pellet out of a cell and into the igniting device for igniting the pellet outside of the casing, means controlled by the said plunger for intermittently rotating the said magazine wheel on the return of the plunger, and means controlled by the said plunger for preventing the magazine wheel from being turned too far by the ald means for rotating the magazine wheel.
4. A pocket lighter cocpriging a casing, a magazine wheel mounted to rotate in the said casing and having spaced cells for containing fulminating pellets, an igaiting device beld on the outside of the casing and in communication with a cell at a time, a plunger for forcing a pellet out of a cell and Into the igniting device for igniting the pellet outside of the casing, a spring passing the plunger for returning the same, ratchet teeth on the said magazine wheel and a spring pressed pawl adapted to engage the said ratchet teoth and controlled by the said plunger.
5. A pocket lighter compriaing a casing, a magazine wheel mounted to rotate in the said casing and having spaced cells for containing fulminating pellets, an igniting device half on the outside of the casing and in communication with a cell at a time, a plunger for forcing a pellet out of a cell and into an igniting device for igniting the pellet outaide of the casing, a apring pressing the plunger for returning the same, ratchet teeth on the said magazine wheel, a spring pressed pawl adapted to engage the said ratchet teeth and controlled by the plunger, and a dog on the aaid pawl for engaging the sald magazine wheel to prevent the mame from running too far.
6. A pocket lighter comprising a casing having an internal annular bearing a magazine wheel mounted to turn in the said bearing and formed of a ring and radial partitions formIng cells for the reception of individual pellets, the sald ring having ratchet teeth at it minor edge, a plunger mounted to slide diametrically in the said casing and adapted to pasa through a cell at a time for ejecting the pellet therein, the plunger having an offset. a spring pressing the said plunger to normally hold the free end thereof out of engagement with a cell, an igniting device on the outaide of the rim of the casing and in register with a cell at a time, the axis of the igniting device colnciding with the axis of the aaid plunger and a spring pressed pawl engaging the said ratchet teeth and adapted to be engaged by the offeet of the maid plunger.
7. A pocket lighter comprising a casing having an internal annular bearing, a magazine wheel mounted to turn in the said bearing and formed of a ring and radial partitions forming cells for the reception of individual pellets, the said ring having ratchet teeth at the inner edge, a plunger mounted to slide diametrically in the said casing and adapted to pass through a cell at a time for ejecting the pellet therein, the plunger having an offset, a spring pressing the said plunger to normally hold the free end thereof out of engagement with a cell, an igniting device on the outside of the rim of the casing and in register with a cell at a time, the axis of the igniting device colnciding with the axis of the said plunger, a spring pressed pawl engaging the said ratchet teeth and adapted to be engaged by the offset of the said plunger and a dog extending integrally from the said pawl and adapted to engage the said ratchet teeth on the magazine wheel.

No. 100,641. Blevator Shaft Door Mechanism. Méoanisme de porte d'élevateur.


Samuel Bentley, Warruambool, Victoria, Australia, 28th August. 1906; 6 years. Filed 8th August, 1906. Recelpt No. 138,486.
Claim.-1. In apparatus for controlling elevator shaft doors a frame having a vertical slot near its top and its bottom, a crossbar near the middle of the said frame in which is a parallel slot and at each end a circus hole, a vertical releasing bar outside said frame, all as and for the purposes hereinbefore described and as illustrated in the drawings.
2. In apparatus for controlling elevator shaft doors a frame having a vertical slot near its top and its bottom. a crossbar near the middle of the said frame in which is a parallel slot and at each end a circus hole, a vertical releasing bar outside said frame, a hand wheeled sleeve saving flats thereon passing through said parallè slot, a pivot pin passing through said sleeve, one end of which is attached to the outer lug of a channel guide and also passing through the inner lug of another channel guide, a guide pin inside the top and bottom of each channel guide moving in the verticel slot before referred to, all as and for the purposes hereinbefore described and as illustrated in the drawings..
3. In apparatus for controlling elevator shaft doors. an upper channel guide and a lower channel guide the meeting ends of said guides having lugs, said lugs being pivoted together, said meeting ends being capable of movement in a horizontal plane and locked at each extremity by a handwheeled sleeve, all as and for the purposes hereinbefore described and as illustrated in the drawings.
4. In apparatus for controlling elevator shaft doors, a lower stationary horizontal slide bar inside the lift well or shaft, a slide bar above the same capable of a partial rotary movement, a tappet at one end of the said upper bar and at the other a bend and a catch forced outwardly by a spring, a slide moving horizontally along said bars having a catch hole inside it, an inside gulde pin protruding from said slide, an outside guide pin also protruding from sald slide, all as and for the purpose hereinbefore described and as illustrated in the drawings.
5. In apparatus for controlling elevator shaft doors, a lower stationary horizontal slide bar inside the lift wall or shaft, a slide bar above the same capable of a partial rotary movemennt, a tappet at one end of the said upper bar, and at the other a bend and a catch forced outwardly by a spring, a slide moving horizontally along said bars having a catch hole inside it, an inside guide pin protruding from said slide, the inner ends of four lines attached to sald outside pin, the two opening ones of which pass over pulleys and have their outer ends attached to the nearest sliding door, the two closing ones, in each of which is a tension adjuster
passing over pulleys and made fast on their outer ends to the farthest door, uniting lines between said doors, all as and for the purposes hereinbefore described and as illustrated in the drawings.
6. In apparatus for controlling elevator shaft doors the combination of an elevator frame having a vertical slot near its top and its bottom, a crossbar near the middle of the said frame in which is a parallel slot and at each end s circus hole, a vertical releasing bar outside said frame, a hand wheeled sleeve having flats thereon passing through sald parallel slot, a pivot pin passing through said sleeve, one end of which is attached to the outer lug of a channel guide and also passing through the inner lug of another channel guide. a guide pin inside the top and bottom of each channel guide movicg in the verticel slot before referred to, an upper channel guide and a lower channel guide, the meeting ends of said guides having lugs, said lugs belng pivoted, said meeting ends being capable of movement by the hand wheeled sleeve. a lower stationary horizontal slide bar, inside the lift well or shaft, a slide bar above the same capable of a partial rotary movement, a tappet at one end of the sald upper bar and at the other a bend forced outwardly by a spring, a slide moving horizontally along said bar having a catch hole inone's in each of which is a tension adjuster passing over outside pin also protruding from said slide, the inner ends of four lines attached to the sald outside pin, the two opening ends of which pass over the pulleys and have their outer ends attached to the nearest sliding door, the two closing ones, in each of which is a tension adjuster, passing over pulleys and made fast on their outer ends to the farthest door, uniting lines between said doors, all as and for the purposes hereinbefore described and as illustrated in the drawings.

No. 100,642. Stopper for Bottles, Etc. Bouchon de boutcilles, etc.


John Lowman, London, England, 28th August. 1906 ; 6 years. Filed 14th March, 1906. Receipt No. 133,881.
Claim.-1. The herein described process of manufacturing stoppers from cork held in capsuls, caps or covers for effecting the closure of bottles, jars or other receptacles, which consists in compressing edgewise a shallow plece of cork of suitable form and while in this compressed state placing same into a cap or holder which serves to retain it in this laterally compressed state and whereby it is applled in this state to the outlet to be closured.
2. The herein described process of manufacturing stoppers from cork held in capsules or covers for effecting the closure of bottles, jars or other receptacles which consists in compressing edgewise a cork washer or gasket and simultaneously supporting the washer on its inner circumference and while in this compressed state placing same into a cap or holder which serves to retain it in this laterally compressed state and whereby it is applied in this state to the outlet to be closured.
3. A stopper for effecting the closures of bottles, jars or other receptacles comprising an outer cap and a piece of cork in a state of lateral compression located within said cap whereby it is held and applied while stlll in the aforesaid compressed state to the outlet to be closured.
4. A stopper for effecting the closure of bottles, jars or other receptacles comprising an outer cap and a cork disc in a state of lateral compression located within said cap whereby it is held and applied while still in the aforesaid compressed state to the outlet to be closured.
5. A stopper for effecting the closure of bottles, jars or other receptacles comprising an outer cap and a cork washer, ring or gasket in a state of lateral compression located within said cap whereby it is held and applied while still in the aforesald compressed state to the outlet to be closured.
6. A stopper for effecting the closure of bottles, jars or other receptacles comprising an outer cap and a plurality of superimposed discs or shallow pleces or layers of cork in a state of lateral compression located within said cap whereby same are held and applied while still in the aforesaid compressed state to the outlet to be closured.

No. 100,643. Stopper for Laboratory Flasks, Etc. Bouchon de flasque de laboratoire.


William Samuel Johnstone, Montreal, Quebec, Canada, 28th August, 1906 ; 6 years. Filed 7th March, 1906. Recelpt No. 133,613.
Claim.-1. A stopper for bottles and like receptacles comprising a tapered body portion of highly resilient material having a plurality of apertures of various sizes opening floom the top and terminating near the bottom of said stopper.
2. A stopper for bottles and like receptacles comprising a tapered body portion closed at the bottom and having a plurality of vertical central apertures opening from the top of said stopper.
3. A device of the class described comprising a body portion of highly resilient material having a plurality of apertures of various sizes opening from the top of the stopper and extending to a point near the bottom, said apertures being separated by ribs or webs integral with the material of the stopper.
4. A stopper for bottles and like receptacles comprising a body portion of resilient material closed at one end and having a plurality of apertures opening from the opposite end and extending vertically part way through said stopper, said apertures being separated by webs integral with the materlal of the stopper.

No. 100,644. Sprinkler for Cloth.
Arrosoir pour drap.


Karl Sturc Theodor Bjorkman, Ottawa, Ontario, Canada, 28th August, 1906; 6 years. Filed 21.st April, 1906. Recelpt No. 135,154.
Claim.-1. In a tailor sprinkling device the combination with the reservoir, fluid conducting pipe leading therefrom and nozzle at the end of the conducting pipe, of a flapper valve located in said nozzle, a depressible lever pivoted thereto and extending through the casing, a button secured to the end of the lever, a spring pressing on the underside of the button and on the nozzle, as and for the purpose specified.
2. An improved nozzle for sprinkling devices comprising a tubular portion secured to the conducting pipe, a suitable end nozzle for the same, a flapper valve located in said tubular portion, a lever pivoted thereto and extending exterlor to the tubular portion, a button secured to the end thereof, a compression spring abuting the underside of the button and the exterior of the tubular portion, as and for the purpose specifled.

No. 100,645. Staroh Drier. Séchoir d'amidon.


Elmer Ellsworth Perkins, Chicago, Illinois, U. S. A., 28th August, 1906; 6 years. Filed 26th April, 1906. Receipl No. 135,297.
Claim.-1. In a continuous acting drying apparatus, an elongated closed chamber having an outlet near its top, an endless travelling conveyer below the outlet to sustain within and move longitudinally through the chamber the material to be treated, a heater exterior to the chamber, means to draw dry air from the heater and force it in a substantially horizontal blast into the chamber at or near the leed end of the conveyer, to take up moisture from the material thereon and pass through the outlet, and means to continuously condense the moisture in and cool the air passing therethrough, the dry cold air being returned to the heater and reheated to be again withdrawn therefrom and forced into the chamber.
2. In a continuous action drying apparatus, an elongated closed chamber having an outlet near its top, a condensing compartment communicating with the outlet. a heater beneath the chamber and connected with the condensing compartment, means to convey the material from one to the other end of the chamber, and means to draw dry cold air from the condensing compartment into and through the heater and to force it in a substantially horizontal blast into the chamber adjacent the feed end of the conveying means, to take up moisture from the material thereon and pass throlgh the outlet into the condensing compartment. wherein the contained moisture is condensed to dry the air prior to its re-entrance to the heater.
3. In a continuous action drying apparatus, an elongated closed chamber having an outlet near its top, a travelling conveyer below the outlet to sustain within the chamber the material to be treated and to carry it back and forth in the chamber and discharge it at the end opposite that in which it is fed, and means to alternately heat and cool. externally to the chamber, a continuous current of air directed upon the material at the inlet end of the chamber, the hot incoming air taking up moisture from the material and passing through the outlet to be cooled, such cooling condensing the contained moisture prior to reheating of the air and its reintroduction to the chamber, the action of the air current upon the material diminishing as the latter approaches the discharge end of the chamber.
4. In a continuous action drying apparatus, an elongated closed chamber having an outlet near its top, a condensing compartment communicating with the outlet, a heater outside the chamber and connected with the condensing compartment, a plurality of endless travelling conveyers withIn the chamber one below the other, to convey material through the chamber, the material being discharged from an upper conveyer to the one next below it and thereby caused to traverse the chamber several times before its discharge, and a fan at one end of the chamber to direct the hot, dry air from the heater upon the material on the conveyers, to take up moisture from such material and then pass through the outlet to be cooled and the contained
moisture condensed prior to reheating of such dry cold air in the heater and its reintroduction to the chamber.
\(\overline{0}\). In an apparatus of the class described, an elongated closed chamber having a long outlet near its top, an external cold compartment communicating with the outlet and having a condenser therein, an endless travelling conveyer in the chamber below and extending the length of the outlet, a hot compartment beneath the chamber and provided with heating coils, the inlet of said compartment communicating with the cold compartment below the condenser, and means to draw hot dry air from the hot compartment and continuously force it into the chamber at the end of the conveyer, to act upon the material thereon and pass thence through the long outlet to the cold compartment, the condenser therein condensing the contained moisture in the air, the dried and cooled air thereafter returning to the hot compartment to be again forced Into the chamber.
6. In an apparatus of the class described, an elongated closed chamber having an outlet near its top, a travelling conveyer to carry material through the chamber, a condensIng compartment at the side of the chamber, and communicating therewith through the outlet, a heater extended longitudinally beneath the chamber and connected with the bottom of the said compartment, a conduit connecting the outlet of the heater with the adjacent end wall of the chamber, and a fan in the conduit to draw dry cod air from the condensing compartment through the heater and direct the hot dry air in a substantially horizontal blast into and lengthwise of the chamber to take upmoisture from the moving material on the endless conveyer, the moisture lader air passing thence upward through the outlet to the condensing compartment to be again user.
7. In an apparatus of the class described, a closed chamber having an outlet near its top, means to continuously move material to be treated through the chamber from one to the other end thereof, means to heat rapidly a current of air, means to circulate the same through the chamber to act upon the material to be dried, the heating means being lccated outside the chamber, means to cool and dry the air acting upon such material, the air cooling and drying means communicating with the chamber through the outlet, the hot dry air taking up moisture from the material and passing through the outlet to be cooled and thereby have its contained moisture condensed prior to reheating of such alr.
8. In a continuous drying apparatus, an elongated closed chamber having an outlet near its top and a floor inclined in the direction of the length of the chamber, a heater beneath the floor, a cold compartment outside the chamber and communicat!ng therewith by the outlet and also communicating with the heater at a distance from sald outlet, means to draw hot. dry air from the heater and force it into one end of the chamber to take up moisture from the material therein and pass through the outlet to the cold compartment. cooling of the air therein condensing its contained moisteure, the cooled dry air returning to the heater to be reheated, a plurality of endless conveyers arranged one above the other in and moving lengthwise of the chamber in opposite directions, to support the material on their upper runs and traverse it back and forth in the chamber from the feed to the discharge end thereof, and means to automatically brush the material falling onto the floor to the discharge end of the chamber.
9. In a continuous drying apparatus, an elongated closed chamber having an outlet near its top, a heater exterior to the chamber, means located at one end of the chamber to draw heated dry air from the heater and circulate it through the chamber to act upon the material to be dried and take up moisture therefrom, the moisture laden air passing through the outlet, a cooling compartment into which the outlets open to cool the air and condense the moisture therein, said compartment at its opposite end communi-1 cating with the heater to convey the cooled dry air thereto tc be reheated, and a plural!ty of endless conveyers arranged one above the other in and moving lengthwise of the chamber in opposite directions, to support the material on their upper runs and traverse it back and forth through the chamber, the material being turned over and loosened \(a^{\circ}\) it drops from one conveyer to the next one below it.

\section*{No. 100,646. Design Roller for Graining Machine. Koulcau pour machine a imiter.}

Bennet D. Marks, Chicago, Illinois, U.S.A., 28th August, 1906 ; 6 years. Filed 28th April, 1906. Receipt No. 135.354.
Claim.-1. In a design roller for graining machines the combination with two hubs, of wooden sections mounted on said hubs, said sections extending radially from sald hubs. said sections tapering inwardly, flanges on said hubs. means to secure said sections to sald hubs, sections of design wood having the grain running around the roller
adapted to form an outer covering for said tapering secdions, and means to secure said design sections to sald

tapering sections, for the purpose set forth substantially as described.
2. In a design roller for granting machines the combination with two flanged hubs, of wooden sections extending radially from the said hubs, said sections tapering inwardly. an outer covering of sections o: design wood having the grain running in various directions, means to secure said sections to said tapering sections, said tapering sections being mounted in sockets cast or formed upon hubs of the roller and a shaft extending through said roller, for the purpose set forth substantially as described.
3. In a design roller for granting machines the combination with two hubs, of wooden sections extending radially from the said hubs, said sections tapering inwardly and having an outer covering of sections of design wood having the grain running around the roller, said sections being joined in such a manner that there will be no break in transmitting the impression of the grain to the printing roller, means to secure said sections to said tapering sections, and means to secure said tapering sections to said hubs, for the purpose set forth substantially as described.
4. In a design roller for graining machines the combination with two hubs, of wooden sections extending radially fram the said hubs, said sections tapering inwardly and having an outer covering of sections of design wood having the grain running around the roller, said sections being joined in such a manner that there will be no break in transmitting the impression of the grain to the printing roller, said tapering sections being mounted in sockets cast of formed or the hubs of the roller and a shaft extending through said roller, for the purpose set forth substantially as described.
5. In a design roller for graining machines the combination with two flanged hubs having a level gear cut upon the outer face of said flanges, of wooden sections extending radially from the said hubs, said sections tapering inwardly and having their outer surface turned true, an outer covering of sections of design wood having the grain running in various directions, said sections being joined in such a manner that there will be no break in transmitting the impression of the grain to the printing roller, means to secure said sections to sald tapering sections and means to secure sald tapering sections to sald hubs, for the purpose set forth substantially as described.
6. In a design roller for graining machines the combination with two fianged hubs having a bevel gear cut upon the outer face of the said flanges, of wooden sections extending radially from the said hubs, sald sections tapering inwardly and having their outer surface turned true, said sections being provided with extensions at each end, said extensions extending inwardly and fitting around the sald hubs, an outer covering of sections of design wood having the grain running around the roller, said sections being joined in such a manner that there will be no break in transmitting the impression of the grain to the printing roller, means to secure said sections to said tapering sections, means to secure said tapering sections to said hubs and a shaft extending through said roller, for the purpose set forth substantially as described.

\section*{No. 100,647. Packing for Stufing Boxen, Ftc.} Garniture de boites de piston, etc.

John Williamson, Glasgow, Scotland, 28th August, 1906; 6 years. Filed 28th March, 190. Receipt No. 134,394.
Claim.-Packing for stuffing boxss and the like composed pither wholly or in part of vegetable fibres subjected to a process of tanning, as and for the purpose set forth.

No. 100,648. Mannfactire of Sorting Apparatus.
Fabrication de machine à assortir.


Wilhelm H. R. Herrmann, Dresden, Saxony, 28th August. 1906; 6 years. Filed 17th March, 1906. Receipt No. 134,005.
Claim.-1. The method of manufacturing separating or sorting plates or cylinders which consists in partially cutting through the thickness of the metal thereof at the places where the cells are to be produced for a portion of the periphery of the respective cells and pressing these portions of the metal out of their original position to form the cells, substantially as described.
2. As a new article of manufacture a separating or sorting plate or cylinder having portions of the same partially cut through and stamped or pressed out of their original position to form cells.

No. 100,649. Animal Chase. Piste ì renards, etc.


Willis Mathew Elder and Clareace Wyly Turuer, co-inventors, both of Waverly. Tennessec. U.S.A., 28th August
1906; 6 years. Filed 17th March, 1906. Receipt No. 133.988
Claim.-1. A fox or other animal chase comprising a helical runway, substantially as specified.
2. A fox or other animal chase, comprising a helical run"ay, the upper and lower ends of which are connected together by a connecting runway, substantially as set forth and described.
3. A fox or other animal chase, comprising a helical runway the upper and lower ends of which are connected tugether by a connecting runway, and means for checking or restraining the pursuit of the coursing animal, substantially as set forth and described.
4. A fox or animal chase, comprising a helical runway. the upper and lower ends of which are connected together by means of a wire covered runway, restraining or checking gates situated within said connecting runway, and checking or restraining gates suitably placed for diverting the direc: tion of the coursing, substantially as set forth and described.

No. 100,650. Metallic Packing. (arnilure métallique. Edward M. Cook, Oberlin, Ohio, U.S.A., 28th August, 1906 ;

6 years. Filed 30th June, 1906. Receipt No. 137,431.
Claim.-1. A packing ring composed of a single set of segments having engaging ends, said ends being formed to provide radical cuts on one side and tangential cuts on the other side of the ring.
2. A packing ring composed of segments, each having two integral portions, one set of portions of the several segments co-operating to form one-hale and the other set of portions the other half of the body of the ring, said portions of the scements having their ends constructed to respectively form ridial cuts on one side and tangential cuts on the other side of the ring.
3. A packing ring composed of a single set of segments having engaging ends, said ends being formed to provide

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Tradial cuts on one side and tangential cuts on the other side of the ring, said radial and tangential cuts being dis-

rosed upon lines between each other so as to break jolnt around the surface of the ring.
4. A packing ring comprising segments, each composed of two parallel integral parts, one of sald parts having its ends tangentially and the other. radially bevelled, the resfcrive tangentially and radially bevelled parts of the several segments forming opposite sides of the body of the ring and tangential and radial cuts, the tangential cuts beirg disposed upon one side of the ring. and the radial cuts upon the opposite side of the ring and on lines betwdeen sajd tangentlal cuts.

No. 100,651. Valve. Soupape.


James B. Culler, Monessen, Pennsylvanla, U.S.A., 28th August. 1906; 6 years. Filed 11th April, 1906. Recelpt No. 134,861 .
Claim.-1. A three-way valve comprising a casing having inlet and discharge ports formed therein, valve seats arranged in said casing, a discharge valve adapted to engage one of said seats, a tubular stem secured to said valve, an inlet valve adapted to engage the other valve seat, a stem secured to said inlet valve and adapted to work through the tubular stem of the discharge valve, threads formed on the upper end of the tubular valve stem of said discharge valve, a nut adapted to be screwe: up and down on sald threads and means whereby the stem of said inlet valve is loosely connected to said nut, and operated thereby, substantially as described.
2. A three-way valve comprising a casing having inlet and discharge ports formed therein, valve seats arranged in sald casing, a discharge valve adapted to engage one of said seats, a tubular steam secured to said valve, an inlet valve adapted to engage the other valve seat, a stem secured to

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said inlet valve and adapted to work through the tubular stem of the discharge valve, threads formed on the upper end of the tubular stem of said exhaust valve, a nut adapted to be screwed up and down on said threads, a packing gland arranged around the tubular stem of said exhaust valve where the same passes through said valve casing, means to limit the movement of said exhaust valve stem and valve, a collar secured to the upper end of said inlet valve stem, and means whereby said collar is secured to and operated by the nut on the stem of said exhaust valve, substantially as described.
3. A three-way valve comprising a casing having inlet and discharge ports formed therein, valve seats arranged in said casing, a discharge valve adapted to engage one of said seats, a tubular stem secured to sald valve, an inlet valve adapted to engage the other valve seat, a stem secured to said inlet valve and adapted to work through the tubular stem of the discharge valve, threads formed on the upper end of the tubular stem of said exhaust valve, a nut adapted to be screwed up and down on said threads, a packing gland arranged around the tubular stem of said exhaust valve where the same passes through said valve casing, a stop plate adapted to engage an annular recess in the tubular stem of said exhaust valve whereby the movement of the stem of said exhaust valve wherchy the movement of the
same is limited, a collar secured to the upper end of said inlet valve stem in position to engage the nut on the exhaust valve and a cap adapted to be screwed onto said nut thereby loosely securing the inlet valve stem to said nut, substantlally as described.

No. 100,652. Floor Dressing Machine.
Machine à polir les planchers.


Cyra Bissell Wattles, Providence, Rhode Island, U.S.A., 28th August, 1906; 6 years. Filed 2nd Aprll, 1906. Receipt No. 134,532.
Claim.-1. In a floor dressing machine a frame supporting a motor and a dressing roller, means for transmitting power from the motor to the dressing roller consisting of pulleys on the shafts of the motor and dressing roller connected by : a belt, and means for adjusting the weight of the motor upon the dressing roller consisting of mechanism adapted to adjust the motor on the frame horizontally toward or from the dressing roller, as described.
2. In a floor dressing machine the combination with a frame, a pair of wheels therefor, a dressing roller mounted in sald frame on a horizontal axis and forming with said wheels the sole support of the machine, a self-contained motor mounted upon the frame for driving said roller, and means consisting of mechanism for adjusting the weight of the machine with relation to the dressing roller to place more or less weight on the dressing roller whereby to proportion the weight of the machine to be supported by the wheels and said roller, for the purpose specified.
3. In a floor dressing machine, a frame, wheels adjustably secured to the frame, a dressing roller rotatably secured in the frame and adapted to engage with the floor, a motor on the frame, a bandle pivotally secured to the frame. pulleys on the shafts of the motor and dressing roller connected by a belt, a caster adjustably secured in the frame and adapted to engage with the floor, means for adjusting the pressure of the dressing roller on the floor, consisting of mechanism adapted to adjust the position of the wheels on the frame, means for adjusting the tension of the belt consisting of mechanism ahlapted to adjust the position of the motor on the frame, moans for adjusting the dressing roller from the floor consisting of mechanism adapted to adjust the caster
in the frame to bring the caster into engagement with the floor and means for transmitting power from a source of energy to the motor, as described.
4. In a floor dressing machine the combination of the frame a supported on the floor by the wheels \(b\) b adjustably secured to the frame, and the dressing roller c rotatably secured in the frame, of the hollow T-shaped handle d pivotally secured at its lower end to the frame, the flexible cable \(e\) having wires extending downward through the handle connecting with the switch \(d^{2}\) on the handle and to the motor \(f\) adjustably secured on the trame \(a\) by bolts \(f+\) and \(a^{9} a^{0}\), the pulleys \(f^{1}\) on the motor connected to the pulley \(c^{2}\) on the dressing roller shaft \(c^{1}\) by the belt \(g\) and the caster \(h\) having the screw-threaded stem \(h^{2}\) extending upward through the boss \(a^{11}\) on the frame \(a\), and adjustably secured in the boss by the nuts \(h h^{2}\) in screw-threaded ongagement with the stem \(h^{1}\), as described.
5. In a floor dressing machine, the frame a having the s!des \(a^{1} a^{1}\) extending outward at the front to form the arms \(a^{2} a^{2}\) in which are the bearings \(a^{2} a^{3}\) for the shaft of the dressing roller \(c\) and the cavities \(a^{4} a^{4}\) for the rubber buffers \(a^{5} a^{5}\), the elongated openings \(a^{6} a^{0}\) in the sides \(a^{1} a^{1}\), the outwardly extending lugs \(a^{7} a^{7}\) on the sides at the ends of the openings, the adjusting bolts \(a^{s} a^{s}\) screw-threaded in luigs for adjusting the position of the wheels ob rotatably supported on the axle \(b^{1}\) extending through the openings \(a^{a}\) \(a^{6}\) in the sides \(a^{1} a^{4}\), the adjusting bolts \(a^{9} a^{9}\) in scrowthread engagement with the lugs \(a^{10} a^{10}\) on the frame \(a\) and engaging with the base \(f^{2}\) of the motor \(f\) and the cylindrical boss \(a^{11}\) in which the castor \(h\) is adjustably secured, as described.
6. In a floor dressing machine the combination of a frame, a dressing roller mounted in one end of the frame on a horizontal axis and serving as a support for that end of the frame, a pair of wheels secured near the opposite end of the frame, said wheeis and dressing roller forming : ie sujt st.pport of the frame, an electric motor mounted on the frame and secured to the dressing roller to rotate the same, and means for connecting the motor with the source of electric energy.
7. In a floor dressing machine the combination of a frame, a dressing roller rotatably secured in one end of the frame, wheels mounted at the opposite end of the frame to be adjusted longitudinally thereof, the dressing roller and said wheels forming the sole support for the frame, a handle pivotally secured to the frame for guiding and controlling from the floor the movement of the machine, an electric motor supported on the frame and connected to the dressing roller by a belt, an electric cable connecting the motor with a source of electric energy, and a switch to control the cperation of the motor located on sald handle and opera table from the floor.
8. In a floor dresing machine the combination of a framu, a pair of wheels therefor, a dressing roller mounted in said frame on a horizontal axis and forming with said wheels the sole support of the machine, a self contained motor mounted on the frame for driving said roller, means for relatively adjusting the weight of the machine with respect to said supports whereby the pressure of the dresser roller or the floor may be varied, and a handle pivotally secured to the frame and abutting thereagainst below its plvotal connection thereto, whereby the operator may at will lift the dressing roller from the floor.
9. In a floor dressing machine the combination with a frame, a pair of supporting wheels therefor, a dressing roller mounted in said frame and forming with said wheels the sole supports of the machine, a self contained motor mounted on the frame for driving sald roller and means for relatively adjusting the weight of the machine with respect to said supports whereby the pressure of the dressing roller upon the floor may be varied.
10. In a floor dressing machine, a motor transmitting power to a dressing roller, and means consisting of mechanism for adjusting the weight of the motor in relation to the dressing roller to give more or less weight on the dressing rcller, and means consisting of mechanism for adjusting the weight of a motor in relation to the dressing roller to vary the pressure of the dressing roller on the floor, for the purpose described.

\section*{No. 100,653. Floor Dressing Machine.}

Machine d polir les planchers.
Cyra Bissell Wattles, Providence, Rhode Island, U.S.A., 28th August, 1906 ; 6 years. Filed 2nd April, 1906. Receipt No. 134,531.
Claim.-1. In a floor dressing machine a dressing roller covered with an abrasive or polishing material rotatably mounted in the machine, a motor connected to the machine by a flexlble shaft to rotate the dressing roller, a handle to the machine and crossbars in the frame of the machine, in-
termediate the dressing roller and the handle acting as a fulcrum on the floor to lift the dressing roller by depressing

the handle and stop the operation of the dressing roller on the floor without stopping the motor, as described.
2. In a floor dressing machine the combination with a motor and a flexible shaft, of the frame \(b^{2}\) having the orms \(b^{2} b^{2}\) with the bearings \(b^{2} b^{3}\), the T-shape handle \(b^{4}\), the crossbars \(b^{\mathbf{b}} b^{6}\) and the dressing roller \(b^{6}\) secured on the shaft \(b^{7}\) connected to the flexible shaft and rotating in the bearings \(b^{2} b^{3}\), all for the purpose as described.

No. 100,654. Printing Machine. Machine d imprimer.


Stephen L. Morgan, Rutherford, New York, U.S.A., 28th August, 1906 ; 6 years. Filed 24th July, 1906. Recelpt No. 138,133.
Claim.-1. In a machine of the character set forth, a printing surface, a wiping surface therefor in the form of a flexible strip, means for moving said strip in one direction in contact with said printing surface, and means for returning said strip by moving it in the opposite direction into position for a succeeding wiping operation by the solled portion of said strip.
2. In a machine of the character set forth, a printing surface, a wiping surface therefor in the form of a flexible strip, means for moving sald strip in one direction in contact with sald printing surface, and means for returning said strip by moving it in the opposite direction into posltion for a succeeding wiping operation by the solled portion of said strip, means for guiding said strip and presenting it to said printing surface, and means for controlling the tension of sald strip.
3. In a machine of the character set forth, a printing surface, a wiping therefor in the form of a flexible strip, means for moving said strip in one direction in contact with sald printing surface, and mesins for returning sald strip by moving it in the opposite direction into position for a succeeding wiping operation by the solled portion of said strip, means for guiding sald strip and presenting it to sald printing surface and a cleaning surface yieldingly presented to the solled face of such strip during the movement of the latter.
4. In a machine of the character set forth, a printing surface, a wiping surface therefor in the form of a flexible strip, means for moving said strip in one direction in contact with said printing surface and means for returning said strip by moving it in the opposite direction into position for a succeeding wiping operation by the solled portion of said strip. and means for letting off a portion of said strip at one end and taking it up at the other.
5. In a machine of the character set forth, a printing surface, a wiping surface therefor in the form of a flexible strip, means for moving said strip in one direction in contact with said printing surface and means for returning sald strip by moving it in the opposite direction into position for a succeeding wiping operation by the soiled portion of said strip. and means for automatically letting off a portion of said strip at one end and taking it up at the other.
6. In a machine of the character set forth, a printing surface, a wiping surface therefor in the form of a flexible strip, means for moving said strip in one direction in contact with said printing surface and means for returning said strip by moving it in the opposite direction into position for a succeeding wiping operation by the solled portion of said strip. and means for automatically letting off a portion of said strip at one end and taking it up at the other after each wiping operation.
7. In a machine of the character set forth. a printing surface. a wiping surface therefor in the form of a flexible strip, means for moving sald strip in one direction in contact with said orinting surface and means for returning said strip by moving it in the opposite direction Into position for a succeeding wiping operation by the solled portion of said strip while out of contact with said printing surface.
8. In a machine of the character set forth, a printing surface, a wiping surface therefor in the form of a flexible strip, means for moving said strip in one direction in contact with said printing surface ant means for returning sald strip by moving it in the opposite direction into position for a succeeding wiping operation by the solled portion of said strip while out of contact with sald priniting surface, and means for automatically letting off a portion of said strip at one end and taking it up at the other during such return movement.
9. In a machine of the character set forth, a printing surface, a wiping surface therefor in the from of a weak fexible strip, means for moving said strip in one direction with said printing surface and for returning said strip by moving It in the opposite direction and a strong flexible belt moving with and supporting said strip.
10. In a machine of the character set forth. a printing surface, a wiping surface therefor in the form of a flexible strip, a carrier to which the ends of said strip are secured and means for moving said carrler alternately in opposite directions.
11. In a machine of the character set forth, a printing surface, a wiping surface therefor in the form of a flexible strip. a cylindrical carrier to which the ends of said strip are secured and means for oscillating sald carrier, whereby sald strip is moved alternately in opposite directions.
12. In a machine of the character set forth, a printing surface, a wiping surface thercfor in the form of a flexible strip. a carrier, rolls mounted thereln on which the ends of sald strip are wound, means for moving said carrier alternately ir opposite directions. and means actuated by such moveinents for automatically taking up a portion of said strip on one of sald rolls and letting off a portion from the other of sald rolls.
13. In a machine of the character set forth. a printing surface, a wiping surface therefor in the form of a flexible strip. a cylindrical carrier, rolls mounted therein on which the ends of sald strip are wound. means for oscillating sald carrier and thereby moving said strip in opposite directions and means actuated by such osclllatory movements for automallcally taking up a portion of said strip on one of said rolls and letting off a portion from the other of sald rolls.
14. In a machinc of the character set forth. a printing surface, a wiping surface therefor in the form of a nexible strip. a cylindrical carricr. rolls mounted therein on which the ends of sald strip are wound, a belt having its ends secured to said carrier and serving as a support for said strip means for oscillating said carrier on its axis and thereby moving sald belt with its strip alternately in opposite directions and means for automatically taking up a portion of sald strlp on one of sald rolls and letting off a portion from the other of said rolls.
15. In a machine of the character set forth. a printing surface, a wiping surface therefor In the form of a flexible strip, means for moving said strip in one direction in contact with said printing surface and for returning said strip by moving it in the opposite dircction. means for gulding said strip and nresenting it to said printing surface and a cleaning curface held in ylelding contact with the solled face of sald strip.
16. In a machine of the character set forth, a printing surface, a wiping surface therefor in the form of a fexible strip.
means for moving said strip in one direction in contact with sald printing surface and for returning said strip by moving it in the opposite direction, means for guiding said strip and presenting it to said printing surface, a cleaning surface in the form of a flexible ribbon held in glelding contact with the solled face of the said strip and means for moving said ribbon to present fresh surfaces of the latter to said strip.
17. In a machine of the character set forth, a printing surface therefor in the form of a flexible strip, means for moving said strip in one direction in contact with said printing surface and for returning said strip by moving it in the opposite direction, means for guiding said strip and presenting it to sald printing surface, a cleaning surface in the form of a flexible ribbon held in yielding contact with the solled face of said strip, take-up and let-off rolls for said ribbon, and means for automatically actuating said rolls to shift sald ribbon at intervals to present fresh surfaces of said ribbon to said strip.
18. In a machine of the character set forth, a printing surface, a wiping surface in the form of a flexible strip, a carrier, rolls mounted therein on which the ends of sald strip are wound, means for moving said carrier alternately in opposite directions. means actuated by such movements for automatically taking up a portion of said strip on one of said rolls and letting off a portion from the other of said rolls, a cleaning surface in the form of a flexible ribbon held in ylelding contact with the solled face of said strip, take-up and let-off rolls for said ribbon, and means autonatically actuated by the movements of said carrier for letting off and taking up a portion of said ribbon at intervals to present fresh surfaces of sald pibbon to said strip.
19. In a machine of the character set forth, a D-roller, a curved printing surface thereon, a wiping surface in the form of a flexible strip, means for moving sald strip in the direction opposite to the movement of said printing sarface, and for returning said strip by moving it in the opposite direction during the period in which the cut-away partion of sald roller is presented to sald strip and the tension of the latter thereby lessened.
20. In a machine of the character set forth, a polishing belt, guide rollers therefor, a swinging roller arranged to contact at one end of its motion with a supply of whiting or analogous material, and at the other with sald belt, and means for inducing the movements of said swinging roller.
21. In a machine of the character set forth, a polishing belt, guide rollers therefor, a ylelding platform carrying a supply of whiting or analogous material, a swinging roller arranged to contact at one end of its motion with sald whiting, and at the other with said belt, and means as a pad for distributing the whiting thus received upon the surface of sald belt.
22. In a machine of the character set forth, a printing roller, a polishing belt, a driving roller therefor, a swinging frame adjacent to said printing roller, guide rollers for said belt in said frame, and pivots on such frame whereby the latter may be tilted to allow access to sald printing roller.
23. In a machine of the character set forth, a polishing belt, a driving roller therefor, a yielding platform carryting a supply of whiting or analogous material, a swinging roller arranged to contact at one end of its motion with sald whiting, and at the other with a portion of said belt in contact with sald driving roller, and a weighted pad lying upon said belt and supported by sald driving roller.
24. In a machine of the character set forth, a printing rcller, a curved printing surface thereon, a horizontally disposed ink distributing mechanism operated by the reciprocations of sald plank. an ink roller carried by said plank and arranged to supply ink to sald curved printing surface, a wiping mechanism located above said plank and printing roller arranged to contact with said curved printing surface, and a vertically disposed polishing mechanism in front of said printing roller and ararnged to contact with said surved printing surface.
25. In a machine of the character set forth, a printing roller and shaft therefor, a plank beneath said printing roller, arranged to be moved in one direction by the irictional contact between a printing surface and a surface to be printed upon, carried br said printing roller and plank. an adjustable friction surface on sald plank, and a flange or: sald shaft adaoted to engage said frictional surface at the termination of such impression and complete the movement of said plank in the same direction, and means for returning said plank.

\section*{No. 100,655. Cement Bnilding Block.}

Bloc de construction en ciment.
George W. Roberts. Ravenna. Nebraska, U.S.A.. 29th August. 1906 ; 6 years. Filed 21st July, 1906. Receipt No. 138,037.
Olatm.-1. A building block comprising a body formed with a centrally vertically arranged opening, one end of the
body being formed with a dovetalled groove extending vertically thereof and of greater width at its inner end than

the width of said opening, the opposite end of the body being provided with a wedge-shaped rib of less length than the depth of the groove, the dovetailed groove and rib being of greater extent transverse the block than the similar dimension of the vertically arranged opening whereby to provide the maximum air space at the ends of the block.
2. A building block comprising a body including two integral sections arranged at a right angle to each other. and each of the sections being formed with centrally ar ranged openings, the terminal of one section having a wedged-shaped groove, and the terminal of the other section being formed with a wedged-shaped rib of less length than the depth of the groove, the dovetalled groove and rib being of greater extent transverse the block than the similar dimensions of the vertically arranged opening, whereby to provide the maximum air space of the ends of the block.

\section*{No. 100,656. Packing for Piston Rods.}

Garniture pour bielles de piston.


John Thomas Wilson, Jersey Shore, Pennsylvania, U.S.A., 28th August. 1906; 6 years. Filed 9th July, 1906. Recelpt No. 137,652.
Claim.-1. A packing for piston valves and pistons comprising a wide ring, two expansible snap rings, and means for holding in parallel positions the inner portions or edges of the snap rings.
2. A packing for piston valves and pistons comprising a wedge ring, two wall rings, two snap rings, and a Nolde ring between the snap rings.
3. A packing for piston valves and pistons comprising an expansible wedge ring. two non-expansible wall rings, two expansible snap rings, and an expansible wide ring.
4. A packing for piston valves and pistons provided with two expansible snap rings, and an expansible wide ring, said wide ring interlocking with the edges of the snap rings.
5. A packing for piston valves and pistons having two bearing rings and a wide ring between said rings with its edges engaging the said bearing rings, whereby the bearing rings are held parallel.
6. A packing for piston valves and pistons having two bearing rings and a wide ring located between and interlocking with said bearing rings, whereby a bearing ring is 1. revented from expanding into a port.
7. A packing for piston valves and plstons having two expansible bearing rings and a wide expansible ring between and interlocking with sald rings, said wide ring having an
opening or holes therethrough for the passage of steam to the underside thereof when over a port.
8. A packing for piston valves and pistons having a wide ring provided with a series of longitudinal grooves in its exterior surface, for the purpose set forth.
9. A packing for plston valves and pistons having two bearing rings and a wide ring engaging said two rings, the exterior surface of the said wide ring being provided with a series of longitudinally disposed grooves and ribs or bastard threads.
10. The combination with a piston valve or piston, of a packing comprising two snap rings, a wide ring, two wall rings, and a wedge ring, means being provided for admitting ateam to the inner surfaces of the wedge and snap rings.
11. The combination with a piston valve or piston, of a packing having two snap rings each provided with a groove in one of its sides, and a wide ring with its edges located it the grooves and movable therein.
12. The combination with a piston valve or piston, of a packing comprising two snap rings, a wide ring, two nonexpansible wall rings, and a wedge ring, means being provided for the admission of steam to the under surface of the packing.
13. The combination with a piston valve or piston, of two snap rings, a wide ring with an opening therethrough, two wall rings, and a wedge ring, means being provided for the admission of steam to the under surface of the packing.
14. A packing for piston valves and pistons comprising a wedge ring, two wall rings with bevelled surfaces or sides, two snap rings each having one side bevelled and each provided with a groove, and a wide ring between the snap rings.
15. A packing for piston valves and pistons having two bearing rings spaced apart and a wide ring interlocking with said bearing rings, the exterior surface of said wide ring being provided with a serics of grooves and ribs or projections.

No. 100,657. Cold Storage Bailding. Batisse frigorifque.


Bernt A. Norman, Logan, Utah, U.S.A., 28th August, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,634.
Claim.-A cold storage bullding consisting of outer and inner lagged walls and an intermediate lagged division wall forming air spaces at opposite sldes thereof, a lagged roof and flooring constituting continuations of the division wall, sa!d roof being peaked, an inner lagged wall constituting a portion of the roof and forming an air space thereabove, stpplemental walls within the building and spaced from the inner lagged walls of the sides and roof and terminating above the floor and adjacent the apex of the celling, sald supplemental walls forming flues for conducting air from the floor of the bullding to the apex of the ceiling, and ice chamber supported from the celling and having imperforate walls and an outlet in the bottom thereof, and a drip box disposed below the outlet, the alr outlet between the upper ends of the supplemental walls being disposed above the center of the ice receptacle.

\section*{No. 100,658. Cooler for Gramular Material.} Refroidisseur pour matieres granulatres.
Charles Arthur Matcham, Allentown, Pennsylvania, U.S.A., 28th August. 1906; 6 years. Filed 1st June, 1906. Recelpt No. 136,479.
Clatim.-1. The combination in a cooler for powdered or granular material. of a casing and a series of deffectors disposed one above another therein, all of said deflectors being ot less diampter than the casing. whereby gpaces for the upward flow of air are provided between the deflectors and the casing, substantlally as specified.
2. The combination in a cooler for powdered or granular material, of a casing, a serics of deflectors disposed one
above another therein, all of less diameter than the casing. sc as to provide passages for the upwand flow of air between

the casing and doflectors, and a central air pipe having openings for supplying air to the masses of material contained in the deflectors, substantially as specified.
3. The combination in a cooler for powdered or granular material, of a casing. a series of deflectors diaposed one above another in sald casing, all of less diameter than the same, whereby air pasages are provided between the deflectcrs and the casing, a central pipe for supplying air to the masses of material contalned in the deffectors, and air supplying means at the lower portion of the casing independent of that provided by the central pipe, substantially as specified.
4. The combination in a cooler for powdered or granular material, of a vertical casing having a draft stack at the top, a series of defeotors disposed one above another in said casing, all of less diameter than the same, so as to provide passages for the upward flow of air between the deflectors and the casing, and means for supplying to the casing alr for passage through the successive bodies of material contained in the deflectors, substantially as specified.

No. 100,659. 'Jar Closure. Fermeture de jarre.


Walter John Hough, Montreal, Quebec. Canada, 28th August,
1906; 6 jears. Flled 12th May, 1906. Receipt No. 185,836.
Claim.-1. A jar closure comprising a body portion having an angularly formed rim at the top edge thereof surrounding the opening thereinto and an annular ledge projecting from the inner wall thercof immediately below the inner incline of said angular rim. a cover having an annular recess and its bed formed angularly corresponding to said rim, a fat rubber gasket extending oompletely across sald angular rim when said cover is in position end having its inner edge resting on said ledge, and means for lastening said cover to sald body portion, as and for the purpose specifiod.
2. A jar closure comprising an annular tongue on one member fitting into an annular groove on the other member, a flat rubber gasket extending completely around sald tongue and across said groove and introduced therebetween, and a suitable fastening ring securing sald cover in position and adapted to squeeze said gasket between the members, as and for the purpose specified.

No. 100,660. Printing Device. Apparcil d imprimer.


Andrew Holtun, Clinton, Wisconsin, U.S.A., 28th August, 1906; 6 years. Filed 18th May, 1906. Receipt No. 136,047.
Claim.-1. A printing device consisting of a holder in the form of a frame having parallel bars oppositely recessed at one end to provide clearance space, type and space blocks having sliding engagement with the frame bars, and a locking slide engaging said bars.
2. A printing device consisting of a holder in the form of a frame having parallel bars oppositely recessed at one end to provide clearance space, type and space blocks having sliding engagement with the frame bars, another block having similar engagement with said bars, lugs extending from the latter block, and set screws engaged with the lugs to oppose the aforesald bars.

No. 100,661. Packing. Garniture.


Adrian O. Van Dervort, Troy. New York, U.S.A., 28th August, 1906; 6 years. Filed 31st May, 1906. Receipt No. 136,455.
Claim.-1. A packing ring embodying a casing, comprising segments together constituting less than a circle, composed of metal soft and mobile under the influence of the heat of steam under pressure, and a radially reducible ring of similar metal located within the casing and radially reducible under the compression of the casing upon the application of heat and circumferential pressure thereto.
2. The packing ring embodylng a ring comprised of a number of segments having a bearing face for the rod and composed of metal soft, reformable and mobile under the influence of the heat and pressure of steam, and a casing of similar metal for said ring and comprised of a number of spaced apart sections in engagement with the outer perimeter of said ring, said casing having faces on the outer perimeter of the sections for receiving fluid pressure and pressing the ring against the rod and circumferentially compressing the ring and reforming the bearing surface as the same is reduced and worn away.
3. The packing ring embodying a goft, reformable, mobile metal ring comprised of a number of segments, and having a bearing face for the rod, and having its outer perimeter cylindrical, and a soft, reformable, mobile metal casing for said ring comprised of a number of spaced apart sections presenting a cylindrical inner face in engagement with the cylindrical outer permeter of said ring, said casing having faces on the outer perimeter of the sections for recelving fluil pressure and pressing the ring against the rod and circumferentially compressing the ring and reforming the bearing surface as the same is reduced and worn away.

\section*{No. 100,662. Feed Water Heater and Purifier. Apparcil à alimenter ot chawffer l'cau.}


Henry Esson Moffat, Woodstock, Ontario, Canada, 28th August. 1906; 6 years. Filed 27th October, 1905. Receipt No. 129,589.
Claim.-1. A feed water heater and purifier comprising a pure water chamber, an outlet pipe and an automatically operating check valve to allow of the egress of the contents of the pure water chamber and prevent the Ingress of atmospheric alr thereto.
2. A feed water heating and purifier comprising a pure water chamber, a suction pipe, a vent pipe for the suction pipe and an automatically operating check valve to allow of the egress of the contents of the vent pipe and prevent the ingresa of atmospheric air thereto.
3. A feed water heater and purifier compriaing a pure water chamber, a suction pipe, a vent pipe for the suction pipe, an automatically operating check valve to allow of the egress of the contents of the vent pipe and prevent the ingress of atmospheric air thereto, a pump connected with the suction pipe and an automatically operating check valve interposed in the suction pipe between the pump and pure water chamber.
4. A feed water heater and purifier comprising a pure water chamber, an overfiow pipe having its inner end above the high water level, and an automatically operating check valve fitted to the outer end of the overflow pipe opening outwards to permit of the egress of the contents of the overfiow plpe and prevent the ingress of the atmospheric air.
5. A feed water heater and purifier comprising a pure water chamber, suction and overfiow pipes therefor, an oil extractor, an oil drip pipe for the oll extractor and automatically operating check valves opening outwards to permit of the egress of the contents of the suction, overfiow and oil drip pipes and to prevent the ingress therethrough of atmospherlc air to the pure water chamber.
6. A feed water heater and purifer comprising a deflecting plate, a pure water chamber below the deflecting plate, a settling chamber at the side of the pure water chamber, a fiter interposed between the settling chamber and pure water chamber, and an auxillary inlet through the deflecting plate to the pure water chamber.
7. A feed water heater and purifier comprising a deflecting plate, a pure water chamber below the deflecting plate. a settling chamber, a filter interposed between the settling chamber and pure water chamber, an auxiliary inlet through the deflecting plate to the pure water chamber, a vertical partition for the auxiliary inlet extending above the deflecting plate, and a steam exhaust plpe having a steam outlet port above the top of the partition.
8. A feed water chamber below the deflecting plate. a settling chamber, a filter interposed between the settling chamber and pure water chamber, an auxiliary inlet through the deflecting plate to the pure water chamber, a vertical partition for the auxiliary inlet extending above the deflecting plate. a steam exhaust plpe having a steam outlet port above the top of the partition and a hood covering the top of the partition and separated therefrom to provide an opening for the unobstructed flow of the feed water over the top of the partition into the auxiliary inlet.
9. A feed water heater and purifier comprising a pure water chamber, a relief pipe therofor communicating with the atmosphere and an inwardly opening automatically operating check valve to prevent the egress of the contents of the pure water chamber through the relief plpe and to allow of the ingress of atmospheric air thereto when the pressure in the pure water chamber has fallen below atmospheric pressure.
10. A feed water heater and purifier comprising a pure water chamber, purifying means above the pure water chamber, reliet pipes above the pure water chamber and inwardly opening automatically operating check valves for the relief pipes to prevent the egress of the contents of the apparatus and permit of the ingress of atmospheric air thereto when the pressure therein has fallen below atmospheric prossure.
11. A feed water heater and purifier comprising a pure water chamber, purifying means above the pure water chamber, relief plpes above the pure water chamber, inwardly opening automatically operating check valves for the relief pipes to prevent the egress of the contents of the apparatus and permit of the ingress of atmospheric air thereto when the pressure therein has fallen below atmospheric pressure. and water sheds protecting the check valves to prevent the precipitates from the feeding water depositing thereon.
12. A feed water heater and purifier comprising a steam exhaust outlet, a relief pipe therefor, an inwardly opening automatically operating check valve therefor to prevent the egress of the contents of the steam exhaust outlet and to permit of the ingress of atmospheric air thereto when the pressure therein has fallen below atmospheric pressure.
13. A feed water heater and purifier comprising a steam exhaust outlet and a perforated shield therefor to allow of the free circulation of the steam and prevent the contents of the filters passing through the steam exhaust outlet.
14. A feed water heater and purifier comprising a steam exhaust plpe having steam outlet ports, purifying means located below the steam outlet ports, and internal overflow pipes extending through and above the purifying means but below the steam outlet ports.
15. A feed water heater and purifier comprising a pure water chamber, a main feed water inlet pipe, water channels to apply the pure water chamber from the main feed water inlet pipe and a supplemental feed water inlet pipe to supply the pure water chamber in the event of the usual channels becoming obstructed.

No. 100,663. Leach Emptier.
Appareil d vider les cendres de lessive.


William Pigott Plant, Hastings, Onotario, Canada, 28th August. 1906; 6 years. Filed 5th March, 1906. Receipt No. 133,580.
Claim.-A leach emptier consisting of a sprocket wheel \(A\), connected my means of a shaft \(B\), to bevel pinion \(E\), to drive the bevel gear \(F\), attached to disc \(M\) carrying spur pinion \(H\) in a pocket \(I\) to revolve in an integral gear \(G\), being fastened rigidly to the standards \(D D^{1}\), which are secured to the top of the leach cover, shaft \(J\) passing through pinion \(H\) and disc \(M\) to connect with the bevel gear \(R\) which drives bevel gear \(R^{1}\), carried in pocket \(P P^{1}\), and by which means it drives the screw cleaners \(S\) S \(S\) in a revolving motion, disc \(M\) secured to shaft \(N\), which revolves in the integral gear \(G\) to give it a revolving motion, which gives a circular motion to the screw cleaners SSS at the same time that it is revolved by the motion of the pinion \(H\) revolving in an integral gear \(G\), screw K, passing through disc \(M\) with shaft \(J\), pro-
vided with a split nut L star-shaped, which depresses or elevates the emptying mechanism by its coming in contact with pins \(L^{2} L^{2} L^{3} L^{4}\) secured to internal gear \(G\), and for quick removing when its work is done, disk \(M\), carrying shaft \(J\). and screw K, in a circular and a revolving motion at the same time, driven as before described, pitch hole \(V\) with a step \(U\), for holding rigidly shaft \(N\).

No. 100,664. Method of Applying Turbines to Locomotives.
Méthode dappliquer les turbincs aux locomotivee.


Lida Wilson, Greenock, Scotland, 28th August, 1906; 6 years. Filed 8th January, 1906. Recelpt No. 131,649.
Claim.-1. In a locomotive engine having reciprocating pistons, the comblnation therewith of turbines mounted on the driving axles and actuated by the exhaust gases from the engine's cylinders.
2. In a locomotive engine having reclprocating pistons the combination therewlth of turbines mounted on the bogie axles and driven by the exhaust gases from said engine's cylinders.
3. In a locomotive engine having reciprocating pistons the combination therewith of turbines mounted on the pony truck axles, and dríven by the exhaust gases from said engine's cylinders.
4. In a locomotive of the class described, and in combination with the reciprocating pistons, reversible turbines mounted on the driving, or bogie, or pony truck axles, casings for sald turbines, ball bearings supporting said casing on said axle, thrust bearings such as \(M\) on said casing and axle, and means for maintaining a steam tight connection between said axle and casing.
5. In a locomotive of the class described and in combination with the reciprocating pistons, driving, bogie or pony trucks, axles extending outside of their respective wheels, and reversible turbines mounted upon sald axle extensions.
6. A method of utilizing the exhaust gases of locomotive engine cylinders, which consists in causing the same to actuate a reversible turbine or turbines mounted on the driving or bogie, or pony truck axles of said locomotive.

\section*{No. 100,665. Detergent for 8couring Wool.} Détersif pour dégraisser la lainc.
Salo Wohle, London, England, 28th August. 1906; 6 years. Filed 29th January, 1906. Receipt No. 132,375.
Claim.-1. In a detergent for scouring wool the combination'with a vegetable saponin of mucilage and an oxidizing agent, substantially as described.
2. A detergent for scouring wool prepared by bolling linseed in water, straining the connection. adding thereto an extract produced by digesting stripped horse chestnuts with water, to which carbonate of soda has been added, straining the decoction and adding castor oil, acetic acid, and sodium peroxide.
3. A detergent for scouring wool prepared by bolling 2d pounds of linseed with 5 gallons of water, straining and
adding an. extract obtained by digesting 12 k pounds of stripped horse chestnuts in 5 gallons of water to which from 2 to 21 pounds of carbonate of soda has been added, straining and adding about if pound of castor oil followed by 1 oz . of acetic acid and about \(1 \frac{1}{} \mathrm{oz}\). of peroxide of sodium.
4 A detergent for scouring wool prepared by boiling together in 10 gallons water, to which 2 to \(2 \ddagger\) pounds of carbonate of soda have been added, \(2 k\) pounds of linseed and 123 pounds of stripped horse chestnuts. straining and adding about \(\$\) pound of castor oil followed by 1 oz . acetic acid and about \(1 \ddagger \mathrm{oz}\) of peroxide of sodium.
5. A detergent for scouring wool prepared by boiling 3 to 4 pounds of vegetable material yielding mucilage with 5 gallons of water, straining and adding an extract obtained by digesting 12d pounds of stripped horse chestnuts in 5 pounds of water with from 2 to \(2 \frac{1}{2}\) pounds of carbonate of soda, straining and adding about \(\frac{1}{6}\) pound of castor oll followed by 1 oz . acetic acid and about 1 f oz . of peroxide of sodium.
6. A detergent for scouring wool prepared by boiling vegetable matter yielding mucilage in water. straining and aduing a decoction obtained by digesting stripped horse chestnuts in water to which has been added carbonate of sola, straining, adding a fatty oil followed by a feeble acid and then adding a suitable peroxide.

No. 100,666. Exploaion Engine. Machire erplosice.


Eugenio Cantono, Rome, Italv, 28th August, 1906; 6 years. Filed 9th May, 1906. Recefpt No. 135,717.
Claim.-An automotic device for storing the energy of a rotating shaft and for starting or aiding the rotation of said shaft when required, comprising an epicyclic gear having a satellite element adapted normally to revolve translationally with regard to two sun elements, one of which is connected with the shaft and one with a suitable accumulator, the carrier of the satellite elemont being adapted to be retarded when required so as to enable the one sun clement to drive the other and'so store energy, the satellite carrier being adapted to be released so as to be able to continue its orbital movement, but not its rotary movement about its own axis when required, so as to enable the stored energy to be retarned to the driving shaft, substantially as hereinbefore described.

Now 100,007: Armusement Derice: Appareil d'amusement.


Herbert Horton Pattee. New York City. New York, U.S.A., 28th August, 1906; 6 years. Filed 23rd April, 1906. Receipt No. 135,186 .
Claim.-1. In an amusement device, a structure revolving over a circular track or path, in combination with one or
more cars or floats swinging or pendant from said structure and an enclosure placed about the course of the cars to produce tunnel effect and screen the cars from view.
2. In an amusement device, the combination with a structure revolving over a circular track or path, of one or more cars or floats swinging or pendant from sadd structure. means placed at various points in the line of travel to deflect the cars and an enclosure built about the course of the cars to produce a tunnel effect and screen the cars from view.
3. In an amusement device, the combination with a frame or structure revolving over a circular track or path. of one or more cars or floats swinging or pendant from said structure or frame, a tunnel placed about the course of the cars to screen the cars from view and doors working automatically at either end of the tunnel to exclude outsile light from entering the tunnel.
4. In an amusement device, the combination of a structure or frame with radial arms revolving over a circular track or path, of one or more cars or floats swinging or pendant from said structure or frame, of rollers or anti-friction means glaced in the line of travel of the cars to defiret them, a tunnel bullt about the course to screen the cars from view and doors in the tunnel to exclude outside light from entering the tunnel.
5. In an amusement device, the combination with a frame adapted to move around a central point and carry dependiao cars, screens in the line of travel of the cars to be aunmatically deflected as the cars pass them; and enclosed structure in the line of the moving cars, automatically operated doors at the opening and within the encleaed structure, and a water supply adapted to flow over the doors or the screens.

No. 100,668. Apparatus for. Stretching Fingezs. Appareil pour étendre les doigts.


Wilhelm Johannes Mennes, Amsterdam, Netherlands, 28th August. 1906; 6 years. Filed 23rd March, 1906. Receipt No. 134,207.
Claim.-1. In an apparatus of the class described, a pair of tongs pivotally connected to each other intermediate their extremities, spoon-shaped finger pieces movably connected adjacent to the ends of said tongs, and tension means for holding the tongs in a closed position.
2. An apparatus of the class described, including arms pivotally connected adjacent to one extremity of each arm, means for limiting the movement of said plates on the arms, and tension means acting upon said arms in a direction to bring together said plates.
3. A pair of tongs having a spoon-shaped plate pivotally mounted at the ends of each of the long arms, the oscillation of which plates is limited by stops, the short arms, by which the tongs are grasped and which are held apart by flat fork-like springs, being provided on the outside with horn-like projections to prevent slipping off of the hand and tc facilitate pressing the tongs into the openings between the fingers, substantially as and for the purpose hereinbefore described.
4. An apparatus of the class described comprising a pair of tongs associated side by side with respect to each other and pivotally connected spoon-shaped finger pieces pivotally connected to the ends of said tongs, and stops for limiting the movement of said finger pleces.
5. An apparatus of the class described comprising a pair of tongs pivoted centrally together, movable finger pieces connected at one end of each of the tongs, springs carried by each tong, the free terminals of which acting upon the respective tongs for normally holding the finger pieces together.
6. An apparatus of the class described including pivotally connected members forming arms, one terminal of each arm forming a handle having projections to prevent slipping off of the hand and to facilitate pressing the tongs into the opening between the two fingers, tension means interposed between the arms to hold the same normally closed, pivotal filger pieces carried at the opposite terminals of the arms, and stops on the arms for limiting the motion of the finger pieces.

No. 100,669. Hot Air Engine. Machine à air chaud.
Franz Stolze, Charlottenburg, Germany, 28th August, 1906;
6 years. Filed 17th September, 1904. Receipt No. 118,491.
Claim.- 1 . The improved method of increasing the efficiency of hot air and gas engines, which consists in using a decreased quantity of motive fluid, so as to decrease the work of compression thereof and mixing a small quantity of steam with said motive fluid as a substitute for the excess thereof, said quantity of steam corresponding exactly to the quantity of heat otherwise absorbed by said excess of motive fluid, substantially as set forth.
2. The improved method of increasing the efficiency of hot air and gas engines, which consists in using a decreased quantity of hot air so as to decrease the work of compression thereof, and mixing a small quantity of combustible liquid with said motive air as a substitute for the exces's thereof, said quantity of combustible liquid corresponding exactly to the quantity of heat otherwise absorbed by said excess of air, substantially as set forth.

No. 100,670. Water Closet Fiush Valve.
Chasse d'eau pour cabinets d'aisance.


Charles H. Moore, New York City, New York, U.S.A., 28th August, 1906; 6 years. Filed 3rd February, 1905. Receipt No. 122,196.
Claim.-1. A flush valve for water closets or urinals having a smoothly bored chamber 1, a piston 2 within the chamber, a cup washer 3 on the piston, a cap 4 to hold the cup washer in place, a valve 5, a depending guide 6 having ports 7, 7 , in the slde, a recessed cap 15 having ports 16,16 , through i: communicating with a groove 17 in the cap and a channel 18 in the body of the valve, a relief valve 10 operating against a valve seat on the bottom of the cap 15 by a push spindle 13 and a spring 14 within the cap, and a channel 21 having a regulating screw 23 upon the crown of the inlet spud, as and for the purpose set forth.
2. A flush valve for water closets or urinals having ia smoothly bored chamber 1, a piston 2 within the chamber, a cup washer 3 on the piston, a valve 5 , a depending guide 6 having ports 7,7 , in the side, a recessed cap 15 having ports 16,16 , through it communicating with a groove 17, in the cap and a channel 18 in the body of the valve, a relief valve 10 operating against a valve seat on the bottom of the cap 15 by a push spindle 13 and a spring 14 within the cap, and an adjustable fitting 9 screwed on a fitting in the interior of the plston 2, as and for the purpose set forth.
3. A flush valve for water closets or urinals having a smoothly bored chamber 1, a piston 2 within the chamber, a cup washer 3 on the piston, a valve 5, a depending guide 6 having ports 7,7 , in the side, a recessed cap 15 having one or more ports through it communicating with the channel IS, a rellef valve 10 operating against a valve seat on the bottom of the cap 15 by a push spindle 13 and a spring 14 within the cap, and a means provided for regulating the length of time that the valve 5 is to remain up from Its seat and the closet is to be flushed.
4. In combination with a flush valve for water closets or urinals having a smoothly bored chamber 1 , a piston 2 within the chamber 1 , an outlet valve 5 , and a rellef valve by which the water pressure on top of the piston is reduced to a minimum when the sald rellef valve is opened, of a
threaded plug 25 screwed into the side of the inlet spud of the valve body to regulate the flow of water to the closet, and a cap 27 inclosing the outer end of the said plug to prevent any leakage.
5. In combination with a flush valve for water closets having a smoothly bored chamber 1 , a piston 2 within the chamber 1, and a relief valve by which the water pressure on top of the piston is reduced to a minimum when the said relief valve is opened, of a metal ring 28 fitted on the upper end of the body of the device under the cap 15 and arranged so that the rubber cushion on its can be turned in any position and secured there, as and for the purpose set forth.
6. A flush valve for water closets or urinals having a smoothly bored chamber 1, a piston 2 within the said chamber, a channel 21 extending from the lower to the upper part of the chamber 1, a regulating valve 23 operating on a valve seat within the channel 21, a discharge valve 5 having a depending guide 6 with ports 77 in the side, a recessed cap 15 having one or more ports 16 in its communicating with a channel 18 in the body of the valve, a relief valve to take the pressure from the upper part of the piston and allow the discharge valve 5 to be lifted from its seat and a cup washer 3 on the piston arranged to close the inlet of the channel 21 when the discharge valve is near its seat.

No. 100,671. Meang of Pleating and Hanging Curtains, Etc.
Moyen de plisser et pendre les rideaux, etc.


George Frederick French, Manchester, and William Henry
Pinch, Birkenhead, both in England, 28th August, 1906;
6 years. Filed 22nd May, 1905. Receipt No. 125,412.
Claim.-1. In means for pleating or gathering and suspending curtains and the like, a curtain, a tape equal in length to the width of the curtain and afined by its two longitudinal edges to the curtain, a series of eyelets let into the said tape at equal and short distances apart along its whole length, a draw tape between the curtain and tape fixed at one end, and loose at the other, and a series of hooks for suspending the tapes and curtain, engaging the said eyelets in the tape, as set forth. -
2. In means for pleating or gathering and suspending cur tains and the like, a curtain, a tape equal in length to the width of the curtain and affixed by its two longitudinal edges to the curtain, a series of eyelets let into the said tape at equal and short tistances apart along its whole length, and a series of books for suspending the tape and curtain, engaging the said eyelets in the tape, as set forth.
3. In means for suspending curtains and the like, a curtain, a tape affixed along its longitudinal edges to the curtain and eyelets let into the tape at short distances apart for its whole length, substantially as set forth.

\section*{No. 100,672. Eite. Cerf-volant.}

Alfred Jacques Bergeron, Bordeaux, France, 28th August, 1906; 6 years. Flled 9th December, 1905. Recelpt No. 130,852 .
Claim.-1. A kite of the character described consisting in the combination with a main supporting section or plane, of a second or directing section detachably supported by the main section, ant a third or compensating section detachably supported by the said second section, all arranged in the manner and for the purpose specified.
2. A kite of the character described consisting in the comblnation with the maln supporting section or plane having a depending rod, of a second or directing section having a
rod provided with a socket into which socket the lower end of said depending rod fits, and a third or compensating sec-

tion having a socket into which fits the lower end of the rod on the second section.

No. 100,673. Drying Apparatus for Malt, Etc. Apparetl à sécher la drèches.


Emil Ellermann, Berlin, Prussia, Germany, 28th August, 1906; 6 years. Filed 17th January, 1906. Receipt No. 131,944.
Claim.-1. Apparatus for drying malt and the like comprising in combination a hollow rotating shaft, a system of coil plpes of different diameter surrounding said shaft and connected therewith and means for conveying the goods to be dried.
2. Drying apparatus comprising a hollow rotating shaft, a system of connected coll pipes of different diameter concentric with sald shaft, branch pipes for leading off condensation water, and conveyers for feeding the goods to be dried.

No. 100,674. Smoke Consumer. Appareil fumivore.


George Cramond, Detrolt, Michigan, U.S.A., 28th August, 1906; 6 years. Filed 22nd January, 1906. Receipt No. 132,131.
Claim.-1. The combination of a fire door, a shaft horizon tally journalled thereabove, a U-shaped lever arm having its terminals attached to said shaft and depending therefrom in front of said fire door so as to be contacted and rocked thereby, an auxiliary door hinged to said fire door and covering an
opening therein, a link connecting said lever arm with said last-mentioned door and adapted to actuate the same when said lever arm is contacted and lifted by said fire door, a steam pipe adjacent to said shaft, a valve controlling the entrance of steam thereinto and a lever connection between sald U-shaped lever arm and said valve, and adapted to regulate the flow therethrough by the movement thereof, substantially as described.
2. The combination of a fire door, a shaft pivoted above said fire door, an arm on said shaft extending above and in front of said fire door and forming a cam surface adapted to be contracted and acted upon as a cam surface by said fire door, said arm having a notch or bend adapted to engage said fire door, an opening in said fire door, a second door hinged thereto and adapted to close said opening, means for connecting said second door with said arm, a steam pipe provided with a valve, and means for connecting said arm with said valve.
3. The combination of a fire door, a shaft rtatably journalled thereabove, a lever arm extending from said shaft and structuraliy integral therewith, a U-shuped lever arm depending from said shaft in front of said door, and affording a cam surface adapted to be acted upon thereby, an opening in sald fire door, a second door hinged to said fire door and adapted to close said opening, a link connecting said second door with said lever arm, a steam pipe provided with a plurality of jets, a valve therein, a connecting rod joining said valve with said lever arm, a second lever arm upon sald shaft, a cylinder and a piston linked thereto, and adapted to retard the movement of said shaft and the mechanism connected therewith while returning to its normal position, substantially as described.
4. In a furnace the combination of a fire door \(C\), provided with an opening therethrough, a door \(D\) hinged thereupon, and adapted to close sald opening, a shaft E extending above the door \(C\) and adapted to rotate in a plane at right angles to that of the door \(C\), a U-shaped lever arm \(E{ }^{1}\). depending in front of said door \(C\) and structurally integral with said shaft having a notch \(M\), a steam pipe \(G\), a valve \(G^{2}\), controlling the flow hrough said plpe, a connecting rod joining the lever arm \(E^{1}\) with the valve \(G^{2}\), and a connecting rod joining the lever arm \(E^{1}\), with the door \(D\) and adapted to actuate the same by movements of the shaft \(E\). a cataract gear, and means for connecting said shaft E therewith, substantially as described.
5. In a furnace the combination of a fire door \(C\), provided With an opening therethrough, a door D , pivoted upon the door \(C\), and adapted to close said opening, a shaft \(E\) extending above the door \(C\), and pivoted to turn in a plane at right angles to the plane in which the door C turns, a lever arm \(E^{1}\), shaped to form a cam extending over and in front of the door \(C\), so as to be engaged by sald door to rock sald lever arm when the door is opened, sald lever arm being shaped to form a notch so located that it shall engage said door to hold the same yieldingly in an open position, a steam pipe C, provided with a valve \(G^{2}\), a connecting rod joining the lever arm \(\mathrm{E}^{1}\) at a point a distance from the axis about which said arm turns, with the door \(D\) at a distance from the axis about which said door turns, a cataract gear, and means for connecting said shaft with sald cataract gear, and an adjustable arm on said shaft, as and for the purpose described.

No. 100,675. Drying Kiln. Four d sécher.


Elmer Ellsworth .Perkins, Chicago, Illinois, U.S.A., 28th August, 1906; 6 years. Filed 26 th February, 1906. Receipt No. 133,331.
Claim.-1. In a drying kiln. a closed housing having an upright partition dividing it into a drying chamber and an ad-
jacent compartment of relatively large cross sectional area communicating therewith at its upper end, a double bottom for the chamber directly connected with the lower end of said compartment and having inlets into the chamber increasing in area as they are farther from the compartment, curved guldes adjacent the inlets to direct the air as it enters the chamber, a condenser in the compartment, and heatIng means adjacent the inlets into the chamber, the alternate heating and cooling on opposite sides of the partition causing a continuous and free air current through the chamber, the variations in the areas of the inlets and the curved guides distributing the incoming air uniformly throughout the chamber, and preventing the formation of eddies and dead spaces.
2. In a drying kiln, a closed housing having an upright partition dividing it into a drying chamber and an adjacent compartment of relatively large cross sectional area communicating therewith at its upper end, a double bottom for the chamber, directly connected with the lower end of sald compartment and having inlets into the chamber increasing in area as they are farther from the compartment, curved guides adjacent the inlets and extending both above and below the plane in which the inlets are located, to direct the air as it enters the chamber, a condenser in the compartment, and heating means adjacent the inlets into the chamber, the alternate heating and cooling on opposite sides of the partition causing a continuous and free air current through the chamber, the variations in the areas of the inlets and the curved guldes distributing the incoming air unlformly throughout the chamber, and preventing the formation of eddies and dead spaces.
3. In a drying kiln, a closed housing having a transversely curved roof and an upright partition dividing the housing into a drying chamber and an adjacent condensing compartment communicating therewith at its upper end, a double bottom for the chamber having a direct and curved connection with the lower end of sald compartment and having inlets into the chamber increasing in area as they are farther away from the compartment, curved guides adjacent the inlets to direct the air as it enters the chamber, and heating means adjacent said inlets the alternate heating and coolIng on opposite sides of the partition causing a continuous and free air current through the chamber, the varlations in the areas of the inlets and the curved guides distributing the incoming air uniformly throughout the chamber, and acting, with the curved roof and the curved connection between the compartment and the double bottom of the chamber to prevent the formation of eddies and dead spaces.

No. 100,676. Funnel. Entonnoir.


Wallace Dawson, Montreal, Quebec, Canada, 28th August. 1906; 6 years. Filed 1st March, 1906. Receipt No. 133,443.

Claim.-1. A funnel having a bowl provided with a plurallty of narrow grooves or channels separated by plain bearing surfaces, whereby the filtering material will be maintalned upon said bearing surface and will bridge over sald grooves to allow the liquid to escape freely therefrom. 2. A funnel having a bowl provided with a plurality of narrow grooves or channels extending into the neck of said funnel, said grooves being separated by comparatively wide bearing surfaces, said bearing surfaces being maintalned throughout the depth of said bowl at a sufficient width to prevent the filtering material from flling said grooves and retarding the escape of the liquid.
3. A funnel comprising a conical bowl converging into a neck or tube, said bowl being provided on its inner surface with a plurality of narrow channels formed below the surface of the bowl and extending into the neck of the funnel. said channels being separated by comparatively wide bearIng surfaces for the filtering material, and said neck being provided with exterior air vent channels, substantially as described.
4. A funnel comprising a conical bowl converging inti a neck or tube, the inner surface of said bowl being plain and provided with a plurality of narrow channels formed below the surface of the bowl and extending into the neck of the funnel, said channels being separated by wide bearing surfaces for the filtering material, and said ncik bing provided with exterior air vent channels, substantially as described.
5. A funnel comprising a bowl converging Into a neck or tube, the inner surface of said bowl being plain and provided with narrow grooves or chann fls formed folow the plain surface of the bowl and extending into the neck of the funnel, said channels being separated throughout their entire length by wide bearing surfaces for the filtering material, and said neck being provided with exterior air vent channels.

\section*{No. 100,677. Pillow Sham Holder.}

Porte tait-d'oreiller.


Herbert J. Balley, Albion, New York, U.S.A., executor of the estate of Swan W. Cady. 28th August, 1906; 6 years. Filed 21st July, 1904. Receipt No. 117,115.
Claim.-1. In a plllow sham holaer, a tube, and means for firmly securing said tube to a bed, in combination with a rod provided with a loop at its upper end and vertically adjustable in said tube, means for firmly sscuring said rod at the position to which it is adjusted in sald tube, a bracket secured to and supported by said rod and provided at its opposite ends with loops in line with the loop on the upper end of said rod, and pillow sham holding arms held in place, supported by and laterally adjustable in sald loops in said rod and bracket, substantially as shown and for securing said foot to sald bed rail, and a folding clamp described and for the purpose specified.
2. In a plllow sham holder, a tube, a foot with which sald tube is provided, in which foot a socket is formed to adapt it to clasp the horizontal flange of a bed rail, means for securing said foot to said bed rail, and a folding clamp for securing said tube to the bar of an iron bed, in combination with a rod formed with a loop at the upper end and vertically adjustable in said tube, and means for securing said rod at the position to which it is adjusted in sald tube, a bracket secured to said rod and provided with loops on its outer ends in line with the loop on the upper end of said rod, and plllow sham holding arms supported by, held in vlace, and laterally adjustable in said loop, substantially as shown and described and for the purpose specified.
3. In a pillow sham holder, a tube, and means for securing sald tube to a bed, in comblnation with a rod vertically adjustable in said tube, and means for securing said rod at the position to which it is adjusted in said tube, a bracket secured to said rod, and laterally adjustable pillow sham holding arms supported by and held in place by sald rod and sald bracket, substantially as shown and described and for the purpose specified.

No. 100,678. Caulk for Horseshoes.
Orampon de fer a cheval.


John Durke, Jr., Woodbine, Iowa, U.S.A., 28th August, 1906;
6 years. Filed 2nd August, 1906. Receipt No. 138,361.
Claim.-1. A horseshoe caulk composed of a V-shaped outer plate of iron with an angular opening extending lengthwise of its body below the line of its free onds, and a steel plate fitting within the opening, the steel plate being provided with a pointed lug integral therewith and extending outwardly from the edges of the outer plate.
2. A horseshoe caulk consisting of a steel plate portion having a pointed lug extending from its edge and integral therewith, having a plate of iron folded upon the lengthwise edge opposite the lug, said iron portion enveloping one edge and entire side surfaces of the steel plate portion, substantially as shown and described.
No. 100,679. Clothes Washing Composition.

\section*{Composition pour laver le linge.}

John Marshall Hamilton, Sault Ste Marie, Ontario, Canada, 28th August, 1906; 6 years. Filed 22nd March, 1906. Receipt No. 134,163 .
olaim.-1. The herein described composition of matters consisting of carbonate of sodium, bi-carbonate of soda and sodium silicate, substantially as described and for the purpose specifled.
2. The herein dsecrlbed composition of matters for washing clothes, cottons and cloth materials consisting of and in the proportions of 6 pounds of carbonate of sodium, 1 pound of carbonate of soda, and 6 pounds of eodium silicate, substantially as described.

No. 100,680. Flectric Gas Lighter.


Giorgio Glorgi, Florence, Italy, 28th August, 1906; 6 years. Filed 19th March, 1906. Receipt No. 134,011.
Claim.-1. In an apparatus of the character described the combination of an electro-magnet tap, a burner co-acting
therewith, and a cut-out for preventing the action of said tap when the supply of gas is shut off.
2. In an apparatus of the character described, the combination of a supporting member provided with separate openings for admitting gas to the burner and for admitting gas to the pilot lamp, a rolling ball adapted to fit into each of said openings so as to close the same gas tight, an elec-tro-magnet, and a movable armature for said magnet, said movable armature being so positioned that in moving under the impulse of said magnet it rolls said ball from one of said openings to the other.
3. In an apparatus of the character described, the combination of a supporting member provided with an opening for admitting gas to the burner and with an opening for admitting gas to the pilot lamp, said member being further provided with a raised portion intermediate of said openings, a loose ball adapted to fit each of said openings gas tight, said ball being further adapted to roll over said raised portion when given an impetus for that purpose, an electro-magnet, and a movable armature for said electromagnet, said movable armature being so positioned as to strike said ball when the same is resting within one of said openings.
4. In an apparatus of the character described, the combination of a supporting member provided with an opening for admitting gas to the burner and a separate opening for admitting gas to the pilot lamp, a ball adapted to close each of said openings air tight, an electro-magnet, a movable armature for said magnet, sald armature being adapted to roll said ball from one of said openings to the other, and means operable while said electro-magnet is energized for preventing said ball from completely closing the opening into which it rolls.

No. 100,681. Oil Engine. Machine d huile.


Arthur Edward Whitehouse, Montreal, Quebec, Canada, 28th August, 1906; 6 years. Filed 20th March, 1906. Receipt No. 134,079.
Claim.-1. In an oil engine, a cylinder, a trunk piston sliding therein, an air tight crank case, an air tight oil reservoir, a carbureter attached to said cylinder, a wheel governor actuated oll pump, means for adjusting the stroke of said pump, means for compressing air in the crank case at each forward stroke of the piston, and means for utilizing said compressed air to force oil from the reservoir to the carbureter and the oil pump.
2. In an oil engine, a cylinder, a trunk piston sliding therein, an air-tight crank case, means for compresingg air in the crank case at each forward stroke of the piston, and means for utilizing said compressed air to blow the products of combustion out of the cylinder at the end of each forward stroke of the piston.
3. In an oil engine, a cylinder, a trunk piston, sliding therein, an air-tight crank case, means for compressing air in the cylinder at each return stroke of the piston, means for creating a partial vacuum in the crank case at each return stroke of the piston, and means for admitting air to the crank case at the end of each return stroke of the piston.
4. In an oil engine, a cylinder, a trunk piston sliding therein, a conecting rod pivoted to the piston, an air-tight crank case, and means for creating a partial vacuum in the crank case at each return stroke of the piston whereby lubricating oil will be fed to the connecting rod and the cylinder.
5. In an oil engine, a lubricating oil reservoir, means for heating the oil in said reservoir, a plutality of oll cups, an
open cell and a closed cell in each oll cup, oll strainers in said open cells, passages connecting the open cells and the closed cells, check valves in said closed cells, pipes regulating the lubricating oll reservoir and the open cells, regulating valves in said pipes, and passages leading from the closed cells for delivering oil.
6. In an ofl engine, a water jacketed cylinder, a water tank, a float in said tank, a pipe connecting the bottom of the water tank and the top of the water jacket, a second pipe connecting the top of the water tank and the cylinder, a valve seat in the mouth of said second pipe, and a needle on sald float adapted to fit into sald valve seat.
7. In an oil engine, a water jacketed cylinder, an air-tight crank case, an air-tight oil reservoir, a carbureter hinged to the cylinder cover, a hollow globe within the carbareter having a neck projecting into the cylinder, an oil pump, a wheel governor actuating said oll pump, a pipe connecting the crank case and the oil reservoir, and a check valve in said pipe adapted to prevent air escaping from the oil reservoir.
8. In an oll engine, a lubricating oll reservoir, means for lieating the oll in said reservoir, an air-tight fuel oll reservoir, a governor actuated oil pump, means for actuating said oil pump independently of said governor, and means for adjusting the stroke of said oil pump.
9. In an oil engine, a lubricating oil reservoir located in juxtaposition to the exhaust pipe, an air-tight fuel oll reservoir, a governor actuated oil pump, a lever for operating said oll pump independently of said governor, and an adJusting screw attached to said lever for regulating the stroke of said oll pump.
10. In an oil engine, a lubricating oll reservoir, means for heating the oll in sald reservoir, an air-tight fuel oil reservoir, a governor actuated oll pump, manually operable means for actuating said pump independently of said governor, and means for adjusting said manually operable means to regulate the stroke of the piston in the oll pump.
11. In an oil engine, a water jacketed cylinder, a water tank, a float in said water tank, a needle on said float, a carbureter hinged to said cylinder, a hollow member in said carbureter projecting into the cylinder, an air-tight oil reservolr, an oll pump, a wheel governor actuating said ofl pump, an alr-tight crank case, a pipe connecting the crank case and the oil reservoir, a check valve in said pipe, a lubricating oil reservoir, means for heating the oil in said reservoir, a connecting rod pivoted to the piston, and a longitudinal oil gutter extending along the top of said connecting rod.

No. 100,682. Catamenial Belts. Ceinture cataméniale.


Arthur Edward Luzzi, New York City, New York, U.S.A., 28th August, 1906; 6 years. Filed 8th May, 1905. Receipt No. 124,937.
Claim.-1. A napkin clip comprising a pair of arms, each arm having a laterally extending member which is formed With a reflex short finger, said finger being beneath said laterally extending member, whereby the clip may be detachably supported upon a pair of loops of tape, each loop being confined between an arm and the crotch of the finger thereon.
2. A napkin clip comprising a bar bent up at its ends to fcrm pendent arms, the latter having laterally extending members formed with reflex fingers, and a bar provided with cyes whereby it is loosely mounted upon sald arms.
3. A napkin clip comprising a bar having divergent arms whereby it is adapted to be suspended from a belt, and a loose bar prevented from slipping away from the latter by reason of the divergence of said arms.
4. A napkin clip comprising a bar having divergent spring arms whereby it is adapted to be suspended, and a bar close to the first and having eyes at its ends wheroby it engages sald arms.
5. A napkin clip comprising a bar having at its ends arms whereby it may hang from a belt or garment, and a sllding bar extending along the first and having at its ends means loosely engaging said arms so as to admit of its movement along said arms away from the first bar, means belng provided for preventing accidental separation of said bars.
6. A napkin clip comprising a bar bent up at its ends to form divergent arms which are adapted to hang from loops, said arms having laterally extending members formed with reflex members inserted within the loops, and a bar provided with eyes whereby it is loosely mounted upon said arms and prevented from becoming accldentally separated flom the first bar.

No. 100,683. Drill. Foret.


Henry John Lamb, London, and Alexander K. Kirkpatrick, Kingston, both in Ontario, Canada, 28th August, 1906; 6 years. Filed 17th July, 1906. Receipt No. 137,900.
Olaim.-1. In a drilling machine, the combination with the standards suitably supported and a cross bridge extending betwen the same, of a sleeve extending through the cross tridge and provided with inwardly extending bosses, a hollow shaft itting within the sleeve and provided with a spiral into which the bosses extend, a drill stock extending through the hollow shaft and provided with a suitable bit and suitably held in the hollow shaft and means for driving the sleeve, as and for the purpose speclited.
2. In a drilling machine, the combination with the standards sultably supported and a cross bridge extending between the same, of a sleeve extending through the cross bridge and provided with inwardly extending bosses, a hollow ghaft fitting within the sleeve and provided with a spiral into which the bosses extend, a drill stock extending through the hollow shaft and provided with a suitable bit and suitably held in the hollow shaft, means for driving the sleeve, and a tube at the lower end of the drill stock into which the drill extends, as and for the purpose specified.
3. In a drilling machine the combinatiln with the standards suitably supported and a cross bridge extending between the same, of a sleeve extending through the cross bridge and provided with inwardly extending bosses, a hollow shaft fitting within the sleeve and provided with a spiral into which the bosses extend, a drill stock extenting through the hollow shaft, a worm wheel secured on the sleeve and located in the slot in the bridge, a cross shaft supported in bearings in the bridge and provided with sultable crank handle and a worm secured on the cross shaft meshing with the worm wheel, as and for the purpose specified.
4. In a drilling machine the combination with the standards and drill stock and operating means for the same, and the bridge, of a crank shaft supported in bearings on the bridge, the major and minor sprockets secured on the cross shaft, the block provided with a depending hook and the sprocket chains passing around the block and over the sprocket wheels on the shaft. as and for the purpose specified.
5. The combination with the standards and bridge and the drill stock and spirally grooved hollow shaft through which the stock extents and is held, of a crossbar connected to the bridge by depending hangers and provided with depending lugs, a sleeve located in the drill stock and provided at the upper end with friction dogs designed to engage with the stock, and means for ralsing the sleeve for bringing the tails of the dogs into engagement with the depending lugs of the crossbar, as and for the purpose specified.
6. The combination with the standards and bridge and the drill stock and spirally grooved hollow shaft through which the stock extends and is held, of a crossbar connected to the bridge by depending hangers and provided with depending lugs, a sleeve located in the drill stock and provided at the upper end with friction dogs designed to engage with the stock, a crank shaft journalled in bearings on the bridge, a cam secured in the crank shaft, a lever fulcrumed and provided with a depending intermediate portion designed to ride on the cam, and a rod connecting the outer end of the lever with an arm atached to the sleeve on the drill stock, as and for the purpose specified.
7. The combination with the standards and bridge and sleeve extending through the bridge and provided with inwardly extending bosses and an upper external annular groove, of a hollow shaft provided with an internal spiral groove, a drill stock extending through the spiral hollow shaft and securely held therein, and a lever pivoted on a suitable bracket on the bridge and designed to engage with the annular groove at the upper end of the sleeve and means for raising the drill stock, as and for the purpose specifled.

No. 100,684. Car Journal Boz.
Coussinet d'cssieux de chars.


John Rudolph Schrader, Buffalo, New York, U.S.A., 28th August, 1906; 6 years. Filed 9th January, 1906. Receipt No. 131,715.
Olaim.-1. In a car journal box the combination with the body thereof and a car axle, of a bearing block provided with an old pocket in its curved underside, an opening leading through the block from said pocket to the top therof, and a groove in the top of said block which communicates with the opening and terminates at the block end over the axle, whereby the rotation of the car axle fills the oil pocket and forces oil through the opening to the top whence it flows through the groove to its termination and then downward by gravity upon the car axle to produce an automatic overhead oil feed, substantially as set forth.
2. In a car journal box the combination with the body thereof and a car axle, of a bearing block provided with a series of oil pockets in its curved under side, and a groove in its side connected by openings with said oil pockets, said groove extending to one end of the clock over the axle whereby oil is conducted to the end of the bearing block over the car axle, for the purpose specified.
3. In a car journal box the combination with the body thereof and a car axle, of a bearing block provided with a series of oil pockets in its curved under side, a plurality of grooves in its top side extending to at least one end of said bearing block and over the axle whereby the oil may drop by gravity upon the axle, and openings extending from the oll pockets to the grooves, whereby when the car is travelling the rotation of the axle will force oil into the recesses and up through the openings into the top grooves thereby producing an automatic overhead feed dircctlv upon the car axle.
4. In a car journal box the combination with tho body thereof and the car axle, of a bearing block upon said axle having a longitudinal series of enlarged pockets on its under curved side, one or more grooves in the top of said block extending the full length thereof and vertical channels connecting said enlarged pockets with the grooves whereby the axle is adapted to pick up oil from the box and to convey it to the pockets and thence through the channels to the aforesaid groove or grooves from which latter the oil returns by gravity to lubricate the axle.

No. 100,685. Lubricator for Axle Spindles. Graisseur pour essieux.


Walter Vandenburgh, Melrose, Massachusetts, U.S.A., 28th August. 1906; 6 years. Flled 21st March, 1906. Receipt No. 134,143.
Claim.-1. A lubricating device for an axle spindle, consisting of an axle spindle having a groove extending longitudinally upon the upper surface thereof and from the outer end of the spindle, a wick of absorbent material saturated with a lubricant, said wick filling the entire length, wifth, and substantially the depth of the groove in the spindle, with Its outer edge in engagement with the inner surface of the box used upon the spindle, a stiffening strip on one side of the wick extending the entire length of the wick and longitudinally thereto, and means to attach said strip to said wick. whereby the wick may be withdrawn from the groove in the spindle or reinstated therein from the outer end of the spindle while the box is upon the spindle and the entire groove be used to contain the lubricant.
2. A lubricating wick for an axle spindle, made from absorbent material, and stiffening strip on one side only of the wick but extending the entire length of the wick and longitudinally thereto, and means to attach said strip to sald wick, whereby the wick may be removed from or reinserted within a groove in the spindle of an axle from the outer end of the groove while the box is upon the axle spindle and the wick may be made the same size as the groove in the spindle.
3. A lubrlcating wick for an axle, made from absorbent material, a stiffening plate upon one side only of said wick but extending the entire length of the wick, and projecting points upon said plate which enter the wick and attach the wick to the stiffening plate, whereby the lubricating wick may be inserted or removed from a groove on the surface of an axle spindle from the end of the groove and the wick be made sufficiently large to fill the entire groove in the spindle.

\section*{No. 100,686. Bushing for Belt Pulleys.} Dé de poulies de courroies.
Daniel T. McNiel, Detroit, Mlchigan, U.S.A., 28th August. 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,677.
Claim.-1. A composite bushing for belt pulleys and the like comprising a plurality of layers of different material assembled and shaped to form a complete bushing, having a bore to fit upon a shaft and an exterior formed to fit within the central opening of a pulley.
2. A composite bushing for belt pulleys and the llke comprising layers of metal and material of greater compressibility secured together to form a unit, with a bore to fit upon a shaft and an exterior to fit within the central opening of a pulley.
3. A composite bushing for belt pulleys and the like comprising a layer of metal and a layer of material of greater compressibility secured together to form a unit, provided with a bore to fit upon a shaft and exterior to fit within the central opening of a pulley.
4. A composite bushing for belt pulleys and the like comprising two plates of metal with a layer of material of greater compressibility between them, the bushing being provided. with a bore to fit upon a shaft and an exterior to fit within the central opening of a pulley.
5. A composite bushing for separable pulleys and the like comprising a plurality of layers of metal and a more compressible material provided with a bore to fit upon a shaft
and an exterior to fit within the central opening of the pulley, said bushing being separable to permit placing the same

on a shaft or removing it therefrom without disturbing the shaft in its hangings.

No. 100,687. Ore Concentrator. Concentrateur de minerais.


Emil Deister, Fort Wayne, Indiana, U.S.A., 28th August, 1906; 6 years. Filed 31st July, 1906. Receipt No. 138,297 . Claim.-1. In apparatus of the class described, an oscillating lever having means in connection therewith to actuate the same, and having also a driving head, a driving rod extending through the head having sliding relation therewith and having also a threaded sleeve fixed thereon, a buffer secured to the rod and acting against the heat upon the side thereof opposite the sleeve, a check spring interposed between the head and adjacent end of the sleeve, an adjusting collar in connection with the sleeve, and an adjusting spring interposed between the head and the adjacent end of the collar.
2. In a device of the class described, a reciprocating driving head, a driving rod extending movably through the head, a buffer in connection with the driving rod and acting against the adjacent face of the head, a check spring in connection with the driving rod and acting against the head on the side thereof opposite the buffer, and an adjusting spring acting against the head coincidently with the check spring and having an independently adjustable connection with the driving rod.
3. An oscillating lever with a driving head, a driving rod extending movably through the head, a check spring having connection with the driving rod and acting against one face of the head, an adjustable buffer on the rod acting against the opposite side of the head, an adjusting spring acting against the head coincidently with the check spring, and a collar in adjustable connection with the driving rod and acting against the adjacent end of the adjusting spring.
4. In apparatus of the class described, an oscillating lever, a pitman suitably driven and having a crosshead adjustably seated against the lever, and a spring in adjustable connect!on with the pitman, which acts against said lever oppositely to said crosshead and holds the latter in seated position.

No. 100,688. Ratchet Wrench. C'lé d rochet.


George Seator Stevenson, Dunedin, New Zealand, 28th August, 1906; 6 years. Filed 8th August, 1906. Receipt No. 138,482.
Claim.-In combination a casing, a pair of corresponding superimposed ratchet discs mounted in said casing each provided at one side with an opening and independently re-t voluble, and a spring pawl mounted in said casing engaging said discs, substantially as and for the purposes set forth.

No. 100,689. Plough. Charrue.


Auguste Louis Vermeulen Claes, Beveren, Belgium, 28th August, 1906; 6 years. Filed 13th July, 1905. Receipt No. 126.859.

Claim.-1. A plough comprising a beam, a share on the beam, an auxiliary share disposed on the beam to the rear of the share.
2. A plough comprising a beam, a share on the beam, an auxiliary share adjustably disposed on the beam to the rear of the share.
3. A plough comprising a beam, a share on the beam, an auxillary share vertically and laterally adjustably disposed on the beam to the rear of the share.
4. A plough comprising a beam having a rear extension, a share on the beam and an auxiliary share on sald extension. 5. A plough comprising a beam having a rear extension placed at right angles thereto, a share on the beam and an aux liary share on said extension.
6. A plough comprising a beam having an extension thereon provided with a roughened surface, a binding membir adjustably disposed on the extension, a sheth disposed in the binding member, a share carried by the sheth and a share carried by the beam.
7. A plough comprising a beam having an extension thercon on both sides thereof, a share on the beam, and an adjustable auxiliary share carried adjacent each end of sald extension.

No. 100,690. Pulley. Poulie.


Johann George Hansler, Munich, Germany, 28th August, 1906;
6 years. Filed 2nd June, 1906. Receipt No. 136,503.
Claim.-A pulley characterized by a hub made in four or more parts, which are provided with chambers for the arms and which parts come into contact with each other, when the annular chamber which increases in width towards the center is loaded, when the bolts are tightened, and which parts recelve the spherical ends of the arms and which parts are drawn together by bolts parallel to the shaft and are thus connected with (secured to) the arms and the shaft at the same time.
No. 100,691. Coupling for Shafts, Etc. Joints d'arbres de couches, etc.


Johann George Hansler, Munich, Germany, 28th August, 1906; 6 years. Filed 2nd June, 1906. Receipt No. 136,504.
Claim.-Coupling for shafts and the like with two or more conical holes parallel to the axis, with slots for their whole length, characterized by the slots forming a direct connection between the conical holes and the bore of the coupling, thus producing by means of the conical holes themselves elastic jaws, which in the well known manner are pressed against the ends of the shafts, by driving conical keys into the holes.

\section*{No. 100,692. Mechanism for Trangmitting Movemente.}

Mécanisme pour transmettre le mouvemont.
The Standard Screw Company, assignee of Walter Beverly Pearson, all of Detroit, Michigan, and of Charles E. Roberts, Oak Park, Illinols, U.S.A., 28th August, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,170.
Olaim.-1. The combination with a reciprocating member and a movably supported member, of means for imparting movement to said movably supported member, said means comprising a pivoted lever disconnected from said reciprocating member which projects into the path of travel thereof and connection between said lever and said movably supported member.
2. The combination with a reciprocating member and a movably supported member, of means for imparting movement to sald movably supported member, said means comprising a pivoted lever disconnected from said reciprocating member which projects into the path of travel thereof and connection between said lever and said movably supported member, the point of connection of said movably supported member to said lever and the point of contact of said reciprocating member with said lever being at different distances from the pirotal point of said lever.
3. The combination with a reciprocating member and a movably supported member, of means for imparting move-

ment to said movably supported member, said means comprising a pivoted lever disconnected from sald reciprocating member which projects into the path of travel thereof and connection between said lever and said movably supported member, the point of connection of said movably supported member to said lever being between the pivotal point of said lever and the point of contact of said reciprocating member therewith.
4. The combination with a reciprocating member and a revoluble member fitted to and longitudinally movable in suitable bearings, of means for imparting movement to said revoluble member in one direction sald means comprising a pivoted lever which projects into the path of travel of said reciprocating member, a collar on said revoluble member, a housing provided with a recess the sides of which embrace said collar and connection between said lever and sald housing.
5. The combination with a reciprocating momber and 2 revoluble member fitted to and longitudinally movable in suitable bearings, of means for imparting movement to said revoluble member in one direction said means comprising a pivoted lever which projects into the path of travel of said reciprocating member, a collar on said revolude member, a housing provided with a recess the sides of which embrace said collar and connection between said lever and said housing, the point of connection of said housing to said lever and the point of contact of said reciprocating member with said lever being at different distances from the pivotal point of said lever.
6. The combination with a reciprocating member and a revoluble member fitted to and longitudinally movable in suitable bearings, of means for imparting movement to said revoluble member in one direction said means comprising a pivoted lever which projects into the path of travel of said reciprocating member, a collar on said revoluble member, a housing provided with a recess the sides of which embrace said collar and connection between said lever and said housing, the point of connection of said housing to said lever being between the pivotal point of said lever and the point of contact of said reciprocating member therewith.
7. The combination with a reciprocating member, of a hollow spindle, an auxiliary spindle fltted to and longitudinally movable in bearings in said hollow spindle, a pivoted lever which projects into the path of travel of said reciprocating member and connection between said pivoted lever and said auxiliary spindle.
8. The combination with a reciprocating member, of a hollow spindle, an auxiliary spindie fitted to and longitudinally movable in bearings in said spindle, a spring applied to sald auxiliary spindle, a stop which limits the movement of sald auxiliary spindle under the influence of said spring. a pivoted lever which projects into the path of travel of said reciprocating lever and connection between said lever and said auxiliary spindle.
9. Tho combination with a reciprocating membar, of a hollow spindle, an auxiliary spindle fitted to and longitudinally movable in bearings in said hollow spindle. a pin secured in said auxiliary spindle which engages a slot in said hollow spindle, a spring applied to said auxiltary spindle, a pivoted lever which projects into the path of travel of saind reciprocating member and connection between said plvoted lever and said auxiliary spindle.
10. The combination with a reciprocating member, of a hollow spindle, an auxiliary spindle fitted to and longitudinally movable in bearings in said hollow spindle, a ring on said hollow spindle, a pin secured in sidd ring ant auxiliary spindle which engages a slot in said hollow spindle. a spring applied to cald auxiliary spindle, a housing on said hollow spindle provided with a recess the sides of which embrace the ring pinned to said auxiliary spindle, a pivoted lever which projects into the path of travel of said reciprociating member and connection between said lever and said housing.
11. The combination with a reciprocating member, of a hollow spindle, an auxiliary spindle fitted to and longitudinally movable in bearings in said hollow spindle. a ring on said hollow spindle, a pin secured in said ring and in said auxiliary spindle which engages a slot in said hollow spindle. a spring applied to said auxiliary spindle, a housing on said hollow spindle provided with a recess the sides of which embrace the ring pinned to said auxiliary spindle. a pivoted lever which projects into the path of travel of said recprocating member and pivotal connection between said lever and sald housing, the relation being such that the point of pivotal connection of said housing to said lever and the point of contact of said reciprocating member with said lever will be at different distances from the pivotal point of said lever.
12. The combination with a reciprocating member, of a hollow spindle, an auxillary spindle fitted to and longitudinally movable in bearings in said hollow spindle, a ring on said hollow spindle, a pin secured in said ring and in said auxiliary spindle which engages a slot in said hollow spindle, a spring applied to said auxiliary spindle, a housing on said hollow spindle provided with a recess the sides of which embrace the ring secured to said auxiliary spindle, a pivoted lever which projects into the path of travel of said reciprocating member and connection between said lever and said housing, the point of attachment of said housing to said lever being between the pivotal point of sald lever and the point of contact of said reciprocating member therewith.
13. The combination of a reciprocating member, a povably supported member, and an intermediate member operated upon by said reciprocating member in one direction, connections between said intermediate member and said movably supported member arranged to transmit to said movably supported member a part only of the movement given to said intermediate member.
14. The combination of a reciprocating member, a movably supported member, an intermediate member operated upon by said reciprocating member, and connections between said intermediate member and said movably supported member, and means for giving to said intermediate member a movement in two directions for the purpose of transmitting a diminished amount of motion from the reciprocating member to the movably supported member.

No. 100,693. Mechanism for Transmitting Motion. Mécanisme pour transmettre le mouvement.


The Standard Screw Company, assignee of Walter Beverly Pearson, both of Detroit, Michigan, and of Charles E. Roberts, Oak Park, Illinois, U.S.A., 28th August, 1906; 6 years. Flled 22nd June, 1906. Receipt No. 137,171.
Claim-1. The combination with a revoluble member, of means for rotating said member, means to disengage said member from said means for rotating the same and means for stopping said revoluble member, said means comprising a stop or stops on sald revoluble member, a pivoted stop lever, a pin or projection theron, a spring applied to said lever to move the same pivotally to effect engagement of the pin or projection thereon with a stop on said revoluble mem-
ber, a driven shaft a cam thereon for moving said stop lever pivotally against the force of the spring applied thereto, said cam being provided with a recess to provide for pivotal movement of said lever under the influence of said spring.
2. The combination with a revoluble member, of means for rotating said member, means to effect engagement and disengagement of said member with the means for rotating the same, means to stop said member, comprising a stop or stops thereon, a pivoted stop lever, a pin or projection thereon, a spring applied to said stop lever for moving the same pivotally to effect engagement of the pin or projection thereon with a stop on said revoluble member, a driven shaft and a cam thereon for moving said stop lever against the force of said spring, said cam being provided with a recess to provide for pivotal movement of said lever under the influence of said spring and means to brake said revoluble member, sald means comprising an arm on said stop lever, a brake plug therein and a projection on the stop lever operating cam for imparting pivotal movement to said lever to depress said brake plug into frictional engagement with sald revoluble member.
3. The combination with a revoluble memiuer, of a driving shaft, a pinion thereon, a gear loosely mounted on said revoluble member, means to effect engagement an disengagement of said gear with said revoluble member, and means for stopping said revoluble member, said means comprising a stop or stops on sald revoluble member, a pivoted stop lever, a pin or projection thereon, a spring applied to said lever for moving the same pivotaliy to effect engagement of the pin or projection thereon with a stop or stops on said revoluble member, a driven shaft, a cam thereon for moving said stop lever pivotally against the forco of the spring applied thereto, said cam being provided with a recess to permit pivotal movement of said lever under the influence of said spring.
4. The combination with a revoluble member, of a driving shaft, a pinion thereon, a gear loosely mounted on said revoluble member, a clutch for effecting engagement and disengagement of said gear with said revoluble member. means to operate said clutch and means to stop saic sevoluble member, said means comprising a stop or stops on said revoluble member, a pivoted stop lever, a pin or projection thereon, a spring applied to said stop lever for imparting pivotal movement thereto to effect engagement of the pin or projection thereon with a stop on said revoluble member, a driven shaft, a cam thereon for moving said stop lever pivotally against the force of the spring applied thereto, said cam being provided with a recess to permit pivotal movement of sald stop lever under the influence of said spring.
5. The combination with a revoluble member, of a dividing shaft, a pinion thercon, a gear loosely mounted on said voluble member, comprising a stop or stop thereon, a pivoted stop lever, a pin or projection theron a spring apmeans to operate said clutch, means for stopping said revoluble member, comprising a stop or stop thereon, a plvoted stop lever, a pin or projection thereon. a spring applied to said stop lever for imparting pivotal movement thereto to effect engagement of the pin or projection thereon with a stop on said revoluble member, a driven shaft, a cam thereon for moving sald stop lever pivotally agalnst the force of the spring applled thereto, said cam being provided with a recess to permit pivotal movement of said stop lever under the influence of the spring applied thereto, and means for braking said revoluble member, said means comprising an arm on sald stop lever, a brake plug therein and a projection on said stop lever operating cam for imparting pivotal movement to said stop lever to depress said brake plug into frictional engagement with said revoluble member.
6. The combination with a revoluble member, of a driv ing shaft, a pinion thereon, a gear loosely mounted on said revoluble member provided with clutch teeth a sleeve splined to said revoluble member provided with clutch teeth for engaging the clutch teeth on said loose driving gear, means for maintaining the clutch teeth on said sleeve normally in engagement with the clutch teeth on said loose gear and means for imparting movement to said sleeve to disengage the clutch teeth thereon from the clutch teeth on sald loose gear and to stop said revoluble member, said means comprising an inclined stop or stops on said sleeve. a movable supported stop pin and means to impart movement to said stop pin to effect engagement and disengagement thereof with a stop on said clutch sleeve.
7. The combination with a revoluble member, of a drivIng shaft, a pinion thereon, a gear loosely mounted on said revoluble member provided with clutch teeth, a sleeve splined to said revoluble member provided with clutch teeth for engaging the clutch teeth on said loose driving gear. a spring applied to sald sleeve adapted to impart movement thereto to maintaln the clutch teeth thereon normally in engagement with the clutch teeth on sald loose driving gear and means for imparting movement to said sleeve to disengage the clutch teeth on sald loose gear and to stop said
revoluble member, said means comprising an inclined stop or stops on said sleeve, a movable supported stop pin and means to impart movement to said stop pin to effect engagement and disengagement thereof with a stop on said clutch sleeve.
8. The combination with a revoluble member, of means for imparting rotary movement thereto at relatively fast and slow speeds, said means comprising a driving shaft, pinions thereon, gears loosely mounted on said revoluble member, a clutch for effecting engagement and disengagement of the fast driving gear with said revoluble member, a sleeve for operating said clutch splined to said revoluble member between said clutch and the slow driving gear, said sleeve and slow driving gear being provided with olutch teeth, means for imparting movement to said sleeve to effect engagement and disengagement of the clutch applied to the fast driving gear, means for maintaining the clutch teeth on said sleeve normally in engagement with the clutch teeth on the slow driving gear when the clutch applied to the fast driving gear is disengaged and means for imparting movement to said sleeve to disengage the clutch teeth thereon from the clutch teeth on said slow driving gear and to stop said revoluble member, said means comprising an inclined stop or stops on said sleeve, a movably supported stop pin and means to impart movement to said stop pin to effect engagement and disengagement thereof with a stop on said clutch sleeve.
9. The combination with a revoluble member, of a driving shaft, a pinion thereon, a gear loosely mounted on said revoluble member provided with clutch teeth, a sleeve splined to said revoluble member provided with clutch teeth for engaging the clutch teeth on said loose gear, a spring applied to said sleeve for effecting engagement of the clutch teeth thereon with the clutch teeth on said loose gear and neeans for imparting movement to said sleeve to disengage the clutch teeth thereon from the clutch teeth on said loose gear and to stop said revoluble member, said means comprising an inclined stop or stops on said sleeve, a pivoted stop lever, a pin or projection thereon, a spring applied to said stop lever for moving the same pivotally to effect engagement of the pin or projection thereon with a stop on said sleeve, a driven shaft, a cam thereon for imparting pivotal movement to said stop lever against the force of the spring applied thereto, said cam being provided with a recess to permit pivotal movement of said stop lever under the influence of said spring.
10. The combination with a revoluble member, of a driving shaft, a pinion thereon, a gear loosely mounted on said revoluble member provided with clutch teeth, a sleeve splined to said revoluble member provided with clutch teeth for engaging the clutch teeth on said loose gear, a spring applied to said sleeve for effecting engagement of the clutch teeth thereon with the clutch teeth on said loose gear, means for imparting movement to said sleeve to disengage the clutch teeth thereon from the clutch teeth on said loose gear and to stop said revoluble member, said means comprising an inclined stop or stops on said sleeve, a plvoted stop lever, a pin or projection thereon, a spring applied to said stop lever for imparting pivotal movement thereto to effect engagement of the pin or projection thereon with a stop on sald sleeve, a driven shaft, a cam thereon for imparting movement to said lever against the force of the spring applied thereto, said cam being provided with a recess to permit pivotal movement of said stop lever under the influence of said spring, and means for braking said shaft, said means comprising an arm on said stop lever, a brake plug therein, and a projection on the stop lever operating cam for imparting pivotal movement to said stop lever to depress said brake plug into frictional engagement with said revoluble member.
11. The combination with a revoluble member, of means for rotating the same at relatively fast and slow speeds, said means comprising a driving shaft, pinions thereon, gears loosely mounted on said revoluble member, means to effect engagement and disengagement of said gears with said revoluble member and means to stop said revoluble member, said means comprising a stop or stops thereon, a pivoted stop lever, a pin or projection thereon, a spring applied to said lever for imparting pivotal movement thereto to effect engagement of the pin or projection thereon with a stop on sald revoluble member, a driven shaft, a cam, thereon for imparting plvotal movement to said stop lever against the force of the spring applied thereto, said cam being provided with a recess to permit pivotal movement of said stop lever under the influence of said spring.
12. The combination with a revoluble member, of means for rotating the same at relatively fast and slow speeds, said means comprising a driving shaft, pinions thereon, gears loosely mounted on said revoluble member, means for effecting engagement and disengagement of said gears with said revoluble member, means for stopping said revoluble member, sald means comprising a stop or stops on said member, a pivoted stop lever, a pin or projection thereon, a spring
applied to said stop lever for imparting pivotal movement thereto to effect engagement of the pin or projection thereon with a stop on said revoluble member, a driven shaft, a cam thereon for imparting pivotal movement to said stop lever against the force of the spring applied thereto, said cam being provided with a recess to permit pivotal movement of said stop lever under the infiuence of sald spring and means for braking said revoluble member, said means comprising an arm on said stop lever, a brake plug therein and a projection on the stop lever operating cam for imparting pivotal movement to said stop lever to depress said plug into frictional engagement with said revoluble member.
13. The combination with a revoluble member, of means for imparting rotary movement thereto at relatively fast and slow speeds, said means comprising a driving shaft, pinions thereon, gears loosely mounted on said revoluble member, a clutch for effecting engagement and disengagement of the fast driving gear with said revoluble member, a sleeve for operating said clutch splined to said revoluble member between said clutch and the slow driving gear, said sleeve and slow driving gear being provided with clutch teeth, means for imparting movement to said sleeve for effecting engagement and disengagement of the clutch applied to the fast driving gear, said means comprising a pivoted lever, a driven shaft, a cam thereon, projections on sald lever, one of which engages a groove in said sleeve and the other of which engages a cam on sald driven shaft, a spring applied to said clutch operating sleeve for imparting movement thereto to effect engagement of the clutch teeth thereon with the clutch teeth on the slow driving gear, means to impart movement to said sleeve to disengage the clutch teeth thereon from the clutch teeth on sald slow driving gear and to stop said revoluble member, said means comprising an inclined stop or stops on sald sleeve, a pivoted stop lever, a pin or projection thereon, a spring applied to said stop lever for imparting pivotal movement thereto to effect engagement of the pin or projection thereon with a stop on said clutch operating sleeve, a driven shaft, a cam thereon for imparting pivotal movement to said stop lever against the force of said spring, said cam being provided with a recess to permit pivotal movement of sald stop lever under the influence of said spring.
14. The combination with af revoluble member, of means for rotating the same at relatively fast and slow speeds, said means comprising a driving shaft, pinions thereon, gears loosely mounted on said revoluble member, a clutch applied to said fast driving gear, a sleeve for operating said clutch splined to said revoluble member between said clutch and the slow driving gear, means to impart movement to said sleeve to operate said clutch, sald sleeve and slow driving gear being provided with clutch teeth, a pivoted lever, a driven shaft, a cam on said shaft, said pivoted lever being provided with projections one of which engages a groove in said sleeve and the other the cam on said driven shaft. said sleeve actuating lever being also provided with a cam surface, a lever pivoted adjacent thereto provided with a projection and a spring applied to said lever for maintaining the projection thereon in engagement with the cam surface on said sleeve actuating lever, the relation of parts being such that engagement of sald projection with said cam sur face will impart movement to said sleeve to effect engageinent of the clutch teeth thereon with the clutch teeth on said slow driving gear and means to disengage the clutch teeth on said sleeve from the clutch teeth on said slow driv ing gear and to stop said revoluble member, sald means comprising an Inclined stop or stops on said sleeve, a pivoted stop lever, a pin or projection thereon, a spring applied to said stop lever for imparting pivotal movement thereto to effect engagement of the pin or projection thereon with a stop on said sleeve, a driven shaft and a cam thereon for imparting pivotal movement to said stop lever against the force of said spring. sald cam being provided with a recess to permit pivotal movement of said stop lever under the influence of said spring.
15. The combination of a revoluble member, means for rotating same at relatively fast and slow speeds, means for moving said member from engaging position with sald fast speed device to engaging position with said slow speed device, stop mechanism, means for operating suid stop mechanism first to disengage positively said member from said slow speed device and thereafter to hold said member against movement.
16. The combination of a revoluble member, means for rotating said member at relatively fast and slow speeds. means to effect engagement and disengagement of the driving connections, a stop mechanism, means to operate said stop mechanism, the relation being such that said stop mechanism will be actuated to stop sald revoluble member while said revoluble member is rotating under the influence of one of said driving connections and means controlled by the operation of said stop mechanism for effecting disengagement of said driving connection.

No. 100,694. Driving and Reversing Meohanism. Mécanisme de commande et transmission de mouvement.


The Conkling Company, assignee of Allan Conkling, assignee of Frederick Snow, all of Chicago, Illinols, U.S.A., 28th August, 1906; 6 years. Filed 5th March, 1906. Recelpt No. 133,558.
Claim.-1. In a driving and reversing mechanism, a shaft to be driven in combination with means adapted for moving said shaft in opposite directions, and a reversing mechanism actuated by the movement of said shaft, substantially as described.
2. An automatic driving and reversing mechanism, the automatic operation of which is positively controlled and timed by the movement of its driven element, substantially as described.
3. In an automatic driving and reversing mechanism, a driven shaft for connection with the machine to be driven, In combination with means for rotating the shaft alternatIng in opposite directions, and means geared to said driven shaft and positively controlling and timing the operation of said shaft by the shaft rotating means, substantially as described.
4. In a driving and reversing mechanism, a shaft in combination with oppositely rotated clutch members means for connecting elther thereof with said shaft, an intermitting member for operating the clutches, and a member continuously connected with said shaft and operating said intermitting member, substantlally as described.
5. In a driving and reversing mechanism, a working member in combination with oppositely rotated clutches for driving said member, and a clutch operating and timing mechanism geared to and driven by said member, substantially as described.
6. In a driving and reversing mechanism, an element to be driven in combination with oppositely rotating parts for moving said element in opposite direction, means for engaging either of sald parts with said element, a reversing mechanism, and means actuated by the driven elcment for operating said reversing mechanism, substantially as described.
7. A driving and reversing mechanism comprising a shaft to be driven in combination with oppositely rotated clutch parts thereon, a common clutch part attached to said shaft, a draft mechanism for actuating the latter clutch part and a shifter for controlling the operation of said draft mechanism, substantially as described.
8. In a driving and reversing mechanism, a shaft to be rotatively reciprocated, in combination with oppositely rotated clutch members revolvable about sald shaft, an intermediate clutch member slidably fixed upon said shaft for alternate engagement with said oppositely rotated clutch members, a draft mechanism slidably fixed upon said said shaft for actuating said intermediate clutch member, means upon the oppositely rotated clutch members for co-operation with said draft mechanism, and means for automatically and positively actuating said draft mechanism by the movement of sald shaft, substantially as described.
9. A driving and reversing mechanism comprising a driven shaft, in combination with oppositely rotated clutch parts thereon, a common clutch part attached to sald shaft. a mechanism for actuating the latter, a shifter for controlling the operation of said mechanism, and means whereby sald shifter is actuated from said shaft, substantially as described.
10. A driving and reversing mechanism comprising a driven shaft, in combination with opposite direction clutch parts thereon, a clutch part longitudinally movable on said shaft for engagement with either of the first-mentioned clutch parts to cause said shaft to rotate therewith, a
draft device carried by sald shaft, and means revolvable with the first-mentioned clutch parts and adapted for reciprocating said draft devices, substantially as and for the purpose specified.
11. A driving and reverhing mechanism comprising a shaft to be driven in combination with opposite direction drivers therefor, means longitudinally movable upon sald shaft and revolvable therewith for connecting said drivers to the shaft alternately, and means actuated by sald shaft for controlling the alternation of such driving connections, substantially as described.
12. In a driving and reversing mechanism, a driven shaft in combination with opposite direction drivers revolvable about said shaft, a clutch part shiftable upon said shaft, for alternate engagement with said drivers, a draft device also shiftable upon said shaft for operating said clutch part and having the described freedom of movement, parts carried by and operable with relation to said drivers for actuating said draft device to shift said clutch parts, and means external to said drivers for controlling the action thereof, substantially as described.
13. A driving or reversing mechanism comprising a driven shaft in combination with opposite direction drivers, and means for connecting the same to sald shaft alternately. a shifter controlling such action, a shifting block for actuating said shifter, and a timing mechanism for operating sald block. substantially as described.
14. In a driving and reversing mechanism, a shaft to be rotatively reciprocated, in combination with driven clutches for driving said shaft, clutch operating means including parallel rocking shafts, and cam devices for actuating said rocking shafts to shift the clutches, substantially as described
15. In a driving and reversing mechanism, a shaft to be rotatively reciprocated, in combination with driven clutches for driving said shaft, clutch operating means including parallel rocking shafts, cam devices for actuating said rocking shafts, and means positively connected with the driven shaft and actuated thereby for automatically operating said cams, substantially as described.
16. A driving and reversing mechanism comprising a shaft to be driven in combination with oyposite direction drivers or clutch parts, corresponding clutch narts for connecting the same with said shaft alternately, shiftable devices controlling such action, a pair of rocking shafts connected with said devices, a shifting block provided with elevations, and rider arms upon said rocker shafts for communicating the movement of said blocks thereto to cause the reversal of the clutches upon the first-mentioned shaft, substantially as described.
17. A driving and reversing mechanism comprising a shaft to be driven in combination with opposite direction drivers or clutch parts, corresponding clutch parts for connecting the same with said shaft alternately, shiftable devices controlling such action, a pair of rocking shafts connected with said devices, a shifting block provided with elevations, rider arms upon said rocking shafts for communlcating the movement of sald block thereto to cause the reversal of tho clutches upon the first-mentioned shaft, and means reclprocated by the first-mentioned shaft and adapted to operate said block intermittently, substantially as described.
18. In a driving and reversing mechanism, a shaft to be rotatively reciprocated. In combination with clutch members concentric with said shaft and driven in opposite directions. co-operating clutch posts revolvable with said shaft, a clutch operating member slidably fixed upon sald shaft, a draft device slidably fixed upon said shaft for actuating sald clutch ope ating merber, co-0-eraing draft parts movably arranged in the opposite rotated clutch members, shifting rings arranged upon the latter for actuating and locking sald cooperating draft parts, and means for operating said shifting rings, substantially as described.
19. A driving and reversing mechanism having a starting lever in combination with a closed oll-containing casing enclosing sald mechanism and carrying means for operation of said lever, substantially as described.
20. In a driving and reversing mechanism a power shaft and the associated parts in combination with a casing enclosing the same and substantially concentric with said shaft, and a driving wheel upon the exterior of the casing and concentric therewith, substantially as described.
21. In a driving and reversing mechanism a shaft to be driven in combination with opposite direction clutch parts revolvable thereabout, a shiftable clutch part for connecting the first-mentioned clutch parts to sald shaft alternately, a draft device provided upon said shaft, nuts provided in the first-mentioned clutch parts and which boing engnged with said draft device cause the longitudinal movement thereof, and shiftlng rings upon said clutch parts for operating and locking said nuts, substantlally as described.
22. A driving and reversing mechanism comprising a shaft to be driven in combination with a clutch part revolvable about said shaft and driven in opposite directions, partial nuts laterally movable in sald clutch parts, means on the clutch parts for shifting said nuts, an intermediate clutch
part revolvable with and slidable upon said shaft, threaded draft sleeves slidable upon said shaft suitably connected and adapted to engage opposite ends of said clutch parts, substantially as described.
23. In a drving and reversing mechanism, a shaft to be driven, in combination with opposite direction clutch parts revolvable about said shaft, a clutch member movable with relation to said clutch parts and having wedge recesses in its periphery, friction rings upon said clutch parts and provided with ends held in the wedge recesses of said member, and means for shifting said member to tighten said rings alternately, substantially as described.
24. In a driving and reversing mechanism, a shaft, in combination with opposite direction clutch members revolvable about said shaft, an intermediate clutch member slidably fixed upon said shaft and provided with peripheral wedge recesses, split rings frictionally engaged with said opposite direction clutch members and having their ends held in the wedge recesses of said intermediate member, and means for shifting said intermediate member, substantially as described.
25. In a driving and reversing mechanism, a shaft, in combination with opposite direction clutch members revolvable about said shaft, an intermediate clutch member slidably fixed upon said shaft and provided with peripheral wedge recesses, split rings frictionally engaged with said opposite direction clutch members and having their ends held in the wedge recesses of said intermediate members, said intermediate member and said split rings together being comparatively elastic and resilient, and means for shifting said intermediate member, substantially as and for the purpose specified.
26. A driving and reversing mechanism comprising a driven shaft in combination with opposite direction drivers, a shifting clutch mechanism, positive shifting means, and means actuated by the final rotation of the shaft in each direction and adapted to actuate the shifting means, substantially as described.
27. In a driving and reversing mechanism, a shaft to be rotatably reciprocated, in combination with clutch members revolvable about the same, an intermediate clutch part slidably fixed upon said shaft, clutch parts revolvable therewith and frictionally engaged with respective clutch members. threaded sleeves slidably fixed upon said shaft to abut and operate with said intermediate clutch part and capable of relative or lost motion with respect thereto, partial nuts arranged in said clutch members, and means for moving the same into and out of engagement with. said threaded sleeves, as and for the purpose specified.
28. In a driving and reversing mechanism, a shaft to be rotatively reciprocated, in combination with clutch members revolvable about the same, an intermediate clutch part slidably fixed upon said shaft, clutch parts revolvable therewith and frictionally engaged with respective clutch members, threaded sleeves slidably fixed upon said shaft to abut and operate with said intermediate clutch part and capable of relative or lost motion with respect thereto, partial nuts arranged in said clutch members, and means upon said clutch members for operating said partial nuts and for securing the same in engagement with said threaded sleeves alternately, substantially as described.
29. In a driving and reversing mechanism, a power shaft in combination with a shaft to be rotatively reciprocated a suitable opposite direction clutch mechanism for connection with said shaft, a clutch shifting mechanism, a reciprocating member for actuating the latter, and a second reciprocating member driven by the rotatively reciprocating shaft for actuating the first reciprocating member, substantially as described.
30. In a driving and reversing mechanism, a shaft to be rotatively deciprocated, in combination wth clutches, shiftable means for engaging the clutches with said shaft alternately, means geared to said shaft for actuating said shiftable means, and a power shaft connected with said clutches for driving them in opposite directions, substantially as described.
31. In a driving and reversing mechanism, a shaft to be rotatively reciprocated, in combination with clutches, shiftable means for engaging the clutches with said shaft alternately, means geared to and driven by said shaft for actuating said shiftable means, a power shaft connected with said clutches for driving them in opposite directions and a single driver for said power shaft, substantially as described.
32. In a driving and reversing mechanism, a shaft to be rotatively reciprocated, in combination with clutches, shiftable means for engaging the clutches with said shaft alternately, means geared to said shaft for actuating said shiftable means, a power shaft connected with said clutches for driving them in opposite directions, a driver for said power shaft, and a single direction ratchet interposed between said power shaft and said driver, substantially as described.

No. 100,695. Driving and Reversing Mechanism. Mécanisme de commande et transmission de mouvement.


The Conkling Company, assignee of Frederick Snow, all of Chicago, Illinois, U.S.A., 28th August, 1906; 6 years. Filed 4th June, 1906. Receipt No. 136,522.
Claim.-1. In a driving and reversing mechanism, a single direction driving shaft in combination with a driven shaft, cpposite direction clutch parts concentric with said driven shaft and driven by said driving shaft, a shiftable clutch member and shifting means operatively connected with said shiftable clutch member and continuously actuated by said driving shaft, substantially as described.
2. In a driving and reversing mechanism, a shaft to be driven, in combination with opposite direction driving clutches adapted for moving said shaft, in opposite directions, and a reversing single direction constantly rotated member governing said means and itself actuated by the movement of said shaft, substantjally as described.
3. In an automatic driving and reversing mechanism, a single direction constantly rotated driving shaft in combination with a driven shaft for connection with the machine to be driven, opposite direction driving clutch members rotated by said driving shaft for rotating the driven shaft alternately in opposite directions, and means geared to said driving shaft and positively controlling and timing the operation of said driven shaft by said opposite direction members, substantially as described.
4. In a driving and reversing mechanism, a shaft in combination with oppositely rotated clutch members, means for connecting either thereof with said shaft, an intermitting member for operating the clutches, and a continuously driven single direction member periodically operating said intermitting member, substantially as described.
5. In a driving and reversing mechanism, a single direction continuously driven shaft in combination with two clutch members continuously driven in opposite directions by said shaft, a shaft to be driven, a clutch mechanism for engaging said members with the last-mentioned shaft alternately and a cam continuously driven by the first-mentioned shaft and actuating and controlling said clutch mechanism, substantially as described.
6. In a driving and reversing machanism, a driving shaft ir combination with an element to be driven, oppositely rotating parts for moving said element in opposite directions, means for engaging either of said parts with said element, a reversing mechanism, and means actuated by the driving shaft for operating said reversing mechanism, substantially as described.
7. A driving and reversing machanism comprising a shaft to be driven in combination with opposite direction drivers therefor, means longitudinally movable upon said shaft and revolvable therewith for connecting said drivers to the shaft alternately, and a continuously rotated cam for controllng the alternation of such driving connections, substantially as described.
8. A driving or reversing mechanism comprising a driven shaft in combination with opposite direction drivers, and clutch devices for connecting the same to said shaft alternately, a shifter controlling such action, and a continuously rotated cam for actuating and timing said shifter, substantially as described.
9. A driving and reversing mechanism comprising a driven shaft in combination with continuously rotated opposite direction drivers, a shifting clutch mechanism, shifting yokes, and a continuously rotated cam engaged with said yokes and adapted to operate one in advance of the other, as and for the purpose specified.
10. In a driving and reversing mechanism, a single direction shaft in combination with a driven shaft to be rotatively reciprocated, a suitable opposite direction clutch mechanism driven by said power shaft for connection with
said shaft, a shiftable clutch member, a reciprocating draft mechanism for actuating the latter, and a cam rotated by said power shaft and controlling the operation of said draft mechanism, substantially as described.
11. In a driving and reversing mechanism, a driving shaft ir combination with a driven shaft, to be rotatively reciprocated, olutch members rotated by sald driving shaft, shiftable means for engaging the olutches with said driven shaft alternately, a worm on said driving shaft, a worm gear and a cam rotated with sald gear for actuating said shiftable means, substantially as described.
12. In a driving and reversing mechanism, a shaft to be rotatively reciprocated in combination with clutches, shiftable means for engaging the clutches with said shaft alternately, a clutch driving shaft, means geared to and driven by said driving shaft for actuating said shiftable means, and a single driver for sald power shaft, substantially as described.

\section*{No. 100,686. Mismufactrure of Fleotrical Insulating and Tron-iEent ConAuoting Compositions.}

Fabrication de compositions électriques isolantes et non conductrices de la chaleur.

La Societe Anonyme Matthey \& Co., assignee of Charles Clement, both of Vallorbe, Switzerland, 28th August, 1906 ; 6 years. Filed 27th October, 1905. Recelpt No. 129,615.
Olaim.-1. The process of producing an insulating and nonheat conducting composition, which consists in forming a plastic mass composed of amianthus, sulphate of lime and water, then moulding said mass, then drying the same, then impregnating said moulded mass by immersing the same in a compound of pitch or the like, rubber, and sulphur, the sald Impregnating compound being kept at a temperature, whereby vulcanization will take place.
2. An insulating and non-heat conducting article of manufacture, consisting of amianthus, sulphate of lime, pitch or the like, rubber and sulphur, vulcanized.

No. 100,697. Ball Beaning. Coussinet d boule.


The Chapman Double Ball Bearing Company of Canada, Toronto, Ontario, Canada, assignee of Charles H. Chapman, Winchester, Massachusetts, U.S.A., 28th August, 1906; 6 years. Filed 19th March, 1906. Receipt No. 134,031.
Claim.-1. A ball bearing comprising load carrying balls, a separating ball, and an independent tubular retainer within which the separating ball is loosely confined, said separating ball and its retainer interposed between two adjacent load carrying balls, in superfical contact therewith, and on a dead center llne therewith, as and for the purpose specified.
2. A ball bearing comprising load carrying balls, a separating ball, and an independent retainer for said separating ball of a length greater than the diameter of the separating ball and interposed between two adjacent load carrying balls and in superficial contact therewith, the retainers and their separating balls automatically adjusting them selves onto a dead center line relatively to said load carrying balls, as and for the purpose specified.
3. In a ball bearing, load carrying balls, a separating ball, a retainer for said separating ball having flared ends, said separating ball and its retainer being interposed between adjacent load carrying balls, as and for the purpose specified.
4. In a ball bearing; load carrying balls, a soparating ball, and a retainer for said separating ball, provided with means for confining said separating ball, within it, said separating
ball and its retainer being interposed between and in contact with adjacent load carrying balls, as and for the purpose specified.
5. In a ball bearing, load carrying balls, a separating ball, a retainer for said separating ball provided with means for loosely confining the separating ball thereln, and also provided with fiared ends, said separating ball and its retainer being arranged between and in contact with adjacent load carrying balls, as and for the purpose specified.
6. A ball bearing, comprising a series of load carrying balls, a separating-ball interposed between each adjacent two loadcarrying balls and an independent tubular retainer for each of said separating balls within which retainer the separatIng balls is confined, said retainer supported by and between the load carrying balls and adapted to automatioally maintain the separating balls on a dead-center Iine between adjacent load carrying balls. as and for the purpose specified.

No. 100,688. Ȩ,


Syver Lee and The Forston Manufacturing Company, both of Minneapolis. Minnesota, U.S.A., 28th August, 1806; 6 years. Filed 20th April, 1906. Receipt No. 135,082.
Claim. - 1 . An alternating rotary gearing mechanism comprising gearing and shafts, and a pair of clutches in combination with a reciprocating carriage for the loose clutch members, and an automatically operating shifter for periodically reciporcating the carriage to alternate the engagement of the clutches and reverse the direction of the revolutions of the gearing, substantially as set forth.
2. An alternating gearing mechanism comprising gearing and shafts and a pair of clutches in combination with a reciprocating carriage for the loose clutch members, an oscillatory lever for engaging the carriage to reciprocate it, and means operated by the driven mechanism for periodically oscillating the lever to reciprocate the carriage and alternate the clutch engagement, substantially as set forth.
3. An alternating gearing mechanism comprising gearing and a driving and a driven shaft, and a pair of clutches on the former shaft in combination with a reciprocating carriage for the loose clutch members, an oscillatory lever for engaging the carriage to reciprocate it, a screw on the driven shaft for moving the lever forth and back transversely to the carriage, and devices operating at the limits of such movements to throw the lever in opposite directions to reclprocate the carriage and reverse the direction of rotation of the driven shaft, substantially as set forth.
4. An alternating rotary gearing comprising a driven shaft, a bevel gear wheel thereon, a driving shaft, a pair of loose bevel pinions thereon meshing with the gear wheel at opposite points, clutch members carried by the pinions, corresponding loose clutch members, an intermediate reciprocating carriage for the latter, and an automatically operating shifter for periodically reclprocating the carriage to alternate the engagement of the clutches and reverse the direction of revolution of the gear wheel, substantially as set forth.
6. An alternating rotary gearing comprising a driven shaft, a b \({ }^{\text {nel }}\) gear wheel thereon, a driving shaft, a pair of loose bevel pinions thereon meshing with the gear wheel at opposite points, clutch members carried by the pinlons, corresponding loose clutch members, an intermediate reciprocating carriage for the latter, an osclliatory lever fulcrumed on a threaded portion of the driven shaft for deriodically reciprocating the carriage, and devices operating at the limits of the forth and back movements of the lever to throw it in opposite directions to move the carriage and alternate the clutch contacts, substantially as set forth.
6. An alternating rotary gearing comprising a driven shaft, a bevel gear wherl thereon, a driving shaft, a pair of loose bevel pinions thereon meshing with the gear wheel at opposite points, clutch members carried by the pinions, corresponding loose clutch members, an intermediate reciprocating carriage for the latter, an oscillatory lever fulcrumed on a threaded portion of the driven shaft, and projections on the gear wheel and driven shaft for engaging the lever at the limits of its travel on the shaft to throw it alternately in opposite directions to alternate the clutch contacts, substantially as set forth.
7. An alternating rotary gearing comprising a driven shaft, a bevel gear wheel thereon, a driving shaft, a pair of loose bevel pinions thereon meshing with the gear wheel at opposite points, clutch members carried by the pinions, corresponding loose clutch members provided with horizontal pins, a collar fixed on the shaft and having grooves in which said pins slide, an intermediate reciprocating carriage for the loose clutch members, and an automatically operating shifter for periodically reciporcating the carriage to alternate the engagement of the clutches and reverse the direction of revolution of the gear wheel, substantially as set forth.
8. An alternating rotary gearing, comprising a driven shaft, a bevel gear wheel thereon meshing with the gear wheel at opposite points, clutch members carried by the pinions, corresponding loose clutch members provided with norizontal pins, a collar fixed on the shaft and having grooves in which said pins slide, an intermediate reciprocating carriage for the loose clutch members, an oscillatory lever fulcrumed on a threaded portion of the driven shaft, and projeclions on the gear wheel and driven shaft for engaging the lever at the limits of its travel on the shaft to throw it alternately in opposite directions to alternate the clutch contacts, substantially as set forth.
9. In combination a pair of clutches, an intermediate reciprocating carriage for the loose members thereof, and an automatically operating oscillatory lever for actuating the carriage and locking it in position at the extremes of its movements, substantially as set forth.
10. In combination a pair of clutches, an intermediate reclprocating clutch carriage having opposite upwardly inclined surfaces, an oscillatory shifter lever fulcrumed intermediate said inclines and having rollers arranged to alternately engage them to reciprocate the carriage, and means for automatically oscillating the lever at intervals, substantially as set forth,
11. In comblnation a pair of clutches, an intermediate reciprocating clutch carriage having opposite upwardly inclined surfaces, a weighted shifter lever fulcrumed intermediate said inclines and having rollers arranged to alternately engage them to reciprocate the carriage, and means for automatically oscillating the lever past the perpendicular at intervals, substantially as set forth.
12. The combination with a stationary casing and an interior revoluble drum, of a driving shaft the rotation of which is constant in one direction, gearing connecting such shaft with the drum axis, and automatically operating mechanism for periodically changing the direction of moveineint of the gearing to reverse the direction of revolution of the drum, substantially as set forth.
13. The combination with a stationary casing and an interior revoluble drum, of a driving shaft the rotation of which is constant in one direction, gearing connecting such shaft with the drum axis, clutches for changing the direction of movement of the gearing, and an automatically operating shifter for moving the clutch members to alternate engagement and reversing the direction of the drum revolutions, substantially as set forth.

\section*{No. 100,699. Gas or Vapour Engine.} Machine à gaz ou rapeur.
The National Gas Drill Company, assignee of Otho Cromwell Durgea, all of Los Angeles, California, U.S.A., 28th August. \(1906 ; 6\) years. Filed 13th March, 1906. Receipt No. 133,860 .
Claim-1. A rear compression direct double acting gas or vapour engine having duplicate explosion chambers and ways at its ends, and a piston rod extending in said ways whereby equal action of the explosive charges in the opposite explosion chambers is maintained.
2. A rear compression direct double acting gas or vapour engine having duplicate explosion chambers, and ways for the piston rod open at both ends whereby the piston rod is accessible at each end of the engine.
3. A double acting free piston engine having ways at the ends of its body and having a piston rod provided with two piston heads and a rifle bar between them, a rifle sleeve mounted to rotate in one direction only extending into the compression chambers of the engine and being chambered by the piston heads on the compression stroke, the piston heads being hollow for that purpose.
4. A free piston engine having a sloping portion on its piston rod, a pump on its body the same being provided with

a spring returned piston and a bell crank pivoted to the body and provided with rollers, one engaging said sloping portion and the other engaging the pump piston for actuating the same whereby water may be circulated for cooling the body of the engine.
5. A frec piston engine having its body open at both ends and having a piston rod extending in and closing the openings at the ends, igniting devices actuated from the piston heads and a handle adapted to be detachably connected with the piston rod for starting the engine into operation.
6. A free piston engine having in its body ways at both ends and having a piston rod extending in and closing the ways at the ends and provided with a socket and an annular gain in one end of the piston rod and a handle for the piston rod provided with a normally released catch, and with means for causing the catch to engage the annular gain of the piston rod when the handle is inserted in the socket.
No. 100,700. Soldering Apparatus. Appareil à souder.


John Eldridge, Peter Kruse and the Astoria Iron Works, each an assignee of a third interest, all of Astoria, Oregon, U.S A.. 28th August, 1906; 6 years. Filed 31st July. 1906. Receipt No. 138.288 .

Claim.-1. In a can body soldering machine the combination of a stationary guide disposed in the range of travel of the can bodies and travelling carriers for advancing the can bodies along the guide, said carriers embracing the guide and freely slidable relative thereto and serving to maintain the guide in position and a vertically adjustable track upon which the carriers and can body guide are supported.
2. In a can body soldering machine the combination of a stotionary guide disposed in the range of travel of the can bodies and travelling carriers for moving the can bodies along the guide. said carriers slotted to receive and embrace the underside of the guide to maintain said guide in position and a vertically adjustably track upon which the carriers aro supported.
3. The combination with outside soldering devices of a can body guide, travelling carriers slotted to receive and embrace opposite sides of the guide and thereby maintain said guide in position and prevent movement in a lateral direction, a track below the gulde and upon which the carriers are supported, and means whereby the track and the superposed parts are vertically adjusted relative to the said soldering devices.
4. The combination of outside soldering devices, a can body guide, travelling carriers adapted to embrace opposite sides of the guides whereby the guide is maintained in position, said carriers arranged to move the can bodies along said guide, a vertically adjustable support for the carriers and guide, an Inside soldering device, and means for heating the soldering devices.
5. In a can body soldering machine an eudless travelling carrler having spaced blocks engaging and carrying the can bodies, and a can-body gulde comprising a plurality of set bars adapted to support the can body from the inside at intervals apart circumferentially, the blocks of the endless carrier being formed to continuously engage and support the can body guide and a vertically adjustable support for the carriers and can-body guide, substantially as set forth.
6. In a can soldering apparatus the combination with a can body guide, a track, endless travelling carriers supported thereby and arranged to support the can body guide as they move along the same, and means for adjusting vertically the said track, carriers and can body guide, substantially as set forth.
7. In a can soldering apparatus the combination with a set of stationary soldering devices arranged to operate upon the outside of the can bodies, another of soldering irons arranged to operate upon the cans from the inside, means for adjusting the latter soldering irons in relation to the outside soldering irons, a chamber arranged above the soldering irons for melting the solder, and a single source of heat supplying means arranged to melt the solder and leat both sets of soldering irons, substantially as set forth.
8. In a cad soldering machine the combination with the framework, of the soldering irons and heating chamber supported thereby a can body gulde, an endless travelling carrier for moving the can bodies along the guide, a track upon which is an independent adjustable framework for supparting the can body guide, the carrier and the track, substantially as set forth.
9. In a can body soldering machine a stationary gulde, travelling carriers operated to move the can bodles along the guide, a heating trough above the stationary guide supported separately thereof, a solder pot in said trough, outside soldering irons suspended from the inside of said trough and movable separately thereof, and an inside soldering iron supported by the stationary guide beneath the outside soldering irons, said inside iron being heated from the outside irons by contact therewith.
10. In a can body soldering machine, a soldering device comprising a vertically movable soldering iron adapted to act on the outside of the seam, means for applying solder to the seam beneath the iron, means for keeping the solder in a molten state and for heating the iron, in combination with a stationary inside soldering iron having contact with the outside soldering iron to be heated thereby and comprising a solid bar adapted by its position to form a rest for the can body directly under the seam, a support to which the inside soldering iron is rigidly attached, and an endless travelling carrier having spaced blocks at intervals apart to continuously support the inside soldering iron within the can bodies and to move the can bodies along the iron, substantially as set forth.
11. In a can body soldering machine the combination with an outside soldering iron and solder feeding devices, of a stationary can body guide comprising a top bar, a bottom bar and side rails adapted to support and steady the can bodies, the outside soldering iron being parallel with the top bar of the can body guide and arranged to normally rest thereupon and heat the same, but to be separated therefrom when a can blank passes.
12. In a can body soldering machine, the combination of a stationary guide disposed in the range of travel of the can bodies, a track below the gulde having a channelled upper surface, travelling carriers comprising blocks adapted to embrace the guide and to freely slide relative thereto to push the can bodies along the guide, sald blocks having laterally extending arms slidable in the channel of the track.
13. In a can body soldering machine the combination of a stationary guide disposed in the range of travel of the can bodies, a track below the gulde having a channelled upper surface, endless travelling carriers operable along said track, said carriers having slotted blocks adapted to embrace the guide and having interally extending arms operable in the channel of the track whereby the guide is maintalned in position and prevented from side movement.
14. In a can body soldering machine the combination of
a can body guide, a track below the guide having a channelled upper surface, endless travelling carriers operable along said track and having projected blocks with slots adapted to push the can bodies along the guide and having laterally extending arms slidably engaging the channel of the track, an inside soldering device, and means for heating the soldering device.
15. In a can body soldering machine, a con body guide comprising a top bar adapted to form both a support for the can body beneath the seam and an inside soldering iron therefor, longitudinally set bars adapted to contact with side of the can body at intervals apart circumferentially thereof, an outside soldering iron loosely supported over and in line with the inside soldering iron and vertically movable in its supports, an endless travelling carrier having spaced blocks at intervals apart adapted to engage the can bodies and also to support the inside soldering iron within the travelling can bodles, and a stationary track for the blocks of the endless carrier, substantially as set forth.
16. The combination of a solder feeding device, a soldering iron adapted to operate on the seam from the outside of the can body, a stationary can body guide having a rerelatively narrow top bar that also serves as an inside soldering iron, a stationary track, an endless travelling carrier having carrier blocks supported by the track and adapted to move the can bodies along the guide, and means for simultaneously adjusting vertically both the inner soldering iron and the track.
17. In a can body soldering machine the combination with solder feeding devices, of soldering irons operated on the seam from the outside of the can body, means for heating the solder and the soldering iron, and a soldering iron adapted to act on the seam from the inside, and receiving its heat by contact with the outside soldering tron.
18. A can body guide comprising a top bar having a relatively narrow top edge adapted to form a soldering iron for the inside of the can body, and longitudinally set stationary guide bars parallel with the top bar adapted to guide and steady, the can body in combination with outside soldering irons supported in line with the top bar and separately thereof, and means for adjusting the can body guide with relation to the outside irons to regulate their contact with the seam.
19. The combination with a soldering iron having a passage leading through the bottom face of the iron, a solder riceptacle located above the iron having an outlet aperture, a solder feeding tube leading from said outlet into the iron, a valve for controlling the flow of solder from the receptacle into the iron and means for setting the valve so as to regulate the fiow of solder.
20. The combination of a soldering pot having an outlet and tube connecting therewith, said tube having a contracted lower end and an outlet therefrom, a soldering iron circumscribing the tube and having a passage through the l'wer end and a valve normally stationary and passing into said tube, said valve having a reduced lower end controlling the delivery of the solder through the outlet of the tube, and means whereby the valve is adjusted to vary the quantity of the flow.
21. In a can body soldering machine a solder pot, a heating trough inclosing a heating chamber beneath the pot, sald chamber having a slot in the bottom, of a soldering iron loosely suspended in the slot and having its head standing above the bottom and its tip extending below the bottom of the trough, said iron having a passage leading through ito bottom face and a soldering feeding device comprising a feed tube extending from an outlet in the solder receptacle into the iron, and a controlling valve in said tube in combination with a stationary can body support, means for moving the can bodies along the support, and means for adjusting sald support vertically with relation to the bottom of the iron.
22. In a can body soldering machine a wiper comprising a hinge arm, a slldable plate on the arm detachable from it, a pad of flexible fabrlc detachably fixed on said plate and a spring clip as a means for securing the plate on the arm.

\section*{No. 100,701. Speed Changer. Changeur de vitcsse.}

The John Bertram \& Sons Company., Dundas, assignee of Augustus Wood, Hamilton, Ontario, Canada, 28th August. 1906; 6 years. FHled 6th June, 1906. Recelpt No. 136,592.

Claim.-1. In a composite speed changer the comblnation substantially as set forth, of a shaft. a pair of dissimilar sized clutching gears loose thercon, a clutch on sald shaft adapted to lock either of said gears to the shaft, a second shaft parallel with the first-mentioned shaft, a pair of dissimilar sized gears fast thereon and engaging sald clutching gears, a third shaft, a gear fast thereon engaging one
of the gears on the second shaft, a pair of dissimilar sized clutching gears loose on the third shaft, a clutch on the

third shaft adapted to lock thereto either of the gears thereon, a fourth shaft parallel with the third shaft, a pair of dissimilar gears fast thereon and engaging the clutching gears on the third shaft, additional dissimilar sized gears fast on the fourth shaft, a fifth shaft parallel with the fourth shaft, a gear splined thereon, a tumbling lever mounted on the fifth shaft and carrying the gear thereon, and a gear carried by the tumbling lever and engaging the gear splined on the fifth shaft and adapted to selectively engage gears on the fourth shaft.
2. In a composite speed changer the combination substantially as set forth, of a secondary speed changer adapted to impart selective speeds to a machine, a plate forming a part of said secondary speed changer and adapted for attachment to the machine, a gear forming part of said secondary speed changer, a casing separably secured to said plate, a primary speed changing mechanism in sald casing, comprising a shaft, a gear fast on said shaft and engaging the firstmentioned gear, an initial shaft, and means for imparting rotation to the last-mentioned shaft.

\section*{No. 100,702. Liquid Comonting Paint.}

\section*{Peinture d cimenter.}

The Standard Paint Company, New York City, New York, assignee of Herbert Abraham, Bound Brook, New Jersey, U.S.A., 28th August, 1906; 6 years. Filed 19th March, 1906. Recelpt No. 134,033.

Claim.-1. The herein described process of manufacturing liquid cementing paint which consists in dissolving in a volatile solvent under the application of heat, a weather proof plastic pitch of a colour adapted to be dominated by that an added pigment, allowing the solution to cool, and then adding a pigment which is relatively inert to the other ingredients.
2. The herein described process of manufacturing liquid cementing paint which consists in dissolving in a volatile solvent, a weatherproof and non-gelatinizing plastic pitch of a colour adapted to be dominated by that of an added pigment and incorporating an inert pigment with the solution.
3. The hereln described process of manufacturing liquid cementing paint which consists in incorporating or mixing iwith each other a volatlle solvent, a weatherproof plastic pitch of a colour adapted to be dominated by that of an added pigment and a pigment which is relatively inert to the other ingredients.
4. A liquid adapted for use as a paint, cement or the like. the said liquid containing a volatile solvent, a weatherproof and non-gelatinizing plastic pitch and an Inert pigment, the colour of which dominates that of said pitch.
5. A liquid adapted for use as a paint, cement or the like. the said liquid containing a volatile solvent, a weatherproof plastic binder which contains a waterproof pitch which appears light coloured and more or less pevious to light when viewed in a thin layer and a pigment the colour of which dominates that of the binder
6. A liquid adapted for use as a paint, cement or the like, the said liquid containing as a solvent one of the lighter hydro-carbon distillates as a binder, a waterproof pitch which appears light coloured and more or less pervious to light when viewed in a thin layer and as a pigment, a metallic oxide the colour of which dominates that of the pitch.

\section*{no. 100,703. Inhaler. Respirateur.}

Sharpe and Dohme, assignee of Benjamin Thomas Winchester, all of Baltimore, Maryland, U.S.A., 28th August, 1906; 6 years. Filed 17th January, 1906. Receipt No. 131,961.
Clains.-1. In combination a case containing a volatile substance mounted in the end thereof and a portion of which
projects outside of the said case, with a removable cap protecting the exposed volatile substance and secured through the same to said case.

2. A combination inhaler consisting of a shell, means for securing a volatile substance in said shell, means for admitting air through said volatile substance, a volatile substance secured to the end of said shell and projecting therefrom, and means for simultanegusly sealing said volatile substances.
3. A combination inhaler consisting of a shell, a divided or crystaline volatile substance in said shell, means for admitting air through said divided or crystaline volatile substance, a moulded volatile substance secured in the end of said shell and projecting therefrom, and means for simultaneously protecting sald moulded volatile substance and said divided or crystalized volatile substance from the air.
4. An inhaler consisting of a shell having an opening in one end covered by a valve of limited movement in combination with a detachable cap covering an opening in the other end of said shell and which operates said valve when nearing its closed position.
5. In an inhaler a shell containing a volatile substance and having an opening at each end of said shell, a valve operating to close one end of said shell in combination with a moulded volatile substance in the other end of said shell, and a removable cap closing the other end of sald shell and said moulded volatile substance and simultaneously operating sald valve.
6. In an inhaler a shell containing a volatile substance and having an opening at each end of said shell, a valve operating to close one end of said shell in combination with a removable cap closing the other end of said shell and simultaneously operating eaid valve.

No. 100,704. Car Asle Roz Mat
Oouvercle de boites d'essteux ds chars.


Alvin C. McCord, assignee of William C. Dunham, both of Chicago, Illinois, U.S.A., 28th August, 1906; 6 years. Filed 6th April, 1906. Receipt No. 134,672.
claim.-1. The combination with an axle box and a. Ild hinged thereto, of a spring thrust device extending on a line obliquely intersecting the mouth of the box when it is closed which spring thrust device re-acts against the lid and against a seat in a fixed base of resistance and has an angular movement both in respect to the lid and the box, substantially as described.
2. The combination with an axle box, of a lid hinged thereto by means of a separable hinge permitting the lid to be lifted from the box, and a spring thrust devive obliquely intersecting the mouth of the box when the lid is closed,
said spring thrust device re=acting against an inwardly projected intermediate portion of the lid and a fixed base of resistance on the box, said spring thrust device having an angular movement both in respect to the lid and the box and exerting a strain tending to maintain engagement between the hinge members, substautially as described.
3. The combination with an axle box having a fulcrum rib above its mouth opening, of a lid having at its upper edge a seat that engages sald fulcrum rib to form the lid hinge, a spring thrust device obliquely intersecting the mouth of the box when the lid is closed, and re-acting against an intermediate inwardly projecting portion of the lid and against a base of resistance on the box, said spring thrust device having an angular movement both in respect to the lid and the box when said lid is moved, substantially as described.
4. The combination with an axle box having a fulcrum rib above its mouth opening, of a lid having an open seat loosely engaging said fulcrum rib, a bolt pivoted to lugs on the box and working loosely through an inwardly projecting lug on the intermediate portion of the lid, a spring on said bolt reacting against said bolt and against the lug on said lid, sald bolt and spring having angular movement both in respect to the box and to the lid, said spring tending to maintain engagement between said fulcrum rib and seat, substantially as described.
5. The combination with an axle box and a lid connected thereto by a separable hinge, said box having outwardly projecting perforated bearing lugs, one of which is slotted and said lid having an inwardly projecting perforated lug, of a T-bolt having a shaft-like head seated in the perforated bearing lugs of sald box and having a flattened neck adapted to pass through said slotted lug under a lateral movement of said T-bolt, said T-bolt being passed through the lug of said lid and a colled spring on said bolt compressed between a collar thereon and the lug of said lid, substantially as described.
6. The combination with an axle box and a lid hinged thereto, sald box having perforated bearing lugs and said lid having an inwardly projecting perforated bearing lug, of a T-bolt having its head pivoted in the lugs of said box and having its free end passed through the lug of said lid, a spring on sald bolt pressing against the lug of said lid, the thrust device made up of said bolt and spring being movable from one side to the other of a dead center under movements of said lid, and a stop at the outer end of said bolt for limiting the opening movement of the box, substantially as des cribed.

No. 100,705. Car Axle Box Lid.
Consercle de boîtes d'essicues de chars.


Alvin G. McCord, Chicago, Illinois, U.S.A., 28th August, 1906 ; 6 years. Filed 6th Aprll, 1906. Receipt No. 134,673.
Claim.-1. The combination with an axle box and a lid hinged thereto, of a spring thrust device re-acting against the lid and against a seat in a fixed base of resistance inward of the axis of the lid hinge, said spring thrust device having an angular oscillatory movement both in respect to the lid and the box, and so disposed that its line of force intersects the mouth of the box when the lid is closed, substantially as described.
2. The combination with an axle box and a lid hinged thereto, of a spring thrust device re-acting against the lid and against a seat in a fixed base of resistance inward of the mouth opening of the lid, said spring thrust device having an angular osc!llatory movement both in respect to the lid and the box, and so disposed that its line of force obliquely intersects the mouth of the box when the lid is closed, and
said lld and its support being provided with means whereb: the movement of the lid carries said thrust device from ore side to the other of a dead center, substantially as described.

No. 100,706. Power Transmission Gears.
Engrenage à transmission de la force.


Erick Juno Swedlund, and Martin Anderson, assignee of a half interest, both of Atwater, Minnesota, U.S.A., 28th August, 1906; 6 years. Filed 4th June, 1906. Receipt No. 136,517 .
Claim.-1. The combination of a driving shaft, a driven shaft, a conoidal gear member connected with said driving shaft and free to gyrate, a buffer, means for rendering the same stationary in relation to said driven shaft, a conical roller for forcing said conoidal gear member into engagement with said buffer, and adjustments for regulating the pressure of said conoidal gear member.
2. The combination of a conoidal gear member, means for causing the same to gyrate, a revoluble casing, a bracket mounted within said revoluble casing and engaging said conodial member, and means for adjusting said bracket relatively to said casing.
3. The combination of a driven shaft, a revoluble member of substantially conoidal form connected therewith and free to gyrate, the larger diameter of sald conoidal member having the greater degree of movement, a gear member engaging said revoluble conoidal member and serving as a center around which the latter is free to gyrate, means for maintaining said conoldal member in positive functional ongagement with said gear member, and mechanism for actuating said conoidal member.
4. In a power transmitting gear the combination of a driving shaft, a driven shaft, reversible friction gearing connected with sald driving and said driven shafts and adapted to reverse the motion of said driven shaft, and mechanism for connecting sald friction gearing, said driving shaft and said driven shaft together so that all of said parts can be moved together as a whole.
5. In a power transmitting gear the combination of a gear member free to rotate upon its own axis and also to gyrate, sald gear member having a contact surface, a non-revoluble member provided with a contact surface of substantially conical shape engaged by said contact surface of said gear member, means for shifting the general position of said non-revoluble member relatively to said gear member, and mechanism connected with said gear member for transmitting power to or from the same.
6. In a power transmitting gear the combination of a hollow gear member free to rotate upon its own axis and also to gyrate, sald gear member having an internal contact surface, a member having an external contact surface engaged by sald internal contact surface of sald hollow gear member to rotate as aforesaid upon its own axis, a shaft connected with said hollow gear member for transmitting power to or from the same, and another shaft connected with said hollow gear member and having a rotary movement corresponding to the gyratory movement thereof.
7. In a power transmitting gear the combination of a gear member free to rotate upon its own axis and also to gyrate, sald gear member having a bearing surface, a member engaged by said gear member and provided with a bearing surface engaging said bearing surface of sald gear, whereby the latter is caused to rotate upon its own axis, means for causing said gear member to gyrate, and a revoluble shaft connected with said gear member by a universal joint.
8. In a power transmitting gear the combination of a hollow gear member provided with an inner bearing surface and an outer bearing surface, means for actuating sald gear member so as to cause the same to gyrate, and mech-
anism provided with separate bearing surfaces to be engaged by said inner and sald outer bearing surfaces respectively for the purpose of causing said gear member to rotate in opposite directions, and mechanism connected with said gear member for transmitting power thereto or therefrom.
9. In a power transmitting gear the combination of a driving member and a driven member connected in operative engagement with each other by means of changeable diameter contact surfaces, one of said members having a gy ratory movement and also a rotary movement, the other of said members being acted upon in response to said gyratory movement, and means for shifting one of said members bodily in relation to the other.
10. In a power transmitting gear the combination of a gear member free to rotate upon its own axis and also to gyrate, sald gear member having a contact surface, a nonrevoluble member provided with a contact surface of substantially conical shape engaged by said contact surface of said gear member, means for bodily shifting the position of said non-revoluble member relatively to said gear member, and mechanism connected with said gear member for transmitting power to or from the same.
11. In a power transmitting gear the combination of a gear member free to rotate upon its own axis and also to gyrate, sald gear member having a contact surface, a second member having a contact surface engaged by that of said gear member and adapted to co-act therewith for changing the speed thereof according to the positions of said gear and said second member relatlvely to each other, means for transmitting power to or from said gear member and mechanism for controlling the position of said gear member and said second member relatively to each other.
12. In a power transmitting gear the combination of a gear member free to rotate upon its own axis and also to gyrate, said gear member having a contact surface, a second member having a contact surface engaged by said contact surface of said gear member, thereby causing said gear member to rotate as aforesaid upon its own axis, a shaft connected with said gear member for transmitting power to or from the same, and another shaft connected with said last-mentioned shaft and having a rotary movement corresponding to the gyratory movement of said gear member.
13. The combination with driving and driven bodies, of variable speed gearing interposed between them, having engaging members, one of which rolls upon the other and is operatively connected with both of sa!d bodies, the memters being adjustable one with relation to the other to gradually change the relative diameters of their engaging surfaces.
14. The combination with driving and driven bodies, of variable speed gearing interposed between them having engaging members, one of which moves as a planet wheel rolling against the other, the members being adjustable one with relation to the other to gradually change the relative diameters of their engaging surfaces.

No. 100,707. Steam Turbine Packing. Garniture de turbines a vapeur.


The Allis-Chalmers Company, assignee of Robert Asa McKee, both of Milwaukee, Wisconsin, U.S.A., 28th August, 1906; 6 years. Filed 12th March, 1906. Receipt No. 188,810.
Olaim.-1. In a turbine a hard collar integral with the rotor and a circumferential soft co-acting strip grooved on its face portion on the stator.
2. In a turbine a collar on the rotor having its side face in a plane at right angles to the axis, and a relatively softer circumferential strid on the stator grooved in its co-acting face portion with the part beyond the groove in co-action with the side face of the rotor collar.
3. In a turbine a collar on the rotor having a side face in a plane at right angles to the axis, and a relatively softer circumferential sectional strip on the stator with a groove on its face portion and with the part beyond the groove in co-action with the side face of the rotor collar
4. In a turbine a packing including a strip quadrilateral in cross section and grooved and a hard means co-acting with the grooved face of the strip.
5. In a turbine a packing including a strip rectangular in cross section and grooved, and means in which said strip is caulked.
6. In a turbine a packing including a strip having a bearing portion and a groove, and means in which the strip is caulked, the groove forming a shoulder on which to caulk.
7. As an article of manufacture an arcuate packing strip rectangular in cross section of soft material grooved on its plane side.
8. A grooved caulking strip, substantially as and for the purpose shown and described.

No. 100,708. Internal Combuntion Engine.
Machine à combustion interne.


The Empire Oil Engine Syndicate, Limited, London, assignee of John Clay, 64 Mersey Road, Rock Ferry, Chester, England, 28th August, 1906 ; 6 years. Filed 27th March, 1905. Recelpt No. 123,717.

Claim.-1. An internal combustion engine comprising a working cylinder, an air pump, a mechanically actuated distribution valve between the air pump and the cylinder, a combustible mixture supply pump and a mechanically actuated distribution valve between the mixture pump and the cylinder, substantially as set forth.
2. An internal combustion engine comprising a working cylinder, an air pump, a mechanically actuated distribution valve between the air pump and the cylinder, a combustible mixture supply pump and a mechanically actuated distribution valve between the mixture pump and the cylinder adapted to have the amount of opening to the cylinder for the supply of mixture varied by varying the stroke of same, substantially as set forth.
3. In an internal combustion engine a cylinder, a piston working therein a mechanically operated valve for regalating and admitting combustible mixture to the cylinder, a fluid pressure reservoir, a separate reversing valve communicating with the cylinder and the said reservoir by passages and adapted to act as a combined inlet and exhaust valve, a link and double eccentric motion for operating said valve, variable throw lever mechanlsm connected with the combustible mixture supply controlling valve for varying and cutting off the stroke and fluid supply opening. substantially as set forth.
4. In an internal combustion engine a working cylinder, a compressed fluid reservoir, a reversing valve, a valve casing therefor, conduits in said casing communicating with the exhaust port and the combustion space of the cylinder respectively, and with the reservoir, and controlled by said valve and a valve setting reversing mechanism connected with sald valve, substantially as set forth.
5. An Interaal combustion engine comprising a cylinder a piston 5 working in same, a combustible mixture controlling valve 11 , a valve casing 10 , ports 12 communicating between the valve and the interior of the cylinder, a valve operating link 36 worked from and connected with the piston rod of the engine at one end, and at the other end with the valve and a shifting fulcrum to sald links between these ends adapted to be moved nearer to and further from the end connected with the valve by which the stroke of the valve and quality of combustible mixture supplied can be varied or cut off, substantially as set forth.
6. In an internal combustion engine a cylinder 1, a piston 5 working in it, a mechanically worked valve 11 for distributing and controlling the supply of combustible mixture to the cylinder, a pump 20 for supplying the combustible mixture, the distribution and flow of which is controlled by said valve, a mechanically moved valve 8 for distributing and controlling the supply of air to the cylinder, an air pump 15 for supplying air to the cylinder, the distribution and flow of which is controlled by said valve 8, a valve connected with the combustion space and with the exhaust port of the cylinder for reversing the engine, and a link motion for actuating sald reversing valve, and a reservoir containing fluid under pressure connected with said reversing valve, substantially as set forth.
7. In an internal combustion engine the combustion of cylinder 1, a piston 5, fluid inlet conduits 4 at the ends of the cylinder, an exhaust port 6 at the center of the cylinder, an automatic non-return valve 2 in the port 4, a valve chest 3 below the valve 2, a valve 8 for controlling and distributing the supply of air, a valve casing 7 , ports 9 communicating between the valve casing 7 and the valve casing 3, a valve 11 for regulating and controlling the supply of combustible fluid, a casing 10 in which the valve 11 works and ports 12 communicating between the valve casing 10 and the valve casing 3 at each end, substantially as set forth.
8. In an internal combustion engire the combination of cylinder 1, a piston 5 . fluid inlet condults 4 at the ends of the cylinder, an exhaust port 6 at the center of the cylinder, an automatic non-return valve 2 in each of the ports 4, a valve chest, below the valves 3 , a valve 8 for controlling and distrlbuting the supply of air, a valve casing 7 , ports 9 communicating between the valve casing 7 and the valve casing 3, a valve 11 for regulating and controlling the supply of combustible fluid, a casing 10 in which the valve 11 works, ports 12 communicating between the valve casing 10 and the valve casings 3 , an air pump 15 operated from the engine, a conduit 19 connecting the alr pump delivery with the valve casing 7, a combustible mixture pump 20 operated by the engine and a conduit 24 connecting the combustion pump delivery with the valve casing 10 , substantially as set forth.
9. In an internal combustion engine the combination of cylinder 1, a piston 5, fluid inlet conduits 4 at the ends of the cylinder, an exhaust port 6 at the center of the cylinder, an automatic non-return valve 2 in each of the ports 4, a valve chest 3 below the valve 2, a valve 8 for controlling and distributing the supply of air, a valve casing 7, ports 9 communicating between the valve casing 7 and the valve casing 3, a valve 11 for regulating and controlling the supply of combustible fluld, a casing 10 in which the valve 11 works, ports 12 communicating between the valve casing 10 and the valve casings 3 at each end, a reversing valve 58, a valve casing 55 in which the valve works, condults 56 connecting the valve casing 55 with the cylinder spaces 4 and a conduit 57 connecting the casing 55 with the exhaust port 6 , substantially as set forth.

\section*{No. 100,709. Filing Case.}

Caisse de remplissage.
The Yawman and Erbe Manufacturing Company, assignee of Philip H. Yawman, both of Rochester. New York, U.S.A., 28th August, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,673.

Claim-1. The combination with a casing, projections therein, and a drawer fitting within the casing provided with similar projections, of a member movably engaging the projections on the case and drawer to support the latter and means on the member extending over the sides of said projections adjacent the casing and drawer respectively to prevent lateral movement of the member.
2. The combination with a casing having side walls, projections extending inwardly therefrom, a drawer fitting the casing comprising side walls and outwardly extending projections on the latter, of movable members resting on the projections of the casing and receiving the projections on the walls of the drawer to support the later and devices on said members extending over rear sides of their co-operating projections for preventing lateral movement of the members relatively to the drawer or casing.
3. The combination with a casing having side walls, projections extending inwardly therefrom, a drawer fittng the casing comprising side wails and outwardly extending pro-
jections on the latter, of drawer supporting members composed of sheet metal resting on the projections of the cas-

ing and receiving the projections on the walls, of the drawer and flanges on the edges of said members extending over the sides of each of their co-operating projections adjacent the side walls of the casing and drawer respectively.
4. The combination with a casing having a drawer opening therein and side walls, supporting rollers on said walls, a drawer comprising side walls and rollers projecting therefrom, of supporting members interposed between the walls of the casing and drawer which rest upon the rollers on the casing and receive those on the drawer, said members being provided with means extending over the rear sides of their respective rollers for preventing lateral movement of the members relatively to the rollers.
5. The combination with a cabinet, a drawer adapted to operate therein, and supporting devices provided on the cabinet and drawer, of supports mounted to operate between the drawer and cabinet, each composed of sheet material bent to form an intermediate track section having the supporting devices of the drawer and cabinet ar ranged on opposite sides thereof, and flanges formed above and below the said track section for preventing tilting between the drawer and casing.
6. The combination with a cabinet, a drawer adapted to operate therein, and supporting devices provided on the cablnet and drawer, of supports mounted to operate longitudinally between the drawer and cabinet each embodying a horlzontal intermediate track section having sald supporting devices of the drawer and cabinet arranged on opposite sides thereof, flanges arranged above and below sald track section and arranged to engage said supporting devices to prevent relative tilting between the drawer and cabinet, and portions on said flanges extending toward the intermediate track section for preventing lateral disengagement of the supporting devices and support.
7. The combination with a cabinet, a drawer mounted to operate therein, and suitable supporting devices provided on the drawer and cabinet, of supports mounted to operate between the drawer and cabinet each composed of sheet material bent to form a horizontal track section having the supporting devices of the drawer and cabinet arranged at either side thereof, the material being bent in opposite directions from the track section and thence bent to form flanges extending parallel to the track section, said flanges being arranged to co-operate with the supporting devices to prevent relative tilting of the drawer and cablnet, the edges of said flanges being bent toward said track section to from lateral guldes for the supporting devices.
8. The combination with the casing having a drawer opening therein, a drawer adapted to operate in the drawer opening, and supporting devices arranged on the drawer and casing, of supports having ways extending longitudinally of the drawer to receive the supporting devices of the drawer and casing, means on the supports for retaining the supporting devices of the drawer in their corresponding ways, a portion of the latter being cut away to form
passages arranged out of alignment with said ways for permitting the removal of the supporting devices of the drawer from their ways.
9. The combination with the casing having a drawer opening therein, a drawer adapted to operate in the drawer opening, and supporting devices arranged on the drawer and casing, of supports having closed ways thereon for receiving and guiding the supporting devices of the drawer and casing and stops on the supports for limiting the forward motion of the drawer, cut away portions being formed in the corresponding ways and forming passages leading past the stops to permit the removal of the drawer supporting devices from their ways.
10. The combination with the casing having a drawer opening therein, a drawer adapted to operate in said opening and laterally projecting rollers on the drawer and casing, of supports having ways open at opposite sides thereof to receive the rollers of the drawer and casing and means on said support for preventing the lateral disengagement of the rollers and the ways.
11. The combination with the casing having a drawer opening therein, a drawer adapted to operate in said opening, and laterally projecting supporting devices on the drawer ard casing, of supports composed of sheet material each having horizontal upper and lower ways arranged in the same vertical plane to receive the supporting devices of the drawer and casing, said ways having turned edges serving as lateral guides for the supporting devices.
12. The combination with the casing having a drawer opening therein, a drawer adapted to operate in said opening, and laterally projecting supporting devices on the drawer and casing, of supports composed of sheet material bent transversely into substantially the form of two channel bars placed edgewise to form ways extending longitudinally relatively to the drawer to receive the supporting devices of the drawer and casing.
13. The combination with the casing having a drawer opening therein, the drawer adapted to operate in the said opening and laterally projecting supporting devices arranged on the drawer and the casing, of supports composed of sheet material bent transversely to form oppositely arranged channels or ways arranged edgewise and open at opposite sides of the support to receive the supporting devices of the drawer and casing.
14. In combination with the casing having a drawer opening therein, the drawer adapted to operate in the said opening, and laterally projecting supporting devices arranged on the drawer and casing, of supports composed of sheet material having intermediate horizontal tracks thereon for the supporting devices of the drawer and casing, and flanges above and below the intermediate portion having retaining edges for guiding the supporting devices in the ways.
15. The combination with the casing having a drawer opening therein, a drawer adapted to operate in the said drawer and casing, of supports composed of sheet material bent transversely substantially in the form of oppositely arranged channel bars placed edgewise to form upper and lower ways open at opposite sides of the supports to receive the rollers of the drawer and casing, and stops at the forward ends of the upper ways arranged to co-operate with the rollers of the drawer to limit the forward motion of the latter. portions of the upper channel bars being cut away adjacent to the stops to permit removal of the drawer rcllers from their respective ways.
16. The combination with the casing having a drawer opening therein, a drawer adapted to operate in the said opening, and laterally projecting rollers arranged on the drawer and casing, of supports having upper and lower ways extending longitudinally to receive the rollers of the drawer and casing, stops at the forward ends of the upper ways, the adjacent portions of the supports being cut away to permit the passage of the drawer rollers above the stops, and guides on the supports extending beyond the cut away portions to co-operate with the rollers of the drawer in passing through the cut away portions.
17. The combination with the casing having a drawer opening therein, a series of rollers arranged horizontally within the casing, a supplemental roller of smaller diameter being arranged in rear of the other rollers. and a drawer adapted to operate in the said opening, of supports having ways thereon to receive the rollers of the casing and adapted to movably support the drawer therein. and stops on the supports arranged to permit the passage of the smaller roller and engage one of the larger rollers to limit the motion of the support relatively to the casing.
18. The combination with the casing having a drawer opening therein, a drawer adapted to operate in said opening and oppositely arranged supporting devices on the drawer and casing, of extensible supports composed of sheet material having the horizontally extending ways or tracks to receive the supporting devices, the upper and lower flanges for retaining the supporting devices within their ways, and
stops at either end of the ways for the supporting devices on the drawer formed by bending a portion of the sheet material laterally across the ways.
19. The combination with a casing having a drawer opening therein forming side walls, a drawer adapted to operate in the opening having side walls and projections arranged on the walls of the drawer and casing, of extensible supports arranged between the drawer and casing each having parallel upper and lower ways formed therein to receive the projections of the drawer and casing. spaced guides provided at the upper and lower sides of the ways for co-operation with the respective projections to prevent tilting motion of the drawer, and projecting lateral edges on said guides extending over the rear sides of the respective projections for preventing lateral movement of the supports relatively thereto.

No. 100,710. Paper Holder for Roller Cepsing Devices.
Porte papier pour roulcaus d copier.


The Yawman and Erbe Manufacturing Company, assignee of Philip H. Yawman, both of Rochester, New York, U.S.A., 28th August, 1906 ; 6 years. Filed 8th June, 1906. Receipt No. 136,680.
Claim.-1. In a press copier the combination with a support \(\overline{a n}\) impression device, a paper holder for supplying an impression strip to the impression device and a receptacle arranged beneath the impression device and adapted to receive the strip therefrom, of a device located at a point between the receptacle and the impression device for holding the end of the strip leading to the receptacle in operative position for attachment to the end of the strip leating from the impresion device.
2. In a press copier the combination with a support, an impression device mounted thereon, a paper holder for supplying an impression strip to the impression device, a knife arranged to receive the strip from the receptacle for severing it into sections, and a receptacle arranged beneath the knife and impression device and adapted to recelve the strip from the latter, of a device arranged between the receptacle and knife for holding the severed end of the strip leading from the receptacle in operative position relatively to the knife, and a second device arranged between the impression device and receptacle for holding the severed end of the strip leading from the receptacle in operative position to receive the end of the strip leading from the impression device.
3. In a copying device of the character described the combination with the receptacle adapted to hold the continuous strip after the impressions have been printed thereon, and the severing knife for dividing the strip into sections, of a clamping device for the strip embndying a relatively fixed support over which the strip is adapted to pass and a relatively movable member attached to the support and bearing upon said strip.
4. In a copying device of the character described the combination with the receptacle adapted to hold the continuous strip after the impressions have been printed thereon and the severing knife for dividing the strip into sections, of a clamping device located adjacent the knife embodying a support over which the strip passes, and a relatively movable bail attached to said support and arranged to produce a pressure upon the strip.
5. In a copying device of the character described the combination with a suitable receptacle adapted to contain the continuous impression strip and the severing knife for dividing the strip into sections, of a ball having its ends journalled in a relatively fixed portion of the knife and having a central portion arranged to bear frictionally upon the strip to prevent the latter from leaving the knife when a section thereof has been sèvered.
6. In a copying device of the character described the combination with a suitable receptacle adapted to contain the continuous impression strip, and the severing knife having a relatively fixed portion provided with a recess over which the strip passes, of a clamping device attached to the relatively fixed portion of the knife and having an engaging portion bearing upon the strip to clamp it in said recess.
7. In a copying device of the character described the combination with a support, the receptacle therein and the strip carried by the receptacle and passing through an aperture formed in the support, of a clamping device embodying a bail having its ends journalled in the ends of sald aperture and having a central portion addapted to be swung over and clamp the strip between it and the side of the aperture.

No. 100,711. Internal Combustion Motor. Moteur a combustion interne.


Deflance Iron Works Company, assignee of Richard J. Barnes, both of Chatham, Ontario. Canada, 28th August 1906 ; 6 years. Recelpt No. \(132,875\).
Claim.-1. In an internal combustion motor a cylinder provided with a peripheral flange and a boss on its end in combination with a water jacket slipped over the cylinder and clamped to the flange and boss, substantially as described.
2. In an internal combustion motor a cylinder provided with a peripheral flange and an apertured boss on its end in combination with a water jacket silpped over the cylinder provided with an aperture corresponding with the aperture in the boes and a flange resting on the flange of the cylinder, a flanged plug screwed into the aperture in the boss and adapted to clamp the jacket to the boss and a flanged ring screwed on the fiange of the cylinder and adapted to clamp the flange of the jacket thereon, substantially as described.

No. 100,712. Centrifugal Apparatus. Appareil centrifuge.


William L. D'Olier, Philadelphia, assignee of Cornelius D. Ehret, Ardmore, both in Pennsylvania, U.S.A., 28th August, 1906; 6 years. Flled 20th February, 1905.' Receipt No. 122,678 .
Claim.-1. In combination, a centrifugal basket, and a driving motor therefor, the rotatable element of said motor being surrounded by said basket.
2. In combination, a centrifugal basket, and a motor for driving the same, said motor being surrounded by said basket.
3. In combination, a centrifugal basket, and a driving motor therefor, the rotatable element of said motor being surrounded by and secured to said bssket.
4. In combination, a centrifugal basket, comprising concentric cylinders of different diameters, and a driving motor therefor located within the cylinder of lesser diameter.
5. In combination, a centrifugal basket comprising outer and inner walls, and a driving motor therefor located within said inner wall.
6. In combination, a gyratory member, the non-rotatable element of a motor secured to said member, the rotatable element of said motor deflectable with said non-rotatable element and maintained concentric therewith, and a centrifugal basket surrounding said rotatable motor element and secured thereto.
7. In combination, a gyratory shaft, the non-rotatable element of a motor secured to sald shaft, the rotatable element of a motor secured to said shaft, the rotatable element and maintained concentric therewith, and a centrifugal basket surrounding said rotatable motor element and secured thereto.
8. In combination, a gyratory shaft, the non-rotatable element of a motor cesured to said shaft, the rotatable element of said motor deflectable with sald non-rotatable element and lmaintained corcentric therewith, and a centrifugal basket comprising concentric cylinders, the inner cylinder surrounding said rotatable motor element and secured thereto.
9. In combination, a motor mounted upon a gyratory suspension, and a centrifugal basket secured to the rotatable element of said motor and comprising outer and inner walls, said motor being located within said inner wall.
10. In combination, a gyratory shaft, the non-rotatable element of a motor secured thereto, the rotatable element of said motor deflectable with said non-rotatable element and maintained concentric therewith, a centrifugal basket surrounding said motor and secured to the rotatable element thereof, and a ball bearing intermediate the rotatable members and sald shaft.
11. In combination, a non-rotating gyratory shaft a centrifugal basket supported by sald shaft, the rotatable element of a driving motor surrounded by said basket, and the non-rotating element of said motor secured to said shaft,
12, In combination, a centrifugal basket, an electric motor of the alternating current induction type for driving sald basket, the motor secondary belng surrounded by and secured to said basket,

No. 100,713. Internal Combustion Engine. Machine d combustion interne.


Fynis Colwell Gordon, Charles \(111 s\) Caywood and Richard Wallace Caywood, assignee of a half interest, all of Asotin. Washington, U.S.A., 28th August, 1906; 6 years. Filed 7th December. 1905. Receipt No. 130,790.
Claim.-1. In an internal combustion engine the combinatlon of a plurality of working cylinders, a separate vapourizer for each cylinder, and means connecting the vapourizer with its particular cylinder.
2. In an internal combustion engine the combination of a plurality of working cylinders, a separate vapourizer for each cylinder. a fuel mixture pump, and connections whereby the mixtures from the vapourizers are passed to their res pective working cylinders.
3. An internal combustion engine comprising a plurality of working cylinders, a vapourizer for each cyllnder and a double acting pump and connections, the pump having its ends respectively connected with the vapourizers and their corresponding working cylinders, for the purpose specifled.
5. In an internal combustion engine the combination of two working cylinders. a vapourizer for each cylinder, a dcuble acting fuel pump having its ends respectively in conrection with the vapourizers, and a double acting mixture pump having its ends respectively in connection with the vapourizers and the working cylinders related thereto.
15. In an internal combustion engine the combination of a liquid fuel pump, a vapourizer into which the pump discharges, the vapourizer having an air inlet, a mixture pump communicating with the vapourizer, a working cylinder with which said pump also communicates, and a governor controlled means for varying the action of said pumps.

No. 100,714. Non-Refillable Bottle. Bouteille non-remplissable.


Joseph William Wood ard and Louis Cohen, both of Washington, District of Columbia, assignee of a half interest, 28th August, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,711.
Claim.-1. A bottle having the neck provided with an annular shoulder near its inner end, a similar shoulder near its outer end and an annular groove at a point between said shoulders in combination with a valve casing in the neck, with its inner end bearing against the inner shoulder, said casing having spring locking devices engaging the annular groove, and a cap on the outer end of the said casing, and bearing against the outer shoulder, substantially as described.
2. A bottle having the neck provided with an annular shoulder near its inner end, a similar shoulder near its outer end and an annular groove at a point between said shoulders in combination with a valve casing in the neck, with its inner end bearing against the inner shoulder, said casing having spring locking devices engaging the annular groove, and a cap on the outer end of the casing. bearing against the outer shoulder and having an outwardly contracting bore, substantially as described.
3. A non-refillable bottle having an inner valve, a weight element to close said inner valve when the bottle is in an upright, inclined or horizontal position, an outer disc valve, a guide therefor, a float disc spaced from the outer side of the disc valve and connected thereto to operate the same, and a cap in the neck of the bottle enclosing the float valve, and having an outwardly contracted bore, substantially as described.
4. A non-refillable bottle having a valve casing in the neck thereof, a disc valve, a guide for said disc valve, and a float disc spaced from the outer side of said disc, and connected thereto to operate the same, substantially as described.
5. A non-refillable bottle having an inner valve, a weight element to close said inner valve when the bottle is in an upright. inclined or horizontal position, an outer valve, and a float element to close said outer valve on an attempt to introduce liquid into the bottle when the latter is in an inverted position, substantially as described.

No. 100,715. Engraving Machine. Machine à grater.
The Long Arm System Company, Cleveland, Ohio, assignee of Josiah Percy Stevens, Atlanta, Georgla, and Robert H. Kirk, Cleveland, aforesaid, all in the U.S.A., 28th August. 1906 ; 6 years. Flled 23 rd June, 1906. Receipt No. 137.212.
Claim.-1. An engraving machine comprising a pattern holder, a work holder adapted to hold a plate, a tracer rod terminating at its front end in a tracing point, gimbals supporting said rod near its rear end, a graver mechanism for holding said graver at a constant angle to said plate, and means operated by the rear end of said rod for moving said graver transversely to the plate, substantially as described.
2. An engraving machine comprising a pattern holder, a work holder adapted to hold a plate, a tracer rod terminating at one end in a tracing point, a pivoted support for said tracer rod, a graver, a series of pivoted frames and means co-operating therewith to hold said graver at right angles tho said plate, and means operated by said tracer rod for moving said graver transversely to the plate, substantially as described.
3. An engraving machine comprising a pattern holier, a work holder adapted to hold the plate, a tracer rod termin-

ating at one end in a tracing point, a pivoted support for said tracer rod, a graver, a frame pivoted to swing about one of its edges, a second frame pivoted to the first and swinging about an axis parallel to the axis of the first frame, a third frame carrying a graver pivoted to sald second frame, and means operated by said tracer rod for moving said graver transversely to the plate, substantially as described.
4. An engraving machine comprising a pattern holder, a work holder adapted to hold a plate, a tracer rod terminating at one end in a tracing point, a pivoted support for said rod consisting of two gimbal rings, the one longitudinally adjustable relative to the other and both movable lengthwise along said rod, a graver, means for moving said graver towards and away from the plate and mechanism for holding said graver at a constant angle to said plate and means operated by said tracer rod for moving said graver transversely to the plate, substantially as described.
5. An engraving machine comprising a pattern holder, a work holder adapted to hold a plate, a tracer rod terminating at one end in a tracing point. a pivoted support for said rod consisting of two gimbal rings, the one longitudinally adjustable relative to the other and both movable lengthwise along said rod, a graver a series of pivoted frames co-operating to hold said graver at right angles to said plate, and means operated by said rod for moving said graver transversely to the plate, substantially as described.
6. An engraving machine comprising a patern holder, a work holder adapted to hold a plate, a tracer rod terminating at one end in a tracing point, a plvoted support for said rod consisting of two gimbal rings, the one longitudinally adjustable relative to the other and both movable lengthwise along said rod, a graver, a pivoted swinging frame and a transverse swinging frame pivoted thereto with a frame carrying the graver pivoted to said transverse frame, and means operated by said tracer rod for moving said graver transversely to the plate, substantially as described.
7. A machine of the character described comprising a tracer rod mounted in gimbals, a tracer tool mounted in the front end of and co-axial with said rod, a graver, means for moving said graver transversely to the plate operated by the movement of the rear end of said tracer rod, and means independent of said tracer tool for maintaining the graver at a constant angle to the surface of the plate, substantially as described.
8. A machine of the character described comprising a tracer rod, a tracer tool mounted in the end of said rod, a graver, means for moving said graver transversely to the plate operated by the movement of said tracer rod, and a series of pivoted frames with means co-operating therewith to maintain the graver at a constant angle to the surface of the plate, substantially as described.
9. A machine of the character described comprising a tracer rod, a tracer tool mounted in the end of said rod. a pivoted support for said rod comprising two gimbal rings, the on \(\epsilon\) longitudinally adjustable relative to the other, a graver, means for moving said graver transversely to the plate operated by the movement of said tracer rod, and independent means for maintaining the graver at a constant angle to the surface of the plate, substantially as described.
10. A machine of the character described comprising a tracer rod, a tracer mounted in the end of said rod, a pivoted support for said rod comprising two gimbal rings, the one longitudinally adjustable relative to the other and both adjustable lengthwise along said rod, a graver, means for moving said graver transversely to the plate operated by the movement of said tracer, and independent means for maintaining the graver perpendicular to the surface of said plate, substantially as described.
11. An engraving machine comprising a pattern holder, a work holder adapted to hold a plate, a tracer rod carrying at one end a tracing point, a pivoted support for said rod, a graver mounted near the opposite end of said rod, a series of pivoted frames and means co-operating therewith to hold said graver at a constant angle to said plate, means for normally pressing said graver towards the plate, means controlled by the operator for withdrawing the graver from the plate, and means operated by said rod for moving saikl graver transversely to the plate, sugstautially as described.
12. An engraving machine comprising a pattern holder, a work holder adapted to hold a plate, a tracer rod carrying at one end a tracing point, a pivoted support for said rod, a graver, a swinging frame pivoted along one edge, and a transverse swinging frame having pivots parallel to the first, a frame carrying the graver pivoted to said transverse frame, means for normally pressing said graver towards the plate, means controlled by the operator for withdrawing the graver from the plate, and means operated by said rod for moving said graver transversely to the plate, substantially as described.
13. An engraving machine comprising a pattern holder, a work holder adapted to hold a plate, a tracer rod carrying at one end a tracing point, a pivoted support for said rod consisting of two gimbal rings, the one longitudinally adjustable relative to the other, and both movable lengthwise along said rod, a graver mounted near the opposite end of said rod, mechanism for holding said graver at a constant angle to said plate, means for normally pressing said graver towards the plate, means controlled by the operator for withdrawing the graver from the plate, and means operated by said rod for moving said graver transversely to the plate, substantially as described.
14. An engraving machine comprising a pattern holder, a work holder adapted to hold a plate, a tracer rod carrying at one end a tracing point, a pivoted support for said rod consisting of two gimbal rings, the one longitudinally adjustable relative to the other, and both movable lengthwise along the same rod
wise along said rod, a graver, a series of pivoted frames co-operating to hold said graver at a constant angle to said plate, means for normally pressing said graver towards the plate, means controlled by the operator for withdrawing the graver from the plate, and means operated by said tracer rod for moving said graver transversely, substantially as described.
15. An engraving machine, comprising a pattern holder, a work holder adapted to hold a plate, a tracer rod carrying at one end a tracing point, a pivoted support for said rod consisting of two gimbal rings, the one longitudinally adjustable relative to the other, and both movable lengthwise along said spindle, a graver, a longitudinally pivoted swinging frame, and a transverse swnging frame pivoted thereto, with a frame carrying the graver pivoted to said transverse frame, means for normally pressing said graver towards the plate, means controlled by the operator for withdrawing the graver from the plate, and means operated by said tracer rod for moving said graver, substantially as described.
16. A machine of the character described, comprising a tiacer rod mounted in gimbals, a tracer tool mounted in the front end of said rod, a graver, means for moving said graver operated by the movement of the rear end of said tracer rod, and means independent of said tracer for maintaining the graver at a constant angle to the surface of said plate, means for normally pressing sald graver toward the plate, means controlled by the operator for withdrawing the graver from the plate, and means operated by said tracer rod for moving said graver transversely to the plate, substantially as described.
17. A machine of the character described comprising a tracer rod, a tracer tool telescopically mounted at the end of sald rod, a graver, means for moving said graver operated by the movement of said tracer rod and a series of pivoted frames with means co-operating therewith to maintain the graver at a constant angle to the surface of said plate, means for normally pressing said graver towards the plate, means controlled by the operator for withdrawing the graver from the plate, and means operated by said tracer rod for moving sald graver transversely to the plate, substantialle as described.
18. A machine of the character described, comprising a tracer rod, a tracer tool mounted at the end of said tracer rod, a pivoted support for sa!d rod comprising two gimbal rings, the one longitudinally adjustable relative to the other, a graver, means for moving said graver operated by the movement of said tracer rod, and independent means for maintaining the graver at a constant angle to the surface of said plate, means for normally pressing said graver towards the plate, and means controlled by the operator for withdrawing the graver from the plate, and means operated by sald tracer rod for moving said graver transversely to the plate, substantially as described.
19. A machine of the character described, comprising a tracer rod, a tracer tool mounted at the end of sald rod, a pivoted support for said rod, comprising two gimbal rings, the one longitudinally adjustable relative to the other, and both adjustable lengthwise along said rod, a graver, means for moving said graver operated by the movement of said tracer, and independent means for maintaining the graver perpendicular to the surface of said plate, means for normally pressing said graver towards the plate, means controlled by the operator for withdrawing the graver from the plate, and means operated by said tracer rod for moving said graver transversely to the plate, substantially as described.
20. In a machine of the character described, the combination with a plate and plate holder, of a tracer rod pivoted in gimbals near one end thereof and carrying a tracer tool telescopically mounted in the opposite end, a graver, means for passing sald graver against the plate and for withdrawing same when desired, and mechanism controlled by the movement of said tracer rod for moving said graver over the face of the plate, substantially as described.
21. In a machine of the character described, the combination with a plate and plate holder, of a tracer rod carrying a tracer tool at one end, gimbal bearings supporting said tracer rod near the opposite end, a graver, a weight, and mechanism operated thereby for pressing the graver against the plate with a predetermined pressure, means for withdrawing said graver from sald plate against the action of said weight, and mechanism controlled by the movement of said tracer rod for moving said graver over the face of the plate, substantially as described.
22. An apparatus comprising a plate and plate holder, a type or design, and a type holder, a tracer rod mounted in universal bearings between the plate holder and the type holder and provided with a tracer tool, a graver mounted near said plate, means for pressing said graver against said plate independent of said tracer rod, and means operated by said tracer rod for moving said graver over the face of said plate, substantially as described.
23. An apparatus comprising a plate and plate holder, a type or design, and a type holder, a tracer rod mounted in universal bearings between the plate holder and the type holder and provided with a tracer tool, a graver mounted near said plate, means for pressing said graver against said plate with a predetermined pressure, and means for withdrawing said graver from the face of sald plate when desired, with mechanism operated by said tracer rod for moving said graver over the face of said plate, substantially as described.
24. An apparatus comprising a plate and plate holder, a type or design, and a type holder, a tracer rod mounted in universal bearings hetween the plate holder and the type holder and provided with a tracer tool, a graver'mounted near said plate, a weight with mechanism operated thereby pressing said graver against said plate with a predetermined pressure, independent means for moving said graver away from sald plate against the action of said welght, and mechanism controlled by said tracer rod for moving sald graver over the face of sald plate, substantlally as described.
25. In a machine of the character described, the combination with a plate and plate holder, of a tracer rod mounted to swing about two axes substantially at right angles to each other, with means for shifting either or both of sald axes longitudinally on said rod, of a graver, means for holding said graver at right angies to the face of the plate while in engagement with said plate, and mechanism for moving said graver over the face of the plate controlled by said tracer rod, substantially as described.
26. In a machine of the character described, the combination with a plate and plate holder, of a tracer rod mounted to swing about two axes substantlally at right angles to each other, with means for shifting either or both of said axes longitudinally on said rod, of a graver, and mechanism for moving said graver over the face of the plate controlled by said tracer rod, means for holding said graver at right angles to the face of the plate while in engagement with said plate, with independent means for pressing said graver against the face of the sald plate, and other means for withdrawing the graver from the face of the plate when desired, substantially as described.
27. In a machine of the character described, the comblnation with a plate and plate holder. of a tracer rod carrying a tracer tool at one end, gimbal bearings supporting sald tracer rod near the opposite end. a graver. means for holding said graver at right angles to the face of the plate while in engagement with said plate, means for pressing the graver against the plate. means for wichdrawing the graver from the plate when desired, and mechanism controlled by the movement of said tracer rod for moving said graver over the face of the plave, substantially as described.
28. In a machine of the character described, the combination with a plate and plate holder, of a tracer rod
pivoted in gimbals near one end thereof and carrying a tracer tool mounted in the opposite end, adjustable means for counterbalancing the weight of the longer arm of the tracer rod, a graver, means for pressing said graver against the plate and for withdrawing the same when desired. and mechanism controlled by the movement of said tracer rod for moving said graver over the face of the plate, substantially as described.
29. In a machine of the character described, the combination with a plate and plate holder, of a tracer rod carrying a tracer telescopically mounted in one end, gimbal bearings supporting said tracer rod near the opposite end, adjustable means for counterbalancing the weight of the longer arm of the tracer rod, a graver, a weight, and mechanism operated thereby for pressing the graver against the plate with a predetermined presure, means for withdrawing said graver from said plate against the action of said weight, and mechanism controlled by the movement of said tracer rod for moving said graver over the face of the plate, substantially as described.
30. An apparatus comprising a plate and plate holder, a type or design, and a type holder, a tracer rod mounted in universal bearings between the plate holder and the type holder and nearer the plate holder, and provided with a tracer tool, adjustable means for counterbalancing the weight of the longer arm of the tracer rod. a graver mounted near said plate, means for pressing said graver against said plate independent of said tracer rod, and means operated by said tracer rod for moving said graver over the face of the plate, substantially as described.
31. An apparatus comprising a plate and plate holder, a type or design and a type holder, a tracer rod mounted in universal bearings between the plate holder and the type holder and nearer the plate holder, and provided with a tracer tool, adjustable means for counterbaiancing the weight of the longer arm of the tracer rod, a graver mounted near said plate, means for pressing said graver against said plate with a predetermined pressure, and means for withdrawing sald graver from the face of sald plate when desired with mechanism operated by said tracer rod for moving sald graver over the face of said plate, substantially as described.
32. An apparatus comprising a plate and a plate holder, a type or design and a type holder, a tracer rod mounted in universal bearings between the plate holder and the type holder and nearer the plate holder, and provided with a tracer tool, adjustable means for counterbalancing the weight of the longer arm of the tracer rod, a graver mounted near said plate, a weight with mechanism operated thereby pressing said graver against said plate with a predetermined pressure, independent means for moving said graver away from said plate against the action of said weight, and mechanism controlled by said tracer rod for moving said graver over the face of said plate, substantially as described.
33. In a machine of the character described the combination with a plate and plate holder, of a tracer rod carrying a tracer tool at one end, gimbal bearings supporting said tracer rod near the opposite end, adjustable means for counterbalancing the weight of the longer arm of the tracer rod, a graver, means for holding said graver at right angles to the face of the plate while in engagement with said plate. means for pressing the graver against the plate, means for withdrawing the graver from the plate when desired and mechanism controlled by the movement of said tracer rod for moving said graver over the face of the plate, substantially as described.
34. In a machine of the character described the combination with a plate and plate holder, of a tracer rod pivoted in gimbals near one end thereof and carrying a tracer tool mounted in the opposite end, means for counterbalancing the weight of the tracer end of the tracer rod comprising a laterally swinging arm adapted to press upwards beneath said tracer rod and to swing laterally therewith, and a spring adapted to support in whole or in part the preponderance of said arm, a graver, means for pressing said graver against the plate and for withdrawing same when desired and mechanism controlled by the movement of said tracer rod for moving said graver over the face of the plate, substantially as described.
35. In a machine of the character described the combination of a plate and plate holder, of a tracer rod carrying a tracer telescopically mounted in one end, gimbal bearings supporting said tracer rod near the opposite end, means for counterbalancing the weight of the tracer end, of the tracer rod comprising a laterally swinging arm adapted to press upwards beneath said tracer rod and to swing laterally therewith, and a spring adapted to support in whole or in part the preponderances of sald arm, a graver, a weight and mechanism operated thereby for pressing the graver against the plate with a predetermined pressure, means for withdrawing said graver from said plate against the action of sald weight, and mechanism controlled by the movement of said tracer rod for moving said graver over the face of of said tracer rod for moving said \(g\)
the plate, substantially as described.
36. In a machine of the character described the combination with a plate and plate holder, of a tracer rod carrying a tracer tool at one end, gimbal bearings supporting said tracer rod near the opposite end. means for counterbalancing the weight of the tracer end, of the tracer rod comprising a laterally swinging arm adapted to press upwards beneath said tracer rod and to swing laterally therewith, and a spring adapted to support in whole or in part the preponderance of said arm, a graver, means for holding said graver at right angles to the face of the plate while in engagement with said plate, means for pressing the graver against the plate, means for withdrawing the graver from the plate when desired and mechanism controlled by the movement of sald tracer rod moving sald graver over the iace of the plate, substantially as described.
37. In a machine of the character described the combination with a plate and plate holder, of a tracer rod mounted in gimbals near its rear end to swing about two axes substantially at right angles to each other, a graver and mechanism controlled by the rear end of said tracer rod for moving the graver over the face of the plate, substantially as described.
38. In a machine of the character described the combination with a plate and plate holder, of a tracer rod mounted to swing about two axes substantially at right angles to each other, a graver and mechanism controlled by said tracer rod for moving the graver over the face of the plate with independent means for pressing the graver against the face of the plate and for withdrawing game when desired, substantially as described.
39. In a machine of the character described the combination with a plate and plate holder, of a tracer rod mounted to swing about two axis substantially at right angles to each other, a graver and mechanism controlled by said tracer rod for moving the graver over the face of the plate, with a weight and mechanism operated thereby for swinging the graver into engagement with the plate, and a treadle and mechanism operated thereby for withdrawing the graver out of engagement with the plate against the action of said weight, substantially as described.
40. In a machine of the character described the combination with a plate and plate holder, of a tracer rod revolubly mounted and also adapted to swing about two axis substantially at right angles to each other, a graver also revolubly mounted, and mechanism controlled by said tracer rod for moving the graver over the face of the plate, and also for rotating the graver, whereby various cutting edges of the graver may be presented to the plate, substantially as described.
41. In a machine of the character described the combination with a plate and plate holder, of a tracer rod revolubly mounted and also adapted to swing about two axis substantially at right angles to each other, a graver also revolubly mounted, and mechanism controlled by said tracer rod for moving the graver of the face of the plate, and also for rotating the graver, whereby various cutting edges of the graver may be presented to the plate, with independent means for pressing the graver against the face of the plate, and for withdrawing same when desired, substantially. as described.
42. In a machine of the character described the combination with a plate and plate holder, of a tracer rod revolubly mounted and also adapted to \(s\) wing about two axis substantially at right angles to each other, a graver also revolubly mounted, and mechanism controlled by said tracer rod for moving the graver over the face of the plate, and also for rotating the graver, whereby various cutting edges of the graver may be presented to the plate, with a weight and mechanism operated thereby for swinging the graver irto engagement with the plate, and a treadle and mechanism operated thereby for withdrawing the graver out of engagement with the plate against the action of said weight, substantially as described.
43. In an apparatus of the character described, means for balancing the tracer end of the tracer rod, which consists of a laterally \(s\) winging arm adapted to press upwards beneath said tracer rod and to swing laterally therewith, and a spring adjusted to support in whole or in part the preyonderance of the said arm, substantially as described.
44. In an apparatus of the character described, the means for shifting either the vertical or the horizontal axis of the tracer rod, or both, comprising longitudinally and relatively adjustable gimbal rings, with means for clamping the same at the desired relative position, substantially as described.
45. In an apparatus of the character described, the means for shifting either the vertical or the horizontal axis of the tracer rod, or both, comprising longitudinally and relatively adjustable gimbal rings, with means for clamping the same at the desired relative position in combination with a support for said gimbal rings, and means for moving said support along the axis of said gimbal rings, substantially as described.
46. In an apparatus of the character described, the combination with a tracer rod, a telescopic tracer tool holder mounted therein, a graver mounted near the opposite end of said rod, universal bearings for said rod intermediate between said tracer tool and said graver, and mechanism oferated by said rod for causing said graver to follow the motions of said tracer, substantially as described.

No. 100,716. Steam Shovel. Pelle d rapour.


The Allis-Chalmers Company, assignee of Olaf Hetlesaeter all of Milwaukee, Wisconsin, U.S.A., :8th August, 1906 6 years. Filed 9th December, 1905. Recelpt No. 130,806.
Claim.-1. In a power shovel, a dipper, and means for operating the dipper, including a sectiou co-acting to recelve upward power stress.
2. In a power shovel, a base, a rotatably adjustable table, a boom on the table, a dipper swingably mounted on the boom, a rope attached to the dipper, a sheave on the boom, and a guide sheave mounted at a higher level stationarily as to the base, the sheaves so placed as to receive the rope and locate a section thereof in the common tangent of the sheaves and in the vertical axis of the table.
3. In a power shovel, a dipper, and a rope for operating the dipper, including a section co-acting to recelve upward power stress.
4. In a power shovel, a base, a rotatably adjustable boom, a dipper on the boom, a sheave on the boom, a gulde sheave supported on the base at a higher level than the boom sheave, and a rope attached to the dipper and co-acting with the sheaves.
5. In a power shovel, means for operating the dipper coacting to receive a power stress tending to counterbalance the weight of shovel parts.
6. In a power shovel, a dipper, and a rope for operating the dipper, including a section co-acting to recelve a power stress tending to counterbalance the weight of shovel parts.
7. In a power shovel, a dipper, and means for operating the dipper, including a differential drum.
8. In a power shovel, a dipper, a differential drum, ropes co-acting with the drum for operating the dipper and having different factors of safety.
9. In a power shovel, a dipper, a differential drum, and means for operating the dipper including a rope co-acting with one differential part of the drum and a second rope co-acting with a second differential part of the drum, the ropes having different factors of safety.
10. In a power shovel, a dipper and means for operating the dipper including a differential drum and a section co-acting to receive upward power stress.
11. In a power shovel, a base, a rotatably adjustable table a frame on the base extending over the table, a guide sheave supported over the table by the frame tangential to the table axis, a dipper, and operating means for the dipper includIng a rope leading in the table axis to the gulde sheave.
12. In a power shovel, a dipper, a differential drum, a plurality of ropes connected to the dipper and co-acting with the drum, and means for operating the drum.
13. In a power shovel, a rotatable table, a dipper and a differential drum supported on the table, a plurality of ropes connected with the dipper and co-acting with the drum, and means for operating the drum including a rope in the table axis.
14. In a power shovel, a rotatable table, a boom on the table, a dipper on the boom, fluid pressure means on the bcom for operating the dipper including a rope section in the axis of the table, and means for supplying fluid pressure to the boom means and located in the axls ofl the table below the rope section.
15. In an excavator, a dipper, a differential drum, and, means including a rope for operating the dipper.
16. In an excavator having a boom, a rotatable table, a dipper, a differentlal drum supported on the boom, and means including a rope for operating the dipper.
17. In an excavator, a dipper, a differential drum, and a rope co-acting with the drum for operating the dipper.

No. 100,717. Printing Apparatus.
sppareil d imprimer.


The Underwood Typewriter Company, New York City, New York, assignee of William G. Fuerth, Newark, New Jersey, U.S.A., 28th August, 1906; 6 years. Filed 3rd July, 1906. Receipt No. 137,476.
Claim.-1. In a printing or reproducing apparatus the com bination with a main drum or cylinder provided with a laterally extending channel, and outwardly extending and perforated lugs or ears, of an ink-mat or cloth on said cylinder a pair of retaining rods in said channel with which the res pective ends of sald cloth are connected, and a detachable holding means at the opposite ends of said rods for drawing the ends of the mat or cloth into the said channel and pulling said mat or cloth taut, said holding means extending through the perforations in said outwardly extending lugs or ears substantially as and for the purposes set forth.
2. In a printing or reproducing apparatus, the combination with a main drum or cylinder provided with a laterally exteudiug channel, and outwardly extending and perforated lugs or ears, of an ink-mat or cloth on said cylinder, a pair of retaining rods in said channel with which the respective end of said cloth are connected, and a spring controlled detachable holding means at the opposite ends of said rods for drawing the ends of the mat or cloth into said channel and fulling said mat or cloth taut, said holding means extending tlirough the perforation in said outwardly extending lugs or cars, substantially as and for the purposes set forth.
3. In a printing or reproducing apparatus, the combination with a main drum or cylinder provided with a laterally extending channel, and outwardly extending and perforated 'ugs or ears, of an ink-mat or cloth on said cylinder, a pair of retaining roads in said channel with which the respective ends of said cloth are connected, hook-shaped links connected with the respective end portions of said rods, said links extending through and beneath said lugs or ears, a colled spring upon the lower portions of each pair of links and means for retaining said springs in position, substanlially as and for the purposes set forth.
4. In a printing or reproducing apparatus, the combination, with a main drum or cylinder provided with a laterally extending channel, and outwardly extending and perforated lugs or ears, of an ink mat or cloth on said cylinder, a pair of retaining rods in said channel with which the respective ends of said cloth aro connected. hook-shaped links connected with the respective end portions of sald rods, said links extending through and beneath said lugs or ears, a coiled spring upon the lower portion of each pair of links, and means for retaining sald springs in position, consisting of a connecting loop-shaped end between each pair of links, and a laterally extending bar in each loop-shaped end, the projecting end portions of said bars serving as anger pleces, substantially as and for the purposes set forth.
5. In a printing or reproducing apparatus, the combination with a main drum or cylinder provided with a laterally extending channel, and outwardly extending and perforated lugs or ears, of a channelled member in said channel of the rylinder, said member being provided with perforations next its ends which register with the perforations of said lugs or ears, an Ink mat or cloth on said cylinder, a pair of retaining rods in said channelled member with which the respective ends of said cloth are connected, hook-shaped llaks connected with the respective end portions of said rods said links extending through the registering perforations of
said channelled member and said lugs or ears, and also beneath the said lugs or ears, a coiled spring upon the lower portions of each pair of links, and means for retaining said springs in position, substantially as and for the purposes set forth.
6. In a printing or reproducing apparatus, the combination with a main drum or cylinder provided with a laterally extending channel and outwardly extending and perforated lugs or ears, of a channelled member in sald channel of the cylinder, said member being provided with perforations near its ends which register with the perforations of said lugs or ears, an ink mat or cloth on said cylinder, a pair of retaining rods in sald channelled member with which the respective ends of said cloth are connected, hook-shaped links connected with the respective end portions of said rods, said links extending through the registering perforations of said channelled member of said lugs or ears, and also beneath the said lugs or ears a colled spring upon the lower portion of each pair of links, and means for retaining said springs in position consisting of a connecting loopshaped end between each pair of links and a laterally extending bar in each loop-shaped end, the projecting end portions of sald bars serving as finger pieces, substantially as and for the purpose set forth.
7. In a printing or reproducing apparatus, the combination with a main drum or cylinder provided with a laterally extending channel and an ink cloth on said cylinder, of means connected with the ends of said mat or cloth for drawing sald ends into the said channel and pulling said mat or cloth taut, a stencil sheet attaching means consisting of a resilient latch plate, and means for securing said latch plate over said channel comprising pins at one end of sald channel with which one ent portion of said latch plate is in detachable engagement, and a hook-shaped spring post or rod in detachable engagement with the other end portion of said plate, substantially as and for the purposes set forth.
8. In a printing or reproducing apparatus the combination with a main drum or cylinder provided with a laterally extending channel and an ink mat or cloth in said cylinder, of a pair of retaining rods in said channel, means at the opposite ends of said rods for drawing the ends of the mat or cloth into said channel and pulling said cloth or mat taut, and a stencil sheet-attaching means consisting of a resilient latch plate, and means for securing sald latch plate over said channel, substantially as and for the purpose set forth.
9. In a printing or reproducing apparatus, the combination with a main drum or cylinder provided with a laterally extending channel and an ink mat or cloth on said cylinder, of a pair of retaining rods in said channel, means at the opposite ends of said rods for drawing the ends of the mat or cloth into said channel and pulling said mat or cloth taut and a stencil sheet-attaching means consisting of a resillent latch plate, and means for securing said latch plate over said channel comprising pins at one end of said channel with which one end portion of said latch plate is in a detachable engagement, and a hook-shaped spring post or rod in detachable engagement with the other end portion of said latch plate, substantially as and for the purposes set forth.
10. In a printing or reproducing apparatus the combination with a main drum or cylinder provided with a laterally extending channel and outwardly extending and perforated lugs or ears, of an ink mat or cloth on said cylinder, a pair of retaining rodis in said channel with which the respective ends of sald cloth are connected, hook-shaped links connected with the respective end portions of said rods, sald links extending through and beneath said lugs or ears, a colled spring upon the lower portions of each pair of links, means for retaining said springs in positions and a stencil sheet-attaching means consisting of a resilient latch plate, and means for securing said latch plate over said channel, substantially as and for the purposes set forth.
11. In a printing or reproducing apparatus, the combination with a main drum or cylinder provided with a laterally extending channel and outwardly extending and perforated lugs or ears, of an ink mat or cloth on said cylinder, a pair of retaining rods in said channel with which the respective ends of said cloth are connected, hook-shaped links connected with the respective end portions of sald rods, said links extending through and beneath said lugs or ears, a coiled spring upon the lower portions of each pair of links, means for retaining said springs in position and a stencil sheetattaching means consisting of a resilient latch plate, and means for securing said fatch plate over said channel comprising pins at one end of said channel with which one end portion of said latch plate is in detachable engagement and a hook-shaped spring post or rod in detachable engagement with the other end portion of said latch plate, substantially as and fir the purpises set firth.
12. In a printing or reproducing apparatus, the combinaation with a main drum or cylinder provided with a laterally extending channel ant a channelled member therein, of a stencil sheet-attaching latch plate, and means for securing said latch plate in its holding relation in said channelled
member, consisting of pins at one end of said member with which one end portion of sald latch plate is in detachable engagement and a hook-shaped spring post or rod in detachable engagement with the other end portion of said latch plate, substantially as and for the purposes set forth.

No. 100,718. Machino for Romoving Eesles from Machine pour enlever la rouille des barres de métal.


The Capewell Horse Nail Company, assignee of George Joseph Capewell, both of Hartford, Conecticut, U.S.A. 28th August, 1906 ; 6 years. Filed 23rd July, 1906. Receipt No. 138,109.
Claim-1. A scaling machine having rolls for crimping rod in one plane, rolls for crimping rod at right angles thereto, a feed roll with a groove for receiving rod, and a feed roll with a flange for holding rod in the groove.
2. A scaling machine having rolls for guiding rod, rolls for crimping rod in one plane, rolls for crimping rod in another plane, a feed roll with a groove for receiving rod, and a feed roll with a flange for holding rod in the groove. 3. A scaling machine having rolls for crimping rod in one plane, rolls for crimping rod in another plane, a feed roll with a groove for receiving rod, a feed roll with a fange for holding rod in groove, and rolls for coiling rod after it passes between the feed rolls.
4. A scaling machine having rolls for guiding rod, adjustable supports for the guiding rolls, rolls for crimping rod in one plane, adjustable supports for these rolls, rolls for crimping rod in another plane, adjustable supports for these rolls, a feed roll with a groove for recelving rod. a feed roll with a flange for holding rod in the groove, rolls for coiling rod after it passes between the feed rolls, and adjustable supports for the coiling rolls.
5. A scaling machine having guiding rolls, adjustable supports for the guiding rolls, horisontally crimping rolre. adjustable supports for these rolls, vertically crimping rolls, adjustable supports for these rolls, a grooved feed roll, a flanged feed roll co-operating therewith. colling rolls, adjustable supports for the coiling rolls, and a table for receiving the cofled rod.
6. A scaling machine having rolls for crimping rod backand forth, a feed roll formed of a pair of discs with a groove in its periphery, and a feed roll formed with a flange, the periphery of which is adapted to run in the groove between the discs of the other feed roll.
7. A scaling machine having rolls for crimping rod back and forth, a feed roll supported by fixed bearings and having a pair of discs with a groove between them, and a feed roll supported by oscillatory bearings and having a single flange, the periphery of which is adapted to run in the groove between the discs of the other feed roll.

\section*{No. 100,719. Core Drill. Forett \& noyau.}

The Keystone Driller Company, assignee of Robert M. Downie, both of Beaver Falls, Pennsylvania, U.S.A., 28th August, 1906 ; 6 years. Filed 26th May, 1906. Receipt No. 136,270 .
Claim.-1. A reciprocatory core-forming cutter comprising a tubular body having an annular series of tooth members depending from its lower edge and arranged in sets, the members of each set being diametrically opposite, and the members of the different sets being disposed on the body at points substantially \(90^{\circ}\) apart, the tooth members of one set extending inwardly and \(t^{2}\), the other set extending outwardly.
2. A cutter comprising a body having a plurality of depending tooth members, the members of each set being diametrically opposite and the members of the different sets being disposed on the body at points substantially \(90^{\circ}\) apart,
the tooth members of one set of members extending inwardly and those of the other set extending outwardiy, sald tooth members each having a group of teeth.

3. A reciprocatory core-forming cutter comprising a tubular open-ended body having an annular series of depending tooth members, said members being located at points substantially \(90^{\circ}\) apart and being alternately set inwardly and outwardly.
4. A cutter comprising a tubular body having an annular series of depending teeth, a plurality of the adjacent teeth being set inwardly, and a succeeding plurality of adjacent teeth being set outwardly.
5. A cutter comprising a tubular body having depending tooth members, each tooth member having a plurality of teeth set in the same direction.
6. A cutter comprising a body having a plurality of depending sets of tooth members, the members of each set being diametrically opposite and the members of the different get having their central portions disposed substantially \(90^{\circ}\) apart, the tooth members of one set extending inwardly and those if the other set extending outwardily, said tooth members each having a plurality of teeth and the teeth of each member extending in the same direction.
7. A cutter comprising a tubular reciprocatory casing, a core barrel member slidably mounted thereln, sald casing being capable of a lateral movement with respect to the barrel, and a percussion cutter carried by the lower end of the casing and having inwardly extending teeth that swing laterally with said casing to positions beneath the lower end of the core barrel to trim the core beneath the said barrel.
8. The combination with a tubular reciprocatory casing, of a core barrel slidably mounted therein, said casing being capable of a lateral movement with respect to the barrel and a percussion cutter carried by the lower end of the casing and including a tubular body having diametrically opposite inwardly extending teeth that move laterally with the casing to positions beneath the lower end of the core barrel to trim the core beneath sald barrel.
9. The combination with a tubular reciprocatory casing, of a core barrel slldably mounted therein, said cors barrel being of less diameter than the bore of the casing, said casing thus being capable of a lateral movement with respect to the barrel, and a percussion cutter carried by the lower end of the casing and including a tubular body having diametrically opposite tooth members, each member including a plurality of adjacent teeth incined inwardly and movable laterally with the casing to positions beneath the lower end of the core barrel to trim the core beneath the same.
10. The combination with a tubular reciprocatory casing, of a core barrel slidably mounted therein, said casing being capable of a lateral movement with respect to the barrel, and a percussion cutter carried by the lower end of the casing and comprising a body having a plurality of depending sets of tooth members, the members of each set being diametrically opposite and the members of the different sets having their central portions disposed substantially \(90^{\circ}\) apart, the tooth members of one set extending inwardly and being capable of a lateral movement with the casing to positions beneath the lower end of the core barrel, the members of the other set extending outwardly.
11. The combination with a casing, of a cutter threaded on the casing and having depending teeth, said tecth having substantially vertical sides and inclined sides, the latter sides being inclined in an opposite direction to the threads of the jointe.
12. The combination with a reciprocatory tubular casing, of a cutter comprising a tubular body threaded on the casing
and having depending inwardly and outwardly oxtending teeth, said teeth having substantially vertical sides, and inclined sides, the latter sides being inclined in an opposite direction to the threads, and a core barrel slidably mounted in the casing, said casing and teeth being capable of a lateral movement with respect to the barrel.
13. A reciprocatory core drilling cutter, comprising an open tubular body having inclined teeth for the purpose of giving said cutter a cork screw motion at the instant of its impact with the bottom of the bore hole, certaln of said teeth being set inwardly toward the axis of the body, others being set outwardly.
14. A reciprocatory core trilling cutter, comprising an open tubular body having an annular series of teeth disposed around a central axis, and inclined in the same direction to effect an automatic rotary or cork-screw motion upon its impact and reciprocation, certaiu of said teeth being set inwardly toward the axis of the body, others being set outwardly.

No. 100,720. Ink Distributor for Platen Printing Preas.
Listributeur d'enore pour pressce d imprimer.


Carl F. Eckman, Chicago, Illinois, U. S. A., 28th August, 1906; 6 years. Flled 11 th May, 1906. Recelpt No. 185,797.
Claim.-1. The combination with the roller bearing frame, of an auxiliary roller shaft rigidly mounted on said frame, and auxiliary roller having cam-shaped ends rotatably mounted on said shaft and bearing agalnst the form rollers, said cam-shaped ends bearing against contact rolls, thus imparting a rectilinear and rotary motion to the auxiliary roller when the press is operated, substantially as described.
2. The combination with the roller bearing frame, of an auxiliary roller, said shaft mounted on said frame, means for securely locking said shaft in position, an auxiliary roller carried by sald shaft and rotatably mounted thereon, cams formed on the ends of sald auxiliary roller bearing against contact rolls, imparting a rectllinear motion to said auxillary roller when the press is operated, substantlally as described.
3. In combination with the roller bearing frame, the roller sockets and form rollers carried thereby, of an ink distributor comprising a shaft, auxiliary roller bearings secured to the roller sockets, and having openings therethrough for receiving said shaft, an auxiliary roller carried by said shaft, cams on cach end of the auxiliary roller bcaring againgt the rollers secured on the auxillary bearings, and giving said auxiliary roller an oscillating motion when in operation, means for retaining the auxiliary roller in the auxiliary bearings, substantially as described.

\section*{150. 100,721. Combination Rale.}

\section*{Rdole a combinaieon.}

James Edward Huey and Welcome Collinsworth Lovejoy, assignee of a half interest, both of Charlotte, North Carolina, U.S.A., 28th Auguat, 1906; 6 years. Filed 27th June, 1906. Receipt No. 137,361.
Claim.-A combination rule consisting of the hinged members providod with spaced tapering pencll perforations and guldes, a perforated disc joint, a joint plate having an open-
ing therein adapted to register with any of the perforations in said disc, a locking pin on one of the hinged members of

the rule, and an eyelet pintle serving also as a fulcrum point, for the purpose described.

No. 100,722. Chimney Cowl and Ventilator. Oapuchon et ventilateur de cheminée.


David Whitehead and Harry Adams, assignee of a half interest, both of Perth. West Australia, Australia, 28th August, 1906 ; 6 years. Filed 15th January, 1906. Receipt No. 131,891.
Claim.-1. The combination with a hollow shaft, of an inverted conical member above the mouth of the shaft, a hood supporting the conical member mounted on the shaft and extending above and below the tops of the shaft and conical member and forming air passages between it and the shaft and conical member.
2. The combination with a hollow shaft, of a hood supported by and surounding the same and forming an air passage between them, an inverted conical member mounted above the mouth of said shaft and supported by the hood, and a pipe leading from the bottom of the conical member and a pipe leading from the bough the side of the shaft.
3. The combination with a hollow shaft, of a hood supported by and surrounding the same and forming an air rassage between them, an inverted conical member mounted above the mouth of said shaft and supported by the hood, and a pipe leading from the bottom of the conical member through the side of the shaft above the bottom of the hood.
4. The combination with a hollow ghaft, of an inverted conical member above the mouth of the shaft, a hood supported on the shaft and supporting the conical member and extending above the top of the latter, and a drain pipe leading from the bottom of the conical member through the side of the shaft above the bottom of the hood.
5. The combination with a hollow shaft, of an inverted conical member mounted above the mouth of the shaft, a hood supporting the conical member mounted on the shaft and extending above and below the tops of the shaft and forming air passages between it and the shaft and conical member, a drain pipe leading from the bottom of the latter through the side of the shaft above the bottom of the hood, and a conical screen mounted in the top of the hood.

No. 100,723. Scales for Measuring the Volume of Treen.
Echelle pour mesuror la grandeur des arbres.


Otto Skavhaugen, Kirkegaden 31, Fredriksetad ö Norway, 28th August, 1906; 6 years. Filed 16th May, 1906. Receipt No. 135,979.
Claim.-1. In a scale for the purpose specified two graduations arranged oppositely to each other, one of said graduations being a usual measure of length and the other indicating at every single point the thickness which the yearly rings are required to have when a tree of the dimension indicated by the opposite line of the graduations first mentioned has obtained a certain per cent increase in volume.
2. In a scale for the purpose specified the combination with the scale having a longitudinal groove adapted to receive a cylinder of yearly rings bored out from the stem to be measured of two graduations arranged on each edge of the groove, one of said graduations being the usual measure of length and the other indicating at every single point the thickness which the yearly rings are required to have when a tree of the dimension indicated by the opposite line of the graduations first-mentioned has obtained a certain per cent increase in volume.

\section*{No. 100,724. Binder Fan. Evantail de lieuse.}

Thomas Lait, Medicine Hat, Alberta, Canada, 28th August, 1906; 6 years. Filed 30th May, 1906. Receipt No. 136,409. Claim.-1. In an harvesting machine, the combination with the platform, a standard hinged at the inner end of same, a bracket supported by said standard, the reel supported at one end in said bracket, and means for operating sald reel, of a standard hinged to the other end of said platform, and means whereby the outer end of said reel is supported by said standard in such a manner as to keep the reel parallel to said platform.
2. In an harvesting machine, the combination with the platform, a standard hinged at the inner end of same, a

bracket supported by said standard, the reel supported at one end in sald bracket, means for raising and lowering said reel, and means for operating said reel, of a standard hinged to the other end of said platiorm, and means whereby the outer end of sald reel is supported by said standard in such a manner as to keep the reel parallel to said platform.
3. In an harvesting machine, the combination with the platform, a standard hinged at inner end of same, a bracket supported by said standard, the reel shaft supported at one end in said bracket, means for raising and lowering said reel shaft, and means for rotating the reel loosely mounted on sald reel shaft, of a rack provided standard hinged to the other end of said platform, a bracket movable on said rack provided standard and supporting the outer end of said reel shaft, and a toothed pinion secured to said reel shaft and meshing in the rack in said standard.
4. In an harvesting machine, the combination with the platform, a rack provided standard hinged at inner end of same, and a bracket normally locked to sald standard, of the reel shaft having bearing at one end in said bracket, a bevel pinion loosely mounted thereon, a bevel gear wheel having bearing in sald bracket and with which said bevel pinion is in mesh, a toothed pinion keyed to said reel shaft and meshing with the rack in said standard, a friction clutch on sald reel shaft designed to engage with said bevel pinion in order to rotate said reel shaft to raise same and said bracket, means for unlocking said bracket from said standard, means for operating said friction clutch, means for operating said bevel gear wheel, a rack provided standard hinged to the outer end of said platform, a bracket movable thereon in which has bearing the outer end of said reel shaft, a toothed pinion secured to said reel shaft and meshing in the rack of said standard, the reel loosely mounted on said reel shaft, and means for rotating said reel interposed between same and said bevel gear wheel.
5. In an harvesting machine, the combination with the clatform, a rack provided standard hinged at inner end of beme, and a bracket normally locked to said standard, of the reel shaft having bearing at one end in said bracket, a bevel pinion loosely mounted thereon, a double bevel gear wheel having bearing in sald bracket and with which sald bevel pinion is in mesh, a toothed pinion keyed to sald reel shaft and meshing with the rack in sald standard, a friction clutch o:. said reel shaft designed to engage with said bevel pinion is order to rotate said reel shaft to raise same and said bracket, means for unlocking sald bracket from said standard, means for operating said friction clutch, a rack provided standard hinged to the outer end of sald platform, a bracket movable thereon in which has bearing the outer end of said reel shaft, a toothed pinion secured to sald reel shaft and meshing in the rack of said standard, the reel loosely mounted on said reel shaft, a gear wheel secured to sald
reel, a pinion meshing with said gear wheel, a shaft having bearing in said bracket and carrying said pinion, a bevel pinion secured to said shaft and in mesh with the outer face of said double bevel gear wheel, and means for operating said double bevel gear wheel.
6. In an harvesting machine, the combination with the platform, a rack provided standard hinged at inner end of same, and a bracket normally locked to sald standard, of the reel shaft having bearing at one end in said bracket, a bevel pinion loosely mounted thereon, a double bevel gear wheel having bearing in sald bracket and with which said bevel pinion is in mesh, a toothed pinion keyed to said reel shaft and meshing with the rack in said standard, a friction clutch on said reel shaft designed to engage with said bevel pinion in order to rotate sald reel shaft to raise same and said bracket, means for unlocking said bracket from said standard, means for operating said friction clutch, a rack provided standard hinged to the outer end of sald platform, a bracket movable thereon in which has bearing the outer end of said reel shaft, a toothed pinion secured to sald reel shaft and meshing in the rack of said standard, a reel loosely mounted on said reel shaft, a gear wheel secured to sald reel, a pinion meshing with sald gear wheel, a shaft having bearing in said bracket and carrying said pinion, a bevel pinion secured to said shaft and in mesh with the outer face of gaid double bevel gear wheel, a bevel pinion held constantly in mesh with the outer face of said double bevel gear wheel, a shaft on which sald bevel pinion has longitudinal movement, the said shaft being mounted so as to permit of the movement of sald first-mentioned pivoted standard, and means for operating said shaft.
7. In an harvesting machine the combination with the platform, a standard hinged at the inner end thereof, and a standard hinged at the outer end thereof, of the reel mounted between sald standards and supported thereby at both ends and means for operating sald reel in the desired direction.
8. In an harvesting machine the combination with the platform, a toothed standard hinged at the inner end thereof, a bracket movable on said toothed standard, the reel shaft supported in said bracket, and means for operating sald reel shaft, of a gear wheel secured to said reel shaft and in mesh with the toothed rack in said standard, means for clutching and unclutching said reel shaft from its operating means, a locking rack secured to or formed a part of sald standard, a bolt carrled by said bracket and designed to engage with said locking rack in order to lock said bracket and said reel shaft to said standard when said reel shaft is not rotating, and means for unlocking said bolt from sald rack in order to permit of the raising of sald bracket by the rotation of said reel shaft.
9. In an harvesting machine the combination with the platform, a toothed standard hinged at the inner end thereof, a bracket movable on said toothed standard, the reel shaft supported in said bracket, and means for operating said reel shaft, of a gear wheel secured to sald reel shaft and in mesh with the toothed rack in sald standard, means for clutching and unclutching said reel shaft from its operating means, a locking rack secured to or formed a part of said standard, a bolt carried by said bracket and designed to engage with said locking rack in order to lock said bracket and said reel shaft to said standard when said reel shaft is not rotating. a support, a lever hinged to said support and hinged to said bracket on said toothed standard, and means carrled by said lever and said bracket in order to unlock said bolt from said locking rack during the rotation of said reel shaft in order to permit said bracket being raised up.
10. In a harvesting machine the combination with the platform, a rack provided standard hinged to the inner end of same, and a carrying bracket supported upon said rack prorided standard, of a supporting member, a lever, a standard to which said lever is hinged which is hinged to sald sup port, means for locking and unlocking said standard to and from said support, and means carried by said lever and said bracket in order to lock and unlock said bracket to and from said rack provided standard.
11. In a harvesting machine the combination with the pla!form, a rack provided standard supported at the inner end of same, and a bracket supported on said standard, of the reel shaft having bearing in said bracket, a gear wheel secured thereto and in mesh with the toothed rack of said standard, a friction clutch for throwing said reel shaft into and out of gear with a source of power, a friction clutch lever pivoted to said bracket. and an arm depending down from sald standard and into the path of movement of said friction clutch lever so that when same is moved into contact with sald arm, the friction clutch will be operated out of gear with said source of power so as to prevent the rotation of said reel shaft.
12. In a harvesting machine the combination with a platform, a standard hinged at the inner end of same, a bracket supported on said standard and the reel shaft supported by sald bracket, of a bevel gear wheel journalled in said bracket. a bevel piaion in mesh therewith, a shaft supported in cald
oracket to which said bevel pinion is secured, a pinion secured to said shaft, a reel mounted on said reel shaft, a gear wheel secured to said reel and meshing with said pinion, and means for operating said bevel gear wheel.

No. 100,725. Fishhooks. Hamegon.


William Edward Kock, Whitehall. New York, U.S.A., 28th August, 1906; 6 years. Filed 6th April, 1906. Receipt No. 134,691.
Claim.-1. The combination with a main fishhook, of a line attaching swivel on the hook, a gang attaching loop below the awivel, and a sinker directly on the hook.
2. A main fighhook, a link attaching swivel thereon, a loop extended from the hook below the swivel, and a weight slidable on the hook.
3. A main fishhook, a plate attached to the shank thereof, the plane of said plate being at right angles to the bend of the hook, and a loop on the lower end of said plate.
4. A maln fishhook, a plate of substantially triangular form secured to the hook shank with one of its stralght edges toward the bent of the hook, and a loop on the plate at said straight edge.

No. 100,726. Street Indicator and Advertiser. Annonce et indicateur de rue.


Gerald R. Livergood, St. Joseph, Missouri, U.S.A., 28th August. 1906; 6 years. Filed 15th June, 1906. Receipt No. 136,930.
Claim.-1. In an automatic street or station indicator and advertiser the combination of a case provided with a glass front to permit a view of the street or station names or numbers and the advertisements, a frame provided with vertical slots cut in its end pleces, duplicate gear wheels and a shaft carried by bearings on the end pleces of the frame, front and rear elevators adapted to travel up and down and racks on the ends thereof adapted to be operated by said gear wheels, a plurality of card frames, spring pawls attached to said elevators to engage said card frames, cards horizontally slotted, rests for supporting the same in tiers, pins and blocks operating in sald slotted rests to automatically open and close the space between the ends of the cord rest and elevators, duplicate levers slotted at their inner ends pivotally attached to the frame and engaging at their inner slotted ends with pins in the gear wheels, Lshape upper and lower car feeders provided with pins adapted to operate in slots in the frame, duplicate levers con-
necting and operating the upper and lower car feeders, coll springs forming connection between the frame and card feeders, duplicate bell cranks and connecting links, levers and spring pawls and square shouldered pins, which simultaneously move the card feeders into position to engage and operate the cards horizontally after they are transferred vertically, and duplicate springs to move the mechanism forming connection with the card elevators and transfer the cards.
2. In an automatic street or station indicator and advertiser the combination with a circult closer, of a case provided with a glass front to permit a view of the street or station names or numbers and the advertisments, a frame provided with vertical slots cut in the end pieces thereof, duplicate gear wheels and a shaft carried by bearings on the end pieces of the frame, pins rigidly fastened to said gear wheels, front and rear elevators adapted to travel up and down and racks on the ends thereof adapted to be operated by said gear wheels, a plurality of card frames, cards, and horizontally slotted rests for supporting the same in tiers, pins and blocks operating in sald slotted rest to automatically open and close the spaces between the ends of the card rests and elevators, cams atached to said gear wheels adapted to engage said pins in said blocks and move them forward or backward, an armsture extending horizontally across the back of said machine, duplicate levers slotted at their inner ends pivotally attached to the machine frame rigidly fastened to said armature and engaging at their inner slotted ends with the pins in the gear wheels, L-shaped card feeders provided with pins adapted to operate in slots in the frame, duplisate levers connecting and operating the upper and lower card feeders, coil springs forming connection between the frame and card feeders, duplicate bell cranks and connecting links, an electro-magnet adapted to attract the armature which operates the mechanism forming connection with the card elevators and moving said elevators into position to engage the cards, spring pawls attached to said elevators and adapted to engage the card frames, duplicate springs attached to said armature to recover said movement of the mechanism and transfer the cards, square shouldered pins fastened rigidly to said card feeders, spring pawls fastened to the machine frame and adapted to engage and hold said pins after said card feeders have been moved into position to engage the cards, cams atached to said gear wheels to release said square shouldered pins from said pring pawls after the cards are completely elevated allowing said coil springs to pull said card feeders against the cards thus transferring them horizontally after they have been transferred vertically, substantially as shown and described.
3. In an automatic street or station indicator and advertiser the combination of a machine frame, duplicate gear wheels and a shaft carried by bearings on the end pleces of said frame, front and rear elevators adapted to travel up and down and racks on the ends thereof adapted to be operated by said gear wheels, spring pawls attached to said elevators card frames adapted to be engaged by said pawls, an armature extending horizontally across the back of the machine, duplicate levers slotted at their inner ends pivotally atached to the machine frame rigidly fastened to the armature and engaging at their inner slotted ends with pins in the gear wheels, and electro-magnet adapted to attract the armature and operate the mechanism forming connection with the card elevators and move the elevators into position to engage the cards, duplicate springs attached to sald armature to recover said movement of mechanism and transfer the cards, substantially as shown and described.
4. In an automatic street or station indicator and advertiser, a machine frame, L-shaped card feeders provided with pins adapted to operate in slots in sald frame, duplicate levers connecting and operating the upper and lower card feeders, coil springs forming connection betwoen the frame and card feeders, duplicate bell cranks and connecting levers, an armature, an electro-magnet adapted to attract said armature which operates the mechanism forming connection with the said card feeders, square shouldered pins fastened rigidly to said card feeders, card frames, spring pawls fastened to the machine frame and adapted to engage and hold said pins after said card feeders have been moved into position to engage said card frames, cam attached to said gear wheels to release said square shouldered pins from said spring pawls after cards are completely elevated allowIng said coil springs to pull said card feeders against the cards thus transferring them horizontally, substantially as shown and described.
5. In an automatic street or station indicator and advertiser the combination with slotted card rests and elevators, of blocks and pins operating in said slotted card rests to automatically open and close the spaces between the ends of said card rests and elevators, a machine frame, duplicate gear wheels and a shaft carried by bearings on the end pleces of said frame, duplicate cams attached to said gear wheels adapted to engage said pins in said blocks and move said blocks forward and backward, an armature extending horizontally across the back of sald machine, duplicate
levers slotted at their inner ends pivotally attached to the machine frame rigidly fastened to said armature and engagIng at their inner slotted ends with pins in the gear wheels, an electro-magnet adapted to attract said armature which operates the mechanism forming connection with the blocks in the slotted rests, substantially as set forth and shown.

No. 100,727. Paper Cutter. Coupe-papicr.


Meynardie Nelson, Littleton, North Carolina, U.S.A., 28th August, 1906; 6 years. Filed 21st June, 1906. Receipt No. 137,123.
Claim.-1. An improved paper cutter, comprising a horizontal base embodying a stationary under member having an upwardly projecting pin or stud, a revolving upper member turnably mounted upon said pin, an anti-friction means having members loosely seated between sald under and upper members, and a tap or projection upon said pin above said upper member, sald tap operating against said upper member to retain the upper and under members together and prevent displacement of the anti-friotion means between the same, a vertical standard rising from the stationary base member at one side the revolving base member. and a vertical cutting mechanism carried by the standard, said revolving base member being adapted to support a roll of paper with the pin or stud carrying the retaining tap or projection entering the bottom of the bore of said roll.
2. An improved paper cutter, comprising a horizontal base embodying a stationary under member having an upwardly projecting pin or stud, a revolving upper member turnably mounted upon said pin and having at its top a tubular stud or projection surrounding the pin, an anti-friction means having members loosely seated between sald under and upper members, and a tap or projection upon sald pin above said stud, said tap operating against the top of said stud to retain the upper and under members together and prevent displacement of the anti-friction means between the same, a vertical standard rising from the stationary base member at one side the revolving base member, and a vertical cutting mechanism carried by the standard, said revolving base member being adapted to support a roll of paper with the tubular stud and the pin or stud carrying the retaining tap or projection entering the bottom of the bore of said roll.
3. An improved paper cutter comprising a horizontal base embodying a stationary under member having an upwardiy projecting pin or stud and an annular groove or channel surrounding the same, a series of balls seated in said channel, a revolving upper member turnably mounted upon said pin and resting upon said balls, and a tap or projection upon sald pin above said upper member, said tap operating against said upper member to retain the upper and under members together and prevent displacement of the balls from their channel, a vertical stahndard rising from the stationary base member, and a vertical cutting mechanism carried by the standard, said revolving base member being adapted to support a roll of papir with the pin or stud carrying the retalining tap or projection entering the bottom of the bore of said roll.
4. An improved paper cutter comprising a horizontal base embodying a stationary under member, an upper member revolving upon sald under member, anti-friction bearing means between said members, and a projection carried by said revolving member for entering the bottom of the bore, of a roll of paper supported upon the revolving member, a vertical standard rising from the stationary member at one side the revolving member, and a vertical cutting mechanism carried by the standard.
5. An improved paper cutter comprising a horizontal base embodying a stationary under member, an upper member revolving upon said under member, anti-friction bearing means loosely mounted between said members, means for
retaining said upper and under members together to prevent displacement of the anti-friction bearing means, and a stud or projection carried by the base for entering the bottom of the bore, of a roll of paper supported upon the revolving member, a vertical standard rising from the statlonary member at one side the revolving member, and a vertical cutting mechanism carried by the standard.
6. An improved paper cutter, comprising a horizontal base embodying a stationary under member, an upper member revolving upon said under memebr, anti-friction bearing means loosely mounted between said members, means for detachably connecting and retaining said upper and under members together, and a stud of projection carried by said revolving member for entering the bottom of the bore, of a roll of paper supported upon the revolving member, a vertical standard rising from the stationary member at one side the revolving member, and a vertical cutting mechanism carrled by the standerd.
7. An improved paper cutter comprising a horizontal base ably carried by said base, at one side the revolving member, a vertical cutting mechanism detachably carried by the standard, and a top holding pin detachably carried by the gtandard and adapted to slide into the bore of a roll of paper vertically supported upon the revolving member of the base, whereby the parts can be detached, for the purpase set forth
8. An improved paper cutter comprising a horizontal base embodying a stationary under member, a revolving upper member, and means for detachably connecting and retaining said upper and under members togetber, a ver tical standard detachably carried by the stationary member of the base at one side the revolving member, a vertical cutting mechanism detachably carried by the standard. and a top holding pin detachably carried by the standard and adapted to slide into the bore of a roll of paper vertically supported upon the revolving member of the base, where br the parts can be detached, for the purpose set forth.
9. An improved paper cutter comprising a horizontal base embodying a stationary under member, an upper member revolving upon said under member, anti-friction bearing means between said members, means for connecting and retaining said upper and under members together, and a stud or profection carried by the base for entering the bottom of the bore of a roll of paper vertically supported upon the revolving member, vertical standard detachably carried by the stationary member of the base at one side the revolving member, a vertical cutting mechanism detachably carried by the standard, and a top holding pin detachably carried by the standard and adapted to slide into the top of the bore of the roll of paper.
10. An improved paper cutter comprising a horisontal base embodying a stationary under member, a revolving upper member, and means for detachably connecting and retaining sald upper and under members together, a vertical standard detachably carried by the stationary member of the base at one side the revolving member, and a vertical cutting mechanism carried by the standard.
11. An improved paper cutter comprising a horizonta base embodying a stationary under member and an upper member revolving upon aak under member, a vertical one piece standard detachably carried by the stationary member of the base at one side the revolviag member and having its top end bent at an angle to project over the base, a vertical cutter mechanism carried by the standard, and means for retaining a roll of paper in vertically supported position upon the revolving member of the base.
12. An improved paper cutter comprising a vertical base embodying a stationary under member, an upper member revolving upon said under member, means for connecting and retaining said upper and under members together, and a stud or projection carried by the base for entering the bottom of the bore, of a roll of aper vertically supported upon the revolving member, a vertical standard carried by the stationary member of the base at one side the revolving member and having its top projecting at an angle over the base and provided with a vertical opening registering with said stud or projection, a vertical cutter mechanism carried by the standard, and a pin having a head or projection for supporting it in said opening in the standard and adapt ed to slide into the top of the bore of the roll of paper.
13. An improved paper cutter, comprising a hortzontal base embodying a stationary under member and an upper member revolving upon said under member, a vertical onepiece standard detachably carried by the stationary member of the base at one side the revolving member and having its top end bent at an angle to project over the base and provided with a vertical opening, a vertical cutter mechanism carried by the standard, and a pin having a head or projection for supporting it in said opening in the standard and adapted to slide into the bore of a roll of paper vertically supported upon the revolving member of the base.
14. In an improved paper cutter comprising a horizontal base embodying a revolving member adapted to carry a roll of paper in vertical position, a vertical rising from said
base at one side said revolving member, a vertical cutter having a pivotal bearing upon the standard, and tensional means carried by the standard and bearing upon the pivotally mounted cutter for retaining the same against the roll of paper.
15. In an improved paper cutter comprising a horizontal base embodying a revolving member adapted to carry a roll of paper in vertical position, a vertical standard rising from said base at one side said revolving member, a vertical cutter carried upon arms pivotally connected with the standard, and springs carried by the standard and in tensional connection with the cutter for retaining the same against the roll of paper.
16. In an improved paper cutter comprising a horizontal base embodying a revolving member adapted to carry a roll of paper in vertical position, a vertical standard rising from said base at one side said revolving member, a vertical cutter carried by arms pivotally connected with the standard, and coiled springs mounted upon and secured to the standard and having a bent end projecting into engagement with said arms, for the purpose set forth.
17. In an improved paper cutter comprising a horizontal base embodying a revolving member adapted to carry a roll of paper in vertical position, a vertical standard rising from said base at one side said revolving member, a vertical cutter pivotally mounted upon the standard, and springs secured to the standard and forming a seat or support for the pivotal mounts of the cutter, sald springs having a tensional bearing with respect to the cutter for retaining the same against the roll of paper.
18. In an improved paper cutter comprising a horizontal base embodying a revolving member adapted to carry a roll of paper in vertical position, a vertical standard raising from said base at one side said revolving member, a vertical cutter carried by arms pivotally surrounding the standard, coiled springs mounted upon and having one end securid to the standard and forming supports for the pivotal mounts of the cutter, the other ends of said springs being bent outwardly at an angle to form an arm bearing against the cutter arm and having an end or terminal projecting across the edge of the cutter arm to secure the latter upon its pivotal seat on the spring.
19. In an improved paper cutter comprising a horizontal base embodying a revolving member adapted to carry a roll of paper in vertical position, a vertical standard detachably secured to said base at one side said revolving member, a vertical cutter pivotally and detachably mounted upon the standard, and springs detachably mounted upon the standard and tensionally bearing upon the cutter, for the purpose set forth.
20. An mproved paper cutter comprising a vertical standard, and a plurality of horizontal bases adjustably secured on the sstandard and adapted to support rolls of paper in vertical position intermediately of said bases.
21. An improved paper cutter comprising a stationary norizontal base, a vertical stamdard rising therefrom, and horizontal bases carried by said standard intermediately between the stationary base and the top of the standard, whereby rolls of paper may be supported in vertical position upon and between said bases.
22. An improved paper cutter comprising a vertical standard, and a plurality of horizontal bases mounted thereon, and bases embodying a stationary inder member and a revolving upper member adapted to support a roll of paper in vertical position.
23. An improved paper cutter comprising a vertical standard. a plurality of horizontal bases mounted thereon and embodying a stationary under member and a revolving upper member adapted to support a roll of paper in vertical position, sald bases having an upwardly extending stud or projection for entering the bottom of the bore of the roll of paper and the bases which are intermediately of the rolls of paper having a downwardly projecting stud or pin for entering the top of the bore of the roll.
24. An improved paper cutter comprising a vertical standard, a plurality of horizontal bases mounted thereon and embodying a stationary under member and a revolving upper member adapted to support a roll of paper in vertical position, and a plurality of cutting mechanisms mounted unon and carried by the standard intermediately of said lases.
25. An improved paper cutter comprising a vertical standard, a plurality of horizontal bases mounted thereon and embodying a stationary under member and a revolving upper member adapted to support a roll of paper in vertical position upon and between the bases, and a plurality of spring actuated cutting mechanisms mounted upon and carried by the standard with relation to the respective rolls which are mounted between the bases.

No. 100,728. Street Indicator and Adverthiser. Indicateur et appareil d'annonce de rues.


Charles H. Townsend, Berkley, Callfornia, U.S.A., 28th August, 1906; 6 years. Flied 21st June, 1906. Receipt No. 137,118.
Claim,-1. In an indicating and exhibiting device the combination of endless travelling belts, and drums over which they pass, one of said belts having indicia arranged in successive order and the other belt having words or characters to be exhibited, unitary mechanism including a gear wheel and gears of different diameters on the axes of the drums and in direct engagement with the first-named gear wheel whereby one of the belts is advanced more rapidly than the other, and means for operating the gears, said means including a rock shaft, a lever on the axis of the first-named gear wheel, a lever on the rock shaft, jointed connections between the levers and actuating devices between the firstnamd lever and said first-named gear.
2. In a combined indicating and exhibiting device the combination of a plurality of endless belts and drums around which said belts pass, a case within which the drums and belts are mounted, said case having sight openings and one of the belts having characters arranged thereon in successive order and the other belt having advertising subject matLer, means whereby the belts are simultaneously moved at different rates of speed, said mechanism including gears of different diameters fixed to the drums, a gear wheel engaging the drum gears, a rock shaft, a lever connected to one of the gears, and knee levers between said lever and rock shaft.
3. In a combined indicating and exhibiting device, the combination of a case having sight openings and a plurality of movable indicators within the case and bearing unrelated subject matter, one of sald indicators having its subject matter in the form of characters arranged in successive order, means whereby the belts may be intermittently moved in unison and at different rates of speed, and conections including a rock shaft and knee levers betwoen the same and said means whereby the latter may be operated from independent and remote points.
4. In a combined Indicating and advertising device, a plurc:lity of endless belts, drums around which said belts pass, ? train of gearing having independent connections with the cirums, whereby said drums are rotated at different rates of speed, pawl and ratchet and lever mechaism, and a stop carried by a movable member of the lever mechanism and adapted to engage a member of the gearing whereby the belts are advanced a stated distance at each movement of the lever.
5. In an indicating and advertising device, a plurality of belts, drums around which said belts pass, a train of gearing with independent connections with the drums of each belt, a pawl and ratchet for operating the gearing, a lever mechanism including a rock shaft, a lever on the exis of the ratchet and knee levers between the last-named lever and the rock shaft, by which the ratchet is intermittently actuated, and a latch carried by one of the knee levers and engaging a member of the gearing at the termination of the advance movement.
6. The combination in an indicating and advertising device of a plurality of endless belts, independent drums around which said belts are disposed, a train of gearing and connections by which the belts are advanced at different rates of speed, a pawl and ratchet. lever mechanism to actuate the ratchet, said mechanism including a lever on the axis of the ratchet, a rock shaft and knee levers between the shaft and first-named lever, a bell and a spring pressed hammer and pins carried by a member of the said train of gearing whereby the hammer is raised and released with cach advance of the belts.
7. In an indicating and advertising device, a plurality of belts, independent drums around which said belts pass, mechanism by which the belts are advanced and a front through which the characters of each are exposed, means for removing belts and drums, said means comprising slotted bearings in which the shafts of the drums are turnable and elastic sections in the belts whereby said belts may be extended to allow the drum shafts to be lifted from their bearings.

No. 100,729. Clinical Thermometer. Thermomètre clinique.


Millard F.llmore Beeton, Jersey City, New Jersey, U.S.A., 28th August, 1906; 6 years. Filed 30th June, 1906. Recelpt No. 137,432.
Claim.-1. A thermometer formed with a mercury bore and with a second bore in rear of said mercury bore, a hollow rcale strip inserted in said second bore, and a light refiecting means within said hollow strip.
2. A thermometer formed with a longitudinally arranged bore in rear of the mercury column, a hollow scale strip within said bore, and a light reflecting strip inserted within and fitting the hollow bore of the scale strip.
3. A thermometer formed with a longitudinal bore in rear. of the mercury column, a hollow scale strip fitting within said bore, and a light reflecting backing strip fitting snugly within the scale strip, the edges of said backing strip being colored contrastingly with the remainder of the strip.
4. A thermometer formed with a longitudinal bore in rear of the mercury column, a semi-cylindrical hollow scale strip fitting within said bore, and a light reflecting backing strip fitting snugly within the scale strip, the edges of the backing strips being colored.
6. A thermometer comprising a body of substantially triangular shape in cross scetion, sald body being formed adjacent the apex with a mercury bore and in rear of said bore with a longitudinally arranged opening, and a light reflecting scale strip carrying scale marks inserted in said opening, the side of the strip next the bore being convex, and scale finders of a contrasting colour relative to the strip disposed to define the edges of the strip when in position.
6. A thermometer comprising a body of substanially triangular shape in cross section, said body being formed adjacent the apex with a mercury bore and in rear of sald bore with a longitudinally arranged opening, and a light reflecting scale strip carrying scale marks inserted in said opening, the side of the strip next the bore being convex, the width of the strip approximating the width of the body in alignment with the mercury bore, and scale finders of a contrasting colour relative to the strip disposed to define the edges of the strip when in position.

\section*{No. 100,730. Cement Mizer. Melangeur de oiment.}

Ransom Z. Snell, South Bend, Indiana, U.S.A., 28th August, 1906; 6 years. Filed 21st July, 1906. Recelpt No. 138,022.
Claim.-1. A concrete mixer embodying standards, a supparting crossbar plvotably suspended from the upper ends of the standards, a mixing tank rotatably mounted on sald crossbar, means for rotating the tank upon the said crossbar, and means for rotating the tank with the crossbar on the pivots of the latter.
2. A concrete mixer embodying standards, a supporting crossbar connected at each end with the top of the standards. a mixing tank rotatably mounted on the crossbar and having a rack therearound, a shaft journalled in the upper end of one standard, constituting a trunnion for one end of the supporting crossbar, and having a gear thereon adapted to engage with the rack on the tank, means for rotating said shaft. a spindle journalled in the upper end of the other standard and having one end secured to the other end of the crossbar
to constitute the other trunnion for the latter, and means connected with said spindle for rotating the latter to tilt

the tank, whereby the tank may be rotated on both its vertical and horizontal axis.
3. A concrete mixer embodying standards, a pair of axles journalled in the lower ends of the standards, traction wheels longitudinally adjustable upon said axle, whereby the tread may be adjusted, in combination with a rotary mixing tank pivotally hung between the standards, and means for tilting the tank on its pivots.
4. A concrete mixer embodying standards, a pair of axles journalled in the lower ends of the standards, and traction wheels longitudinally adjustable upon sald axle, whereby the tread may be adjusted.
5. A concrete mixer embodyling standards, a crossbar pivotally hung between the standards, a mixing tank rotatably mounted on the crossbar and having a marginal flange, means on the crossbar to engage the upper face of the marginal flange to steady the tank in its rotatiou, and means for turning the crossbar on its pivots to tilt the tank, substantially as specified.
6. A concrete mixer embodying standards, a supporting crossbar connected to the standards and having a central socket, an axle shaft fixed in sald socket and projecting thereabove, a mixing tank habing an upwardly projecting central sleeve surrounding sald axle shaft and also having a bearing on the crossbar around said axle shaft. and means for rotating the tank on said bearing around said axle shaft. 7. A concrete mixer embodying standards, a supporting crossbar pivotally hung from the upper ends of said standards, an axle shaft secured to said crossbar and projecting upwardly, a mixing tank having a bearing on said crossbar and also provided with a sleeve which has a bearing on said axle shaft, a scraper supported from said shaft, means for rotating the mixing tank on the axle shaft, and means for rotating the tank on the pivots of the supporting crossbar, substantially as specified.

No. 100,731. Work Folder for Plainerm, Etc. Porte ouvrage pour machines d raboter.


Charles Francls Pearl Warner, Providence, Rhode Island, U.S.A., 28th August, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,106.
Claim.-1. A device of the character described comprising a body portion, a plurality of adjustable retaining screws threaded therein at close intervals, said screws being adapted to be turned outward and extended from said body to engage and hold by pressure the work to be operated upon.
2. A device of the character described comprising a body portion, a plurality of adjustable retaining screws threaded therein at close intervals, said screws being downwardly inclined and adapted to be turned outward and extended from sald body to engage and carry the work to its seat and hold tho same by pressure to be operated upon.
3. A device of the character described comprising a body portion, a plurality of adjustable retaining screws threaded therein at close intervals, said screws being downwardly incllned and adapted to be turned outward and extended from said body to engage and hold by pressure the work to be operated upon. and vertically adjustable means on which said body is supported.
4. A device of the charscter described comprising a body portion, a plurality of adjustable retaining screw-threaded therpin at close intervals, said screws being set at an angle to the rear face of the body and inclining slightly downward therefrom, and said screws being adapted to be turned and extended outward from sald body so that the heads of the same will engage and hold by pressure the work to be operated upon, and a plurality of supporting screws threaded into the unde rside of said body by the rotation of which said body may be adjusted vertically.

No. 100,732. Hand Stamp. Cachet d main.


Washington Laycock, Chicago, Illinois, U.S.A., 28th August, 1906; 6 years. Filed 30th July, 1906. Receipt No. 138,281. Claim.-1. In a printing stamp, a type holder provided with a plurality of type receiving slots and means for fixedly varying the width of the slots to receive types of different widths and constructed to exert no confining pressure on the side faces of the type.
2. In a printing stamp, a type holder embracing a plurality of bars between which are formed type receiving slots, said bars being moved toward and from each other to vary the widths of said slots, and means independent of the type for holding the bars rigidly in said irame at definite fixed distances apart.
3. In a printing stamp, a type holder frame, including a plurality of bars between which are formed type-receiving slots, clamping bars in said frame with which the type bars have interlocking connection, by means permitting movement of the type bars towards and from each other, and means for spreading apart the clamping bars to effect endwise clamping action on the type bars.
4. In a printing stamp, a type holding frame, including a plurality of bars between which are formed type recelving slots, clamping bars in sald irame which are movable toward and from each other, hooks on the type bars which hook over said clamping bars, and means for adjusting the clamping bars towards and from each other.
5. In a printing stamp, a type holding frame, including a plurality of bars between which are formed type receiving slots, clamping bars in said frame, hooks on the type bars which engage said clamping bars and laterally slidable thereon, and clamping means for spreading apart the clamping bars.
6. In a printing stamp, a type holder including a plurality of bars between which are formed type recelving slots, clamping bars in said frame, one of which is affixed to the frame and the other of which is movable therein towards and from the other bar, Interlocking connection between the euds. of the type bars and said clamping bars and means for spreading apart said clamping bars to effect clamping action between the same and the type bars.
7. In a printing stamp, a type holding frame including a plurality of bars between which are formed type recelving slots, clamping bars in said frame, one of which is fixed in the frame and the other of which is movable in the frame towards and from the other bar, interlocking connections between the eods of said type bars and said clamping bars, said frame having slots through which the ends of the movable clamping bars extend, an extension frame connected with the movable bar and clamping screws pasing through the extension frame and engaging the main frame for spreadIng apart the clamping bars.
8. A printing stamp comprising a back or body provided on its under face with a cushion, a type holding frame which is connected with the back by means permitting it to move
towards and from the back during the printing pressure of the stamp, said frame embracing a plurality of type bars between which are formed type receiving slots, and means effecting endwise clamping pressure on the ends of said bars for holding the bars at predetermined distances apart and to maintain in adjustment the width of the type slots.
9. A printing stamp comprising a back or body provided on its under face with a cushion, a type holding frame which is connected with the back, said frame embracing a plurallty of type bars between which are formed type receiving slots, means for effecting endwise clamping pressure on aaid bars for holding the bars at predetermined distances apart and to maintain in adjustment the width of the type slots, and means for holding the said frame to the sald back or body comprising bails connected with said frame and adapted to swing over the ends of said back or body and constructed to clamp said cushion against types in said slots.
10. A printing stamp comprising a back or body, a slotted type holder affixed thereto by means permitting it to move freely toward and from the body in the direction of and during the printing pressure of the stamp, types inserted into the slotted holder and separately yieldable in and having guiding engagement with said slots and a yielding member interposed bet ween the types and said body.
11. A printing stamp comprising a back or body, a slotted type holder affixed thereto by means permitting it to rurve freely toward and from the body in the direction of and during the printing pressure of the stamp, a plurality of in dependent types ingerted into the slotted hoider and having separately yieldable, guiding engagement with the slots of said holder, and a cushioning body interposed betweon the inner faces of said types and said body.
12. A printing stamp comprising a back or body, a slutted type holder removably affixed thereto by means permitting it to move freely toward and away from the body in the direction of and during the printing pressure of the stamp, a plurality of types which are inserted into said holder from the rear thereof, and a yielding member interposed betweer the body and the rear faces of said types, the types being separately yieldable in said slots.
13. A printing stamp comprising a back or body, a type holder having in its flat face a type receiving slot, individual types which are inserted into sald slot from the rear of the holder and are separately and rearwardly yieldable during the printing pressure of the stamp therein, and means for affixing the holder to the body permitting the holder to move freely toward and away from the body in the direction of and during the printing pressure of the stamp.
14. A printing stamp comprising a back or body, a slotted type holder affixed to the body by means permitting it to move freely toward and from the body during the printing plessure of the stamp, a cushion on the lower face of the body and shouldered types having their narrower ends extfinding through the slots and their wider ends interposed between the bars of the holder and said cushion whereby said types are clamped firmly between said holder and cushion but are permitted to separately yleld backwardly into the cushion.
15. A printing stamp comprising a back or body, a slotted type holder affixed to the body by means permitting it to move frely toward and from the body during the printing pressure of the stamp, a cushion on the lower face of the bcdy and separately movable types in the slot of the holder having narrow advance ends and wide rear ends, sald narrcw advance ends having guiding engagement with the walls \(o\) ? the slots and the wider rear ends being clamped between the holder and the cushion.

\section*{No. 100,733. Etamp Canceller.}

Machine d̀ mactuler les timbres-poste.
Wilber E. Bowercock, Burlington, Iowa, U.S.A., 28th August,
1906; 6 years. Filed 23 rd June, 1906. Receipt No. 137,219.
Claim.-1. In a cutter, a circular head having an outstanding shank and a recess adjacent the shank, cutting discs mounted upon opposite sides of the head, and a lateral scraping edge occupying the interval between the discs.
2. In a cutter, a circular head having an outstanding shank and a recess adjacent the shank, defining a lateral scraping edge, cutting discs mounted upon opposite sides of the head, and with the lateral scraping edge occupying the interval between the discs.
3. In a cutter, a circular head having an outstanding shank and a recess adjacent the shank, cutting discs corresponding in size to and mounted to rotate upon opposite sides of the head, and a lateral scraping edge occupying the interval between the discs.
4. In a cutter a circular head having an outstanding shank and a recess adjacent the shank defining a lateral scraping rdge, cutting discs corresponding in size to and mounted to rotate upon opposite sides of the head, and with the lateral scraping edge occupying the interval between the discs.
5. In a cutter, a circular head having an outstanding shank and a recess adjacent the shank defining a lateral

acraping edge formed at the periphery of the head, cutting discs mounted upon opposite sides of the head and with the lateral scraping edge occupying the interval between the discs.
6. In a cutter, a circular head having an outstanding shank and a recess adjacent the shank defining a lateral scraping edge formed at the periphery of the head, cutting discs corresponding in size to and mounted to rotate upon opposite sides of the head, with the lateral cutting edge occupying the interval between the discs.
7. Ip a cutter, a circular head having an outstanding shank and a recess adjacent the shank, cutting discs corresponding in size to and mounted to rotate upon opposite sides of the head and with their cutting peripheries in juxtaposition thereto, and a lateral scraping edge occupying the interval between the discs.
8. In a cutter, a circular head having an outstanding shank and a recess adjacent the shank defining a lateral scraping edge formed at the periphery of the head, cutting discs corresponding in size to and mounted to rotate upon opposite sides of the head and with their cutting perpheries in juxtaposition thereto, and with the lateral scraping edge occupying the interval between the discs.
9. In a cutter, a head having an outstanding shank and a recess adjacent the shank, cutting discs mounted upon opposite side of the head, a lateral scraping edge occupying the interval between the discs, and means for holding the cutting edge at a predetermined angle.

\section*{No. 100,734. Eack for Displaying Rugs. Ratelfer de montre pour tapis.}


Charles Henry O'Neal, Baltimore, Maryland, U.S.A., 28th August, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,243.
Clatim.-1. A rack for displaying rugs comprising a horisontal bar having along its top edge straight upward pointIng pins which stand fush with the vertical side of said bar.
2. A rack for displaying rugs comprising a horizontal bar 2. A rack ior haring along its top with the vertical side of said bar and which stand fush wind lowering sald har.
3. A rack for displaying rugs comprising a horizontal bar having along its top two rows of pins each pointing vertically upward, the pins of one row standing flush with one vertical side of the bar and the pins of the other row flush with the opposite side of said bar, and means to swing the said bar from one end

\section*{150. 100,735. Sign Mannfacture.}

\section*{Fabrication d'enseigne.}

George M. Ferguson, Amherst, Nova Scotia. Canada, 28th
August, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,668.
Claim.-1. The herein described method of making signs, which consists in applying through a stencil an adhesive enamel, applying a plastic composition through a stencil to the outline formed by the enamel, applying pressure to the plastic composition to give a desired shape, applying a coating of enamel to the composition, and applying a finishing coat of colour
2. The herein described method of making signs, which consists in applying through a stencil an adhesive enamel composed of copal varnish, brown japan and white lead, applying a plastic composition through a stencll to the outline niade by the enamel, applying pressure to plastic composition, applying a coating of enamel to the composition, and applying a finishing coat of colour.
3. The herein described method of making signs, which consists in applying through a stencll an adhesive enamel, applying a plastic composition composed of refined cement, plaster of paris, alabastine and water, applying pressure to the plastic composition, applying a coating of enamel to the composition, and applying a finishing coat of colour.
4. The herein described method of making signs, which consists in applying through a stencil an adhesive enamel composed of copal varnish, brown japan and white Iead, applying a plastic composition through a stencll to the outline made by the enamel, which composition is composed of refined cement, plaster of paris, alabastine and water, and finishing in colour the design thus formed.
5. The herein described method of making signs, which consists in applying through a stencil an adhering enamel, applying a plastic composition through a stencil to the outline made by the enamel, applying a mould under pressure to the plastic composition, and finishing the design thus formed in colour.
6. The herein described method of making signs, which consists in applying through a stencil a plastic composition to the outline made by the enamel, applying pressure to the plastic composition, applying a coating of enamel through a stencil to the composition, and flnishing the design thus iormed in colour.
7. The herein described method of making signs, which consists in applying an adhesive enamel, applying a plastic composition to the enamel, compressing the plastic composition, coating the composition with enamel and applying a coating of metallic leaf.
NO. 100,736. Sign Mandiacture.

\section*{Fabrication denseigne.}


George M. Ferguson, Amherst, Nova Scotia, Canada, 28th August, 1906; 6 years. Filed 30th May, 1906. Recelpt No. 136,427.
Claim.-1. The herein described sign comprising a base, a coating of adhesive matter disposed on the base, a body of plastic composition disposed on the adhesive matter, a coating of hardening matter disposed on the plastic composition, and a coating of colour on the hardening matter.
2. The herein described sign comprising a base, a coating of adhesive matter on the base composed of varnish, brown japan and white lead, a body of plastic composition disposed on the adhesive matter, a coating of hardening matter disposed on the plastic composition, and a coating of colour on the hardening matter.
3. The herein described sign comprising a base, a coating of adhesive matter disposed on the base, a body of compressed plastic composition on the adhesive matter, a coating of hardening matter on the plastic composition, and a coating of colour on the hardening matter.
4. The herein described sign comprising a base, a coating of adhesive matter disposed on the base, a body of plastic composition disposed on the adhesive matter and composed of refined cement, plaster of paris, alabastine and water, and a coating of hardening matter on the plastic composition, and a coating of colour on the hardening matter.
5. The herein described sign comprising a base, a coating of adhesive matter disposed on the base, a body of plastic composition compressed on the adhesive matter, a coating of hardening matter on the composition, and a coating of colour on the hardening matter.
6. The hercin described sign comprising a base, a coating of adhering matter disposed on the base, a body of plastic composition on the adhesive matter, a coating of clear enamel in the plastic composition, and a coating of colour on the coating of clear enamel.
7. The herein described sign comprising a base, a coating of adhesive matter arranged in the outline of a design, a body of plastic composition disposed on said outline, a coating of hardening matter on the plastic composition, and a coating of metallic leaf on the coating of hardening matter.

No. 100,737. Printing Device. Appareil à imprimer.
Oscar Dickinson Safford, Passaic Park, New Jersey, U.S.A., 28th August, 1906; 6 years. Filed 15th June, 1906. Recript No. 136,952.
Claim.-1. A printing device comprising a frame provided with an aperture and adapted to rest upon the surface to be printed, and a rocker provided with type holders coinciding in position with said aperture so as to allow the impression to be made through said aperture.
2. A printing device, comprising a frame having a passage therethrough, a rocker provided with type holders sn positioned as to project the type through said passage, and side flanges for preventing improper movement of sald rocker relatively to said frame.
3. In a printing device the combination of a supporting frame having a passage and guides, a printing plate haying edges adapted to be moved between said guides, said printing plate being provided with pockets, and a series of type hold-
ers aldapted to be removably mounted on said plate, each type holder having projections for entering one of said

pockets, and means for removably securing said type holders to said printing plate at another point.
4. A printing device comprising a frame and a printing plate, said printing plate having the general form of a rocker and being provided with a series of pockets along one side, and a movable plate mounted upon the other side of sald printing plate for the purpose of securing type holders thereupon.
5. In a printing device, a printling plate provided with an aperture, and further provided upon one side of said aperture with pockets for receiving the ends of type holders so as to space the same apart, and mechanism mounted upon the other side of said plate for spacing apart said type holders at the other ends thereof.
6. A printing device comprising a base and a rocker, said rocker being provided upon one side with pockets for recelving the ends of type holders, and further provided upon its opposite side with apertures for receiving the other ends of said type holders, and a strip movable in relation to said rocker for the purpose of temperarlly secured all of sald type holders in position thereupon.


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\section*{INVENTIONS PATENTED.}

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No. 100,738. Plaiting Machine. Machine ì plaquer.


Alfred Holmes, Vancouver, British Columbla, Canada, 4th September, 1906 ; 6 years. Filed 23rd July, 1906. Receipt No. 138,061.
Claim.-1. In a device if the character described side members provided with flanges thereon and openings therein, iransverse connecting members secured to the side members, slats provided with reduced necks inserted in said openings and disposed across said side members and a filling board disposed between the side members and intermediate of the slats and said transverse connecting members.
2. In a device of the character described side members provided with supporting flanges and provided with openings therein, members connecting the side members secured at each end thereof and one of which is provided with a flanged extremity, flexible overlapping slats provided with reduced end disposed in the openings in said side members, and a flling board disposed between said side members.
3. In a device of the character described a plurality of side members provided with supporting flanges, a plurality of orerlapping fexible slats journalled in said side members, members connecting said side members and a removable padded flling board disposed between sald side members. 4. In a device of the character described a plurality of 4. In a ders, plurality of members connecting the side side members, a pich connecting members is provided with members one of which connecting members is provided with journalled in said side members, a flling board disposed between the side members and of a thickness equal to the between the side mige on the sald connecting member, and belght of the fiange pabric between the edges of said slats.

No. 100,739. Egg Carrier. Porte-aufs.


Thomas A. Wilson, Toronto, and Wllliam P. McCarthy and Robert Reid Dowsley, both of Prescott, Ontario, Canada, 4th September, 1906; 6 years. Filed 17 th July, 1906. Receipt No. 137,897.
Claim.-1. An egg carrier comprising a shallow box or tray and a removable frame provided with a plurality of holes in which eggs may be set with their lower ends resting on the bottom of the box, substantially as described.
2. An egg carrier comprising a shallow box or tray and a removable frame provided with a plurality of holes in which eggs may be set with their lower ends resting on the bottom of the box, the upper edges of the box extending to or above the upper ends of the eggs, substantially as described.
3. An egg carrier comprising a shallow box or tray and a removable frame provided with a plurality of holes in which eggs may be set with their lower ends resting on the bottom of the box, the frame being of sufficient thickness and so placed as to surround each egg from a point at or below the greatest dlameter of the egg to a point at or near the top of the egg, substantlally as described
4. An egg carrier comprising a shallow box or tray and a removable frame provided with a plurality of holes in which eggs may be set with their lower ends resting on the bottom of the box, the frame being of sufficient thickness and so placed as to surround each egg from a point at or below the greatest diameter of the egg to a polnt at or near the top of the egg, and the upper edges of the box extending to or above the upper ends of the eggs, substantially as described.
5. An egg carrier comprising a shallow box or tray and a removable frame provided with a plurality of holes in which eggs may be set with their lower ends resting on the bottom of the box and a pad on the bottom of the box, substantially as described.
6. An egg carrier comprising a shallow box or tray and removable frame provided with a plurality of holes in which eggs may be set with their lower ends resting on the bottom of the box, the frame being of sufficient thickness and so placed as to surround each egg from a point at or below the greatest diameter of the egg to a point at or near the top of the egg and a pad on the bottom of the box, substantially as described.

No. 100,740. Saw. Scie.


Joshua Oldham, New York City. New York, U.S.A., 4th September, 1906; 6 years. Filed 11th July, 1906. Receipt No. 137,729.
Claim.-1. A saw having an insertible tooth flared laterally toward its effective or cutting edge and inclined inward and rearward at said edge thereby forming the point, said tooth also having its top edge bifurcated in the direction of the length of said edge with the walls of the bifurcation fiared outward and laterally and vanishing at their points of intersection with the outer lateral edges of the tooth. and sald top edge also being sloped rearward to its point oi conjunction with the blade of the saw.
2. A saw having an insertible tooth fiared laterally toward its effective or cutting edge and inclined inward and rearward thereby forming the point, said tooth also having its top edge bifurcated with the walls of the bifurcation flared outward laterally and vanishing at their points of intersection with the outer lateral edges of the tooth and said top edge also being sloped rearward to its point of conJunction with the blade of the saw, the shank of said tooth having lateral edges pinched or upset into notches formed in the opposite edge of the shank receiving slot in said blade.

No. 100,741. Cream Separator. Nípariteur ì crème.
Hugh L. Minds, Detroit, Michigan, U.S.A., 4th September, 1906 ; 6 years. Filed 16th July, 1906. Receipt No. 137.852.
Claim.-1. The combination with the body of a receptacle having vertical side walls and a bottom, of a milk chamber supported within said body with a space betweeu its side walls and bottom and the side walls and bottom of the body. a vertical center chamber within the milk chamber opening through the bottom thereof and communicating with the sald space, and an overfiow opening into the upper end of the center chamber and extending laterally therefrom across the milk chamber and space and through the side wall of the receptacle.
2. The combination with a cylindrical can body, of a milk chamber supported within said can with a space between its sides and bottom and the sides and bottom of the can, a tubular chamber in the axis of the milk chamber and opening through the bottom thereof into the sald space below the milk chamber, and an overflow pipe opening into the axial chamber at a short distance below the upper edge of the milk chamber and can and extending laterally outward across the said mflk chamberand space and through the side wall of the can.
3. The combination with a cylindrical can body open at its upper end, of a cylindrical milk chamber of lesser diameter than the can body supported therein with its closed lower end at a distance above the bottom of the can and its open upper end in the plane of the upper end of said body, a tube in the axis of the chamber with its lower end integral with and opening through the bottom of the chamlwr and its upper closed end in the plane of the upper end of the body. an overflow pipe opening through the side of the tube near its upper end and extending laterally therefrom across the milk chamber and the space between said cham-
ber and body and through the side of the body at a short distance from its upper end, and a cover forming a recep-

tacle ofr a cooling medium and adapted to discharge into the said space between the body and milk chamber.
4. The combination with a can open at its upper end and tormed with a milk chamber therein, a space between the wall of the can and the wall of the chamber, of a cover to close the upper end of said can and chamber and forming a receptacle for a cooling medium, an overflow tube extending through the cover into the space between the chamber and can, and a cross strip extending across the cover at its upper end over said tube.
5. The combination with a can open at its upper end and formed with a milk chamber therein open at its upper end and with a space between the wall of the can and the wall of the chamber forming a water jacket, of a cover to close the open upper end of the can and chamber and forming a receptacle for a cooling medium, a cross strip secured at its ends to the upper edge of the side wall of the cover and extending diametrically across the cover, overflow tubes extending through the bottom of the cover beneath sald strip and vent tubes secured at their lower ends to the bottom of the cover and at their upper ends to the cover strip and opening through said bottom and strip.
6. The combination with a can open at its upper end, a milk chamber having an open upper end and supported in said can with a space between its sides and bottom and the shdes and bottom of the can and a center chamber in the milk chamber opening through the bottom thereof. of a cover having an upwardiy extending side wall forming a receptacle for a cooling medium, a cross strip secured to the upper edge of the side wall, tubes extending through said bottom and projecting above and below the same, vent tubes opening through the bottom and through the cross strip and a detachable wooden bottom within the cover receptacle made in halves and formed with notches to receive the said tubes.
7. The combination with a cylindrical can body open at the top, of a milk chamber supported within the can with a space between its sides and bottom and the sides and bottom of the can and with its upper open end in the plane of the upper edge of the can, a tubular chamber in the axis of the milk chamber with its lower end integral with and opening through the bottom of said chamber and having a closed upper end, an overflow pipe opening into the axial chamber near its upper end and extending laterally through the side of the can, a draw-off plpe connected to the lower end of the milk chamber and extending outward through the side of the can. a cover having a bottom to close the upper open ends of the can and milk chamber and a vertically extending side wall forming a receptacle for a coollng medium, a cross strip secured at its ends to the upper edge of the slde walls of the cover and extending diametrically across the same. overfiow tubes extending through the bottom of the cover beneath said strip and projecting downward into the space between the side wall of the can and the milk chamber and upward in the cover receptacle, vent tubes opening through the cover bottom and communicating with the milk chamber at their lowir ends and opening through the cross strip at their upper ends and a detachable bottom in the cover.

No. 100,742. Bottom Dumping Buoket.
Auget d fond d bascule.


Gustavus L. Steubner. New York City, New York, U.S.A., 4th September, 1906; 6 years. Filed 9th July, 1906. Receipt No. 137,667.
Claim.-1. In a dumping bucket the combination of a bottom therefor, pivots on the bottom, means on the bucket to support the said bottom on its pivots, means to move the pivots away from the bucket and thereby dump the said bottom, the latter means enabling the pivots to be placed in their original position and thereby move the bottom up against the bucket.
2. In a dumping bucket the combination of a bottom therefor, pivots extending from the bottom, sustaining links journalled on the bucket and supporting the said bottom with its pivots practically in equilibrum, means to move the sustaining links and pivots and thereby dump the bottom.
3. In a dumping bucket the combination of a bottom therefor, pirots extending from the bottom to maintain it practically in equilibrium when supported by said pivots, means on the bucket to support the pivots, means to dump the bottom, and means to raise the latter and maintain it against the bucket.
4. In a dumping bucket the combination of sustaining links journalled thereto, a bottom pivoted from said links and supported in equilibrium, bell cranks journalled on the bucket, connections between the bell crank and the sustaining links, a connection joining a pair of arms of the bell cranks, and means to lock the said connection in place when the bottom is up against the bucket.
5. In a dumping bucket the combination of sustaining links journalled to the bucket, a bottom pivoted from said links to stipport it in equilibrium, operating bell cranks journalled on the bucket, connections betweeen the bell cranks and the sustaining links, a handle joining a pair of arms of the bell crank, chains with hooks extending from the bucket and arranged to encircle the said handle.
6. In a bottom dumping bucket the combination of sustaining links journalled on the bucket, a bottom pivoted from said links, operating bell cranks supported in bearings connected to the bucket, connecting links joining the said bell crank and the sustaining llaks.
7. In a bottom dumping bucket the combination of sustaining links journalled on the bucket, a bottom pivoted from said links, operating bell cranks journalled on the bucket, connecting links joining arms of the bell cranks and the sustaining links, a handle joining a pair of the arms of the sald bell cranks, and arranged to bear against the body of the bucket, when the latter is closed by its bottom.
8. In a bottom dumping bucket the combination of sustaining links fournalled on the bucket, a bottom pivoted from sald links. operating bell cranks journalled to the bucket, connecting links joining the sustaining links and operating bell cranks, the latter located so that the center lines of the connecting links will be on one side of the axial lines of the bell crank bearings, when the bucket is closed with its bottom, and on the opposite side thereof When the bucket is dumped.
9. In a bottom dumping bucket sustaining links journalled thereon so as to swing on the sides of the bucket, a bottom for the bucket, pivots exending from the said bottom at the central porition thereof, legs extending at right angles from the sustain.ing links, bearings in the bucket, operating bell cranks, pivots extending the said bell cranks supported in the said bearings. a connecting link on each side of the bucket connecting the said leg and an arm of the operating bell crank, and an operating handle connecting the ends of bell crank, and an and arranged to bear on the front of the
bucket when it is closed with its bottom, a shelf extending from each side of the bucket in the path of the bell crank, to support the arms of the latter when the bucket is dumped.
10. In a bottom dumping bucket the combination of a cross shaft journalled from the back of the bucket and at the upper end thereof, sustaining links extending from the said shaft, bearings extending from the sides of the bucket near the front and upper portion thereof, operating bell cranks supported in the latter bearings, a connecting link joining on each side of the bucket the lower portion of the sustaining link and one of the arms of the bell crank, an operating handle connecting the other arms of the operating bell crank, and arranged to bear on the front of the bucket, and a bottom pivoted from the lower ends of the sustaining links.
11. In a bottom dumping bucket the combination of sustrining links journalled on the bucket. a bottom pivoted at the central portion from the lower ends of the said links, operating bell cranks journalled from the sides of the bucket, arms of unequal lengths on each bell crank, a connecting link extending between the lower end of each sustaining link and the short arm of each bell crank, an operating handle connecting the longer arms of the bell cranks, and a pocket in the front of the bucket located so as to be under the handle, when the bucket is closed with its bottom.
12. In a bottom dumping bucket the combination of sustaining links journalled thereto, a bottom pivot operating bell cranks supported in bearings connected to the sides ot the bucket, connecting links joining the said bell cranks and the sustaining links, and a bail secured to the bucket.
13. In a bottom dumping bucket the combination of a front and rear for the body thereof, the lower portion of the back of the bucket tapering toward the central bottom opening of the bucket, sustaining links swinging on the sides of the bucket, operating bell cranks operating on the sides of the bucket, connecting links joining the lower end of the sustaining links and an arm on each bell crank, a bottom pivoted from the lower ends of the sustaining links, arms of the bell cranks arranged to bear against the front of the bucket when the bottom is closed, and the bottom arranged so that it will bear against the inclined back when dumped, and a ball for the bucket.

No. 100,743. Horseshoe. Fer \(d\) cheval.


John Joseph Lynes, Toronto, Ontario, Canada, 4th September, 1906 ; 6 years. Filed 31st July, 1906. Receipt No. 138,298.
Claim.-1. The combination with a horseshoe, of a slotted reduced heel portion, of detachable heel caulks engaging over said heel portions, said heel caulks formed with fastening flanges adapted to engage the upper and under faces of sald heel portions, means for detachably fastening said heel caulks to shoe, substantially as described.
2. The combination with a horseshoe, of a slotted reduced heel portion, of detachable heel caulks engaging over said heel portion, said heel caulks formed with fastening flanges adapted to engage the upper and under faces of said heel portions, a groove or channel formed in the upper face of
said heel portion, a tongue or rlb formed with one of said fastening flanges, sald tongue or rlb adapted to engage in said groove or channel, means for detachably fastening said heel caulks to shoe, substantially as described.
3. The combination with a horseshoe of a detachable toe caulk, a flange formed integral with sald toe caulk, said flange adapted to engage in a pocket formed in the front part of said shoe, fastening flanges formed with said caulk. means for fastening said caulk to shoe, substantially as described.
4. The combination with a horseshoe of a detachable toe caulk, a flange formed integral with said toe caulk, said flange adapted to engage in a pocket formed in the front edge of said shoe, fastening lugs formed integral with said caulk, said lugs engaging with the underside of said shoe, of detachable heel caulks engaging over the heel portions of said shoe, fastening springs adapted to fasten said toe and heel caulks to shoe, substantially as described.
5. In combination with a horseshoe, detachable toe and heel caulks, fastening lugs and flanges formed integral with said toe and heel caulks. fastening springs for attaching said caulks to shoe, sald spring having their ends adapted to pass through the said lugs and flanges into said shoe, a lip formed on the edge of said shoe, sald fastening springs adapted to engage under said lips, a toe plate with toe cap formed therewith riveted to toe portion of said shoe, sub6. In combination with a horseshoe, detachable toe and heel caulks, fastening lugs and fianges formed integral with said caulks, openings formed through said lugs and flanges, a fastening spring, the ends of sald fastening spring adapted to pass through the openings in said lugs and flanges into said shoe, a lip formed on the edge of said shoe. said fastening spring adapted to engage under said lip, substantially as described.
7. In combination with a horseshoe, detachable toe and heel caulks, fastening lugs formed integral with said toe caulk, fastening flanges formed integral with said heel caulks, openings formed through said lugs and flanges, sald openings registering with corresponding openings in said shoe fastening springs, the ends of sald springs adapted and passing through said openings, lips formed on the edges of said shoe, said fastening spring engaging under said lip, substantially as described.
8. The combination with a horseshoe of a detachable toe caulk, fastening lugs formed integral with said caulk, openings formed through said lugs, of detachable heel caulks, flanges formed integral with said heel caulks, said heel caulks adapted to engage over the heel portions of said shoe, openings formed through said flanges, of fastening springs having their ends adapted to engage in the openings in the said lugs and flanges in toe and heel caulks and openings in shoe, substantially as described.

\section*{No. 100,744. Antomatic Train Pipe.}

\section*{Joint automatique de tuyau de chars.}

Frank Hatfield Rutherford, Chicago, Illinois, U.S.A., 4th September, 1906; 6 years. Filed 30th July, 1906. Receipt No. 138,242.
Claim.-1. The combination with a car and a car coupler. of an automatlc train pipe coupler, a carrler therefor detachably secured to said car coupler and means independent of said car coupler for preventing the simultaneous accidental withdrawal of said carrier with said car coupler from sald car.
2. The combination with a car and a car coupler, of an automatic train plpe coupler, a carrier therefor detachably secured to and movable with sald car coupler and means independent of said car coupler for loosely connecting sald carrier to the car body.
3. The combination with a car and a car coupler, of an automatic train pipe coupler, a carrier therefor detachably secured to and movable with said car coupler and supplemental means connected to the car body for supporting said carrier independently of said car coupler.
4. The combination with a car and a car coupler, of an automatic train pipe coupler, a carrier therefor detachably secured to and movable with said car coupler and supplemental means secured to the car body at each side of said car coupler for supporting said carrier independently of sald car coupler.
5. The combination with a car and a car coupler having a staple depending from its rear end, of an automatic train pipe coupler, a carrier therefor having a hook adapted to engage the eye of sald staple and supplemental means connected to the car body for supporting said carrier independently of said car coupler.
6. The combination with a car, a car coupler and a bolt depending from said car coupler, of an automatic train pipe coupler, a carrier having its forward end turned downward and adapted to support sald automatic coupler and provided with a longitudinal slot intersecting said bend and engaged by sald bolt.
7. The combination with a car, a car coupler having a staple depending from its rear end and a bolt depending from said

car coupler, of an automatic train pipe coupler, a carrier having a hook adapted to engage the eye of sald staple and having its forward end turned downward and adapted to support said automatic coupler and provided with a longitudinal slot intersecting said bend and engaged by said bolt.
8. The combination with a car, a car coupler and a bolt tapped into and depending down from said car coupler, of an automatic train pipe coupler, a carrier having a downturned forward end in which said automatic coupler is supported and having a slot in its forward bend engaged by said bolt, arms projecting laterally from said carrier and means on each side of sald car coupler adapted to be engaged by said arfms.
9. The combination with a car, a car coupler and a bolt tapped into and depending down from said car coupler, of an automatic train pipe coupler, a carrier having a down-turned forward end in which sald automatic coupler is supported and having a slot in its forward bend engaged by said bolt arms projecting laterally from said carrier and horizontal ralls secured to the car body on each side of said car coupler adapted to be engaged by said arms.
10. The combination with a car and a car coupler, of an automatic train pipe coupler, a carrier therefor detachably secured to and movable with said car coupler and having transverse arms projecting therefrom and means on each side of said car coupler to be adapted to be engaged by said arms.
11. The combination with a car and a car coupler, of an qutomatic train pipe coupler, a carrier therefor detachably secured to and movable with sald car coupler and having transverse arms projecting therefrom and horizontal ralls secured to the car body on each side of sald car coupler adapted to be engaged by sald arms.
12. The combinaation with a car, a car coupler having a staple depending from its rear end and a bolt depending therefrom nearer its front end, of an automatic train pipe coupler, a carrier having a hook adapted to engage the eye of the staple, having its forward end down-turned and at its bend having a longltudinal slot therein into which said bolt enters and having transverse arms projecting therefrom and horimontal ralls securedito the car body at each side of said car coupler and adapted to be engaged by said arms.
13. The combination with a carrier having a down-turned forward end and a suitable opening therein and a pivot head projecting from the edge of said opening into the same, of a train plpe coupler having a suitable extension passing through said opening into the bore of which said pivot head extends and having its rear end flanged outwards and a helical spring one end of which bears against the rear end of said extension and the other end of which is returned through the colls of the spring and is connected to the pivotal head.
14. The combination with a carrier having a down-turned forward end having a suitable opening therein and a removable pivot head projecting from the edge of said opening into the same, of a train pipe coupler having a suitable extension passing through said opening into the bore of which said plvot head extends and means for maintaining sald coupler normally in a horizontal position.
15. The combination with a carrier having a down-turned forward end having a suitable opening therein and a pivot head projecting from the edge of said opening into the same and its engaging edge protected with a metallic facing, of a train pipe coupler having a suitable extension passing through said opening into the bore of which through a longitudinal slot said pivot head projects, a metallic lining for the bore of said extension and means for maintaining said coupler normally in a horizontal position.
16. The combination with a carrier having a down-turned forward end having a suitable opening therein, and a removable pivot head projecting from the edge of said opening into the same and its engaging edge protected with a metallic facing. of a train pipe coupler having a suitable extension passthrough said opening, into the bore of which through a longitudinal slot said pivot head projects, a metallic lining for the bore of said extension, and means for maintaining said coupler normally in a horizontal position.
17. The combination with a train pipe coupler, having a rearward extension having a longitudinal slot therein, of a suitable support for said coupler, pivot head having a screwthreaded shank removably secured in said support, and means for maintaining said coupler normally in a horizontal position.
18. The combination with a car, a car coupler, a carrier detachably secured to said car coupler, and an automatic train plpe coupler supported thereby, of a chain connecting said carrier to the body of the car.
19. The combinaion with a car, a car coupler, a carrier detachably secured to said car coupler, and an automatic train pipe coupler supported thereby, of a chain connecting said train pipe coupler to the body of the car.
20. The combination with a car, a car coupler, a carrier detachably secured to sald car coupler, and an automatic train pipe coupler supported thereby, of a chain connecting said carrier, and an independent chain connecting sald train pipe coupler to the body of the car.
21. The combination with a car, and a car coupler, of an automatic train pipe coupler, a carrier therefor detachably secured to and movable with sald car coupler, supplemental means connected to the car body for supporting said carrier independently of said car coupler and a chain connecting said carrier to the car body.
22. The combination with a car, and a car coupler, of an automatic train pipe coupler, a carrier therefor detachably secured to and movable with sald car coupler. supplemental means connected to the car body for supporting said carrier independently of said car coupler and a chain connecting sald train pipe coupler to the car body.
23. The combination with a car, a car coupler, a carrier detachably secured to said car coupler, and an automatic train pipe coupler supported thereby, supplemental means connected to the car body for supporting said carrier independently of said car coupler, and a chain connecting said carrier to the body of the car.
24. The combination with a car, a car coupler, a carrier detachably secured to said car coupler, and an automatic traln pipe coupler supported thereby, supplemental means secured to the car body at each side of the car coupler for supporting said carrler independently of said car coupler and a chain connecting said train pipe coupler to the body of the car.
25. The combination wilh a car, a car coupler, a carrier detachably secured to said car coupler and having transverse arms projecting therefrom, and an automatic train plpe coupler supported thereby. supplemental means secured to the car body at each side of the car coupler which are adapted to be engaged by said carrier, and a chain connecting said carrier to the body of the car.
26. The combination with a car, a car coupler, a carrier detachably secured to said car coupler, and an automatic train pipe coupler supported thereby, supplemental means connected to the car body for suoporting said carrier independently of said car coupler, and a chain connecting sald train pipe coupler to the body of the car.
27. The combination with a car, a car coupler, a carrier detachably secured to sald car coupler, and an automatic train pipe coupler supported thereby, supplemental means secured to the car body at each side of the car coupler for supporting said carrler independently of said car coupler and a chain connecting said train pipe coupler to the body of the car.
28. The combination with a car, a car coupler, a carrier detachably secured to said car coupler and having transrerse arms projecting therefrom, and an automatic train pipe coupler supported thereby, supplemental means secured to the car body at each side of the car coupler which are adapted to be engaged by said carrier, and a chain connectiog said train pipe coupler to the body of the car.
29. The combination with a car and a car coupler, of a inngitudinally yielding auomatically returnable train pipe counler capable of movement at an angle to the line of draft of the car, a carrier therefor detachably secured to said car coupler and means independent of said car coupler for pre-
venting the simultaneous accidental withdrawal of said carrier with said car coupler from said car.
30. The combination with a car, and a car coupler, of a longitudinally ylelding automatically returnable train pipe coupler capable of movement at an angle to the line of draft of the car, a carrier therefor detachably secured to and movable with sald car coupler, and supplemental means connected to the car body for supporting said carrier independently of said car coupler.
31. The combination with a car, and a car coupler, of a longitudinally yielding automatically returnable train pipe coupler capable of movement at an angle to the line of draft of the car, a carrier thenefor detachably secured to and movable with said car coupler, and supplemental means secured to the car body at each side of said car coupler for supporting said carrier independently of sald coupler.
32. The combination with a car, a car coupler, a carrier detachably secured to said car coupler, and a longitudinally yielding automatlcally returnable train pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, of a chain connecting said carrier to the body of the car.
33. The combination with a car, a car coupler, a carrier detachably secured to said car coupler, and a longitudinally yielding automatically returnable train plpe coupler movable to a position at an angle to the line of draft of the car supported thereby, of a chain connecting sald train pipe coupler to the body of the car.
34. The combination wih a car, a car coupler, a carrier detachably secured to sald car coupler, and a longitudinally yielding automatically returnable train pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, supplemental means connected to the car body for supporting said carrier independently of said car coupler, and a chain connecting said carrier to the body of the car.
35. The combination with a car, a car coupler, a carrier detachably secured to said car coupler, and a longitudinally ylelding automatically returnable train pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, supplemental means secured to the car body at each side of the car coupler for supporting said carrier independently of said car coupler and a chain connecting said train pipe coupler to the body of the car.
36. The combination with a car, a car coupler, a carrier detachably secured to sald car coupler and having transverse arms projecting therefrom, and a longitudinally yielding, automatically returnable train pipe coupler movable to a position at an angle to the line of draft of the car supported thereby. supplemental means secured to the car body at each side of the car coupler which are adapted to be engaged by said carrier, and a chain connecting aaid carrjer to the body of the car
37. The combination with a car, a car coupler, a carrier detachably secured to said car coupler, and a longitudinally yielding, automatically returnable train pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, supplemental means connected to the car body for supporting sald carrier independently of said car coupler, and a chain connecting said train pipe coupler to the body of the car.
38. The combination with a car, a car coupler, a carrier detachably secured to said car coupler. and a longitudinally yielding, automatically returnable train pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, supplemental means secured to the car body at each side of the car coupler for supporting saidecarrier independently of sald car coupler and a chain connecting said train pipe coupler to the body of the car.
39. The combination with a car, a car coupler, a carrier detachably secured to said car coupler and having transverse arms projecting therefrom, and a longitudinally yielding. automatically returnable train pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, supplemental means secured to the car body at each side of the car coupler which are adapted to be engaged by kald carrier, and a chain conneoting said train pipe coupler -a the body of the car.

No. 100,745. Inserted Saw Teeth. Dents de soies.

William S. McLean, Vancouver, British Columbia, Canada 4th September. 1906 ; 6 years. Filed 30th July, 1906. Recelpt No. 138.269.
Claim.-1. In a cut-off saw, an inserted saw tooth having a parallel portion which is secured in a provided recess in the blade of the saw and a portion projecting outward beyond the edge of the blade which outwardly projecting portion is off-set to one side or the other beyond that face of the blade and provided with a cutting edge on the offset side which slopes downward in the direction the saw is designed to move.
2. In a cut-off saw, an inserted saw tooth consisting of a bit parallel in width, the portion by which it is secured in

the saw blade being of approximate thickness to the said blade and having opposite \(V\)-shaped edges to engage similar edges in the recess provided for it in the blade, the portion of the bit which projects beyond the edge of the saw blade being laterally off-set to one side or the other and the outer end of the bit ground to a moderately acute angle, the end plane of which slopes downward in the direction of the intended movement of the saw and is similarly sloped to the side of the bit opposite to the offset, and means for securing the bit in the blade.

No. 100,746. Ship Fueling Machinery.
Machine d charger les vaisscaux de combustible.


Grorge Henry Hulett, Cleveland. Ohio, and George Washington Theiss, Pittsburg, Pennsylvania, U.S.A., 4th s.ptember, 1906 ; 6 years. Filed 26th July, 1906. Recefpt No. 1.5 sis .1 s .
'luim.-1. In a ship fueling machine, the combination with a tower, of a vertically movable carriage therein, a hori-
zontal conveyer supported by said carriage, an elevator for conveying material to the horizontal conveyer, a revoluble derrick, and a bucket and operating means, therefor associated with the derrick for supplying maberial to the elevator.
2. In a ship fueling machine the combination with a float a tower on said float, a revoluble derrick on the float, and a bucket and operating means therefor, associated with the derrick, of a vertically movable carriage in the tower, a horizontal conveyer supported by the carriage, and an elevator in the tower to receive material from the bucket on the derrick and convey it to the horizontal conveyer.
3. In a machine of the character described, the combination with framework, of a vertically movable carriage suptal conveyer mounted therein, a hopper over said conveyer and movable vertically with it and means for controlling the feed of material from sald hopper to the conveyer.
4. In a machine of the character described, the combination tiwh framework, of a vertically movable carriage supported thereby, a horizontal conveyer supported by the carriage, and feeding means carried by the carriage over the conveyer.
5. In a machine of the character described, the combination with framework, of a vertically movable carriage supported thereby, a hopper mounted on sald carriage above the conveger, and means between the hopper and the conveyer for controlling the feed of material to the latter.
6. In a machine of the character described. the combination with framework, of a horizontal conveyer mounted therein, means for moving the horizontal conveyer vertically, a hopper above the conveyer, a trough disposed over the conveyer and communicating with the hopper, a plunger in the trough and means for reciprocating the plunger.
7. In a machine of the character described, the combination with framework, of a horizontal conveyer mounted therein, means for moving the horizontal conveyer vertically, a hopper above the conveyer and connected vertically with it, a trough disposed over the conveyer and parallel therewith, one end of said trough communicating with the hopper, a plunger in the trough to force material forwardly in the trough and feed it upon the conveyer at a point beyond the outlet end of the hopper and means for reciprocating the plunger.
8. In a machine of the character described. the combination with framework, of a vertically movable horizontal conveyer mounted therein, a hopper above the conveyer. fceding means for controlling the passage of material from the hopper to the conveyer, and a single motor controlling the operation of the feeding means and the conveyer, said hopper, feeding means and motor movable vertically with the horizontal conveyer.
9. In a machine of the character described, the combination with framework, of a vertically movable horizontal conveyer mounted thereln, a hopper above the conveyer, a trough under the hopper and over the conveyer. said trough having an elongated onening in the forward portion of its bottom and communicating at its rear end with the outlet of the hopper. a plunger operating in the trough to propel material therefrom and means for reciprocating the plunger, said hopper and trough movable vertically with the horizontal conveyer.
10. In apparatus of the character described, the combination with framework, of a vertically movable carriage mounted therein, a horizontal conveyer supported by said carriage, a motor on the carriage for driving the conveyer a hopper suppoted by the carriage above the conveyer, a trough supported under the hopper and over the conveyer and communicating with the hopper, a plunger in the trough and means connecting said plunger with the motor which drives the conveyer.
11. In a machine of the character described, the combination with framework, of a vertically movable horizontal conveyer supported thereby, a trough mounted over the conveyer. a hopper communicating with the trough, a plunger in the trough. operating means for the plunger and means for adjusting the stroke of the plunger, said hopper, trough. plunger and operating means movable vertically with the horizontal conveyer
12. In apparatus of the character described. the combination with framework. of a vertically movable horizontal conveyer supported thereby, a trough over the conveyer, a hopper communicating with the trough, a plunger in the trough. a driving shaft, a pivoted link, means for connecting said link with the plunger, a pitman operated by the driving shaft and means for adjustably connecting said pitman with the pivoted link, said trough, hopper and operating means movable with the conveyer.
13. In a machine of the character dercribed, the combination with a tower, of a vertically movable carriage mounted threin, a horizontal conveyer supported by said rarriage. feeding means supported by the carriage over sald conveyor and means for elevating and discharging it through said fceding means to the conveyer.
14. In a machine of the character described, the combination with a tower, of a vertically movable carriage mounted in the tower, a horizontal conveyer supported by the cariage, feeding means supported by the carriage over the conveyer, elevating means operating in the tower for supplying material to said feeding means at any elevation of the carriage and horizontal conveyer, and means for supplying material to sald elevating means.

\section*{No. 100,747. Dnst Bin or Similar Portable Roceptacle.}

Boîte d poussière ou autres réceptacles portatifs semblable.


Hermann Lange, Hamburg, Germany, 4th September, 1906 ;
6 years. Filed 25th July, 1906. Receipt No. 138,146.
Claim.-1. Improved dust bin or similar portable receptacle for containing domestic or other refuse comprising a bin of rectangular cross section, a lid of similar shape in cross section, means for connecting said lid to the bin so as to be capable of rotary and rectilineal motion on its pirots, a handle pivoted to the bin and rotatable on an axis parallel with the pivots of the lid, and means for locking the lid at the side of the open bin when the latter is being tilted around the fulcrum of the aforesaid rotary handle beyond the horizontal position, substantially as set forth.
2. Improved dust bin or similar portable receptacle for containing domestic or other refuse comprising a bin of rectangular cross section, a lid of similar shape in cross section, a marginal down turned edge at three sides of the lid, means for connecting said lid to the bin so as to be capable of rotary and rectilineal motion consisting of two pivots attached to the bin and engaging longitudinal slots in the two opposite down turned marginal edges of the lid, a handle pivoted to the bin and rotatable on an axis parallel with the pivots of the lid, and means for locking the lid at the side of the open bin when the latter is being tilted around the fulcrum of the aforesald rotary handle beyond the horizontal position, substantially as set forth.
3. Improved dust bin or similar portable receptacle for containing domestic or other refuse comprising a bin of rectangular cross section, a lid of similar shape in cross section, means for connecting said lid to the bin so as to be capable of rotary and rectilineal motion on its pivots, a handle pivoted to the bin and pivoted on an axis parallel with the pivots of the lid, and means for locking the lid at the side of the open bin when the latter is being tilted around the fulcrum of the aforesaid rotary handle beyond the horizontal position, sald means consisting in step or crank portions provided in the parallel arms of the rotary handle and adapted to contact with the lid at the side of the bin, substantially as set forth.
4. In an improved dust bin or similar portable receptacle for containing domestic or other refuse of the nature hereinbefore set forth, the combination of means for limiting the downward movement of the rotary handle so as to keep the latter of the external surface of the bin, substantially as set forth.

\section*{No. 100,748. Stote. Poêle.}

Simon Belanger. North Dakota, U.S.A., 4th September, 1906 ; 6 years. Filed 14 th August, 1906. Receipt No. 138,684. flaim.-1. An attachment for a stove consisting of a
2. In combination with a cook stove having a closure supporting flange, a removable hollow attachment disposed on

the flange and extending above the stove and a closure for the removable member.

No. 100,749. Sheaf Loader. Charge-gerbes.


Cephas Ezra Martin, Killarney. Manitoba, Canada, 4th September, 1906; 6 years. Filed 11th August, 1906. Receipt No. 138,592.
Claim.-1. In a sheaf loading implement the combination comprising a wheeled supporting frame, a chute carried by the frame, a conveyer extending below the frame to the chute, means for actuating the conveyer, and means for moving a sheaf from the ground to the conveyer.
2. In a sheaf loading implement the combination comprising a wheeled supporting frame, tubular bearings on the frame, castor frames on the bearings, wheels carried by the frame, a conveyer extending from below the frame to the chute, means for actuating he conveyer, means for moving the sheaf from the ground to the conveyer, and actuating means for said moving means.
3. In a sheaf loading implement the combination comprising a wheeled supporting frame, a chute adjustably carried by the frame and adapted to discharge on either side thereof, a conveyer extending from below the frame to the chute, means for actuating the conveyer, and means for moving a sheaf from the ground to the conveyer.
4. In a sheaf loading implement the combination comprising a wheeled supporting frame, a chute adjustably carried by the frame, a wind guard removably attached to the frame, a conveyer extending from below the frame to the chute, means for actuating the conveyer, and means for moving a sheaf from the ground to the conveyer.
5. In a sheaf loading implement, the combination comprising a wheeled supporting frame, a bracket on the rear of the frame, a bar carried by the bracket, a chute slldably disposed on the bar, a guide bar on the chute disposed below said bar on the bracket, a flexible member sccured to the ands of the chute, and means for conveying a sheaf from the ground to the chute.
6. In a sheaf loading implement, the combination comprising a supporting frame, a rotatable axle carried by the frame, an inclined conveyer on the frame, means for driving the conveyer from the axle, means for moving a sheaf from the ground to the conveyer, and an adjustably supported chute disposed adjacent the upper end of the conveyer.
7. In a sheaf loading implement, the combination comprising a wheeled supporting frame, a chute on the frame, a conveyer leading to the chute, bars pivotally supported at one end by the frame, rollers on said bars adjacent their free ends, means for elevating said bars, resilient fingers carried by the bars, and means for carrying a sheaf from the fingers to the conveyers.
8. In a sheaf loading implement, the combination comprising a wheeled supporting frame, a chute on the frame, a conveyer loading to the chute, bars pivotally connected with the frame and provided with rollers, flexible members connected to the bars, a shaft having a cranked end and a lever to which the flexible members are secured, resilient fingers carried by the bars, and means for carrying a sheaf from the fingers to the conveyer.
9. In a sheaf loading implement, the combination comprising a wheeled supporting frame, a chute on the frame, a conveyer leading to the chute, bars pivotally supported at one end by the frame, rotatable supports for the opposite ends of the bars, means for elevating said bars, resilient fingers pivotally connected with the bars, a crossbar adapted to limit the movement of the resilient fingers, and means for carrying a sheaf from the fingers to the conveyer
10. In a sheaf loading implement, the combination comprising a wheeled supporting frame, a chute on the frame, a conveyer leading to the chute, pivotally supported members at one end of the frame, resilient fingers provided with resilient rearward extending portions carried by the bars, and means for carrying a sheaf from the fingers to the conveyer.
11. In a sheaf loading implement, the combination comprising a wheeled supporting frame, a chute on the frame, a conveyer leading to the chute, pivotally supported bars at one end of the frame, resilient fingers carried by the bars, a shaft on the bars, beater slats secured on the shaft, and a short conveyer extending from the beater slats to said first conveyer.
12. In a sheaf loading implement, the combination comprising a wheeled frame, a chute thereon, an inclined conveyer leading to the chute, pivotally supported conveying mechanism carried by the frame adjacent the lower end of the conveyer, and rake fingers adapted to reciprocate over the pivotally supported mechanism.
13. In a sheaf loading implement, the combination comprising a wheeled frame, a chute thereon, an inclined conveyer leading to the chute, pivotally supported conveyer mechanism caried by the frame adjacent the lower end of the conveyer, a crank shaft adjacent the forward end of the frame, rake fingers disposed on the crank shaft and provided with hooked forward ends, a crossbar on the frame adapted to limit the movement of the fingers, and means for driving the cranked shaft.
14. In a sheaf loading implement, the combination comprising a wheeled frame, a chute thereon, an inclined conveyer leading to the chute, means for conveying a sheaf from the ground to the inclined conveyer, a crossbar carried by the frame, a draft attaching means, and a seat on the crossbar.

No. 100,750. Apparatus for Absorbing Shock in Vehicles.
Appareil pour absorber les secousses dans les véhicules.


Joseph Elam Pounds, Melbourne, Victoria, Australia, 4th September, 1906; 6 years. Filed 10th August, 1906. Receipt No. 138,577.
Claim.-1. In apparatus for absorbing shock communicated to the bodies of road or other vehicles, one or more cushigns within an open topped casing, said casing having a coter, the lower plate of which moves in said casing and haspolier
bearings around it, and emergency springs between the sald casing and the cover, all as and for the purposes hereinbefore described and as lllustrated in the drawings.
2. In apparatus for absorbing shock communicated to the bodies of road or other vehicles and in combination an open topped casing having drain and inspection holes therein, one end of a spring from the axle pivoted to the bottom of said easing, a flange at each end of said casing, a cover the lower plate of which enters the casing, and has plain and grooved rollers around its edges, a transverse and longitudinal rib above said lower plate, a top plate to which is pivoted an arm from the vehicle body, cross bolts extending across the said casing and above the lower plate, emergency springs between the said top plate and the flanges on the casing, one or more cushions in the said casing, all as and for the purposes hereinbefore described and as illustrated in the drawings.
3. In apparatus for absorbing shock communicated to the bodies of road or other vehicles, consisting of a casing, a flange around sald casing, a tubular cushion or cushions around said casing and on said flange, a cover resting upon said air cushion, emergency springs between the cover and the casing. all as and for the purposes hereinbefore described and as illustrated in the drawings.
4. In apparatus for absorbing shock communicated to the bodies of road or other vehicles and in combination an open topped casing, cross bolts extending across said casing, lugs beneath the same to which is pivoted one end of a spring, a flange around the bottom of sald casing, a cushion or cushion resting upon said flange, a lower plate or flange resting upon the top of said air cushion, grooved rollers inside the said flange, a concave roller in each bearing on each end of the flange, a transverse rib having upcuts therein, a longitudinal rib also having upcuts therein, a top plate having lugs protruding therefrom, an arm from the vehicle body pivoted from said lugs, emergency springs inside the casing the lower end of each of which encircles protuberances and the upper ends of which encircle protuberances projecting from bearers, all as and for the purposes herelnbefore described and as illustrated in the drawings.
5. In apparatus for absorbing shock communicated to the bodies of road or other vehicles, a cushion open at the top and bottom, rounded ends to said air cushion, inner and outer flanges at the top and bottom of said casing, the top inner flange entering a groove in the top plate and the bottom inner flange, a groove in the bottom plate, a clamp, uniting the top plate and the top outer flange and the bottom plate and the bottom outer flange respectively together, guide bars between the top and bottom plates, all as and for the purposes hereinbefore described and as illustrated in the drawings.
6. Improvements in apparatus for absorbing shock communicating to the bodies of road or other vehicles, and in combination a cushion open at the top and bottom, inner and outer flanges at the said top and bottom, the inner flanges of which are tapered and enter into grooves made around a top and bottom plate respectively, an air bag inside said cushion, lugs protruding from sald top and bottom plate to accommodate an arm from the vehicle body and a spring from the vehicle axle respectively, overhanging arms protruding from said top and bottom plates, vertical guide bars secured to the arms protruding from the top plate and sliding in holes having balls thereln, in the protruding arms in the bottom plate, a U-sectioned clamp uniting the meeting flanges at the top and bottom of the cushion, the inner walls of the said clamp diverging outwardly, rounded corners pivoted at one end of the said clamp and drawn together by a bolt, all as and for the purposes hereinbefore described and as illustrated in the drawings.

\section*{No. 100,751. Guide Chart for Dress Patterns. Carte guide pour patrons de robes.}

Theron McCampbell, New York City, New York, U.S.A., 4th Septemper, 1906; 6 years. Filed 10th August, 1906. Receipt No. 138,583.
Claim.-1. A chart for guidance in assembling garment sections provided with an illustration of sald garment as assembled and illustrations of said garment sections separated and developed, said chart being also provided with corresponding conventional signs on the illustrations of each part of said garment as assembled and on each corresponding illustration of said sections as shown developed, substantially as described.
2. A chart for guidance in assembling garment sections provided with an illustration of said garment as assembled, and illustrations of said garment sections separated and developed, said chart being also provided with corresponding cenventional signs on the illustrations of each part of said garment as assembled and on each corresponding illustration of said sections as shown developed, and each of said last-named illustrations having printed on it the name of
the part of the garment which it represents, substantially as described.

3. A chart for guidance in assembling garment sections provided with an illustration of said garment sections separated and developed. said latter illustrations having printed on appropriate portions directions as to the proper treatment of the garment sections corresponding thereto, and said chart being also provided with corresponding conventional signs on the illustrations of each part of said garment as assembled and to each corresponding illustration of said sections as shown developed, substantially as described.
4. A chart for guidance in assembling garment sections provided with an illustration of said garment as assembled, and illustrations of said garment sections separated and developed, said latter illustrations having printed upon them directions as to the proper positioning of the patterns on the material from which said sections are to be cut, and sald chart being also provided with corresponding conventional signs on the illustrations of each part of said garment as assembled and on each corresponding illustration of said sections as shown developed, substantially as described.
10. 100,752. Steam Motor Car. Char moteur d vapeur.


William George Wagenhals, St. Louls, Missouri, U.S.A., 4th September, 1906; 6 years. Filed 10th August, 1906. Receipt No. 138,580.
Claim.-1. In a car, the combination of a bogie truck, a car body pivotally mounted thereon, a boiler carried by the car body, a steam engine mounted on the truck and connected in driving relation to one of the axles thereof, connections for carrying steam from the boiler to the engine, valves controlling the admission of the steam to the engine, mechanism for operating said valves, and means connected to said mechanism and actuated from the car body for reversing the direction in which the engine drives the truck in any position of the truck relatively to the car body, substantially as described.
2. In a car, the combination of a bogie truck, a car body pivotally mounted thereon, a boller carried by the car body. as engine mounted on the truck between the axles thereof and connected in driving relation to one of said axles, springs yleldingly supporting the engine upon the truck, connecting reds transmitting the power of the engine from one axle of the truck to the other, connections for carrying steam from the boller to the engine, valves controlling the admission of the steam to the engine, mechanism for operating said valves, and means connected to said mechanism and actuated from the car body for reversing the direction in which the engine drives the truck in any position of the truck relatively to the car body, substantially as described.

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3. In a car, the combination of a bogie truck having axles and wheels, a car body pivotally mounted thereon, a boller on said car body, an engine upon said truck between the axles thereof, means supporting said engine at one end upon an axle of the truck, springs supporting the other end of the engine, connections for carrying steam from the boller to the engine, a shaft driven by the engine, gearing between said shaft and said axle of the truck, an eccentric on said shaft, and a rod actuated by said eccentric and connected to the movable valve member of the engine, substantially as described.
4. In a car, the combination of a bogie truck, a car body plvotally mounted thereon, an engine upon the truck supported at one end upon one of the axles thereof and connected in driving relation to said axle, supporting springs, and a pin connected thereto and co-acting with the other end of the engine for yieldingly supporting the same, substantially as described.
5. In a car, the combination with a bogie truck having axles and wheels and a car body pivotally mounted thereon, of a boiler on said car body, an engine upon the truck, a shaft driven by the engine, gearing between said shaft and one of the axles of the truck, flexible connections for carrying steam from the boller to the engine, an eccentric on sald shaft, and a rod actuated thereby and connected to the movable valve member of the engine, substantially as described.
6. In a car, the combination th a truck having axles and wheels, of a steam engine locatet between the axles of the truck, a shaft driven by the engine, gearing between said shaft and one of the axles, an eccentric on said shaft and a rod actuated thereby and connected to the movable valve member of the engine, substantially as described.
7. In a car, the combination with a truck having axles and wheels of a steam engipe mounted on the truck between the axles thereof, a casing for said engine, a shaft mounted in bearings in said casing and actuated by the engine, gearing between said shaft and one of the axles of the truck, an eccentric on said shaft and a rod actuated thereby and connected to the movable valve member of the engine, substantially as described.
8. In a car the combination with a truck having axles and wheels, of a steam engine mounted on the truck between the axles therof, a casing for said engine, bearings formed in said casing through which one of the axles of the truck extends, a support for the other end of the engine, a shaft mounted in bearings formed in said casing and arranged to be driven by the engine, gearing between said shaft and an axle of the truck, an eccentric on said shaft and a rod actuated thereby and connected to the movable valve member of the engine, substantially as described.
9. In a car the combination of a truck having axles and wheels, of a steam engine mounted on the truck between the axles thereof, a casing for said engine, bearings formed in said casing through which one of the axles of the truck extends, springs supporting the other end of the engine, a shaft mounted in bearings formed in said casing and arranged to be driven by the engine, gearing between said shaft and an axle of the truck, an eccentric on said shaft and a rod actuated thereby and connected to the movable valve memLer of the engine, substantially as described.
10. In a car the combination with a truck having axles and wheels, of an engine yieldingly supported on sald truck, said support including a pin, a member having a socket therein into which the end of said pin extends and a spring supporting sald member, substantially as described.
11. In a car the combination with a truck having axles and wheels, of an engine yieldingly supported on said truck, said support including a pin having rounded heads, members mounted on the engine and truck having sockets thereln in which the heads of sald pin are received and a spring supporting one of said members, substantially as described.
12. In a car the combination of a truck having axles and wheels, of an engine yieldingly supported on said truck, said support including standards mounted on said truck, a block movable vertically and guided by said standards, springs supporting said block and means connecting said block with the éngine, substantially as described.
13. In a car the combination of a truck having axles and wheels, of an engine yieldingly supported on said truck, said support including two sets of leai springs mounted parallel to each other on said truck, a block sustained thereby and having a socket therein, a pin extending between said sets of springs and having a rounded head entering said socket and means securing said pin to sald engine, substantially as described.
14. In a car the combination of a truck, a car body pivotally mounted thereon, a boller carried by the car body, a steam engine mounted on the truck between the axles thereof and connected in driving relation to the truck, and flexible connections including ball and extension joints for carying st eam from the boiler to the engine, substantially as described.
15. In a car the combination of a truck, a car body pivotally mounted thereon, a boiler carried by the car body, a steam engine mounted on the truck between the axles thereof and connected in driving relation to the truck, means supporting the engine at one end of the axles of the truck, springs supporting the engine at the other end, and flexible connections including ball and extension joints for carrying steam from the boller to the engine, substantially as described.
16. In a car the combination of a truck, a car body pivotally mounted theron, a steam engine mounted on the truck and connected in driving relation thereto, means for actuating the valves of the engine, and devices operated from the car body and connected to said means for revising the direction in which the engine drives the track, substantially as described.
17. In a car the combination of a bogle truck, a car body pivotally mounted thereon, a boller on the car body, an engine on the truck connected in driving relation thereto flexible connections for carrying steam from the boller to the engine, means for actuating the valves of the engine, and devices operated from the car body and connected to said means for revising the direction in which the engine drives the truck, substantially as described.
18. In a car the combination of a truck, a car body pivotally mounted theron, a steam engine mounted on the truck and connected in driving relation thereto, a Stevenson link gearing controlling the admission of steam to the engine and means operated from the car body for actuating said gearing to reverse the direction in which the engine drives the truck, substantiarly as described.
19. In a car the combination of a truck, a car body pivotally mounted thereon, a steam engine on the truck between the axle thereof supported at one end on an axle of the truck and connected in driving relation to said axle, springs supporting the other end of the engine, means operated from the car body for reversing the direction in which the engine drives the truck, substantially as described.
20. In a car the combination of a bogle truck, a car body pivotally mounted theron, an engine on the truck connected in driving relation thereto. reversing gear for sald engine and operating means therefor including an arc-shaped member and a part connected but movable relatively thereto, substantially as described.
21. In a car the combination of a truck, a car body pivotally mounted thereon, an engine on the truck connected in driving relation thereto, reversing gear for said engine, an arc-shaped member supported on the car, means for reciprocating said member, and devices connected to said reversing gear and also connected to said member but adapted to move relatively thereto, substantially as described.
No. 100,753. Colter. Coutre.


Herbert W. Fleury, Aurora, Ontario, Canada, 4th September, 1906; 6 years. Filed 9th August, 1906. Receipt No. 138.527.
Claim.-The hereinbefore described construction comprising a plough beam, a plough colter, a colter clip for locking the plough colter to the plough beam, and a colter clamp consisting of a nut having a plurality of facets and a sleeve having its outer surface eccentric to the outer surface of the nut, and a bore centrally located with relation to the facets of the nut and eccentric with relation to the surface of the sleeve.

No. 100,754. Gas Irong. Fer d repasser d gaz.


George Carl Cooper, Toronto, Ontario, Canada, 4th September, 1906 ; 6 years. Filed 9th August, 1906. Receipt No. 138.522.

Claim.-1. In a gas iron, the combination with the body of the iron having a central partition or diaphragm and openings therein and enlarged openings above the diaphram the intermediately sized openings beneath and the minor openings below it, of a burner of flat-like form with \(V\) shaped end fitting the iron and having depending teats, such burner extending through an opening in the back end of the iron and means for supporting the burner in position, as and for the purpose specifled.
2. In a gas iron, and the combination with the body of the iron, of a burner provided with a front support and rear side lugs suitably held in place and an elbow extending upwardly from the rear of the burner and provided with a auitable nozzle, as and for the purpose specifled.
3. In a gas iron, the combination with the body of the iron and handle having bosses, of a shield interposed between the handle and the top of the iron and provided with bosses, and screws extending through the bosses in the handle the bosses in the shicid and into the top of the Iron. as and for the purpose specifled.
4. In a gas iron, the combination with the body of the iron, of a burner provided with suitable supports and having depending teats provided with passageways and extending round the side and front of the burner at the bottom and of a size less in area than the entrance orifices of the gas.

No. 100,755. Railroad Track Rail Gange Holder and Brace Therefor.
Jauge pour voies de chemins de fer.


John Henry Crowley, Duluth, Minnesota, U.S.A., 4 th September, 1906; 6 years. Filed 8th August, 1906. Receipt No. 138,488 .
Claim.-1. A track rail gauge holder and brace, comprising a gauge bar of T-rail which is inverted so as to dispose the base flanges thereon above the ball, an abutment flange secured on the base flanges of said gauge bar near each end thereof and adapted for contact with the inner base flange or a respective track rail, and two outer clamping flanges mounted upon the base flanges of the gauge bar at its ends, said clamping flanges respectively bearing upon the outer base flanges of the track rails and also having integral portions adapted for impingement upon the webs of said track ralls.
2. The combination with cross-ties and two spaced lines oi track rails thereon, of a plurality of track rail gauge holders and clamping braces, each comprising a gauge bar of T-rail material having base flanges held engaged with the base flanges on the track rails, and clamping means for holding the gauge bar thereon, consisting of two abutments each ombodying a clip band mounted and secured upon the gauge bar, each adapted for a clamping engagement with the base flanges and web of said gauge bar, and an integral clamping flange extending from the clip band over and bearing upon an inner base flange of a respective track rail, and two other clamping flanges each held impinged upon the outer buse flange and web of a respective track rail by an integral clip band which engages an outer end portion of the gauge bar and is secured thereon, said clip band having an integral clamping flange projected at one end thereof and bearing on an adjacent base flange and against a web portion of a respective track rail.

No. 100,756. Dumping Car. Char à bascule.


Daniel King, Pinkney, Tennessee, U.S.A., 4th September, 1906; 6 years. Filed 3rd August, 1906. Receipt No. 138,390.
Claim.-1. A dumping car provided with a spring interposed between the body and truck and held under tension when the car is in horizontal position, means for holding the car body horizontal, and means for releasing the body so that the spring may dump the same.
2. The combination with a car body and supporting truck, of a spring interposed between the body and truck, means for holding the body horizontal and the spring under tension, means for holding a side door closed and means for releasing the body and door, whereby the spring affects the tipping of the body and the opening of the door.
3. In a dumping car, the combination with the car body, of body locking levers at the cnde thereof, door levers of which the door pintles rest springs connecting the ends of the door levers to the body, and chains connecting the door levers to the body locking levers, whereby the release of the body locking levers releases the tension on the springs connected to the door levers.
4. In a dumping car, the combination with the car body, of door levers pivoted to said body, doors supported by said levers, and a spring connecting one arm of each of the door levers to the body, and serving to lift the doors when permitted to operate on the door levers.
5. In a dumping car the combination of a car body and locking levers therefor, a pair of door levers at each end of the car body, springs connected to the inner end of these levers and to the car body, doors supported to the outer ends of said door levers, and body locking levers connected by flexible connections to the door levers, to hold their springs under tension when the body is locked.

\section*{No. 100,757. Machines for Making Cheese. \\ Machine pour faire du fromage.}

Charles Henry Southard, Smithville Flats, New York, U.S.A., 4th September, 1906; 6 years. Filed 31st July, 1906. Receipt No. 138,309.
Claim.-1. A cheese vat and means for forcing a mixture of steam and whey into the vat to heat the contents thereof.
2. A cheese vat and means for forcing a mixture of steam and whey into the vat to heat the contents thereof, the said means comprising a steam ejector device having its suction pipe extending into the contents of the vat, whereby the whey of sald mixture is drawn from the vat,
3. A heating device for cheese vats, comprising a box having an opening covered by a screen or strainer, and an

ejector having its suction port in communication with the, box to withdraw the contents thereof.
4. A heating device for cheese vats comprising a box having an opening covered by a screen or strainer and having a cup in the bottom of the box, and an ejector having a suction pipe projected into said cup.
5. The combination with a cheese vat, of a heating device comprising a box mounted within the vat and constructed to receive whey from the vat, a cup in the bottom of the box into which the whey collects, a steam pipe passing into the box and terminating in an ejector nozzle, an ejector casing in which the said nozzle is located, the said casing having a suction pipe extending into the said cup, and an outlet. pipe leading from the ejector casing and discharging into the vat.
6. The combination with a dumping car body, of a swinging door supported on door levers, body locking levers by which the body is held in horizontal position, and door catches also engaged by sald body locking levers.
7. The combination with a dumping car truck and body loeking levers extending transversely of said body, door levers at each end of the body and having pivots at each side which become alternately the fulcrum of said levers, doors having pintles extending into notches in the door levers and also into notches in the body, springs connected to the body and to the door levers and flexible connections from the door levers to the body locking levers, whereby the latter may be depressed and the doors left supported by the body, as set forth.
8. The combination with a car truck and dumping body, and an interposed spring, of a lever connected to the body. and an incline adjacent to the car track, whereby the car body may be brought to horizontal position and the spring placed under tension as the train moves past the incline.
9. The combination with a car truck and dumping body, and a spring acting to dump the body, of means for holding the body in horizontal position, and means alongside the track whereby the car body may be released and permitted to be dumped by the spring.
10. The combination with a car truck and car body, and a spring acting to dump said body, of detents acting to hold the body in horizontal position, a hinged lever which may be extended at the side of the car and act to release sald detents by engaging an obstruction, and an incline at the side of the track by which said hinged lever is turned in as the car moves.
11. The combination with a car truck and body, of a spring acting to dump the body when free to do so, a swinging door on said body, levers on which said door may swing, and springs connected to the door levers and body to support the doors when swung open.

\section*{No. 100,758. Stove for Railway Freight Carm. Poêle pour chars d marchandises.}

The Thomas Davidson Manufacturing Company, assignee of Peter Alexander Garvin, all of Montreal, Quebec, Canada. 4th September, 1906; 6 years. Filed 15th August, 1906. Receipt No. 138,703 .

Claim.-1. A stove of the type described for use in a freight train van, having devices for retaining the dampers against accidental displacement, substantially as described and for the purpose set forth.
2. In a stove of the type described for use in a freight train van the combination with the rear oscillatory damper \(d\) of means for retalning the same against accidental displacement, substantially as and for the purpose set forth.
3. In a stove of the type described for use in a freight train van the combination with the rear oscillatory damper \(d\), of

a notched lever \(e\) for retaining the same against accidental displacement, substantially as and for the purpose set forth.
4. In a stove of the type described for use in a freight train van the combination with the rear oscillatory damper \(d\), of a lever e having notches iand \(j\) for retaining the same against acidental displacement, substantially as and for the purpose set forth.
5. In a stove of the type described for use in a freight train van the combination with the hinged and slidable ash pit door \(p\), of the bearing \(r\) notched as at \(t\), substantially as and for the purpose set forth.
6. In a stove of the type described for use in a ireight train van, the frame \(u^{2}\) of the upper front slide damper \(u\) having a pin \(v\), and the slide having a pair of notches, substantially as described and for the purpose set forth.
7. A stove of the Quebec heater type having a grate supported between its base and the stove top, substantially as described and for the purpose set forth.
8. A stove for use in a freight train van, comprising a Quebec heater b, an oven c, a temporary grate removably supported within the Quebec heater on a level with the floor of the oven, substantially as described and for the purpose set forth.
9. The combination with the floor A of a freight train van, of the Quebec heater \(b\), oven \(c\), ring 2 having projections \(2 a\), grate halves 5, 6, with ribs 7, damper d, notched lever e, door \(p\), notched bearing \(r, t\), damper \(u\), having notches, frame \(u^{2}\) having a pin 0 , substantially as described and for the purpose set forth.
10. The combination with the floor of a conveyance \(d\) and a stove of the type described, of a metal strap 18 with feet 19, and bolts 20, substantially as described and for the purpose set forth.
11. In a stove of the Quebec heater type, an oven having its top wall and the wall nearest the fire chamber constructed of two layers of sheet metal and an interlining or filling of sheet asbestos, substantially as described.

\section*{No. 100,759. Sad Irons. Fer d repasser.}

Lauders, Frary and Clark, assignee of Alonzo Abner Warner, all of New Britain. Connecticut, U.S.A.. 4th September, 1906; 6 years. Filed 10th August, 1906. Receipt No. 138,555.
Claim.-1. The combination of a sad iron body with a holdIng stud rigidly mounted thereon, the sald stud having a head and a neck under the said head, a handle having a base proFided with an opening to fit over the said stud, a slanting holding face extending outwardly and upwardly from the sald opening and base of the sald neck, an operating lever hinged on the said handle base, and a fastening tongue hinged co the sald lever and having an end adapted to engage the neck of the sald holding stud.
2. The combination of a sad iron body with a holding stud rigidly mounted thereon, the said stud having a head and

neck, a handle having a base provided with an opening to fit over the stud, a slanting holding face adjacent to the said opening means for preventing the handle from rotating on the said stud, a fastening tongue having an end adapted to engage the neck of the holding stud and to form a locking block of metal between the under face of the head of the said stud and the holding face of the sald handle base, and means for operating the said fastening tongue.
3. The combination of a sad iron body with a holding stud rigidly mounted thereon, the said stud having a head and a rounded groove under the head forming a neck, a handle base provided with an opening to fit over the said stud and a slanting holding face adjacent to the sald opening, an operating lever pivoted on the said handle base and a pendant tongue pivoted to the said lever and having a ballshaped end for engagement with the said groove of the stud and holding face of the handle base.

No. 100,760. Hoisting Apparatug. Apparefl d Misser.


William Turnley McCall, assignee of Carl Theodore Painter, both of Chattanooga, Tennessee, U.S.A., 4th September, 1906; 6 years. Filed 13th July, 1906. Receipt No. 137.764.
Claim.-1. In a hoisting mechanism the combination of a pair of wheels about which a cable is adapted to pass, a clutch arranged to be brought into engagement with one or the other thereof accordingly as it is moved, and thereby connect it with a source of driving power, and a cable guiding pulley arranged to direct the cable from one of the wheels to the other, substantially as set forth.
2. In a hoisting mechanism the combination of a pair of wheels about which a cable is adapted to pass mounted loosely upon a shaft, a clutch mounted between the wheels and arranged to be brought into engagement with one or the other thereof accordingly as the clutch is adjusted and to thereby connect the wheel with a source of driving power, and a guiding pulley for the cable mounted loosely upon a support, the axis of the said pulley being disjosed at right angles to the axis of the said wheels, substantially as set forth.
3. In a hoisting apparatus the combination of a shaft adapted to be continuously driven in one direction, a pair of wheels a, b. loosely mounted thereupon and provided with peripheral cable grooves or seats, clutch mechanism arranged to connect one or the other of the wheels with the shaft accordingly as it is adjusted, a grooved pulley \(u\), mounted loosely upon a support that is disposed at substantially right angles to the shaft on which the wheels \(a, b\), are mounted, and a hoisting cable passing around one of the wheels, thence around the pulley \(u\) and thence around the other Wheel, substantially as set forth
4. In a hoisting machine the combination of a shaft \(r\), a pair of wheels provided with cable seats or grooves loosely mounted on the sald shaft and formed with laterally projecting flanges having inclined faces adapted to constitute friction members adapted to engage with the said inclined faces of the flanges of the wheels, each comprising an annular friction ring, disc-like plates secured near their outer edges to the opposite faces of the ring and near their. inner edges to sliding ring-like members mounted on the driving shaft, and means for shifting the movable clutch members, substantially as set forth.
1. 100,761. Gas Fixtures. Appareil de gaz.


The James Morrison Brass Manufacturing Company, assignee of Baron Albert Perry, all of Toronto, Ontario, Canada, 4th September, 1906; 6 years. Filed 18th Aprll, 1906. Receipt No. 135,028.
Claim.-1. The combination with the ring designed to supfort the globe beneath the same, and having an upper retaining rim, of the dome and a connecting means between the ring and the top of the dome and within the dome for holding the bottom edge of the dome down in position within the rim, as and for the purpose specified.
2. The combination with the ring designed to support the globe beneath the same and having an upper retaining rim, of the dome, and the retaining ring secured to the top of the dome, the crown secured on top of said ring and a connecting means located within the dome and between the crown and the retaining ring for the bottom of the dome for holding the bottom edge of the dome securely within its retaining rim, as and for the purpose specifled.
3. The combination with the outside finishing ring designed to support the globe beneath the same and having an upper retaining rim, of the interior ring suitably held within the outer ring, the dome having the bottom edge extendIng within the retaining rim of the outer ring, the crown for the dome and a connecting means between the crown and the interior ring, as and for the purpose specified.
4. In combination, the outer ring carrying the globe at the bottom, the dome located within the retaining edge of the rim at the top, the inner ring provided with inwardly extending lugs, the fixture arms extending through the outer ring and the inner ring into the lugs and connecting the rings together, and connecting means between the inner ring and the top of the globe for holding down the globe with its bottom edge within the retaining rim, as and for the purpose specified.
5. In combination, the outer ring carrying the globe at the bottom, the dome located within the retaining edge of the rim at the top, the inner ring provided with inwardly extending lugs, the fixture arms extending through the outer ring and the inner ring into the lugs and connecting the rings together, the supporting crown or cap for the globe having a retaining edge and inwardly extending lugs, and the arms having the lower ends secured in the lugs of the retaining rim and the upper end extending through the lugs of the crown and nuts screwed on to the upper ends of the arms above the lugs, as and for the purpose specifled.
6. In a gas fixture in which a lower globe and upper dome is used, the combination with the inner ring, of the outer ring designed to support the globe and dome provided with perforations, as and for the purpose specifed.

No. 100,762. Soap Cake. Pain de savon.


The Hygienic Soap Granulator Company, assignee of George F. Shaver, New York City, New York, U.S.A., 4th September, 1906; 6 years. Flled 17th April, 1906. Receipt No. 134,945.
Claim.-1. A cake of soap adapted for use in a soap dispensing machine, said cake having a portion thereof adapted to engage a retaining member to hold the cake in operative position.
2. A cake of soap adapted for use in a soap dispensing machine, said cake having a longitudinal opening extending therethrough.
3. A cake of soap adapted for use in a soap dispensing machine, having a central opening therein providing for the use of a spindie operating a cutter, a portion of sald cake being shaped to engage a retaining member to hold the cake in position during the process of cutting.
4. As a now article of manufacture, a cake of soap adapted for use in a machine which dispenses the same in fine particles and having an opening extending longitudinally therethrough, said cake being also provided with a portion adapted to be engaged by a co-operating portion of the machine Whereby the soap is maintained in operative position during the operation of the machine.
5. A cake of soap adapted for use in a soap dispensing machine, having a portion thereof adapted to interlock with a corresponding portion of a second cake to retain the cake in position during the process of cutting.
6. A cake of soap adapted for use in a soap dispensing machine, having an end thereof adapted to interlock with an end of a second cake to retain the cake in position during the process of cutting.
7. A cake of soap adapted for use in a soap dispensing machine, having opposite ends thereof interchangeable, adapted to interlock with either end of a second cake to retain the cake in position during the process of cutting.
8. A cake of soap adapted for use in a soap dispensing machine, having a plurality of surfaces at opposite ends of said cake of soap, said surfaces being separated by a wall and adapted to reversably interlock with corresponding surfaces of a second cake to retain the cake in position during the process of cutting.
9. A cake of soap adapted for use in a soap dispensing machine, having a central opening therein providing for the tse of a spindle operating the cutter, a portion of said cake teing adapted to engage a retaining member of said machine and a portion thereof adapted to interlock with a correspdinding portion of a second cake of soap to hold the cake in position during the process of cutting.
10. A cake of soap adapted.for use in a soap dispensing machine, having a central opening therein providing for the use of a spindle operating a cutter, a recess at one side thereof adapted to engage a retalning member to hold the cake in position during the process of cutting.

\section*{No. 100,763. Mothod of Preserving and Waterprooling Wood.}

\section*{Moyen de préserver et rendre le bois à l'ópreuve de l'eau.}

Joseph Albert Deghuee and Sarah Frances Bevier, assignee of a two-thirds interest, both of New York City, New York, U.S.A., 4th September, 1906; 6 years. Filed 25th April, 1906. Recelpt No. 135,280.

Chaim.-1. The herein described method of preserving and waterproofing wood, which consists in treating the same under the influence of heat and pressune with a homogeneous mixture of creosote oil, resin, saponifiable oll and sulphur, substantially as described.
2. The herein described method of preserving and waterproofing wood, which consists in treating the same under the influence of heat and pressure, with a homogeneous mixture of creosote oil, resin, cotton seed oil and sulphur, substantially as described.
3. The herein described method of preserving and waterproofing wood, which consists in first drying, sterilizing and fixing the natural antiseptic material of the wood by heat and pressure to protect the inner portion of the wood from decay and rendering its outer portion absorbent, then protecting the outer portion from decay and waterproofing it by treating the same under the influence of heat and pressure with a homogeneous mixture of creosote oll, resin, saponifiable oll and sulphur, substantially as described.
4. The herein described method of preserving and waterproofing wood, which consists first, in heating the wood, then treating the same under the influence of heat and pressure with a homogeneous mixture of creosote oll, resin, saponifiable oil and sulphur and then cooling the wood while well immersed in the re-agents, substantially as described.

No. 100,764. Beet Topper.
Apparcil d enlever les teftes de betteraves.


Georg Morden, The Gore, Camden. Ontario, Canada, 4th September, 1906; 6 years. Filed ist December, 1905. Recelpt No. 130.605.
Claim.-1. In a beet root topper and blocker the combination with the main frame suitably supported and provided with a tongue and operating handles. of a pair of discs set in a substantially horizontal position and designed to have overlapping sharpened edges and shafts suitably journalled in the frame and to which the discs are secured, as and for the purpose specified.
2. In a beet root topper and blocker, the combination with the main frame suitably supported and provided with a tongue and operating handles. of a pair of discs suitably set in a horizontal position with their outer edges slightly raised so that the discs are at an angle with the ground and with each other and with overlapping sharpened edges, and shafts sultably journalled in the frame of the machine and to which the discs are secured, as and for the purpose specified.
3. In a beet root topper and blocker, the combination with the main frame, suitably supported and provided with a tongue and operating handles, of a pair of discs set in a substantially horizontal direction and at angles to the ground, supponting shafts fournalled in the frame and to which the discs are secured, bevel gears secured to the upper ends of the shafts, a cross shaft and bevel gears thereon designed to mesh with gears of the discs supporting shafts, as and for the purpose specified.
4. In a beet topper and blocker, the combination with the main frame suitably supported and provided with a forwardly extneding tongue and operating handles, of a pair of discs set in a substantially horizontal position and designed to have overlapplng sharpened edges, a gauge roller and a forked bar depending from the tongue in which the roller is journalled, as and for the purpose specified.
5. In a beet topper and blocker, the combination with the main irame, inverted \(U\)-shaped in form having a forwardly extension, a forwardly extending tongue secured to the frame and operating handles, of a bracket swung beneath the frame having outwardly flaring depending ends, bracẹs extending from such ends to the extension of the main irame to which they are adjustably connected, shafts journalled in bearing formed on the depending end of the bracket and discs secured thereto, as and for the purpose specified.

No. 100,765. Kerosene Vapour Burning Apparatua. Appareil d brüler d vapeur de kerosine.


John Arthur Mathes, San Dlego, California, U.S.A., 4th September. 1906; 6 years. Filed 14th April, 1906. Receipt No. 134,927 .
Claim.-1. A burner comprising a cylindrical casing having an open top, a burner plate arranged on said top, and a slotted side portion forming a downwardly extending continuation of said burner top. a mixing chamber, a single straight vapourizing tube having a single vapourizing chamber arranged along side of and transversely to said downwardly extending slotted side portion and positioned to be in direct contact with the flame therefrom, an air mixing tube extending from proximity to said vapourizing chamber into said air mixing tube, and means for supplying oil to said vapourizing tube.
2. A burner comprising a casing having a mixing chamber and provided with a slotted burner extending over the top of said chamber and down one side of said casing. a single straight vapourizing tube having a unltary vapourizing chamber arranged alongside of and transversely to said downwardly extending slotted side of said casing. said tube having all portions of its outer surface between the inlet and outlet thercof in direct contact with the flame from said sloted side of the casing, a mixing tube extending from proximity to said vapourizing tube into said mixing chamber, an outlet from said vapourizing tube opening into said mixing chamber, and means for supplying oil to said vapourizing tube
3. A burner comprising a hollow body having an imperforate bottom, a perforate top, and a cylindrical wall, only
a portion of which is perforate, said perforated portion forming a downward side extension of said perforate top of said body, thus forming a unitary mixing chamber, all portions of which intercommunicate, a single straight vapourizing tube arranged alongside and in direct heat receiving relation thereto, sald vapourizing tube communicating into said mixing chamber through an inlet thereinto of larger diameter of the outlet from said vapourizing tube, and means for supplying oil to said vapourizing tube.
4. A burner comprising a shrort hollow cylindrical body having an imperforated bottom, a perforate top, a cylindrical wall forming a unitary mixing chamber, all portions of which directly intercommunicate, a portion of said wall being downwardly perforated and forming a downward side extension of said perforate top, a vapourizing tube arranged sidewise to and transversely of said downwardly extending perforate side and in direct heat recelving relation thereto, the inlet and outlet of sald vapourizing tube arranged just beyond the limit of perforation of said side and having all its intermediate portions between said nlet and outlet in direct contact with the flame from said perforate side extension, an air mixing tube extending into said chamber, and air tube extending from below said body and opening into said mixing tube, sald vapourizing tube provided with a peripheral outlet arranged opposite and opening into the inlet end of said mixing tube, a valve arranged transversely of said vapourizing tube to control said outlet, a light filling in said vapourizing tube and means connected with the inlet end of said vapourizing tube for supplying oil to said vapourizing tube, sald vapourizing tube having its outlet above its inlet.
5. A burner comprising a body having a mixing chamber. a single straight vapourizing tube having a single unitary vapourizing chamber arranged alongside of and transversely of the side of said body, sald body provided with a slotted top and with a slotted side opposite said vapourizing tube, a hood over and embracing said vapourizing tube, sald hood provided with an opening permitting the union of the flame between said slotted top and slotted side, a mixing tube in said chamber, an air tube extending from below said body into communication with sald mixing tube, said vauoprizing tube provided with a peripheral outlet opening opposite the inlet end of said mixing tube, a valve extending transversely through said vapourizing tube to control said outlet, said vapourizing tube having all portions of its outer surface between the inlet and outlet in the flame of said slotted side, and means for supplying oil to said vapourizing tube, said vapourizing tube having its outlet above its inlet.
6. A burner comprising a body having a mixing chamber all portions of which directly intercommunicate, said body having top and a downwardly extending slotted side, a single straight vapourizing tube having unitary vapourizing chamber arranged alongside of and transversely of said slotted side, a mixing tube extending into said mixing chamber, said vapourizing tube provided with a peripheral outlet opening into the inlet end of said mixing tube, means for sapplying oil to said vapourizing tube, at a point below said outlet, and a hood over and enveloping said vapourizing tube, said hood provided for intercommunication between the flame from said slotted top ana said slotted side.
7. A burner comprisilg a sbort hollow cylindrical body having an imperforate bottom, a perforate top and a cylindrical wall forming a unitary mixing chamber, all portions of which directly intercommunicate, a portion of said wall being downwardly perforate, and forming a downward side extension of said perforate top. a vapourizing tube having a single unitary vapourizing chamber arranged sidewise to and transversely of said downwardly extending perforate side and in direct heat receiving relation thereto, a light flling loose in said vapourizing tube, means for supplyng oit to said vapourizing tube, said vapourizing tube having a peripheral outlet into said mixing chamber, and an inlet below said outlet, and means for admitting air to said mixing chamber.
8. A vapour burner comprising a short hollow body having an mperforate bottom, a perforate top and a cylinderical top and a cylindrical wall forming a unitary mixing chamber, all portions of which directly intercommunicate, a portion of said wall being downwardly perforated and forming a downward side extension of said perforate top, a single straight vapourizing tube, having a stagle unitary vapourIzing chamber arranged sidewise to and transversely of said downwardly extending perforated side and direct contact With the flame therefrom, means for supplying oll to said vapourizing tube, said vapourizing tube,. asid vapourizing tube having a peripheral outlet, the steam of said valve extending transversely through said vapuorizing tube, and means for admitting air to said mixing chamber.
9. A burner comprising a body having a mixing chamber, sald body provided with a slotted top and a downwardly extending slotted side, a single straight vapourizing tube havtending slotted side, a ving a single unitary vizing chamber arranged trans-
versely of said slotted side, said vapourizing tube having all portions of its outer surface between the inlet and outlet thereof, in direct contact with the flame from said slotted side, a light filling in said vapourizing tube, an air mixing tube in said mixing chamber, said vapourizing tube provided with a peripheral outlet opening into said air mixing tube, a valve for said peripheral outlet, a valve stem for said valve extending transversely through said vapourizing tube and means for supplying oil to said vapourizing tube.
10. A burner comprising a body having a mixing chamber all portions of which directly intercommunicate, said body having a slotted top and a downwardly extending slotted side, a single vapourizing tube having a single unitary vapourizing chamber arranged sidewise to and transversely of said slotted side, and having a peripheral outlet, a mixing tube extending into said mixing chamber into which sald peripheral outlet communicates, a valve for said peripheral outlet, a valve stem for said valve extending transversely through said vapourizing tube, means for supplying oil to said vapourizing tube and a hood over and enveloping said vapourizing tube, said hood provided with a perforation allowing the union of the flame of said slotted top and slotted side.
11. An incandescent vapour burner comprising a short, wide, hollow casing having an imperforate bottom, a top having a flanged outlet and imperforate except through said outlet, and a side or wall having a perforated portion, the perforations of which extend from said outlet downwardly. a mixing tube extending into said casing at one side of said perforated side, a vapourizing tube having a straight unitary vapourizing chamber arranged sidewise to and transversely of said downwardly extending perforated portion of said side, and adapted to be in direct contact with the flame therefrom, said vapourizing tube having an inlet and an outlet, the inlet being arranged below the level of the outlet, means for supplying oil to said vapourizing tube, said vapourizing tube opening into said mixing tube, and means for admitting air to said mixing tube.
12. An incandescent vapour burner comprising a casing having a mixing chamber, a flanged top outlet, a side air irlet, a downwardly perforated side portion, a mixing tube extending into said chamber, a stralght vapourizing tube having a unitary straight vapourizing chamber arranged sidewise to and transversely of said downwardly extending stde portion in close proximity thereto, and having a peripheral outlet into said mixing tube, and an inlet arranged below the level of said outlet, a valve extending transverse of said vapourizing tube controlling said peripheral outlet and means for supplying oil to said vapourizing tube.
13. An incandescent vapour burner comprising a casing having a mixing chamber, a flanged top outlet, a side air inlet, a downwardly extending perforated side portion, a mixing tube extending into said chamber, a straight vapourizing tube having a unitary stralght vapourizing chamber arranged sidewise to and transversely of said perforated side portion in close proximity thereto and having a peripheral outlet into said mixing tube, a valve for said peripheral outlet extending transverse of said vapourizing tube, means for supplying ofl to said vapourizing tube, a mantle on said flanged outlet, and a hood supported on sald casing and extending out down over said vapourizing tube, said hood provided with an opening allowing communication of flame between said mantle and perforated side.
14. An incandescent vapour burner comprising a casing having a central mixing chamber, a flanged outlet therefrom, a downwardly extending perforated portion, a mixing tube extending into said casing at the side of said perforated side portion, a single straight vapourizing tube having a unitary straight vapourizing chamber arranged transverse of said downwardly extending perforated side portion and in close proximity thereto, all portions of said vapourizing tube between the inlet and outlet thereof being in direct contact with the flame from said perforate side portion, said vapourizing tube having a peripheral outlet into said mixing chamber, a valve for said peripheral outlet operating transversely of said vapourizing tube, and means for supplying oil to sald vapourizing tube.
15. An incandescent vapour burner comprising a casing having a central mixing chamber, a flanged outlet therefrom, a downwardly extending perforated side portion, a mixing tube extending into said casing at the side of said perforated side portion, a single straight vapourizing tube arranged sidewise to and transverse of sald downwardly extending perforated side portion and in close proximity thereto, all portions of said vapourizing tube between the inlet and outlet thereof, being in direct contact with the flame from said perforated side portion, a light anti-carbonizing filling in sald vapourizing tube, means for supplying oil to said vapourizing tube, said vapourizing tube discharging into said m!xing tube, said mixing tube adapted to receive air from outside said casing.

No. 100,766. Bread Raiser.
Apparedl d faire lever le pain.


May Burgess, Green Bay, Michigan, U.S.A., 4th September. 1906; 6 years. Filed 20th April, 1906. Receipt No. 135,083.
Claim.-1. A bread raiser consisting of a sheet metal casing having a cylindrical base with openings near the bottom, a partition above this cylindrical part of the casing and havirg a central opening, a deflecting cone above said opening, a flared section of the casing above said base, and a flared pan having its outer edge resting on the upper edge of the casing.
2. A bread raiser consisting of a sheet metal casing with cylindrical base and outwardly flared upper section, a horizontal partition between the sections having a central opening and a deflecting cone above said opening, a flared pan in the upper section of the casing and resting on the edge thereof, handles on the interior of the flared pan, and a cover to said pan.

No. 100,767. Dental Pliers.
Pinces dentaires.


Nathan Harvey Smith, Seattle, Washington, U.S.A., 4th September, 1906; 6 years. Filed 21st April, 1906. Receipt No. 135,133 .
Claim.-1. A pair of dental conture pliers comprising similar complemental members pivoted near one end and comprising suitable handles and jaws, the latter gradually tapering throughout their length and pivoted at or near their extremitles with a longitudinal mating crimp and projection, one of the jaws having a flat gripping face and the other jaw having its inner face flat and the remainder transversely rounded the longitudinal gripping elements coming together when the jaws are closed.

No. 100,768. Drenching Bit. Mors de bride.


James Hineman, Irondale, Ohio, U.S.A., 4th September, 1906;
6 years. Filed 23rd April, 1906. Receipt No. 135,209.
Claim.-1. In a drenching bit the combination of a yoke having longitudinally slotted arms, a bit bar connecting the free ends of the arms, a pair of parallel arms pivoted at their centers on the bit bar and provided with openings in one of their ends, a nose strap engaging the openings and connecting the arms, a second pair of parallel arms pivoted to the free ends of the first pair, a second bit bar connecting the centers of the second pair of arms. pins on the free ends of the second pair of arms and engaging the slots in the yoke arms, and a handle connected with the yoke.
2. A drenching bit comprising a yoke having longitudinally slotted arms, a pair of oppositely disposed toggle levers. a bit bar connecting the centers of the outer members of the toggle levers with the ends of the yoke arms, a nose strap connecting the free ends of the outer members, a second bit bar connecting the centers of the inner members of the loggle levers, pins on the free ends of the said inner members for engaging the slots of the yoke arms, and a handle connected with the yoke.
3. A drenching bit comprising a yoke having longitudinally slotted arms, a pair of oppositely disposed toggle levers, pins on the inner ends of the levers engaging the slots in the yoke arms, a flexlble connection between the outer ends of the toggle levers, bit bars connecting the centers of the corresponding members of the toggle levers, a pivotal connection between the outer bit bar and the ends of the yoke arms, and a handle on the yoke.
4. A drenching bit comprising a yoke provided with a handle and parallel arms, a pair of toggle levers pivoted to the free ends of the arms, a sliding connection between the Inner ends of the toggle levers and the yoke arms, a flexible connection between the outer end of the toggle levers, and bit bars connecting the centers of the corresponding members of the toggle levers.
5. A drenching bit comprising a pair of toggle levers, bit bars connecting the centers of the corresponding members of the pair, a flexible conneotion between the free ends of the toggle levers, and means engaging the opposite ends of the levers and the bit bar adjacent to the flexible connection for actuating the toggle lever.
6. A drenching bit comprising a pair of toggle levers, bit bars connecting the centers of the corresponding members of the pair, a flexible connection between the free ends of the toggle levers and means engaging each of the members of the toggle levers to actuate the same.
7. A drenching bit comprising a pair of toggle levers, a bit bar connecting the centers of the corresponding members of the pair, and means engaging one of the bit bars and the ends of the members of the opposite pair of levers for actuating the same.

\section*{No. 100,769. Decomposition of Oils, 卫to. Decomposition d'huille, etc.}

John Harvey, Liverpool, and Edward T. B. Simpson, Walton, Wakefield. York, England, 4th September, 1906; 6 years. Filed 23rd April, 1906. Recelpt No. 135,211.
Chim.-1. A method of decomposing oils and similar organic bodies, which consists in subjecting said organic bodies, while under the influence of a vacuum oh sub-atmospheric pressure, to an electric or galvanic action in the presence of superheated steam, and collecting and condensing the vapourous decomposed vapourized products.
2. A method of decomposing ofls and similar organic bodies, which consists in admitting said organic bodies to a vessel which is heated and maintained internally in a vacuous condition, causing an electric current to pass between terminals immersed in said organic bodies within the vessel, passing superheated steam through and in contact with said organic bodies, and collecting and condensing the decomposed vapourized products.
3. A method of decomposing oils and similar organic bodies which consists in admitting said organic bodies to a vessel whose interior is maintained in a vacuous condition and heated to a temperature of about \(550^{\circ} \mathrm{F}\), causing an electric current to pass between terminals immersed in said organic bodies within the vessel, passing superheated steam through and in contact with'sald organic bodies, and collecting and condensing the decomposed vapourized products.
4. A method of decomposing oils and similar organic bodies, which consists in admitting said organic bodies to a vessel whose interior is maintained in a vacuous condition and heated to a temperature of about \(550^{\circ} \mathrm{F}\) by superheated steam circulading in a pipe within the vessel, causing an electric current to pass between terminals immersed in said organic bodies within the vessel, passing superheated steam through and in contact with said organic bodies, and collecting and condensing the decomposed vapourized products.
5. A method of decomposing oils and similar organic bodies, which consists in admitting said organic bodies to a vessel whose interior is maintained in a vacuous condition and heated to a temperature of about \(550^{\circ} \mathrm{F}\) by superheated steam circulating in a pipe within the vessel, causing an electric current to pass between terminals electrically connected together and immersed in said organic bodies within the vessel, simultaneously passing superheated steam through and in contact with said organic bodies. and collecting and condensing the decomposed vapourized products.
6. A method of decomposing oils and similar organic bodies, which consists in admitting said organic bodies to a vessel whose interior is maintained in a vacuous condition and heated to a temperature of about \(550^{\circ} \mathrm{F}\) by superheated steam circulating in a pipe within the vessel, causing an electric current to pass between terminals electrically connected externally with a source of electric supply and immersed in said organic bodies within the vessel, passing superheated steam through and in contact with said organic bodies, and collecting and condensing the decomposed vapourized products.
10. 100,770. Photographic Plate Holder. Porte-plaque photographique.


Jesse D. Lyon, Pittsburg, Pennsylvania, U.S.A., 4th September, 1906; 6 years. Filed 24 th April, 1906. Receipt No. 135,229.
Claim.-1. A plate exposing device consisting of a holder having a receiving shell, a plate shifter mounted in the bolder and means for actuating the shifter, substantially as set forth.
2. A plate exposing device consisting of a holder having a receiving shell. a plate shifter mounted in the holder provided with means for positively engaging the plate, and means for actuating the shifter, substantially as set forth.
3. A plate exposing device consisting of a receiving shell, a plate shifter slidably mounted therein provided with spring extremities adapted to engage the plate, and means for actuating the shifter, substantailly as set forth.
4. A plate exposing device consisting of a holder having a rigidly mounted receiving shell, a plate shifter slidingly mounted in the holder provided with fingers adapted to positively engage the plate, and means for actuating the shifter, substantially as set forth.
5. In combination with an exposing plate holder frame, a receiving shell for the plate rigidly mounted within the plate holder at one end with a surrounding clearance space, a plate shifter slidingly mounted within the shell provided with means for engaging and gripping the plate, and means for actuating the shifter from the exterior of the holder, substantially as set forth.
6. In combination with a plate holder frame, a recelving shell for the plate rigidly mounted within the plate holder at one end with a surrounding clearance space, a plate shifter slidingly mounted within the shell provided with means for engaging the gripping the plate, and a pivotally mounted shifting lever provided with an actuating arm extending through the plate holder frame, substantially as set forth.
7. In combination with a plate holder frame, a receiving shell for the plate rigidly mounted within the plate holder at one end with a surrounding clearance space, plate shifter slidably mounted within the shell provided with means for engaging and gripping the plate, and a pivotally mounted shifting lever provided with an actuating arm extending through the plate holder frame, with fending devices adapted to operate on each side of the shell, substantially as set forth.
8. A plate exposing device adapted for operation with an envelope surrounded plate, consisting of a stationary frame adapted to receive the plate in its interior and the envelope upon its exterior, with a portion adapted to engage and hold the plate, substantially as set forth.
9. A plate exposing device adapted for operation with an envelope surrounded plate, consisting of a stationary frame adapted to receive the plate in its interior and the envelope upon its exterior, with a relatively movable portion adapted to engage and hold the plate, substantially as set forth.
10. A plate exposing device edapted for operation with an envelope surrounded plate, consisting of a stationary frame adapted to receive the plate in its interior and the envelope upon its exterior, with a relatively movable portion provided with spring devices adapted to engage the plate and shift it with relation to the envelope, substantially as set forth.
11. A plate exposing device adapted for operation with an envelope surrounded plate, consisting of a stationary frame adapted to receive the plate in its interior and the envelope upon its exterior, with a relatively movable portion provided with spring devices adapted to engage the plate and shift it with relation to the envelope, with actuating means therefor, substantially as set forth.
12. In combination with a photographic plate and in enclosing envelope, a receiver for the plate adapted to intervene between the plate and the envelope, with means for grasping and shifting the plate, substantially as set forth.
13. In combination with a photographic plate and an enclosing envelope, a receiver for the plate adapted to intervene between the plate and the envelope when the plate is inserted, and a movable plate shifter mounted in the receiver and adapted to engage and shift the plate with relation to its envelope, substantially as set forth.
14. In a plate exposing device adapted for operation with an envelope surrounded plate, the combination of a plate receiver having a portion adapted to intervene between the plate and the envelope, a plate shifter provided with grip. ping fingers, and means for actuating the shifter, substantially as set forth.
15. In a plate exposing device adapted for operation with an envelope surrounded plate, the combination of a plate receiver having a portion adapted to intervene between the plate and the envelope, a plate shifter provided with gripping fingers, and means for actuating the shifter, with means for preventing interference of the envelope, substantially as set forth.
16. A plate exposing device comprising in combination a holder provided with plate receiving mechanism adapted to intervene between the plate and a surrounding envelope and a movable plate shifter mounted in the holder. substantially as set forth.
17. A plate exposing device comprising in combination a holder adapted to receive an envelope surrounded plate, and a plate gripping device adapted to co-operate with the plate and envelope and to positively engage the plate and permit the withdrawal and return of the envelope while at the same time protecting the plate from light, substantially as set forth.

No. 100,771. Developing Apparatus for Photow graphic Plates.
Apparell d développer pour plaques photographiques.


Jesse D. Lyon, Pittsburgh, Pennsylvania, U.S.A., 4th September, 1906; 6 years. Filed 24th April, 1906. Receipt No. 135,228 .
Claim-1. A developing apparatus consisting of a tank provided with means for recelving a photographic plate from a surrounding light proof envelope, and means co-operating with the plate and envelope adapted to exclude the light from the interior of the tank.
2. A developing apparatus consisting of a tank provided with means for receiving a photographic plate from a surrounding hight proof envelope, with means for excluding the light from the interior of the tank, substantially as set forth.
3. A developing apparatus consisting of a tank provided with a movable slide having an insertion opening, and a plate receiving shell surrounding and projecting beyond said opening, substantially as set forth.
4. A developing apparatus consisting of a tank provided with overlapping movable slides, one of said slides having an insertion opening, and a plate receiving shell surrounding sald opening, substantially as set forth.
5. A developing apparatus for photographic plates consisting of a fluid containing tank, overlapping slides mounted in the top thereof, means for excluding the light from the interior of the tank, and means incorporated with one of the slides adapted to recelve an envelope protected plate, substantially as set forth.
6. A developing apparatus for photographic plates consisting of a tank having vertical plate receiving ways, overlapping slides mounted in the top of the tank, means providing light proof bearings for sald sides, an inner and an outer shell mounted on one of sald slides, sald inner shell providing an entering opening through the slide, substantially as set forth.
No. 100,772. Denture. Donturc.


Francis Ainsworth, St. John, New Brunswick, Canada, 4th September, 1906; 6 years. Filed 25th April, 1906. Receipt No. 135,256.
Claim-1. The herein described method of forming and maintaining the contour of the lips and cheeks which consists in securing a plurality of shells to a dental plate.
2. As a new article of manufacture, a dental accessory comprising a shell.
3. As a new article of manufacture, a dental accessory comprising a shell of metal.
4. As a new article of manufacture, a dental accessory comprising a shell provided with channels.
5. As a new article of manufacture, a dental accessory comprising a shell of pliable metal.
6. As a new article of manufacture, a dental accessory comprising a shell of aluminum.
7. In combination with a dental plate, a plurallty of shells secured thereto.
8. In combination with a dental plate, a plurality of shells disposed on the plate, and a body of adhesive disposed between the shells and the plate.
9. In combination with a dental plate, a plurality of shells, some of which are superposed on the others, and a body of adhesive disposed between the plate and the shells and between the superposed shells.
10. In combination with a dental plate, a plurality of hollow members, and means for flling and securing said members to the plate.

No. 100,773. Piano Action. Action de piano.


Lewis N. Soper, Guelph, Ontario, Canada, 4th September, 1906; 6 years. Filed 17th July, 1906. Receipt No. 137,924.
Claim-1. In an upright piano action, a hammer butt provided with a projection on its upper outer corner, a jack, a spring having one end connected to the jack and extending on a curve outward and upward therefrom, and a flexible connection attached at one end to the projection on the hammer butt and connected at its other end to the upper end of the spring.
2. In an upright piano action, a hammer butt provided with a projection on its upper outer corner extending over the countercheck shank, a jack, a spring having one end connected to the upper extremity of the jack and extending outward and upward therefrom, and a flexible connection attached at one end to the projection on the hammer butt and its other end connected with the upper end of the spring.
3. In an upright piano action, a hammer butt provided with a projection extending from its outer upper corner over the countercheck shank, a jack, a spring connected at one end to the upper extremity of the jack and curving outward and upward therefrom, and a flexible connection between the projection on the hammer butt and said spring acting with a backward pull on the hammer as the latter strikes the string and then automatically relaxing sald backward pull to allow the jack to reseat itself for another stroke.

\section*{No. 100,774. Motor Oar. Char moteur.}

John M. Thurston, trustee Washington, District of Columbia, assignee of John A. Miller, Baltimore, Maryland, U.S.A.,
4th September, 1906; 6 years. Flled 4th June, 1906. Receipt No. 136,518.
Claim-1. In a safety system of the class described, the combination with a motor and its independent controlling means, of a separate safety circuit, an armature short circuit, opening and closing means for the safety circuit independent of said motor controlling means, and switch mechanism comprising means for opening and closing the motor supply circuit, and for the reverse opening and closing of said short circuit.
2. In a safety system of the class described the combination with a motor and its independent controlling means, of a motor supply circuit, speed governing means for the motor, a separate safety circuit including said speed governing means, opening and closing means for the safety circuit independent of the said motor controlling means, and means also included in the safety circuit for controlling said supply circuit and for applying a dynamic brake to the motor. 3. A safety system of the class described comprising a motor supply circuit, a normally closed safety circuit, opening and closing means included in said circult, a current in-
dicator and spark preventing means included in said circuit, and an electric switch arranged in operative relation to said

safety circuit and provided with means for opening and closing an armature short circuit for the motor.
4. A safety system of the class described comprising a supply circuit for a motor, an armature short circuit therefor, an independent field circuit for the motor, means for opening and closing said supply circuit, means for causing the reverse opening and closing of the short circult, and means for establishing the independent field circuit to the motor.
5. In a safety system of the class described, the combination with a motor and its independent controlling means, of a motor supply circuit, an armature having a plurality of circuits, one of which circuits is normally open and provided with resistance, a switch in each circuit for controlling the same independently of said motor controlling means, and means for actuating the switches.
6. A safety system of the class described comprising a motor supply circuit, a normally energized magnetic switch normally maintaining the current supply for the motor, an armature branch short circuit inciuding said switch and adapted to be closed upon the de-energization of the latter, a current retaining circuit for the motor field magnets, and means for energizing and de-energizing the magnetic switch from a remote point.
7. A safety system of the class described. comprising a motor supply circuit, an armature short circuit, an independent fluid circuit, a separate safety circuit, a switch included in said safety circuit and comprising means for opening and closing the supply circuit, for causing the reverse opening and closing of the armature short circult, and for establishing said independent field circuit for the motor, and a door or gate actuated circuit opening and closing means included in said safety circult.
8. A safety system of the class described comprising a supply circult for a motor, an armature short circuit, an independent field circuit, a separate safety circuit, motor governing means included in said safety circuit, and a switch also included in said safety circuit and comprising means for controlling all of said other circuits, and controlled itself by said governing means.
9. A safety system of the class described comprising a motor supply circuit, an armature short circuit, a current retaining branch for the field magnets of the motor, a safety circuit, a switch mechanism included in said safety circuit and comprising means for controlling said other circuits, means independent of the usual motor controlling means for opening and closing the safety circuit, and a speed governor included in said safety circuit and operatively related to said motor.
10. A safety system of the class described comprising a motor supply circuit, a safety circuit, motor governing means included in said safety circuit, a switch mechanism also included in said circuit and comprising means for opening and closing the motor supply circult, an electrically operated detent arranged in operative relation to sald govpraing means for normally holding the switch mechanism in a closed position, and motor armature short circuit connections arranged to be controlled by said detent.
11. A safety system for motor propelled vehicles having a safety closure and independent motor controlling means, the combination of a safety mechanism having a controlling device operated solely from said closure and comprising means, for opening and closing the power supply for the motor, and for simultaneousiy applying restraining means to the latter.

No. 100,775. Lamp Socket. Doutlle do lampes.


The Benjamin Electric Manufacturing Company, assignee of Reuben B. Benjamin, all of Chicago, Illinois, U.S.A., 4th September, 1906; 6 years. Filed 10th August, 1906. Recelpt No. \(138,554\).
Claim.-1. In a lamp socket, a lamp receptacle and suitable contacts therein, passageways extending through the rear of the socket and communicating with said receptacle for the entrance of the leading-in wires and a pair of blnding posts in the bottom of said receptacle consisting of screws accessible from the front of the socket, and co-operating fingers projecting into said passageway over which fingers the leading-in wires are adapted to be looped and clamped by said screws.
2. In a lamp socket, an insulating base having a lamp receiving receptacle formed therein, a metallic inclosing casing for sald base having a threaded opening at the rear end for engagement with a conduit or support, suitable contacts ir sald lamp receptacle, a pair of passageways extending through the rear of said base and communicating with said receptacles, and a pair of binding posts in the bottom of said receptacle consisting of screws accessible from the front of the socket, and overhanging fingers projecting over said passageways around which the leading-in wires are adapted to be looped and clamped by said screws.

\section*{No. 100,776. Animal Trap and Stook Loader.} Pidge d animal et charge bétail.


Charles L. Burrus, assignee of James M. Harris, both of De Sota, Missouri, U.S.A., 4th September, 1906; 6 years. Filed 3rd May, 1906. Receipt No. 135,494.
Claim.-1. An animal trap comprising spaced uprights, wings hinged to one of said uprights for movement to lie parallel to each other to form a passage therebetween or to extend in opposite directions, each of said wings having an upwardly directed ccrnection hingedly connected with the corresponding uprights, animal confining mechanism connected to and disposed between the uprights and communicating with the passage between the wings, a cover removably disposed to one end between the uprights and supported therebetween, and above the animal confining mechanism and disposed for movement of its other end into and out of engagement with the ground between the wings.
2. A portable animal trap comprising spaced uprights, wings hinged to the uprights and lying normally parallel to each other to form a passage, a cross plece secured at its ends, to the uprights adjacent to their lower ends, said cross plece having a recess in its upper edge, a slat secured at one end to one end of the cross plece and extending thereabove and in spaced relation to the adjacent uprights, a member pivoted to the other upright at one end and lying with its remaining end within the space between the slat and the first-mentioned upright, said member having a re-
cess of the cross piece, said member being movable upon its pivot toward and away from the cross piece, a second cross piece secured at its ends to the uprights above the pivoted member, a top removably disposed at one end upon the second cross piece, and a bar disposed upon the upper edges of the wings adjacent to their free ends, said bar receiving the top thereupon.
3. A portable animal trap comprising spaced uprights, wings hinged at one end to the uprights for movement to lle parallel to each other to form a passage therebetween or to extend in opposite directions, animal confining mechanism connecting to and disposed between the uprights and communicating with the passage between the wings, a cover removably disposed at one end between the uprights and supported therebetween and above the animal confining mechanism and disposed for movement of its other end into and put of engagement with the ground between the wings.

No. 100,777. Cinch Grip. Griffe de selle.


Edwin August Grushus, and Joseph S. Dewey, assignce of a half interest, both of Cedarville, California. U.S.A., 4th September, 1906 ; 6 years. Filed 4th June, 1906. Recelpt No. 136,516 .
Claim.-1. In a device of the class described, the combination of an attaching member, a hook projerted therefrom, a clamp member pivoted to the attaching member, co-operating engaging members carried by the clamp and attaching members, a girth connected with the hook of the attaching member, and a tie stop looped about the clamp and attaching members and having an end thereof passed between the engaging members of the said attaching and clamp members.
2. In a connecting device of the class described, the combination of attaching and clamp members pivotally secured at one end, a hook at the opposite end of the attaching momber, strap engaging members projected from the attaching the clamp members aforesaid, and transverse bars extending across the attaching and clamp members at a point between the strap engaging members thercof and the point of plvotal connection of said attaching and clamp members.
3. In a connecting device of the class described, the combination of a tie strap, a girth, a connection between the girth and tie strap comprising an attaching member, a clamp member pivoted to the attaching member, engaging members provided upon the clamp and attaching members aioresaid, a hook projecting from the attaching member and connccted with the girth, and transverse bars upon the attaching and clamp members and having the tie strap looped thereabout, for the purpose specified.
4. In a connecting device of the class described, the combination of a tic strap, \(\Omega\) girth, a connection between the girth and tie strap comprising an attaching member, a clamp member pivoted to the attaching member at one end thereof, engaging members provided upon the clamp and attaching members aforesaid, a hook projecting from the attaching member and connected with the girth, transverse bars upon the attaching and clamp members and having the tie strap looped thereabout, rollers mounted upon the transverse bars aforesaid, and means for limiting the movement of the clamp member away from the attaching member.

\section*{No. 100,778. Cattle Gmard. (iarle bítail.}

Wallace E. Dement, Alvin C. Crawford and James L. Scott, each an assignee of a third interest, all of Blaine, Washington, U.S.A., 4th September, 1906; 6 years. Filed 14th June, 1906. Reccipt No. 136,888.
Claim.-1. In a cattle guard, an arm pivoted to swing into vertical position, a plurality of secondary arms pivoted at one end to sald primary arm near the pivot of the same, a
flexible element coupling the free ends of all of said arms, and means for operating said primary arm to carry said

secondary arms over the center for projection by gravity into active position.
2. In a cattle guard, an arm pivoted to swing Into vertical position, a plurality of secondary arms pivoted at one end to said primary arm near the pivot of the same, a flexible element coupling the free ends of all of said arms, a vertically movable trip platform and means whereby the motion of said platform is communicated to said primary arm.
3. In a cattle guard, a rock shaft, a primary arm connected to said shaft and movable therewith, a plurality of secondary arms pivoted to sald primary arm near said shaft, a flexible element coupling the free ends of all of said arms, means for operating said shaft to carry sald primary arm into vertical position and carry said secondary arms over the center for projection into active position.
4. In a cattle guard, a rock shaft, a primary arm connected to said shaft and movable therewith, a plurality of secondary arms pivoted to said primary arm near sald shaft, a fiexible element coupling the free ends of all of said arms, a vertically movable trip platform, and means whereby the motion of said platform is communicated to said shaft.
5. In a cattle guard, a rock shaft, a support disposed adjacent to said shaft, a primary arm connected to said shaft and movable therewith and a plurality of secondary arms pivoted to said primary arm near said shaft and bearing upon said support when in open position, an arm swinging loosely upon said shaft, a flexible element connected at one end to said support and coupled consecutively to the free evds of sald loosely swinging arm, primary arm and secondary arms, and means for rotating said shaft to carry sald primary arm into vertical position, and carry said loosely swinging arm and secondary arms into active position.
6. In a cattle guard, a rock shaft having one or more cranks, a primary arm connected to said shaft and movable therewith, a plurality of secondary arms pivoted to said primary arm near said shaft, a flexible element connecting tho free ends of all of said arms, one or more vertically movable trip platforms disposed in the path of the approaching animal, and coupling means between said platforms and cranks, whereby the depression of the platforms will actuate the shaft and move the arms into active position.
7. In a cattle guard, parallel shafts mounted for rotation and provided with spaced cranks, a primary arm connected to each of said shafts, a plurality of secondary arms swinging from each of said primary arms, flexible elements coupling all the arms of each of said shafts, levers disposed in pairs and pivoted intermediately and extending beneath said shafts, coupling means between each pair of said levers, platforms movably connected to each coupled pair of said levers, counterweights at the outer ends of said levers, and slotted members upon said levers and engaglng said cranks.

\section*{No. 100,779. Induction Coil. Fil inducteur.}

Stanislaus Henry Sauve and Jacob H. Robbins, assignee of forty-nine one hundredths of the interest, both of Spokane, Washington, U.S.A., 4th September, 1906 ; 6 years. Filed 19th June, 1906. Receipt No. 137.051.
Claim.-1. In an induction coil a disconnected wiring forming part thereof for increasing the undulating current and the electro-motive force.
2. An induction coil having a false secondary or tertiary wire disconnected from the other wires of the coll.
3. An induction coil having in combination with the primary winding, two separate and distinct secondary windings, one of which is disconnected.
4. An improved induction coil comprising a plurality of wirings, an independent wiring and means co-acting with the latter for increasing the inductivity of the coil.

5. An induction coil having a false secondary wire, the extreme ends of which are disconnected.
6. An Induction coil having three separate and distinct wires or coils capable of being used interchangeably, one of the wires having its extreme ends disconnected when of the remaining wires one is connected with the line wire and the other with the battery.

上. 100,780. Fence Wire Stretcher.
Tendeur de cloture de fls de fer.


Orville Marshall Knox, Oneida, New York, U.S.A., 4th September, 1906; 18 years. Filed 12th June, 1906. Receipt
No. 136,809.
Claim.-1. A fence wire securer comprising a bracket, means for securing the bracket to a fence post, a reel carried by the bracket, means for locking the reel from retrograde rotation, and means independent of said securing means to engage the post and hold the bracket from canting under the tension of the secured wire.
2. A fence wire securer, comprising a bracket having jaws to embrace a fence post, fastening means for drawing the jaws together to clamp the post, standards carried by the bracket, a reel journalled in said standards, and a lug or shoulder on one of said standards to engage the post and hold the bracket from canting under the tension of the secured wire.
3. A fence wire securer comprising a bracket having jaws to embrace a fence post, fastening means for drawing the Jaws together to clamp the post, standards carried by the bracket, a reel journalled in said standards, and carrying a disc provided with openings, a key adapted to be fitted into Gre or the other of said openings and abut against one of the standards to hold the reel from retrograde rotation, and a lug or shoulder on the other standard to abut against the post and hold the bracket from canting under the tension of the secured wire.
4. A fence wire securer, comprising a bracket having a Dost receiving and engaging portion at the rear thereof, means co-operating with said portion for securing the bracket to a fence post, a reel carried by the front portion of the bracket above the plane of said post receiving and engaging portign, means for locking the reel from retrograde rotation, and means on the bracket between the reel and post engaging portion to engage the adjacent side of the post and hold the bracket from canting under the tension of the secured wire.

No. 100,781. Saw. Scie.


Frederick A. Wuest, Lawrenceburg, Indiana, U.S.A., 4th
September, 1906; 6 years. Filed 8th June, 1906. Receipt No. 138,713.
Claim.-1. A saw having a slidably mounted blade provided with rack teeth along one edge, and a screw having its thread engaged with said tecth for adjusting sald blade.
2. A saw comprising a handle, a back, a blade slidable in said back and having rack teeth, a worm screw having its thread engaging said rack teeth for adjusting one end of said blade, and means for clamping the other end thereof.
3. A saw comprising a handle, a back, a blade having rack teeth upon its outer end, a worm screw mounted in the outer end of said back and having its thread engaged with said rack tecth, and means for clamping the inner end of said blade.
4. A saw comprising a handle, a slotted back, a saw blade slidable in the latter and having its outer end formed with rack teeth, a worm screw journalled in the recessed outer end of said back and having its thread engaged with said rack teeth, a finger plece for operating said worm-screw, and means for clamping the inner end of said blade.
5. A saw comprising a handle formed with a recessed portion, a back consisting of two spaced members connected together and recessed at their outer ends and formed with aligning longitudinal slots at their inner ends, a guide screw ir said handle extending through said slots, a clamping bolt in said handle and extending through said slot, a blade slidable between the members of said back and having cutting teeth on its longitudinal or side edges and rack teeth on its outer end, a worm-screw in the recess in the outer end of said back and having its thread engaged with said rack teeth, and a knob or finger plece for rotating said worm screw, substantially as described.

No. 100,782. Saw. Scic.


Frederick A. Wuest, Lawrenceburg, Indiana, U.S.A., 4th September, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136.712.
Claim.-The herein described combined cosscut and rip saw comprising a blade, having crosscut teeth upon one edge thercof, rip-saw teeth upon the opposite edge thereof, one end of said blade being curved, a curved slot 10 near said end, a handle connected at its outer end to the blade by a single plvot 9 , and provided with a slot 6 in which the blade is secured, a transverse bolt passing through the handle, and through the slot 10 in the blade and provided with a head 14 which bears at one side against said blade and is seated in a socket in one side of the handle, a wing nut adjustable on the threaded end of the bolt, and a plug 16 for covering the head of the bolt in the socket, substantially as described.

No. 100,783. Gato. Barrire.


William Mark Watson, Brantford, Ontario, Canada, 4th September, 1906; 6 years. Filed 31st May, 1906. Recelpt No. 136,444.
Claim-The combination in a gate opening and closing device of the specially designed hinge I \(J\) and \(H\) H F and ryes \(D\) D together with friction roller \(E\) and the cords \(C C\) R R and the pulleys \(P\) P together with the stop \(V\), substantially as set forth and described.

No. 100,784. Musical Apparatus. Apparcil musical.


James John Walker, London, England, 4th September, 1906;
6 years. Flled 21st May, 1906. Receipt No. 136,103.
Claim-1. A music record having in combination devices adapted to control the action of a reproducer and accelerator devices variably disposed with regard to the first-named devices.
2. A music record having in combination devices adapted to control the action of a reproducer and accelerator devices the front ends of which are variably disposed with regard te the front ends of the first-named devices, for the purpose described.
3. A music record having in combination devices adapted to control the action of a reproducer and accelerator devices the rear ends of which are variably disposed with regard to the rear ends of the first-named devices, for the purpose described.
4. A music record having in combination devices adapted to control the action of a reproducer and accelerator devices. the front and rear ends of which are variably disposed with regard to one another and with regard to the front and rear ends of the first-named devices, for the purpose described.
5. A music record having in combination devices for controlling the action of a reproducer and accelerator controlling devices the front ends of which are variably disposed with regard to the front end of the corresponding one of the first-named devices.
6 In a music record the combination with each device for controlling the action of a sound producer, of a plurality of accelerator controlling devices the rear ends of which are variably disposed with regard to one another and with regard to the rear end of the corresponding one of the first-named devices.
7. A music record having in combination devices for controlling the action of a reproducer and accelerator devices the front and rear ends of which are variably disposed with regard to the front and rear ends of the first-named devices and with regard to one another, for the purpose described.
8. In automatic musical apparatus the combination with controlling members of sound emitters and power means to vary the action of said members during their operation, of a record comprising devices to actuate said members and companion expression devices to act uate sald power means.
9. In automatic musical apparatus the combination with sound emitters, members actuating said sound emitters and power means to vary the action of said members during their operation, of a record comprising devices to actuate said members and companion expression devices to actuate said fower means.
10. In automatic musical apparatus the combination of a record of music having a companion record of expression, controlling members of sound emitters, power means actuating sald members and means for first augmenting and secondly reducing sald power means during a single action of sald members.
11. In automatic musical apparatus the combination of a record of music having a companion record of expression sound emitters, controlling members for said emitters power means actuating said members and means for first augmenting and secondly reducing said power means during a single action of said members.
12. In automatic musical apparatus the combination of a record of music having a companion record of expression, a plurality of motors operatively connected with each member controlling a sound emitter and independent controlling means for each of said motors.
13. In automatic musical apparatus the combination of a record of music having a companion record of expression, sound emitters, controlling members for said emitters, a plurality of motors for each of said members and an independent governing device to be controlled by the record for each of said motors.
14. In automatic musical apparatus the combination with each member controlling a sound emitter, of a uniformly actuated motor for each of said members, a variably actuated motor for each of sald members, and means for causing the secondly-named motor to alternately retard and accelerate the motion of said member.
15. In automatic musical apparatus the combination of a record of music having a companion record of expression, sound emitters., controlling members for said emitters, a uniformly actuated motor for each of said members, a variably actuated motor for each of said members, and means for causing the secondly-named motor to alternately retard and accelerate the motion of said member, substantially as set forth.
16. In automatic musical apparatus the combination of a record of music having companion records of expression, controlling members of sound emitters, a uniformly actuated motor for each of said members, a plurality of variably actuated motors for each of said members, and means for causing the last-named motors to alternately retard and accelerate the motion of said member, substantially as set forth.
17. In automatic musical apparatus the combination of a record of music having companion records of expression, sound emitters, controlling members for said emitters, a uniformly actuated motor for each of said members, a plurality of variably actuated motors for each of said members, and means for causing the last-named motors to alternately retard and accelerate the motion of said members, substantially as set forth.

No. 100,785. Nose Ring for Animals.
Anncau pour nez d'animal.


Robert I. Teeter, Ellis. Minnesota. U.S.A., fth September. 1906; 6 years. Filed 11th Junr, 1906. Receipt No. 136,761. Claim-A device of the character described comprising a pair of curved members each having a reduced end resulting
in a shoulder having a slot therein, the extremities of each member being bevelled for engagement in the slot of the opposite member, the said member also having perforations adapted for registration with each other, and a spring secured tupon one of the members and provided with a depending lug for engaging in the perforations of both members to lock them against pivotal movement with respect to each other

No. 100,786. Space Telephony. Télóphone sans fls.


John Stone Stone, Cambridge, Massachusetts, U.S.A., 4th September, 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,657.
Claim.-1. In a system of selective electric signalling, a transmitting system comprising means for radiating a substantially continuous train of electro-magnetic signal waves, and means for varying the amplitude of said waves in accordance with the sonorous vibrations of articulate or other sounds, in combination with a receiving system comprising means for selectively absorbing the energy of said waves and means quantitatively responsive to the variations in the smplitude thereof
2. In a system of selective electric signalling, a transmitting system comprising means for radiating a practically continuous train of electro-magnetic waves of substantially constant amplitude, and means for varying the amplitude of said waves by and in accordance with the sonorous vibrations of articulate or other sounds, in combination with a receiving system comprising means for selectively absorbing the energy of said waves and means for reproducing said sounds.
3. In a system of selective electric signalling, a transmitting system comprising means for developing a practically continuous train of electrical oscillations of substantially constant amplitude, means for varying the amplitude of said electrical oscillations by and in accordance with the sonorous vibrations of articulate or other sounds, and means for impressing said electrical oscillations so varied in amplitude upon an elevated transmitting conductor, whereby a practically continuous train of electro-magnetic waves varied in amplitude in accordance with said sonorous vibrations is developed, in combination with a receiving system comprising means for reproducing said sounds.
4. In a system of selective electric signalling, a transmitting system comprising means for radiating a practically continuous train of electro-magnetic waves of definite frequency and of substantially uniform amplitude, and a variable resistance transmitter for varying the amplitude of said waves by and in accordance with the vibrations of the air accompanying vocal or other sounds, in combination with a recelving system comprising a resonant receiving circuit attuned to the frequency of said electro-magnetic waves and means included in said resonant circuit for reproducing said ounds.
5. In a system of selective electric signalling, a transmitting system comprising means for radiating a practically continuous train of electro-magnetic waves of defnite frequency and of substantially uniform amplitude, and means for varying the amplitude of sald waves by and in accordance with the sonorous vibrations of articulate or other scunds, in combination with a receiving system comprising a resonant receiving circuit attuned to the frequency of said electro-magnetic waves and means associated with sald resonant circuit for reproducing said sounds.
6. In a system of selective electric signalling, a transmitling system comprising a sonorous circuit for developing a practically continuous train of electrical oscillations of substantially constant amplitude, a variable resistance transmitter associated with said sonorous circuit for varying the amplitude of said electrical oscillations by and in accordance with the sonorous vibrations of articulate or other cunds, and means for impressing said electrical oscillations so varied in amplitude upon an elevated transmitting con-
ductor, whereby a practically continuous train of electromagnetic waves varied in amplitude in accordance with said sonorous vibrations is developed, in combination with a receiving system comprising a resonant circuit for selectively absorbing the energy of said waves, and a bolometer fine wire or strip included in said resonant circuit.
7. In a system for the transmission and reception of vocal or other sounds, including articulate speech, without the use of guiding wires, a transmitting system comprising a transmitting conductor, means for developing a substantally continuous train of electro-magnetic waves and means for modifying the amplitude of such waves in accordance with the air vibrations accompanying the sounds to be transmilted, in combination with a receiving system comprising a receiving conductor adapted to recelve the energy of such modifled waves and means for converting the energy of the electrical oscillations thereby produced in sald conductor into air waves corresponding to said sounds.
8. In a system of electric signalling, a transmitting conductor, a sonorous circult, associated therewith and adapted to develop therein a substantially continuous train of electrical oscillations of substantially constant amplitude, and a circuit containing a condenser and an inductance coil associated with said sonorous circuit, and containing means whereby its electro-magnetic constants may be varied in accordance with the air vibrations accompanying vocal or other sounds, in combination with an elevated receiving conductor adapted to absorb the energy of sald electro-magnetic waves and means associated therewith for converting the energy of the resulting electrical oscillations into sound waves.

No. 100,787. Space Tolography. Télégraphie sans fils.


John Stone Stone, Cambridge, Massachusetts, U.S.A., 4th September, 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,656
Claim.-1. In a system for developing simple harmonic electro-magnetic signal waves of definite frequency, a plurallty of sonorous circuits, each adapted to develop simple karmonic electrical oscillations of said definite frequency, means common to said sonorous circuits for simultaneously disturbing the electrical equilibrium thereof, and means associated with all of said sonorous circuits for converting the ecergy of the resulting electrical oscillations into electroradiant energy.
2. In a space telegraph transmitting system, a plurality of sonorous circuits, each adapted to develop simple harmonic electrical oscillations of the same definite frequency and all connected in parallel to a common spark gap, a radiating conductor inductively associated with all of said sonorous circuits and a source of periodically varying electro-motive force connected to sald spark gap.
3. In a space telegraph transmitting system, a plurality of scnorous circuits, each adapted to develop simple harmonic electrical oscillations of the same definite frequency, and means common to said sonorous circuits for simultaneously disturbing the electrical equilibrium thereof, in combination with an elevated transmitting conductor associated with all of said sonorous circuits.
4. In a space telegraph transmitting system, a plurality of scnorous circuits, each adapted to develop electrical oscillations the primary of a transformer, and means common to said sonorous circuits for simultaneously disturbing the electrical equilibrium thereof, in combination with an elevated transmitting conductor serlally connected with the secondary of each transformer, such secondaries being connected in parallel between the elevated conductor and earth. 5. In a space telegraph transmitting system, a plurality of sonorous circuits, each adapted to develop electrical oscillations of the same definite frequency, and each comprising a condenser and the primary of a transformer, and means
common to said sonorous circuits for simultaneously disturbing the electrical equilibrium thereof, in combination with an elevated transmitting conductor serially connected with the secondary of each transformer, such secondaries being connected in parallel between the elevated conductor and earth, and means for rendering each sonorous circuit the equivalent of a circuit having a single degree of freedom
6. In a space telegraph transmitting system, a plurality of sonorous circuits, each adapted to develop electrical osclllations of the same definite frequency and each comprising a condenser and the primary of a transformer, and means common to said sonorous circuits for simultaneously distributing the electrical equilibrium thereof. in combination with an elevated transmitting conductor serially connected with the secondary of each transformer, such secondaries being connected in parallel between the elevatid conductor and earth and each secondary being so spatially related to ts primary as to render its sonorous rircuit the equivalent of a circuit having a single degree of freedom.
7. In a space telegraph transmitting system, a plurality of sonorous circuits, each adapted to develop electrical occillations of the same definite frequency and each comprising a condenser and the primary of a transformer, and a spark gap common to said sonorous circuits for simultaneously distributing the electrical equllibrium thereof, in combination with an elevated transmitting conductor serially connected with the secondary of each transformer, such secondaries being connected in parallel between the elevated conductor and earth and each secondary constituting with Its primary a transformer having sufficient magnetic leatrage to render its sonorous circuit the equivalint of a circuit having a single degree of freedom.
8. In a space telegraph transmitting system, a plurality of closed persistently oscillating circuits, each allapted to develop electrical oscillations of the same definite frequency, means common to said persistently oscillating rircuits for simultaneously disturbing the electrical equilibrium thereof, a good radiating circuit and means for so associating said good radiating circuit with all of said persistently oscillating circuits that the mutual energy of each circuit of the system with respect to all of the interrelated circuits of the system is rendered small compared to the self energy of each circuit.
9. In a space telegraph transmitting system, a plurality of sonorous circuits, each adapted to develop simple harmonic electrical osciliations of the same definite frequency, and means common to said sonorous circuits for simultaneously distributing the electrical equilibrium thereof, in combination with an elevated transmitting conductor inductively associated with all of said sonorous circuits.
10. In a space telegraph transmitting system, an elevated transmitting conductor and means associated therewith for developing electrical oscillations of definite frequency therein, said means consisting of a plurality of sonorous circuits. each containing a condenser and an inductance coil and all connected in parallel to a common spark gap, and means for rendering the mutual energy of each circuit with respect to all of the inter-related circuits of the system small compared to the self energy of each eircuit
11. In a spaced telegraph transmitting systom, means for developing electrical oscillations of definite frequency, said means consisting of a plurality of sonorous circuits, cach adapted to develop electrical oscillations of the same definite frequency and all connected in parallel to a common spark gap, a radiating conductor associated with all of said sonorous circuits, and means for rendering the product of the inductance of each sonorous circuit by the inductanc of the radiating conductor large compared to the square of the mutual inductance between each sonorous circuit and said radiating conductor.
12. In a space telegraph transmitting system, a plurality of sonorous circuits, adapted to develop simple harmonic electrical oscillations of the same definite frequency, and means common to said sonorous circuits for simultancously distributing the electrical equilibrium thereof, in combination with an elevated transmitting conductor attuned as to its fundamental or one of its old harmonies to the aforesaid definite frequency and associated with all of said sonorous circuits.
13. In a system for developing simple harmonic electromagnetic sigual waves of deflnite frequency, a plurality of sonorous circuits, each adapted to develop simple harmonic electrical oscillations of said definite frequency, means common to said sonorous circuits for simultaneously disturbing the electrical equilibrium thereof, and a radiating conductor associated with all of said sonorous circuits.
14. In a space telegraph transmitting system, a plurality of sonorous circuits, each adapted to develop simple harmonic electrical osellations of the same definite frequency, and means common to said sonorous circuits for simultaneously disturbing the electrical equilibrium thereof, in comblnation with an elevated transmitting conductor associated with all of sald sonorous circuits.

No. 100,788. Space Tolography.
T'élégraphie sans fils.


John Stone Stone, Cambridge, Massachusetts, U.S.A., 4th September, 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,655.
Claim.-1. In a space telegraph transmitting system, an Gevated conductor system, means for developing forced electrical oscillations of definite frequency therein and a circuit associated therewith and containing such capacity grd inductance as to balance by its re-actance for persistent trains of oscillations of said definite frequency the re-actance of the rest of the elevated conductor system.
2. In a space telegraph system, an elevated conductor system, a plurality of persistently osciliating circuits associated therewith and attuned respectively to different definite frequencies, and circuits, associated with the elevated conductor and containing such capacity and inductance as to render the re-actance of the elevated conductor system zers for persistent trains of oscillations of sald defnite frequencies.
3. In a space telegraph system, an elevated conductor syslem, a plurality of persistently oscillating circuits associated therewith and attuned respectively to different definite frequencies, and means for rendering the re-actance of the elevated conductor system zero for persistent trains of electrical oscillations of said definite prequencles.
4. In a space telegraph system, an elevated transmitting conductor system, means for developing thereln forced electrical oscillations of different definite frequencies and means for rendering the re-actance of the elevated conductor system zero for persistent trains of oscillations of said definite frequencies.
5. In a space telegraph system, an elevated transmitting conductor system, a plurality of sonorous circuits associated therewith and adapted to develop therein electrical oscillations of different deflnite frequencies, and means for rendering the re-actance of the elevated conductor system zero for persistent trains of electrical oscillations of sald definite frequencies.
6. In a space telegraph system, an elevated transmitting conductor system, a sonorous circuit assoclated therewith and adapted to develop therein electrlcal oscillations of definite frequency, and a circuit associated with the elevated conductor and containing such capacity and inductance as to balance by its re-actance for persistent trains of oscillations of said definite frequency the re-actance of the rest of the elevated conductor system.
7. In a space telegraph system, an elevated transmitting conductor system, means for developing therein forced electrical oscillations of different definite frequencies and circuits associated with the elevated conductor and containing such capacity and inductance as to render the re-actance of the elevated conductor system zero for persistent trains of oscillations of said definite frequencles.
8. In a space telegraph system, an elevated receiving conductor system, resonant circuits associated therewith and attuned respectively to different definite irequencies, and means for rendering the re-actance of the elevated conductor system zero for persistent trains of electrical oscillations of said definite frequencies.
9. In a space telegraph system, an elevated receiving conductor system, resonant circuits associated therewith and attuned respectively to different definite irequencles, and circuits associated with the elevated conductor system and containing such capacity and inductance as to render the re-actance of the elevated conductor system zero for persistent trains of electrical oscillations of sald definite frequencies.
10. In a space telegraph elevated conductor system, the combination with an elevated conductor, of means connected and arranged to render the re-actance of the elevated conductor system zero for persistent trains of electrical oscillathons of a plurality of different definite frequencies.
11. In a space telegraph elevated conductor system the combination with an elevated conductor of a plurality of circuits having such capacity and inductance as to render the re-actance of the elevated conductor system zero for persistent trains of electrical oscillations of a plurality of different definite frequencles.
12. In a space telegraph elevated conductor system the combination with an elevated conductor of a plurality of parallel branch circuits each containing capacity in one branch and inductance in the other branch and being so constructed and arranged as to balance by their combined reactances for persistent trains of electrical oscillations of a plurality of different definite irequencies the re-actance of the rest of the elevated conductor system.
13. In a multiplex space telegraph system, a transmitting system comprising an elevated conductor, means for developing a multiperiodic oscillatory electric current in said elevated conductor and means associated with said elevated conductor for giving the elevated conductor system rates of vibration equal respectively to the frequencles of the simple harmonic components of said multiperiodic current.
14. In a multiplex space telegraph system, a transmitting system comprising an elevated transmitting conductor, and means for developing a multiperiodic electric current therein in combination with a receiving system comprising an elevated receiving conductor, resonant receiving circuits associated therewith and each attuned to the frequency of a different one of the simple harmonic components of said multiperiodic current and circuits, one of each of said resonant receiving circuits associated with said receiving conductor and each containing such capacity and inductance as to present, for a persistent train of electrical oscillations of the frequency to which its corresponding resonant receiving circuit is attuned, a re-actance equal and opposite to the reactance of the rest of the elevated receiving conductor system.
15. In a multiplex space telegraph system, a transmitting system comprising an elevated transmitting conductor means for developing a multiperiodic oscillatory electric current therein and means associated with said elevated conductor tor giving the elevated conductor system rates of vibration equal respectively to the frequencies of the simple harmonic components of said mulitiperiodic current in connection with a receiving system comprising an elevated receiving conductor. resonant and each attuned to the frequency of a diflerent one of the simple harmonic components of said multiperiodic current, and means assoclated with said elevated receiving conductor for giving the elevated conductor system for persistent trains of electrical osclllations of the frequencies to which the resonant recelving circuits respectively are attuned, rates of vibration equal respectively to the frequencies of said simple harmionic components of said multiperiodic current.
16. In a multiplex space telegraph system, a receiving system comprising an elevated receiving conductor, resonant receiving circuits associated therewith and each attuned to the particular frequency of the electro-magnetic waves the energy of which it is to receive, and circuits, one for each of said resonant receiving circuits, associated with said elevated receiving conductor and each containing such capacity and inductance as to present, for a persistent train of electro-magnetic waves of the frequency to which its corresponding resonant receiving circuits is attuned, a reactance equal and opposite to the re-actance of the rest of the elevated receiving conductor system.
17. In a multiplex space telegraph system, a receiving system comprising an elevated receiving conductor, resonant recelving circuits associated therewith and each attuned to the particular frequency of the electro-magnetic waves the energy of which it is to receive, and means associated with said elevated receiving conductor for giving the elevated receiving conductor system, for persistent trains of elec-tro-magnetic waves of the frequencies to which the resonant receiving circuits respectively are attuned, rates of vibraHon equal respectively to said frequencies.
18. In a multiplex space telegraph system, a receiving system comprising an elevated receiving conductor, resonant receiving circuits associated therewith and each attuned to the particular frequency of the electro-magnetic waves the energy of which it is to receive, and means associated with said elevated conductor for giving the elevated conductor system rates of vibration equal respectively to the frequencies to which said resonant receiving circuits are attuned.

No. 100,789. Space Tolography.
T'élégraphie sans fils.


John Stone Stone, Cambridge, Massachusetts, U.S.A., 4th September, 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,654.
Claim.-1. In a space telegraph receiving system, an elevated conductor system comprising an elevated conductor per se and means for giving the same a pronounced natural rate of vibration, in combination with a circuit containing capacity and inductance and adapted to balance, by its reactance for a persistent train of electrical oscillations of definite frequency, the re-actance of the rest of the elevated conductor system.
2. In a space telegraph receiving system, an elevated conductor system comprising an elevated conductor per se and a serially connected inductance and capacity for giving the same a pronounced natural rate of vibration, in combination with a circuit containing capacity and inductance and adapted to balance, by its re-actance for a persistent train of simple harmonic electrical oscillation of definite frequency, the re-actance of the rest of the elevated conductor system.
3. In a space telegraph receiving system, an elevated conductor system comprising an elevated conductor per se and and means for giving the same a pronounced natural rate of vibration, in combination with means for rendering the re-actance of the elevated conductor system zero for persistent trains of electrical oscillations of definite frequency.
4. In a space telegraph receiving system, an elevated conductor system comprising an elevated conductor per se and a serially connected capacity and inductance for giving the same a pronounced natural rate of vibration, in combination with means for rendering the re-actance of the elevated conductor system zero for persistent trains of electrical oscillations of definite frequency.
5. In a space telegraph receiving system, an elevated conductor system comprising an elevated conductor per se and means for giving the same a pronounced natural rate of vibration, in combination with means for rendering the reactance of the elevated conductor system zero for persistent trains of electrical oscillations of definite frequency, and a resonant receiving circuit, attuned to said definite frequency, associated with said elevated conductor system.
6. In a space telegraph receiving system, an elevated conductor system comprising an elevated conductor per \(8 e\) and a serially connected capacity and inductance for giving the same a pronounced natural rate of vibration, in combination with means for rendering the re-actance of the elevated conductor system zero for persistent trains of electrical oscillations of definite frequency, and a resonant receiving circuit associated with said elevated conductor system.
7. In a space telegraph receiving system, an elevated conductor system comprising an elevated conductor per se and a serially connected coil and condenser so designed that their resultant re-actance is zero for the fundamental frequency of the elevated conductor per se when isolated, in combination with a parallel branch circuit contalning capacity in one branch and inductance in the other branch and adapted to present, for persistent trains of simple harmonic electrical oscillations of definite frequency, a re-actance equal but opposite in sign to the re-actance of the rest of the elevated conductor system.
8. In a space telegraph recelving system, an elevated conductor system comprising an elevated conductor per se and means for giving the same a pronounced natural rate of vibration, in combination with n parallel branch circuit containing capacity in one branch and inductance in the other branch and adapted to balance, by its re-actance for a persistent train of electrical oscillations of definite frequency. tho re-actance of the rest of the elevated conductor system, and a resonant receiving circuit associated with said parallel branch circuit.
9. In a space telegraph receiving system, an elevated conductor system comprising an elevated conductor per ac and a pronounced natural rate of vibration, in combination with a serially connected coil and condenser for giving the same a parallel branch circuit containing capacity in one branch and inductance in the other branch and adapted to balance, by its re-actance for a train of electrical oscillations of definite frequency, the re-actance of the rest of the elevated conductor system, and a resonant receiving circult associated with the said parallel branch circuit.
10. In a space telegraph receiving system, an elevated receiving conductor system and an assoclated resonant receiving circuit attuned to the frequency of the waves the energy of which is to be received, in combination with means for giving the elevated conductor system a pronounced natural rate of vibration different from that of the waves the energy of which is to be received, and consequently different from that to which said assoclation resonant receiving circuit is attuned, and means for making the elevated receiving conductor system highly responsive to persistent trains of waves of the irequency to which said resonant circuit is attuned.
11. In a space telegraph receiving system, an elevated receiving conductor system and an associated resonant receiving circult attuned to the frequency of the waves the energy of which is to be recelved, in combination with a serially connected coll and condenser for giving the elevated conductor system a pronounced natural rate of vibration different from that of the waves the energy of which is to be received and consequently different from that to which said associated resonant receiving circuit is attuned, and a parallel branch circuit containing a condenser in one branch and an inductance coll in the other branch and adapted to balance, by its re-actance for a train of electrical oscillations of the frequency to which the associated resonant receiving circuit is attuned, the re-actance of the rest of the elevated conductor system.
12. In a space telegraph recelving system, an elevated receiving conductor system and an associated resonant receiving circuit attuned to the frequency of the waves the energy of which is to be received, in combination with a serially connected coil and condenser for giving the elevated conductor system a pronounced natural rate of vibration different from that of the waves the energy of which is to be received and consequently different from that to which said associated recelving circuit is attuned, and a conductively connected parallel branch circuit containing a condenser in one branch and an inductance coil in the other branch and adapted to balance, by its re-actance for a train of electrical oscillations of the frequency to which the assoclated resonant receiving circuit is attuned, the re-actance of the rest of the elevated conductor system.

No. 100,790. Epace Telegraphy. Télégraphic sans fils.


John Stone Stone, Cambridge, Massach usetts, U.S.A., 4th September, 1906; 6 years. Flled 13th August, 1906. Receipt No. 138,653.
Olaim.-1. In a space telegraph system, an elevated conductor, and an electrical system connected to the lower end of said elevated conductor and having for all the rates of change of the currents employed a resistance operator equal to that of the sald elevated conductor.
2. In a space telegraph receiving system, an elevated conductor, an electrical system connected to the lower end of the elevated conductor and having for all rates of change of the currents to be detached a resistance operator equal to that of sald elevated conductor, and an oscillation detector assoclated with the complete osclllator so formed at the electrical center thereof.
3. In a space telegraph system, an elevated conductor and an electrical system connected to the lower end thereof and consisting of a plurality of coils and condensers having for the wave lengths employed such capacity and inductance that the reactance of said system for the corresponding frequencies is equal to that of sald elevated conductor.

\section*{No. 100,791. Fabric Measure, Protoctor and Dirplay Apparatus.}

Mesure, apparcil de protection et de montre pour tissus.


Alfred Ebenezer Standen, Chicago, Illinois, U.S.A., 4th September, 1906; 6 years. Filed 21st June, 1906. Receipt No. 137,122.
Claim.-1. A bolt, roll or coil of fabric having a linear measuring strip rolled therein and extending from end to end thereof, said measuring strip having equally spaced transverse slits therein throughout its length through each of which said fabric passes.
2. A bolt, roll or coil of fabric having a strip provided with a linear scale reading from end to end thereof rolled therein, said strip having equally spaced transverse slits throughout its length through which the fabric passes from alternate sides.
3. The combination with a roll of fabric, of a measuring strip having a plurality of oppositely reading scales thereon and in length equal to the reading from opposite ends of the fabric, said measuring strip and fabric being arranged to colnoide and rolled into a bolt, said fabric passing at regular intervals through the strip through its length.
4. The combination with a strip of fabric of a measuring strip of a greater width and equal length rolled therewith into a bolt and having on the opposite edges thereof linear scales reading from its opposite ends and also having throughout its length equally spaced transverse slits through each of which the fabric is passed whereby said strip is capable of use in measuring purchases and determining by inspection of the scale the quantity remaining in the bolt.
5. A flexible measuring strip for the purpose speciffed comprising a measuring and protecting device marked to afford linear scales at its edges and provided throughout its length with equally spaced transverse slits adapted to receive a strip of fabric or the like therethro ugh.
6. A flexible measuring strip of a distinctive colour having a plurality of oppositely reading scales on each margin and each side thereof and having central transverse slits arranged at equal and short distances apart throughout its length.

No. 100,792. Binding Post. Potcau d renforcir.
Clyde Slusser, Charleston, West Virginia, U.S.A., 4th September, 1906 ; 6 years. Filed 2nd April, 1906. Receipt No. 134,522 .
Claim.-1. A binding post for electrical circuits consisting of a hollow tubular part of malleable metal, a spring contact maker mounted upon the exterior thereof, and a support by which the tubular part is carried, substantially a: described.
2. A binding post for electrical circuits consisting of a hollow tubular part of malleable metal, having a slot in the lower end, and a spring contact maker mounted upon the exterior thereof.
3. In a binding post for electrical apparatus the combination of a tubular part made of malleable metal, a spring

encircling the said part made of malleable metal, a spring encircling the said part and means upon the part for holding a conductor against the pressure from the spring, and a support upon which the tubular part is carried, substantially as described.
4. In an electrical binding post the combination with a tubular part made of malleable metal and having a serrated lower and a flanged upper end, of a spiral spring encircling the body of the said post, a washer interposed between the spring and flanged ends, and means upon the post for maintaining a conductor against pressure from the spring, substantially as described.

No. 100,793. Bevel Square. Equerre.


Ode Marcellus Selbert, Hartford, Connecticut, U.S.A., 4th September, 1906; 6 years. Filed 13th June, 1906. Receipt No. 136,849.
Claim. -The herein described square comprising a hollow sheath open on one side and one end and having formed thereln a slot and a recess, a blade hinged to said hollow sheath to fold into the open side of the same, a slotted segmental arm formed integral with said blade and adapted to Work through the slot in said sheath, said arm having formed thereon a scale of degrees, and a set screw arranged in sald sheath and passing through the slot in the arm to hold said arm and blade in their adjusted positions, substantially as described.

\section*{No. 100,794. Eynchronising System. Systeme synchronisme.}

Paul Ribbe, Berlin, Germany, 4th September, 1906 ; 6 years. Filed 3rd August, 1906. Receipt No. 138,384.
Claim.-1. In a synchronizing system the combination of a revoluble disc located at a transmitting station and provided upon its periphery with an armature, means for actuating said revoluble disc, an electro-magnet disposed adjacent to the path of sald armature, a line connecting said magnet with the ground, a revoluble disc disposed at a receiving station, sald last-mentioned disc belng provided
with a radial slit and also provided with an armature mounted upon its periphery, an electro-magnet disposed adjacent

to the path of said last-mentioned armature, a screen provided with a slit and disposed adjacent to said last-mentioned disc, a light controlled cell disposed at a distance from the slit of said last mentioned screen, a source of light upon the oppnsite side of said last-mentioned revoluble disc and in alignment with the slit of said last-mentloned screen, a conductor connecting said light-controlled cell with the ground, another conductor connecting said light controlled cell with the electro-magnet at the receiving station, a transmission line connecting together said electro-magnets at the different stations, and a battery for energizing said conductors and said line.
2. In a synchronizing system the combination of separate sources of power located respectively at the transmitting and receiving stations, two revoluble discs driven by said sources of power respectively and each provided with a radial slit and upon its periphery with an armature, two electro-magnets located at the respective stations and disfosed above the respective paths of said two revoluble discs, a line wire connecting said electro-magnets together, two screens disposed respectively at the transmitting and receiving stations, each screen being arranged upon one side of the revoluble disc at that station and provided with a slit adapted to register with the radial slit of the disc, two light controlled cells disposed respectively at the two stations behind the slits of said two screens, two sources of light disposed adjacent to the respective revoluble discs but upon the opposite sides thereof from said light controlled cells and in alignment with the slits of said two screens, two local circuits each disposed at one of said stations, sald circuits being connected with the coils of said two electro-magnets and said two light controlled cells, two conductors respectively connecting said two local circuits with the ground, and two switches for connecting said two elec-tro-magnets with the ground through the medium of said two local circuits.
3. In a synchronizing system the combination of two separate sources of power disposed at different stations, two revoluble discs located at sald stations and driven respectively by said two sources of power, each disc being provided with a plurality of radial slits and with a plurality of armatures mounted upon its periphery, two electro-magnets disposed above the respective paths of sald armatures, a line connecting together the colls of said two electro-magnets, two screens disposed at the respective stations, each screen being arranged upon one side of one of said discs and provided with a slit adapted to register with the radial slits thereof, two light controlled cells disposed respectively at the two stations and placed behind the slits of said two screens, two sources of light mounted respectively upon the opposite sides of said two discs and in line with the slits o? said two screens two local circuits disposed at the respective stations and connected with said two electro-magnets and said light controlled cells, two lines connecting said two local circuits with the ground, and two switches for connecting said two electro-magnets with the ground by means of said two local circuits.

No. 100,795. Hen Nest. Nid de poule.
Jephtha O'Dell, Rayville, Missourl, U.S.A., 4th September,
1906 ; 6 years. Filed 29th May, 1906. Receipt No. 136.393.
Claim.-1. In nest construction the combination of a bottom a plurality of sides pivoted to the bottom, a top and a front composed of a plurality of connected sections, for the purpose specified.
2. In nest construction the comblation of the bottom sides, a top and front composed of a plurality of sections

pivoted together, engaging means between the lowermost of said sections and the adjacent sides of the nest, and engaging means carried by the uppermost of said sections for co-operation with the top of the nest.
3. In nest construction the combination of the bottom frame, side frames pivoted to the bottom frame, a top frame plyoted to one of the side frames, engaging means between said top frames and other side frames and a front comprising a plurality of frame sections, one of said frame sections being adapted to engage the top of the nest.
4. In a nest construction the combination of the bottom frame, side frames pivoted to the bottom frame, a top frame pivoted to one of the side frames, the other of the side frames being provided with openings at the upper portion thereof. extensions projected from the top frame to enter openings in the side frames aforesaid and a front comprising a plurality of frame sections.

\section*{No. 100,796. Gate. Barrière.}


Frederick Emanuel Nelson and George Washington Tribbey, co-inventors, both of Marshfield, Oregon, U.S.A., 4th September, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,016.
Claim.-1. In combination with a swinging gate and a post of which said gate is pivotally secured, a rotatable rod mounted between said gate and post and a connection between the lower end of the rod and the gate whereby rotation of said rod will cause the gate to tilt vertically and unlatch itself.
2. In combination with a gate post a casting secured to the post near its lower end and having a vertically projecting pin. a link pivotally mounted on said pin, said link having a vertically projecting stud or pin, a rod or bar rigidly secured to one of said link and projecting upward, a casting secured to the post and surrounding the aforesaid rod near its upper end, said rod having at its upper end a miter gear. a gate the rear end bar of which is pivotally mounted at its lower end on the vertical pin of the link and passes at its upper end through an eye offset to one side from the upper casting. a stud projecting from the gate post, a bar pivotally mounted at its center on said stud. said bar having a segmental miter gear on its lower edge meshing with the gear on the aforesald rod, a weighted block mounted to slide on said pivoted bar, and means connecter with said block to cause the bar to swing on its pivot and rotate the rod having the miter gear at its upper end and through the link at lis lower end cause the gate to tilt and unlatch and swing open or closed.
3. The combination with a gate post, of castings secured to said gate post carrying the upper and lower ends of the rear bar of the gate, the lower casting provided with a vertically projecting pin and the upper casting provided with two eyes one of which is offset to one side, a link pivotally mounted on the pin of the lower casting, a vertical rod rigidly secured at its lower end to one end of sald link and projecting through one of the eyes of the upper casting and a miter gear at the upper end of said rod, a pin or stud projecting upwardly from the link, a gate the rear bar of which is pivotally mounted at its lower end on the pin projecting from the link and passing at its upper end through the offset cye of the upper casting, a horizontal stud projecting from the gate post, a slotted bar pivotally secured at its center on said stud, a segmental miter gear on the lower edge of said slotted bar, the slot of sald bar having offset branches at each end and the segmental gear on sald bar meshing with the miter gear on the upper end of the aforesald rod, a weighted block mounted to slide on said bar being guided by said slot, and means such as cables secured to sald block to cause the slotted bar to swing on its pivot to cause rotation of the rod carrying the miter gear at its upper end and to cause the link secured to its lower end to oscillate to one side of the vertical center of said rod and tilt the gate to unlatch the same and cause it to swing open or closed.
4. In combination a supporting post a gate arranged for horizontal swinging movement thereon, a bar pivotally mounted on the post and operably connected with the gate to open and close the same, means for tilting said bar zomprising a weight slidably mounted thereon, an operating mechanism for actuating said weight, and means for establishing an initial interlocking connection between the weight and bar on operation of these parts and preliminary to the sliding movement of the weight.
5. In combination a supporting post a gate arranged for horizontal swinging movement thereon, a bar plvotally mounted on the post and operably connected with the gate to open and close the same, means for tilting said bar comprising weight slidably mounted thereon, an operating mechanism for actuating said weight and a pin and slot connection between the weight and the bar for effecting interlocking of the weight with the bar on operation of these parts and preliminary to the sliding movement of the weight along the bar.
6. In combination a post a gate mounted thereon, a bar operably connected with the gate for actuation thereof. an oscillatory bar having a gear connection with the firstmentioned bar, a weight slidable longitudinally of the oscillatory bar, and means for actuating the osclllatory bar to operate the gate and effect movement of the weight longiiudinal of said oscillatory bar.
7. In combination a gate post a swinging gate mounted thereon, a rotatable rod mounted on the gate post and connected with the gate to effect tilting of the latter and opening or closing of the same, and means for rotating said rod.

No. 100,797. Guard Rail and Lantern Holdor. Garde rails ot porte-lanterne.


Daniel F. McCarthy, Waterbury, Connecticut, U. S. A.. 4th September, 1906 ; 6years. Filed 2nd June, 1906. Receipt No. 136.499
Claim.-1. A guard rall and lantern holder comprising a standard having means for supporting it in upright position, a head and a plurality of rail holders extending therefrom and adapted to support rails for the purpose set forth, one or more of said rail holders being provided with lantern holders.
2. A guard rail and lantern holder comprising a standard having means for supporting it in upright position, a head and a plurality of rall holders extending therefrom and adapted to support rails for the purpose set forth, one or more of said rail holders being provided with lantern holders and with means whereby a lantern may be secured against removal.

No. 100,798. Scafilding Bracket. Console pour échafaudage.


George Edward Humphries, Wellington, New Zealand, 4th September, 1906 ; 6 years. Filed 30th August, 1905. Receipt No. 128,056
Claim.-1. A scaffolding comprising in combination, a horizontal member having a hook at its inner end a diagonal nember connected to the horizontal member at one end and having its lower end bent outwardly, a tie bar connecting the horizontal and diagonal members, and a bolt having a rectangular hole to receive said hook of the horizontal member, substantially as specified.
2. A scaffolding bracket comprising in combination a horizontal member having a hook at its inner end a diagonal member connected to the horizontal member at one end and having its lower end bent downwardly, a notch in the lower end of said diagonal member, a tie bar connecting the horizontal and diagonal members, and a bolt having a rectangular hole to receive sald hook of the horizontal member, substantially as specified.

No. 100,799. Trolley Finder.
Recouvre trolle.


William Jasper Hinton, Danville, Illinois, U.S.A., 4th September, \(1906 ; 6\) years. Filed 11th August, 1906. Receipt No. \(138,613\).
Claim. -In a device of the character described, the combination with a trolley pole and a trolley wheel journalled thereon, of elbow bearing brackets journalled upon the trolley pole and having their ends provided with recesses, a wire engaging member detachably having its ends fitting in two of the said recesses and a yoke having its ends fitting in the other two of said recesses. and bolts carried by the arms and engaging the ends of the wire engaging member and yoke to removably secure them to the brackets.

No. 100,800. Gate. Barriers


Joseph S. Johnson, Lodi, Ohio, U.S.A., 4th September, 1906 ; 6 years. Filed 7th June, 1906. Receipt No. 136,652.
Claim.-1. A gate consisting of a series of longitudinal bars secured at their ends by means of vertical members, hinge members secured at the rear thereof, one of the hinge members consisting of a horizontal hinge rod and a pivotally mounted clutch member having its free end provided with an opening taking over said hinge rod, a wire secured to the free end of said clutch member, and extending forwardly toward the free end of the gate, and a depending operating lever pivotally secured to one of the horizontal bars and connected to the end of sald wire.
2. In a gate adapted for vertical adjustment at its free end, a hinge connecting its upper rear end to a post, and consisting of a hinge rod suitably mounted, a pivotally ncounted clutch member having its free end provided with an opening taking over and adapted to grip sald hinge rod, and means for releasing said clutch member from said hinge rod.
3. In a gate adapted for vertical adjustment at its free erd, a hinge connection consisting of a hinge bar suitably mounted, a clutch member pivotally secured to the end member of the gate and provided at its free end with an opening taking over said hinge rod, a wire or cord secared to the free end of said clutch member and extending forwardly toward the free end of the gate, and a depending operating lever pivotally secured to one of the horizontal bars and connected to said wire or cord whereby the clutch nember is released from the hinge rod.
4. In a gate adapted for vertical adjustment at its free end, a hinge connection consisting of a hinge bar suitably mounted, a clutch member pivotally secured at the upper rear end of the gate, and means connected to sald clutch member whereby the same is released from the hinge rod.
5. In a gate adapted for vertical adjustment at its free end, a hinge connection consisting of a hinge rod suitably mounted, a clutch member pivotally secured to the gate and provided with an opening at its free end taking over said hinge rod and adapted to automatically grip the same when the free end of the gate is elevated, and means connected to said clutch member whereby the same may be released from sald hinge rod.
6. In a gate adapted for vertical adjustment at its free end the combination with a pivotally mounted hinge rod, of a pivotally mounted clutch member having its free end provided with an opening taking over said hinge rod and adapted to automatically grip the same when the free end of the gate is elevated, and means connected to the free end of said clutch member whereby the same may be released.
7. In a gate adapted for vertical adjustment at its free erd, a hinge connection connecting its upper rear end to a post and consisting of a horizontal hinge rod and a pivotally mounted clutch member having its free end provided with an opening taking over said hinge rod, a wire secured to the free end of said clutch member and extending forwardly toward the free end of the gate, and an operating lever pivotally secured to the gate and connected to sald wire whereby said clutch member may be manipulated.

No. 100,801. Monld for Pig Iron.
Moule pour fonte de première fusion.


Edward Gurry, Hamilton, Ontario, Canada, 4th September, 1906; 6 years. Flled 30th June, 1906. Receipt No. 137,447.
Claim.-1. In a machine for moulding pig iron an incline track, a carriage adapted to run on the track, a transverse shaft journalled in the carriage, a spiral formed roller on the shaft and adapted to roll level floors of sand by the travel of the carriage, a channel former near to one end of the shaft, means on the roller to form a transverse bank of sand, means on the roller to form a transverse feed passage and means on the roller to form moulds for pig iron on the sides of the feed passages and communicating therewith.
2. In a machine for moulding pig iron, an incline track, a carriage adapted to run on the track, a roller journalled ir. the carriage and adapted to roll the sand floor to a level plane by the travel of the carriage and means on the roller to form level pig iron moulds.
to form In a machine for moulding pig iron, a track with downward grade, a carriage adapted to travel on the track, a roller journalled in the carriage to roll a sand floor on a level plane by the travel of the carriage.
4. In a machine for moulding pig Iron, a track of downward grade, a carriage adapted to travel on the track, a roller journalled in the carriage and adapted to roll a sand floor on a level plane by the travel of the carriage, means on the roller to form pig iron moulds in the same plans, and means on the roller to form feed passages to the end of the moulds.
5. In a machine for moulding pig iron an incline track, a carrlage adapted to run on the track, a roller journalled in the carrlage and adapted to roll the sand on a level plane by the movement of the carriage, means on the roller to form pig iron moulds in the sand and in the same plane, means on the roller to form a transverse feed passage to the moulds, means on the roller to form a bank of sand at the opposite ends of the moulds, and means on the carriage i: advance of the roller to prepare the sand floor.
6. In a machine for moulding pig iron a spiral formed rotary roller adapted to roll and travel on an incline, to roll sand on a level plane, a number of spiral moulds, or flanges, extending from the roller and following the same spiral contour, and means extending on the roller and between the moulds thereof to form a feed passage or row is the sand. to communicate with said mould.

\section*{No. 100,802. Claw Hammer and Spike Puller. \\ Marteau d dents et arrache chevilles.}

Charles Frederick Fifer, Boulder, Colorado, U.S.A., 4th September, 1906; 6 years. Filed 11th June, 1906. Recelpt No. 136,786.
Claim.-1. A tool presenting a hook formed at one end thereof, said hook terminating in a claw to engage a nail in extracting the same, a hammer head on the rear side of said hook projecting therefrom and intermediate projections between said hammer head and sald clow constituting fulcrums to rest successively upon a surface in extracting a nail or spike.
2. A tool consisting of a lever having its end bent into a hook, said hook terminating in a claw adapted to engage a nail in extracting the same, a hammer head presenting flat face projecting from the rear side of sald hook and inter-
mediate projections between said claw and said head, said projections increasing in height with the distance from said

claw end constituting fulcrums to rest upon a surface in extracting a nail or spike.

\section*{No. 100,803. Cut-off for Insulators. Détente pour isolateurs.}


Gomer Evans, Streator, Illinois, U.S.A., 4th September, 1906 ; 6 years. Filed 29th May, 1906. Receipt No. 136,387.
Claim.-The combination with a lamp provided with a wick, of a heating drum located above the same, said drum being provided with a vertical flue forming a conduit for the products of combustion ascending from said lamp, a thermostatically actuated damper located above said drum and adapted to control the passage of the products of combustion upwardly from said flue, a fluid containing receptacle located above said heating drum and provided with a vertical flue, said flue being in alignment with the flue of said heating drum and larger than said flue and said damper whereby products of combustion can pass by said damper and through said flue, a fluid actuated motor in communication with said fluid containing receptacle, and means actuated by said motor for raising or lowering the wick of said lamp.

No. 100,804. Art of Duplex Wireless Telegraphy. Art de télégraphie sans flls duplex.

Lee de Forest, New York City, New York, U.S.A., 4th September, 1906 ; 6 years. Filed 10th October, 1905. Receipt No. 129,125.
Claim.-1. The method of simultaneously sending and receiving messages at a wireless signalling station which consists in breaking the recelving circuit at the beginning of each spark of the transmitter and restoring it at the termination of each spark.
2. The method of simultaneously transmitting and recelving a message at the same station which consists in employing different spark frequencies for the transmitting and the receiving waves, and in cutting the receiving device out of its circuit during the time of each spark and restoring it in its circuit between each spark.
3. The method of simultaneously transmitting and receivIng a message at the same station which consists in employing different spark frequencies for the transmitting and the receiving waves, and in insolating the indicating device of
the receiving apparatus from the effects of waves produced by the associated transmitter during the time of duration

of each spark and in submitting the indicating device to such influences between each spark.

No. 100,805. Magnotic Dotector. Avertiseur magnétique.


Lee de Forest, New York City, New York, U.S.A., 4th September, 1906 : 6 years. Filed 10th October, 1905. Receipt No. 129,124.
Claim.-1. A magnetic detector comprising a shell of magnetizable material and a demagnetizing coil therefor.
2. A magnetic detector comprising a plurality of wires arranged as a shell and a demagnetizing coil therefor.
3. A magnetic detector comprising a shell of magnetizable material, and a demagnetizing coll surrounding the same.
4. A magnetic detector comprising a magnetizable shell and demagnetizing colls both within and without sald shell.
5. A magnetic detector comprising a shell composed of parallel wires, and a demagnetizing coil both within and without sald shen.
6. A magnetic detector comprising a magnetizable shell and a demagnetizing coil both within and without said shell, one of said colls being adapted for connection with the ancenna and the other with the ground.
7. A magnetic detector comprising a magnetizable shell and a plurality of demagnetizing colls adapted for connection with the antenna and earth in parallel.
8. A magnetic detector comprising a magnetizable material and a demagnetizing coil embedded therein.
9. A magnetic detector comprising a magnetizable material, and a plurality of demagnetizable coils embedded therein.
10.A magnetic detector comprising a magnetizable materlal and a plurality of demagnetizing coils embedded therein and adapted for connection with the antenna inparallel.
11. A magnetic detector comprising a magnetizable material and a plurality of nested demagnetizing coils alternating therewith.
12. A magnetic detector comprising a magnetizable material and a plurality of nested demagnetizing colls adapted for connection with the antenns in parallel.
13. A magnetic detector comprising a series of nested demagnetizing colls and magnetizable wires forming layers alternating with said colls.
14. A magnetic detector comprising a series of nested demagnetizing coils and steel wires forming layers alternat ing with the colls.
15. A magnetic detector comprising a plurality of independent demagnetizing coils nested together and steel wires forming layers alternating with the coils, said coils being adapted for parallel connection with the antenna.
16. A magnetic detector comprising a. plurality of demag netizing colls bundled together nad adapted for parallel connection with the antenna, and magnetizable cores for sald coils.
17. A magnetic detector comprising a plurality of demagnetizing coils bundled together and adapted for parallel connection with the antenna, magnetizable cores for said coils, and a signal coil common to all the demagnetizing coils.
18. A magnetic detector comprising a plurality of demagnetizing coils, magnetizable cores therefor, and a signal coil common to all the demagnetizing coils.
19. A magnetic detector comprising a plurality of demagnetizing coils, magnetizable cores therefor, a signal coil and a remagnetizing coil both common to all the demagnet izing coils.
20. A magnetic detector comprising a plurality of demagnetizing colls, bundled together, cores therefor, and a signal coil common to all the demagnetizing colls.
21. A magnetic detector comprising a plurality of demagnetizing coils bundled together, cores therefor, a signal coil common to all said demagnetizing colls and means for automatically remagnetizing the cores.
22. A magnetic detector comprising a series of magnetizable cores adapted to be bundled together, individual means for demagnetizing said cores by the aerially received im pulses, and a common remagnetizing means for all of said cores.
23. A magnetic detector comprising a series of magnetizable cores adapted to be bundled together, individual means for demagnetizing said cores by the aerially induced impulses, and automatic means for remagnetizing said cores.
24. A magnetic detector comprising a plurality of magnetizable cores, and independent means for demagnetizing each of said cores.
25. A magnetic detector comprising a plurality of magnetizable cores, means for independently demagnetizing each core, and a common remagnetizing means for all cores.
26. A magnetic detector comprising a plurality of mag netizable cores, means for independently demagnetizing each core, a signal coil common to all cores, and means for remagnetizing said cores.
27. The combination with a plurality of separated antennae, a magnetic detector for each antenna, and signal coils for said detectors connected in series.
28. The combination with a plurality of separated antennae, a plurality of magnetic detectors comprising solenoids and having thelr cores connected each with its respective antenna, the colls of said solenolds being connected in series with a source of variable electro-motive force, and signal cores for said detectors connected in series. 29. A magnetic detector comprising a plurality of demagnetizing coils and cores in parallel with the same atenna and operative upon the same signalling instrument
30. The combination of a plurality of groups of demagnetizing colls and cores, an antenna for each group, remagnetizing coils and signal operating coils, one for each group and each being in series with the other colls of like kind.

\section*{No. 100,806. Protector for High Frequency Apparatus.}

\section*{Protecteur pour appareil d haute fréquence.}

Lee de Forest, New York City, New York. U.S.A., 4th September, \(1906 ;{ }^{6}\) years. Filed 10 th October, 1905 . Receipt No. 129,12s.
Claim.-1. The combination in an apparatus, a portion of which is subject to high frequency electrical surgings of an earth connection employing therein a condenser and located between the portion which is subject to said surgings and other portions of the apparatus.
2. The combination in an apparatus, a portion of which is subject to high frequency electrical surgings of a high tension transformer, a primary source of electromotive force and an earth connection with each side of the circuit between said primary of electromotive force and the transformer and containing a condenser in the connection with each branch of the circuit.
3. In an apparatus a portion of which is subject to highfrequency electrical surgings in combination, a generator, a transformer, leads connecting said parts, a choke coil in each lead between the generator and transformer and an earth connection through a condensoi for each lead between said choke colls and the transformer.
4. In an apparatus a portion of which is subject to highfrequency electrical surgings, in combination, a generator, a

transformer, leads connecting said parts and means connected with said leads and means connected with said leads and adapted to shunt high frequency back-surgings from said transformer off to earth.

No. 100,807. Fruit Ladder. Echelle à fruits.


John Clark, Tallmadge, Michigan, U.S.A., 4th September, 1906; 6 years. Filed 1st August, 1906. Receipt No. 138,319.
Claim,-1. In combination with the standards, steps, legs and top of a step ladder, loops formed in the top and hooks secured to the tops of the legs forming a universal joint between the two and a flexible brace secured at one end to the top of the ladder thence passing out and through the legs and back to and secured to the standard of the ladder a short distance down from the top, substantially as and for the purpose set forth.
2. In combination with a step ladder, a top having loops, legs having hooks arranged to engage said loops, flexible braces connecting the ladder and legs, loops attached to the a short distance below the top, in position to be engaged by the hooks on the legs, securing appliances above said loops securing the ladder and the legs and temporary feet secured to the legs.
3. In a step ladder, the step, standard and legs, a top secured to the standards and having loops, hooks on the legs in position to engage the loops, loops on the standards below the tops and in position to be engaged by the hooks on the legs reversing the position of the legs means for holding the legs rigidly to the standards and temporary steps interlocked with the legs, substantially as and for the purpose set forth.

\section*{No. 100,808. Shoe Sewing Machine.}

\section*{Machine à coudre les chaussures.}

John Callahan, Lynn, Massachusetts, U.S.A., 4th September, 1906; 6 years. Filed 21st May, 1906. Receipt No. 136,108.

Claim.-1. In a shoe sewing machine the combination of a sole support, stitching mechanism operating transversely to the working face thereof, and a presser foot and an upper stretching device opposed to sald sole support.
2. In a shoe sewing machine the combination of an upper stretching device formed with a welt guide, and mechanism for stitching the welt and upper to the shoe sole.

3. In a shoe sewing machine the combination of an upper stretching and pressing device shaped to conform to the crease between the last and sole of a lasted shoe and arranged to enter such crease, means to impart a feed movement thereto, and stitching mechanism.
4. In a shoe sewing machine the combination of an upper stretching and pressing device formed with a welt guide, means to impart a feed movement to said device, and mech: anism for stitching the welt and upper to the shoe sole.
5. In a shoe sewing machine the combination of a work plate, a member opposed thereto and shaped to conform with the crease between the last and sole of a lasted shoe. said member having a welt guide, and mechanism for stitching the welt and upper to the sole.
6. In a shoe sewing machine the combination of a work plate, a member opposed thereto shaped to conform with the crease between the last and sole of a lasted shoe and arrangêd to enter such crease, means for imparting a workfeeding movement to said member, and stitching mechanism.
7. In a shoe sewing machine the combination of a work support, an upper stretching member and a presser both cooperating therewith, and stitching mechanism operating between said member and presser.
8. In a shoe sewing machine the combination of a work support, a presser having an automatic movement toward and from the same, an upper stretching and pressing member co-operating with said work support, mechanism timed to impart a work feeding movement to said member while the presser is away from the work support, and stitching mechanism.
9. In a shoe sewing machine the combination of a work support, an upper stretching and pressing member co-operating therewith, mechanism for imparting movements to said member both toward and from the work support and longtudinally thereof, and stitching mechanism.
10. In a shoe sewing machine the combination of a convex work support, stitching mechanism, an upper stretching and pressing member, and mechanism for causing said member to automatically move toward the work support, then slightly away therefrom and longitudinally of the work support to feed the work and subsequently to retract.
11. In a shoe sewing machine the combination of a convex work support, stitching mechanism, an upper stretching and pressing member, and mechanism for causing said member to automatically move toward the work support, then slightly away therefrom and longitudinally of the work support while the needle pierces the work, and subsequently to retract.
12. In a shoe sewing machine the combination of a work support, an automatic presser foot opposed thereto, stitching mechanism having a lateral movement to feed the work, and an upper stretching and pressing device opposed to said work support and having a lateral work feeding movement coincident with that of the stitching mechanism.
13 In a shoe sewing machine the combination of stitching mechanism including a needle and an awl, the latter having a lateral movement to feed the work, a work support, and as upper stretching and pressing member having a movement toward and from said work support and a lateral movement coincident with that of the awl for feeding the work.
14. In a shoe sewing machine the combination of a work support, stitching mechanism, and two work pressing devices opposed to said support, one of which presses the work while the other releases it and vice versa.
15. In a shoe sewing machine the combination of stitching mechanism, a work support, a presser foot having an automatic movement toward and from the work support to alternately press and release the work, and an upper stretching and gripping member opposed to said work support and having a movement toward and from the work support to alternately press and release the work, said member being in pressing position when the presser foot is in releasing position and vice versa.
16. The combination of a work support, a presser, operating mechanism connected with said presser throughout the work approaching movement of the latter, and means actuable by the operator for disconnecting said presser from its operating mechanism.
17. The eombination of a work support, stitching mechanism, presser operating mechanism, a presser disconnectible from said operating mechanism through the agency of the operator, and provisions for automatically re-connecting said presser with its operating mechanism by the movement of the latter.
18. The combination of a work support, a presser, operating mechanism therefor disconnectible from the presser yielding means tending to hold said mechanism and presser in operative connection, and means under the control of the operator for disconnecting said mechanism and presser.
19. The combination of a work support, a presser, operating mechanism therefor disconnectible from the presser, yielding means tending to hold said mechanism and presser in operative connection, means under the control of the operator for disconnecting said mechanism and presser, and provisions for retaining the same out of operative connection except when they occupy a certain predetermined relation to each other.
20. The combination of a work support, a presser, a member connected thereto having an engaging portion operating mechanism for the presser comprising in part a reciprocable member having a complemental engaging portion arranged to connect with said first-named engaging portion, and means actuable by the operator for disconnecting said engaging portions whereby the presser is disconnected from the operating mechanism.
21. The combination with a work support, a presser, member connected thereto, and operating mechanism for the presser comprising in part a reciprocable member, one of said members having a recess and the other a projection arranged to enter the recess and engage the sides thereof.
22. The combination of a work support, a presser, a member connected thereto, operating mechanism for the presser comprising in part a reciprocal member, one of said members having a recess and the other a projection arranged to enter the recess and engage the sides thereof, and means actuable by the operator for separating said projecting from the recess to disconnect the presser from the operative mechanism.

No. 100,809. Frame for Printing Machines.
Cadre pour machines à imprimer.


Summer Brown, London, England, 4th September, 1906; 6 years. Flled 15th May, 1906. Receipt No. 135,937.
Olaim.-1. In combination with a rotary duplicator or printing machine fitted with an automatic feeding board, a
detachable frame formed with a front stop and resting upon the top sheet of the paper to be printed the widened opening kehind said stop, and means for securing said frame to the feeding board in the way and manner described.
2. In combination with a rotary duplicator or printing machine a frame having a stop, the height of which is automatically adjusted by the number of sheets of paper and maintained by the sinking of the frame as sald sheets are fed forward in the way and manner described.
3. In combination with a rotary duplicator or printing machine having an automatic feeding board, a detachable frame having a front stop and additional bars 'b and resting on the top sheet of the paper to be printed and being also provided with an opening behind said stop and with means for securing said frame to the feeding board, substantially as set forth.

No. 100,810. Animal Weaner. Appareil à sevror.


Mary Wilhelmina Brender, Allegan, Michigan, U.S.A., 4th September, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,641.
Claim.-1. The combination of a frame comprising a central longitudinal bar and transverse curved members adapted to embrace the face of the animal, means for securing the frame in place comprising suitable straps and buckles, a spring attached to the frame and extending outward and slanting downward therefrom, and spikes attached to the flexible end of the spring.
2. The combination of a frame comprising a central longitudinal bar and two curved transverse members attached thereto and adapted to embrace the face of an animal, a spring adjustably attached to the frame and extending in a curve outward and downward therefrom, spikes attached to the lower end of the spring, and means for securing the frame in place comprising a strap to extend around the neck of the animal, straps extending from the frame to said strap and means for adjusting the length of said straps.
3. The combination of a frame comprising a central longitudinal bar and an upper and lower transverse curved member, each adapted to embrace the face of an animal and each having openings in their respective ends, a spring adjustably attached to the frame, lateral extensions on the end of the spring, spikes rigidly supported by the extensions, a strap to extend around the neck of the animal and straps attached to the upper transverse member of the frame and crossed to extend beneath the jaw of the animal and thence extending through openings in the lower transverse member and from thence extending through the upper member and to the neck strap and attached thereto, and means for adjusting the length of said straps.
4. The combination of a frame comprising a longitudinal bar and upper and lower transverse curved members, a neck strap to extend around the neck of the animal, a strap extending from the upper part of the neck strap to the upper end of the bar and adjustable for length and straps extending through openings in the respective ends of the transverse members, said straps being crossed to extend beneath the jaw and thence extended through the upper member and to the neck strap and attached thereto, and means for adjusting the length of said straps.
5. In combination with a frame comprising a longitudinal bar and upper and lower curved members having openings in their respective ends, a strap to extend around the neck of the animal, and two straps attached to the respective ends of the upper member and thence crossed and passed through openings in the lower member and thence extending through openings in the upper member and thence extended to the neck strap attached thereto, buckles to adjust the length of said strap and a strap extending from the upper part of the neck strap and attached to the upper end of the irame.
6. A frame comprising a longitudinal bar and upper and lower transverse curved members having openings in their respective ends, a neck strap to surround the neck of the animal, a strap attached at its respective ends to the upper part of the neck strap and spaced apart having its middle portion connected to the upper end of said bar, a buckle for adjusting the length of said straps and straps connecting the neck strap and the respective ends of the curved members, said straps being crossed and slidable in the openings in said members.
7. The combination of a frame comprising a longitudinal bar and an upper and lower transverse curved member having openings in their respective ends, a ring adjustably attached to said frame and extending in a curve outward and downward therefrom, lateral extensions to the spring, spikes projecting inward from the extensions, a neck strap, a strap attached to the upper part of said-bar and to the neck strap, two straps attached to the respective ends of the upper members thence extending downward and crossed and inserted in the openings of the lower member and thence extended to the upper member and through the opening of the same and thence extended to the neck strap and attached thereto and buckles for adjusting the said straps.
8. The combination of a rigid frame adapted to fit and embrace the face of an animal, means for securing the frame in place on an animal, a spring attached to the lower end of the frame and extending in a curve and outward therefrom and slanting downward relative to the frame and spikes attached to the movable end of the spring and inclined inward and downward therefrom.

No. 100,811. Cooler for Electric Generators.
Réfraichissoir pour générateur.


Benson Bidwel, Chicago, Illinois, U.S.A., 4th September, 1906;
6 years. Filed 10th August, 1906. Receipt No. 138.581.
Claim.-1. In a dynamo-electric machine a hollow partitioned shaft, a circular tube or cooling cylinder in proximity to the core of the armature of said machine, branch pipes connecting said cooling cylinder with the aforesaid hollow shaft and means for forcing a cooling a fluid through said shaft and tubes, substantially as described.
2. Ina dynamo-electric machine a hollow partitioned shaft having an armature mounted thereon, tubes connecting said shaft with a cooling reservoir, a turbine wheel disposed near the entrance of said shaft for drawing the cooling fluid therein, branch tubes leading from said hollow shaft, said tubes disposed in proximity to the armature discs, means for forcing the cooling fluid through said branch tubes and back in to the hollow shaft and means for returning it to the cooling reservoir, substantially as described.
3. In a dynamo-electric machine a hollow partitioned shaft, propellor wheels secured in said shaft upon either side of the partition, substantially as described.
4. In a dynamo-electric machine a hollow partitioned shaft, propellor wheels secured in said shaft upon either side of the partition, an armature mounted on said shaft, a cooling cylinder disposed in proximity to the discs of said armature, and branch tubes forming communication between said cooling cylinder and shaft, substantially as described.
5. In a dynamo-electric machine a hollow partitioned shaft, one end of said shaft connected with the cooling chamber of a refrigerating apparatus, an armature mounted upon the aforesaid hollow shaft, cooling cylinders disposed in close proximity to the discs of said armature, branch tubes connecting said cooling cylinders with the hollow shaft, means for drawing the cooling fluid into said shaft at one end and means for discharging it into a return pipe at the opposite end, substantially as described.
6. In a dynamo-electric machine a hollow partitioned shaft, having bevelled swivel joints at elther end thereof, propellers
secured in said shaft and means for connecting said shaft with the cooling chamber of a refrigerating apparatus, substantially as described.
7. In a dynamo-electric machine an armature mounted upon a hollow partitioned shaft, a cooling cylinder mounted in proximity to the periphery of said armature, branch tubes connecting said cylinder with the hollow shaft and means for connecting said shaft with the cooling chamber of a refrigerating apparatus, substantially as described.
8. In a dynamo clectric machine an armature mounted upon a hollow partitioned shaft, said shaft connected with the cooling chamber of a refrigerating apparatus, cooling coils disposed in proximity to the discs of said armature and having communication with said hollow shaft, means for forcing a cooling fluid into said cooling coils and menas for withdrawing it therefrom, substantially as described.
9. In a device of the class described the combination of a dynamo-electric machine with a refrigerating apparatus comprising a cooling tank, cooling coils passing through said tank, and a cylinder having connection with said cooling coils, substantially as described.
10. In a device of the class described the combination of a dynano-electric machine with a refrigerating apparatus comprising a cooling tank, cooling coils passing through said tank, and a cylinder having connection wih said cooling colls, substantially as described.
11. In a device of the class described the combination of a dynamo-electric machine with a refrigerating aparatus comprising a cooling tank, a cylinder containing a refrigerating fluid adapted to pass through said coils and a compression and condensing apparatus adapted to condense and return the refrigerating fluid to the cylinder after it has passed through the cooling coils, substantially as described.
12. In a device of the class described the combination of a dynamo-electric machine, a hollow partitioned shaft upon which the armature of said machine' is mounted, stationary propeller wheels disposed within said shaft, bevelled swivel joints at one or both end of said shaft, pipes or tubes connecting said shaft with a reservoir containing cooling gas, substantially as described.
13. In a device of the class described the combination of a dynamo-electric machine, a hollow partitioned shaft upon which the armature of said machine is mounted, grooved abutments formed upon the inside of said hollow shaft a short distance from the ends thereof, said shaft being bevelled from said abutments to the end thereof, a bevelled swivel joint having grooves upon the inner end thereof which are adapted to interlock with the aforesaid grooved abutments to form an alr tight joint, substantially as described.
14. In a device of the class described the combination of a dynamo-electric machine with a hllow partitioned shaft upon which the armature of said machine is mounted, cooling coils disposed in proximity to said armature, a grooved abutment near the end of said shaft, a bevelled swivel joint having grooves upon the inner end thereof adapted to Interlock with the grooves in said abutment, said point having connection with a reservoir containing a cooling gas which is adapted to pass through the aforesaid shaft and cooling coils, substantially as described.

No. 100,812. Wireless Telegraphy Recoiving Apparatus.
Réccpteur pour télégraphie sans fils.


Alessandro Artom. Turin. Italy, 4th September. 1906; 6 years. Filed 14th April, 1906. Receipt No. 134,981.
Claim.-1. A recelver for circularly or elliptically polarized electro-magnetic waves, comprising aerials angularly disposed to each other, an electro-magnetic wave detector and means to operate and influence the detector, sald means including a device to eliminate the actlon of waves not polarized circularly or elliptically on the detector, substantially as described.
2. In a receiver for elliptically or circularly polarizedd electro-magnetic waves, aerials angularly disposed to each other, an electro-magnetic wave detector, means to eliminate the action of waves not polarized circularly or elliptically, said means in inductive relation to the detector, substantially as described.
3. In a receiver for elliptically or circularly polarized elec-tro-magnetic waves, the combination with grounded aerials angularly disposed to each other, of means to eliminate the action of waves not polarized circularly or elliptically, and a receiving instrument controlled by induced oscillation from said means, substantially as described.
4. In a receiving station for circularly or elliptically polarized electro-magnetic waves the combination with grounded aerials angularly disposed to each other, of primary coils, of a transformer between the ends of the aerials angularly disposed to each other and the ground, said coils arranged to be transversed by oscillations differing in direction, and a secondary coil in inductive relation thereto, said primary coil forming part of a circuit controlling a receiving instrument, substantially as described.
5. In a receiving station for circularly or elliptically polarized electro-magnetic waves the combination with a pair of grounded aerials angularly disposed to each other, ot a primary coil inserted between the ground and each aerials, said coils in axial alignment, a secondard coil in inductive relation to the primary coils, said primary coll forming part of a suitable circuit controlling a receiving instrument, substantially as described.
6. In a receiver for circularly or elliptically volarized elec-tro-magnetic waves the combination with a pair of grounded uerials angularly disposed to each other, of a primary coil inserted between each aerial and the ground and a secondary coil in inductive relation to the primary colls and all of the coils in axial alignment, said secondary coil forming part of a suitable electric circuit controlling a receiving instrument. substantially as described.
7. The combination with a pair of grounded aerials angularly disposed to each other, of a closed circuit in inductive relation to the grounded circuit of each aerial, each of sald clsed circuits containing a capacity and a primary coll, the two primary colls of the closed circuits arranged to carry oscillations in opposite directions, and a secondary coil in adjustable inductive relation to both primary coils and forming part of a suitable circuit controlling a recelving instrument, substantally as described.
8. The combination with two grounded aerials angularly disposed to each other, of a primary coll between each aerial and the ground, an ohmical resistance and a capacity in parallel with each coil, sald colls arranged to carry oscillations in opposite directions, and a secondary coil in inductive relation to the primary colls and forming part of a suitable circult controlling a receiving instrument, substantially as described.
9. The combination with two grounded aerials angularly disposed to each other, of a primary coil between each aerial and the ground, an ohmical resistance capable of being varied, and a capacity also capable of being varied in parallel with each coil, said coils arranged to carry oscillations in opposite directions and a secondary coll in inductive relation to both primary colls and forming part of a suitable circuit controlling a receiving instrument, substantially as described.
10. The combination with a pair of aerials angularly disposed to each other, of a primary coil connected to each aerial and said primary coils connected together and grounded, said colls arranged to be traversed by oscillations in opposite directions, a closed circuit containing a source of electricity, a detector of electro-magnetic waves, a translating device and a secondary coil, sald secondary coil in inductive relation to both of the primary coils, an Independent circult closed by the translating device and a receiving instrument in said Independent circuit, substantially as described.
11. The combination with a pair of aerials angularly disand grounded, a closed circuit, a battery, a conerer, an aerial and said primary colls wound in opposite directions posed to each other, of a primary coil connected to each and grounded. a closed circuit, a battery, a coherer, and electro-magnet and a secondary coil all in series in said circuit, said secondary coil in inductive relation to both of the primary coils, a normally open circuit containing a receiving instrument, said circuit closed by the electro-magnet, substantially as described.

\section*{No. 100,813. Boat. Bateau.}

Fortunat Audet, St. Jean Deschalllons, Quebec, Canada, 4th September, 1906; 6 years. Filed 9th May, 1906. Recelpt No. 135,718.
Claim.-1. In a paddle wheel the combination comprising a bub, spokes carried by the hub, pivotally supported blades
on the hubs, rods connected with the blades, a shaft disposed transversely of the wheel and pivotally connected with the

rods and provided with cranks on its ends, rollers on the cranks, and plates fixed at each end of the shaft and provided with channels in which the rollers are adapted to ride.
2. In combination with a boat hull having paddle boxes secured thereon, a transverse driven shaft, paddle wheels secured to the opposite end of the driven shaft, each comprising the combination of a hub haviug a casing on its opposite ends provided with openings therein, spokes carried by the hub, rockable blades supported by the spokez shafts provided with crank portions disposed in said upenings, rods connecting the shafts and connected with the rockable blades, rollers on the crank portions of the shaft, plates secured to each side of the boat and to each o. the paddle boxes, and provided with channels in which said rollers are adapted to ride.
3. In combination with the hull of a boat, a main shaft provided with crank portions, paddle wheels secured to the outer end of the main shaft, links secured to the crank portions of the main shaft and provided with collars, levers disposed through the collars, hooked plates secured to one end of the levers, foot plates secured to the opposite ends of the lever, seats secured to the hull adjacent the ends of the levers, and a balance wheel disposed centrally of the hull and connected with the main crank shaft.
4. In combination with the hull of a boat, a main shaft, paddle wheels secured to the ends of the shaft, means for driving the shaft, seats adjacent the driving means, a framework disposed centrally of the driving means and provided with a steadying handle adjacent one side, a steering rod carried by the opposite side of the framework and provided with a hand wheel, a bevelled pinion on the end of the steering rod, a framework supported adjacent the lower end of the steering rod, a shaft carried by the framework, a bevelled gear in mesh with the bevelled pinion on sald shaft, a winding drum on the shaft, and a balance wheel connected with the main shaft and disposed centrally of the hull.
5. In combination with the hull of a boat, a main shaft, means for driving the main shaft, paddle wheels carriedby the ends of the main shaft, a sprocket wheel on the main shaft, a chain disposed over the sprocket wheel, a second sprocket wheel adapted to receive the chain, a countershaft adapted to support the second sprocket wheel, a balance wheel disposed on the countershaft centrally of the hull, and pumping mechanism adapted to be actuated by the countershaft.
6. In combination with the hull of a boat, a main shaft, means for driving the main shaft, paddle wheels carrled by the ends of the main shaft, a sprocket wheel on the main shaft adapted to support the second sprocket wheel, a main shaft. a chain disposed over the sprocket wheel, a second sprocket wheel adapted to recelve the chain, a countershaft adapted to support the second sprocket wheel, a balance wheel disposed on the countershaft centrally of the hull, an eccentric on the countershaft. a strap over the eccentric, a rod on the strap, a pump adapted to be actuated by the rod, a ratchet secured on the countershaft, an annulus carried: bv the eccentric, and a spring-pressed pawl adapted to engage the ratchet and cause rotation of the eccentric.

\section*{No. 100,814. Treadle. Pédale.}

Stanislas Denis Bachaud, Coaticook, Quebec, Canada, 4th September, 1906. 6 ycars. Filed 4th December, 1906. Receipt No. 130,646.
Claim.-1. In combination with a table a pair of sleeves having lugs secured to the table, a spring on one of the lugs, and a treadle having projections disposed in the sleeves and provided with a groove in one of the projections adapted to be engaged by the spring.
2. In combination with a table a treadle frame, means for removably securing the frame to the table, sald frame com-

prising standards, and a horizontal member pivoted to one of the standards, and means for locking the horizontal member agalnst movement.
3. In combination with a table a treadle frame, means removably securing the frame to the treadle, said frame comprising standards and a horizontal member pivoted to the standards and provided with a bent free end, and means for locking the horizontal member against movement.
4. In combination with a table a treadle frame, means for fremovably securing the treadle frame to the table, said frame comprising standards and a horizontal member pivoted to the standards, and a spring secured to the horizontal member and adapted to engage one of the standards.
5. In combination with a table a treadle frame, means for removably securing the treade frame to the table, said frame comprising standards and a horizontal member pivoted to the standards, a spring secured to the horizontal member and adapted to engage one of the standards, a treadle carried by the horizontal member, a driving wheel carried by the standards and a connection between the treadle and the triving wheel.

No. 100,815. Wire Fence Stay.
Etai pour clôtures de fl de fer.


Theodore M. Connor, Kokomo, Indiana, U.S.A., 4th September, \(1906 ; 6\) years. Filed 7th September, 1905. Receipt No. \(128,248\).
Claim.-In a wire fence the combination with the stringers or longitudinal wires thereof, of stay wires each having at its ends colled portions with spaced apart turns or limbs, one such coiled portion having a bowed or Uportion arranged parallel to the general or longitudinal plane of said colled portion and intermediately of the lastnamed portion and the stay proper, sald U-portion interJocking with and passing behind the opposite stay. and laterally of the longitudinal wire or stringer and said turne or lims fitting one between the other.

No. 100,816. Apparatus for the Distribution of
Apparedl pour la distribution du petit lait, ou lait foromb.


John Danlel, Cambria, Wisconsin, U.S.A., 4th September, 1906; 6 years. Filed 18th May, 1906. Receipt No. 136,046.
Claim.-1. A whey or skimmed milk delivery apparatus comprising a tank, a pump having its suction end adjacent to the bottom of the tank, a hose connected to the suction end of the pump and a float in connection with the free end of the hose.
2. A whey or skimmed milk delivery apparatus comprising a tank, a pump having its suction end adjacent to the bottom of the tank, a horse connected to the suction end of the pump, a float in connection with the free end of the hose, a receiving reservoir at the discharge end of the pump and a discharge pipe having a stop-cock and hose coupling in connection with the receiving reservoir.

No. 100,817. Gas Stove and Radiator.
Poĉle à gas et calorifère.




Florente De Grauwe, Antwerp, Belgium, 4th September, 1906; 6 years. Filed 21st April, 1906. Recelpt No. 135,134.
Claim.-1. In a gas stove of the class described the combination with the main reflector, the upper substantially horizontal reflector and the gas burner of two slde boxes, means for heating the hot combustion gases from the burner into said boxes, suitable partitions in the latter dividing the same into separate compartments, horizontal pipes leading from end to said compartmentsf and suitable discharge passages leading from each compartment, substantially as set forth.
2. In a gas stove of the class described the combination with the main reflector, the upper substantially horizontal reflector and the gas burner, of two side boxes, an opening in the inner wall of each box and in the bottom part thereof for the entrance of the hot combustion gases, a substantlally horizontal partition in the right hand side box whereby the latter is divided into upper and lower compartments, a substantly vertical partition in the left hand side box whereby the same is divided into right and left compartments, suitable heating pipes leading from end to the several compartments of the boxes to uniformly distribute the heat, and sultably discharge passages leading from the upper part of each side box, substantially as described.
3. In a gas stove of the class described the combination with the main reflector, the upper substantially horizontal reflector and the gas burner, of two side boxes, an opening in the inner wall of each box and in the bottom part thereof for the entrance of the hot combustion gases, a substantially horizontal partition in the right hand side box whereby the latter is divided into upper and lower compartments, a substantially vertical partition in the left hand side box whereby the same is divided into right and left compartments, a horizontal obliquely arranged pipe leading from the lower compartment of the right hand side box into the left compartment of the right hand side box, a horizontal obliquely arranged pipe extending from the right compartment of the left hand side box into the upper compartment of the right hand side box, sultable discharge passages leading from each side box, and a common controllable discharge plpe for leading the combustion gases from said passages into the chimney, substantially as set forth.

No. 100,818. Fose Inpport. Jarretelles.


Julius Eisman, Toronto, Ontario, Canada, 4th September, 1906; 6 years. Filed 9th May, 1906. Receipt No. 135,721.
Claim.-1. In a hose supporter, a waist belt or band crossed at the front diagonally and having upright portions, which with the diagonally arranged portions form at the bottom loops, the metal loops located on the loops aforesaid and the supports extending through the metal loops and provided with suitable fastening devices for connecting the supports at the bottom of the hose the said supports when connected being arranged so that one of each support is substantially on a line with the diagonally arranged crossed portion and the other members of which are substantially on a line with the upright portions of the waist band or belt, as and for the purpose specified.
2. In a hose supporter, the combination with the waist band provided with an end fastener, and the crossed portions forming with the extension loops at the bottom, and a cross bridge at the top, such cross portions being suitably fastened at the point of crossing, and hose supports suitably connected to the bottoms of the loops, as and for the purpose specifed.

No. 100,819. Alsmm Lock. Serrure d'alarme.


Henry C. Ferguson, Walla Walla, Washington, U.S.A., 4th September, 1906; 6 years. Filed 14th June, 1906. Receipt No. 136,894.
Claim.-1. A lock consisting of a bolt, an alarm, a vibrator for operating the alarm, and means operated by the bolt
while moving in either direction, for actuating the vibrator. 2. A lock consisting of a bolt, an alarm, a rotary vibrator for operating the alarm, and means operated by the bolt while moving in any direction for rotating the vibrator in one direction.
3. A lock consisting of a bolt, an alarm, a rotary vibrator for operating the alarm, a rotatable device movable with the vobrator, and oppositely disposed means upon the bolt for engaging and operating the rotatable device during the actuation of the bolt.
4. A lock consisting of a bolt, an alarm, a rotary vibrator for operating the alarm, a rotatable device movable with the vibrator, and oppositely disposed means upon the bolt for engaging and operating the rotatable device in one direction only during the actuation of the bolt.
5. A lock consisting of a bolt, an alarm, a rotary vibrator for operating the alarm, a ratchet wheel rotatable with the vibrator, and means upon the bolt for engaging and operating the ratchet wheel during the movement of the bolt in any direction.
6. A lock consisting of a bolt, a rotatable vibrator, a ratchet wheel movable therewith, oppositely disposed spring ratchet engaging devices upon the bolt, a bell, and means operated by the vibrator for sounding the bell.
7. A lock consisting of a bolt, a rotatable vibrator, a ratchet wheel movable therewith, oppositely disposed spring ratchet engaging devices upon the bolt, a bell, a spring strip adjacent the vibrator, a dog held in contact with the vibrator by said strip, and a head upon the strip for sounding the bell.
8. In a lock the combination with a recessed spring pressed bolt and a rack in sald recess, of a key comprising a barrel, and teeth radiating from the barrel for engaging the rack.

No. 100,820. Wire Fence. Clôture de fll de fer.


John E. Frederick. Kokomo, Indiana, U.S.A., 4th September, 1906; 6 years. Filed 12th July, 1905. Receipt No. 126,844.
Claim,-1. A wire fence comprising a serles of horizontal strand wires and vertical stay wires, each vertical stay wire being formed in sections and each of the sections having at its initial bend, the bends on the companion sections being hooked together and each of the initial bends terminating in a final coll surrounding the strand wire, the two colls being wound in reverse directions around the strand wire, substantially as described.
2. A wire fence comprising a serles of horizontal strand wires and vertical stay wires, each vertical stay wire formed in sections and each of the companion sections being provided at its locking end with an Initial bend, the bends on companion sections being hooked together on one side of the strand wire and each of the initial bends terminating in a final coll surrounding the strand wire, the final coils of the companion sections being reversely wound with respect to one another, substantially as described.
3. In a wire fabric a continuous wire and two transversely extending sections of wire locked to the continuous wire and to each other, of the sections having at its locking end an initlal bend, the bends being hooked together, and each of the initial bends terminating in a final coll surrounding the continuous wire, the two companion coils being wound in reverse direction around the strand wire on opposite sides of the stay wire, substantially as described.
4. In a wire fabric a continuous wire and two transversely extending sections of wire locked to the continuous wire and to each other, each of the sections having at its locking end an initial bend, the bends being hooked together and each of the initial bends terminating in a final coil surrounding the continuous wire, the companion colls being reversely wound with respect to one another, substantially as described.
5. In a wire labric the combination with the stringers or lingitudinal wires thereof, of stay wires each having spiralled or coiled portions at its ends, completely infolding the stringers or longitudinal wires, one such coiled portion having a bowed or \(U\)-portion with its arcuate portion extending in a plane parallel to the general or longitudinal plane of sald colled or spiralled portion and parallel with the corresponding plane of the stringers.
6. In a wire fence the combination with the stringers or longitudinal wires thereof, of stay wires, each having spiralled or colled portion at its ends, completely enfolding the stringers or longitudinal wires, one such coiled portion having a bowed or U -portion with its arcuate portion extending in a plane parallel to the general or longitudinal plane of said colled portion and parallel with the corresponding plane of the stringers and arranged intermediately of the lastnamed portion and the stay proper.
7. In a wire fence the combination with the stringers or lengitudinal wires thereof, of stay wires completely enfolding the stringers and longitudinal wires, each having colled portions at its ends, one such coiled portion having a bowed or U-portion arrangel parallel to the general or longitudinal plane of said colled portion and intermediately of the last-named portion and a stay proper, said \(U\) or bowed portion interlocking with anl passing behind the opposite stay and laterally of the longitudinal wire or stringer.

Wo. 100,821. Cattio Guard. Garde-bétail.


Alexander Heron, Calder, Ontario, Canada, 4th September, 1906; 6 years. Filed 10th April. 1905: Receipt No. 124,126.
Claim.-In a cattle guard the combination with the rails and ties of a railway track, bearing bars mounted on the ties, a shaft carried by said bearing bars, said shaft extending entirely across the track, a gate, springs on the free end of the gate at each side thereof, the other end of the gate pivotally mounted on said shaft, plates rigidly carried by the plvoted end of sald gate, a second shaft running parallel to sald first-named shaft, said shaft being carried by the plates of the gate, a platform mounted on said second-named shaft, a supporting bar 29, said supporting bar adapted to support the free end of said platform and means comprising a chain and weight for limiting the movement of, and returning the gate, substantially as described.

\section*{No. 100,822. Blonse and Ekirt Empport. Support de blouse et jupe.}

Richard Berwick Hope, 171 New Bond Street, London, England, 4th September, 1906 ; 6 years. Filed 12th May, 1906. Receipt No. 135,837 .

Claim.-1. In a device for securing articles of dress, a plate having in it a slot and provided with a bar carrying a wedge and means for securing the sald bar so that a part of the article of dress to be secured can be hold between the said werige and the edges of the said slot, substantially as hercinbefore described.
2. In a device for socuring articles of dress the combination with a plate having means for attachment to the waist of the wearer and catches or shields formed thereon, of spring pins secured to the plate and having their free points alapted to be held under said catches, substantially as described.
3. In a duvice for securing articles of dress, a plate having in it a slot and provided with a bar carrying a wedge and moans for securing the said bar so that the part of the article of dress to be securod can be held between the sald
wedge and the edges of the said slot, the said plate being also provided with a combination of plas and catches, or

shields, for securing a waistband, or the like, substantially as herelnbefore described.
4. In a device for securing articles of dress, the combination of plate 1 . having slots 22 , and 3 , and catches 12 , of spring pins 9-10 secured to the sald plate and their points taking under said catches, wedge \(4-7\) hinged to the plate and fitting said slot 3 and holder 6 for retaining the wedge in its closed position, substantially as described.

No. 100,823. Plug. Tampon.


Cyprien Laurin and Frederick Henderson, Lachine Locks, Quebec, Canada, 4th September, 1906; 6 years. Filed 7th May, 1906. Receipt No. 135,651.
Claim.-1. In a plug, the combination comprising a casing, a lower casing secured thereto, inlet and discharge pipes connected to the lower casing, a rockable valve disposed in the lower casing and provided with an L-shaped passage adapted to register with the inlet and discharge pipes and provided with openings in its upper face, a rockable rod disposed in the casing and provided with a blfurcated lower end adapted to engage in said openings, a collar on the rod, a plug secured to the casing and adapted to bear on said collar and maintain said valve and sald rod against the upward pressure of water and provided with a plurality of openings, a plurality of valves disposed through some of the openings of the plug, and a cap plate on the plug.
2. In a plug, the combination comprising a casing provided with a lower inlet valve, means for rocking the inlet valve, a plug secured to the casing and provided with a plurality of openings, a plurality of rockable hollow valve disposed in the openings and provided with reduced necks, and a cap secured on the plug and provided with a plurality of openings adapted to fit around said reduced necks of the hollow valves.

\section*{No. 100,824. Lock and Iatch. Serrure et loquet.}

James W. Lindsay, Riverside, California, U.S.A., 4th September, 1906 ; 6 years. Filed 7th June, 1906. Receipt No. 136,631.
Claim.-1. A lock comprising a casing, a latch slidably mounted within the casing and provided with a locking pia and a pivoted dog adapted to engage the pin for locking the latch in projected position.
2. A lock comprising a casing, a spring actuated latch slidably mounted within the casing and provided with a laterally extending pin, a pivoted dog having a recess formed therein for the reception of the pin, said dog being provided with a locking recess adapted to engage the pin for locking the latch in projected position.
3. A lock comprising a casing, a spring actuated latch slidably mounted within the casing and having one end thereof bifurcated and provided with terminal lugs, a knob-
receiving spindle mounted for rotation in the casing and adapted to engage the lugs for operating the latch, a pin

xtending laterally from the latch and a dog pivoted within the casing and provided with a locking recess adapted to receive the pin for locking the latch in projected position.
4. A lock comprising a casing, a latch slidably mounted within the casing and provided with a shoulder, a lug secured to the casing and extending beyond said shoulder, a spring bearing against the shoulder and engaging said lugs, a pin extending laterally from the latch, means for operating the latch and a locking dog pivoted within the casing and provided with a locking recess adapted to receive the pin for locking the latch in projected position.
5. A lock comprising a casing, a latch slidably mounted within the casing and provided with oppositely disposed keywards, one end of the latch being inclined or bevelled and the opposite end thereof bifurcated and formed with terminal lugs, a knob-receiving spindle journalled in the casing and provided with a cam face operating in the bifurcated end of the latch and adapted to engage the lugs for actuating said latch, a pin extending laterally from the latch, a spring bearing against the latch, a dog pivoted within the casing and provided with an opening for the reception of the pin, a lug projecting within the opening and defining a locking recess, said locking recess being adapted to engage the pin for locking the bolt in projected position.
6. A lock comprising a casing, a reversible latch slidably mounted in the casing and provided with oppositely disposed pins, one end of the latch being bifurcated and provided with terminal lugs, a lug secured to the casing, a spring bearing against the latch and engaging said lug, a locking dog having an opening formed therein for the reception of one of the pins, a lug projecting within the opening and defining a locking recess, said lug having its free end inclined or bevelled and a spring engaging the locking dog for depressing said dog to thereby cause the locking recess to engage the adjacent pin on the latch and lock the latter in projected position.

No. 100,825. Sewing Machine Needle. siguille de machine à coudre.


William Alexander Martin, Broadview, Saskatchewan, Canada, 4th September, 1906; 6 years. Filed 2nd January, 1906. Receipt No. 131,506.
Claim.-A sewing machine needle comprising an enlarged shank, a body portion having a pointed end, an open eye provided with a narrow diagonal slot extending from the top to the bottom of said eye and having ite entrant corners bevelled upwardly and downwardly, and a longitudinal thread groove extending from the eye upwardly on each side of the needle.

No. 100,826. Gas Washer. Rondelle pour le gaz.


Benjamin J. Mullen, Leetonia, Ohio, U.S.A., 4th September, 1906; 6 years. Filed 27th January, 1906. Receipt No. 132,323.
Claim.-1. In a gas washer the combination with a vessel provided with inlet and outlet openings for gas and having also an overflow opening for water, of an inlet gas chamber in the said vessel and a multiplicity of dividing chambers or pipes supported at the lower part of the said gas chamber, said dividing chambers having open upper ends which communicate with the said gas inlet opening, and open lower ends arranged above the level of the said water overflow opening and communicating constantly with the said gas outlet opening whereby the gas is divided into small volumes or jets which impinge on the surface of the water in the lower part of the said vessel.
2. In a gas washer the combination with a vessel provided with an overflow opening for water, and having inlet and cutlet openings for gas at its top and side respectively, of an inlet gas chamber depending in the said vessel and forming an annular space for the gas which communicates constantly with the said outlet opening, and a series of chambers supported at the lower part of the said gas chamber and having open lower ends arranged above the level of the said overflow opening, said chambers operating to divide the gas into small volumes which impinge on the surface of water in the lower part of the said vessel.
3. In a gas washer the combination with a vessel provided with an overflow opening for water, and having inlet and outlet openings for gas at its top and side respectively, of an inlet gas chamber depending in the said vessel, ahead at the lower part of the said gas chamber, water inlet supply pipes which support the said head from the upper part of the said vessel, and a series of chambers suspended from the said head and having open lower ends arranged above the level of the said overflow opening, said chambers operating to divide the gas into small volumes which impinge on the surface of the water in the lower part of the sald vessel.
No. 100,827. Rack for Drying Olothos. Ratelier à linge.


Henry G. W. L. Noy, Dunedin, New Zealand, 4th September, 1906 ; 6 years. Filed 14th December, 1905. Recelpt No. 131,010.
Claim.-1. In a rack for drying clothes an inner member adapted to be secured firmly in position and provided with a forked outer end and two pins adapted to traverse the forked end in combination with an adjustable outer member slotted at one end, and adapted to engage through its slot with the outermost pin on the inner member and a hook formed near the slotted end of the outer member and adapted to engage with and be released from the inner pin of the inner member, substantially as specified.
2. In a rack for drying clothes an inner member adapted to be secured firmly in position and provided with a forked outer end and two pins and a lug on its upper surface, in combination with an adjustable outer member slotted at one end and adapted to engage slidably through its slot with the outermost pin of the inner member, a hook formed near the slotted end of the outer member adapted to engage with and be released from the under face of the inner pin of the inner member, a shoulder formed on the outer member to engage with and rest on the lug of the inner member when the rack is retracted, a boss formed on the free end of the outer member and pierced with a hole and a rod to engage at one end with this hole and with a hole in a similarly formed bracket at its other end, substantially as specified.
No. 100,828. Latch. Serrure.


John W. Pettijohn, Montesano, Washington, U.S.A., 4th September. 1906 ; 6 years. Filed 26th May, 1906. Receipt No. 136,287 .
Claim.-1. A latch comprising an attachment member provided with a vertical loop and having an opening arranged at an angle to the loop, a keeper provided with an opening disposed at an angle to the opening of the attachment member, and a hasp member provided with an opening and linked into said loop, and adapted to slide on the iatter to arrange it opposite the opening of the attachment member, said hasp being also provided at its free end with a head adapted to pass through the opening of the keeper and engaging the latter when arranged at an angle to the opening thereof.
2. A latch comprising an attachment member having an (upening and provided with a loop arranged at an angle to the opening, a keeper provided with an opening also arranged at an angle to the opening of the loop, and a hasp member having an opening linked into the sald loop and slidable thereon to arrange it opposite the opening of the attachment member, whereby it is adapted to be moved rearwardly through such opening, and said hasp member being also provided with a head adapted to be passed through the opening of the keeper when the hasp member is arranged to pass through the opening of the attachment member.
3. A latch comprising an attachment member provided with an opening and having a loop arranged at an angle to the opening, a keeper having an opening also arranged at an angle to the opening of the attachment member, and a hasp member provided at one end with a head adapted to pass through the opening of the keeper and engage the latter, said hasp member being also provided at its other end with a loop arranged in a plane intersecting that of the head, and linked into the loop and slidable thereon to arrange it opposite the opening of the attachment member.
4. A latch comprising an attachment member having \(a\) horizontal slot and provided with a vertical loop, a keeper having a vertical slot, and a hasp member provided at one end with a head and having a loop at the other end arranged in a plane intersecting that of the head and linked into the said loop whereby said hasp member is hinged to the attachment member, said hasp member being capable of a limited rotary movement and being slidable on the loop of the attachment member to arrange its ends in position to pass through the said openings.
5. A latch comprising an attachment member having two flanges arranged at an angle, one of the flanges being provided with a loop and the other flange having an opening arranged at an angle to the loop, a keeper provided with a projecting flange and provided therein with an opening arranged at an angle to the opening of the attachment mem-
ber, a hasp member provided at one end with a head for engaging the keeper and having an opening at the other end to recelve the loop.
6. A latch comprising an attachment member having two flanges arranged at an angle, one of the flanges being provided with a loop and the other flange having an opening arranged at an angle to the loop, a keeper having a projecting flange and provided therein with an opening arranged at an angle to the opening of the attachment member, and a hasp member provided at one end with an eye forming a head for engaging the keeper and adapted to receive a padlock, the other end of the hasp member being provided with an opening receiving the said loop.
7. A. latch comprising an attachment member having a projecting portion provided with an opening, a staple piercing the attachment member and forming a loop arranged at an angle to the opening, and a hasp member provided at one end with an opening receiving the loop, said hasp member being also provided at the other end with means for engaging the keeper.
8. A latch comprising an attachment member having a projecting portion provided with an opening, a loop projecting from the attachment member and arranged at an angle to the sald opening, a keeper, and a hasp member provided with an elongated loop linked into the said loop, whereby it is hingedly and slidably connected with the attachment member, said hasp member being also provided with means for engaging the keeper.
9. A latch comprising an attachment member, a keeper having a projecting portion provided with an opening, and a hasp member having a head to pass through the opening of the keeper, sald hasp member being slidably connected with the attachment member and capable of a limited rotary movement whereby the hasp member is engaged with and. disengaged from the keeper.
10. A latch comprising an attachment member, a keeper having a projecting portion provided with an opening, and a hasp member having a head to pass through the opening of the keeper, said hasp member being slidably and hingedly connected with the attachment member and also capable of a limited rotary movement, whereby the hasp member is engaged with and disengaged form the keeper, and is adapted to be swung out of the way when disengaged.
11. A latch comprising an attachment member, a keeper having an opening, a hasp member having a head to pass through the opening for engaging the keeper, sald hasp member being slidably connected with the attachment member and capable of a limited rotary movement, whereby it is disengaged from the keeper, and a stop carried by the atachment member for holding the hasp member against backward movement when in its locked position.
12. A latch comprising an attachment member having a stop, a hasp member, means for connecting the hasp member to the attachment member, said means permiting the hasp member to have a vertical and a horizontal sliding movement, said hasp member, when at the limit of its downward movement, being held by the stop against longitudinal movement, and a keeper adapted to be engaged by the hasp member.

No. 100,829. Re-fioating Roceptacle for Converance of Pulp Wood, Etc.
Réceptacle à bois pour le transport de bots de pulpe, eto.


George F. Rowe and Jackson F. Johnston, co-inventors, both of St. John, New Brunswick, Canada, 4th September, 1906; 6 years. Flled 19th July, 1906. Receipt No. 137,964.
Claim.-The method of construction of a floating receptacle for the conveyance of pulp wood and other timber. made in the form of a wooden framework surrounded with a wire netting and provided with gates at convenient intervals on the sides and ends, to permit the quick discharge of the contents, and having a flooring of wire or wood.

No. 100,830. Eock. Serrure.


Frederick William Schroeder, 9 Arundel Street, London, England, 4th September, 1906 ; 6 years. Filed 11th January, 1906. Receipt No. 131,763.
Claim.-1. The combination with a lock casing, of a lock barrel or plug having a ward projecting into a central key way in said plug and spiring pressed tumblers movable transversely in holes in said ward, said tumblers having lugs projecting laterally into said key way, substantially as described.
2. The combination with a lock casing provided with a series of recesses, of a lock barrel or plug having a ward projecting into a central key way in said plug, and spring pressed tumblers movable transversely in holes in said ward, adapted to enter sald recesses to lock the plug to the casing, said tumblers having lugs projecting -laterally into said key way, substantially as described.
3. The combination with a lock casing, of a lock barrel or plug having a central key way, tumblers movable in holes in sald plug, having lugs projecting laterally into sald key way, and a key having a protected bitted edge for engaging said lugs, substantially as described.
4. The combination with a lock casing, of a lock barrel or plug, tumblers movable transversely in holes in the ward, said tumblers and said ward having lugs projecting laterally into said key way, and a key having a protected bitted edge for engaging the lugs on the tumblers, substantially as described.
5. The combination with a lock casing provided with a series of recesses, of a lock barrel or plug having a central key way, a ward projecting into sald key way and carrying spring pressed tumblers adapted to enter said recesses, and a key having a protected bitted edge constructed to retract the tumblers from the casing, substantially as described.
6. The combination with a lock casing provided with a series of recesses, of a lock barrel or plug, a central key way, a ward projecting into said key way and carrying spring pressed tumblers adapted to enter said recesses, lugs projecting from said tumblers and a key having a protected bitted edge constructed to engage said lugs to withdraw the tumblers from the casing, substantially as described.
7. In a pin tumbler lock, the combination with a casing provided with a series of recesses, a barrel or plug within the casing having a central key way a longitudinal ward projecting into said key way, and bifurcated spring pressed tumblers each having one limb or stem operating in a channel and the other limb in a slot in the side of the plug, substantially as described.
8. In a pin tumbler lock, the combination with a casing provided with a series of recesses, a barrel or plug within the casing having a central key way, a longitudinal ward projecting into said key way, bifurcated spring pressed tumblers each having one limb or stem operating in a channel and the other limb in a slot in the side of the plug, and a key having a bitted edge protected by a guard or hood operating in sald key way to retract said tumblers, substantially as described.
9. In a tumbler lock the combination with a casing provided with recesses, a barrel or plug within the casing carrying spring pressed tumblers adapted to enter sald recesses, sald tumblers having shanks or stems provided with projecting lugs, and a key having bittings or serrations and a projecting hood or guard therefor arranged to engage sald lugs, substantially as described.
10. In a tumbler lock, the combination with casing provided with a series of recesses, of a plug within the casing, a key way within said plug, sald plug having exterior and interior channels, and bifurcated tumblers adapted to move in said channels and to enter said recesses, substantially as described.
11. In a tumbler lock, a casing provided with a series of recesses, a plug within the casing, a key way within said plug, a ward projecting into said key way, said plug having
exterior and interior channels and bifurcated tumblers adapted to move in said channels and to enter said recesses, substantially as described.
12. The combination with a lock casing, of a barrel or plug having a longitudinal ward-carrying spring-pressed tumblers and projecting into a central U-shaped key way, separate series of recesses in the casing opposite the respective ends of the tumblers, and a key having a bitted edge and a protecting bood therefor adapted to pass on opposite sides of said ward and engage the locking pins, substantially as described.

No. 100,831. Lock. Serrure.


Frederick William Schroeder, 9 Arundel Street, London England, 4th September. 1906; 6 years. Filed 1st May. 1906. Recelpt No. 135,437.

Claim.-1. A key having a lever edge protected by a hood or guard, substantially as described.
2. A key having a serrated or bitted edge protected by a hood or guard, substantially as described.
3. A key for a tumbler lock, having the darts adapted to engage the tumblers protected by a hood or guard, substantially as described.
4. A key having the parts adapted to engage the operative portion of the lock protected by means of an overlapping hood or guard, substantially as described.
5. A key having the parts adapted to engage the operative portion of the lock protected by means of an overlapping hood or guard and having an intervening space or slot to receive the ward of the lock, substantially as described.
6. A key for a tumbler lock, having one side bitted or serrated to form the lever edge, and the other side partially enclosing the said lever edge to form a protecting flap or hood, substantially as described.

No. 100,832. Padlock. Cadenas. •


Frederick William Schroeder, 9 Arundel Street, London,
England, 4th September, 1906; 6 years. Filed 1st May, 1906. Receipt No. 135,437 .

Claim.-1. In a lock the combination of a shackle, a projection on the heel end of the shackle of a length greater than the diameter of the shackle, a relativey movable and concentrically arranged shell and barrel, a removable hollow plug fixed in the end of the barrel having openings adapted to receive the ends of the shackle and a longitudinal slot extending through the side of the plug whereby the shackle may be readily removed, substantially as described.
2. In a lock the combination of a shackle, a removable plug, means for locking the plug in a fixed position, openings in the end of the same adapted to receive the ends of the shackle and a longitudinal slot extending through the side of the plug whereby the shackle may be readily removed, substantlally as described.
3. In a lock the combination of a shackle. having a projection on the heel cad of the shackle of a length greater than the diameter of the shackle, a relatively movable and concentrically arranged shell and barrel, a removable hollow plug fixed in the end of the shell having openings in the end of the same adapted to receive the ends of the shackle, and exterior thread on the plug adapted to engage with corresponding threads of the shell, a longitudinal slot extending through the side of the plug whereby the shackle may be readily removed, retractible tumblers carried by the barrel and a ball bearing intermediate the end of the barrel and the plug, substantially as described.
4. In a lock the combination of a shackle, a relatively movably and concentrically arranged shell and barrel, locking means carrled by one of the said members adapted to engage with the shackle, tumblers carried by the barrel, and opposed recesses on the ends of the barrel and the casing constituting the seats of a ball bearing, substantially as described.
5. In a lock the combination of a shackle, a relatively movable and concentrically arranged shell and barrel, said shell provided with locking means rigid therewith and adapted to engage with the shackle, and retractible tumblers carried by the barrel, substantially as described.
6. In a lock the combination of a shackle having threads. and a relatively movable and concentrically arranged sheli and barrel, said shell provided with interior threads adapted to engage the threads on the shackle, substantially as described.
7. In a lock the combination of a shackle having threads. a relatively movable and concentrically arranged shell and barrel. interior threads on the shell adapted to engage the threads on the shackle, and longitudinal grooves in the barrel adapted to receive the ends of the shackle, substantially as described.
8. In a lock the combination of a shackle having threads. a relatively movable and concentrically arranged shell and barrel, interior threads on said shell adapted to engage the threads on the barrel and on the ends of the shackle and longitudinal grooves in the barrel adapted to receive the ends of the shackle, substantially as described.
9. In a lock the combination of a shackle having threads. a relatively movable and concentrically arranged shell and barrel, the interior threads on the shell adapted to engage the threads on the barrel and on the ends of the shackle and longitudinal grooves in the barrel adapted to recelve the ends of the shackle, and means for locking the barrel agalnst rotation, substantially as described.
10. In a lock the combination of a shackle having threads, a relatively movable and concentrically arranged shell and barrel. interior threads on the shell adapted to engage the threads on the barrel and on the ends of the shackle and longitudinal grooves in the barrel adapted to receive the ends of the shackle. and retractible tumblers carried by the barrel, substantially as described.

No. 100,833. Crossarm Eupport. Support de traverse.


Edward C. Short, St. Paul. Minnesota, U.S.A., 4th September, 1906; 6 years. Filed 19th July, 1906. Recelpt No. 137,957.
Claim.-1. A crossarm support, comprising a post plate a crossarm plate, tongues on the latter extending through slots in the former to contact with the post. a bolt for clamping such plates between a crossarm and a post, substantially as set forth.
2. A crossarm support, comprising a post plate, a crossarm plate, tongues on the latter extending through slots in the former to contact with the post. means for limiting the extent of the tongue movements through said slots, and a bolt for clamping such plates between a crossarm and a post. substantially as set forth.
3. A crossarm support, comprising a curved post plate, a rrossarm plate having uppeu and lower flanges. tongues on The lattor extending through slots in the former to contact with the post, and a bolt for clamping such plates between a crossarm and a post. substantially as set forth.
4. A crossarm support, comprising a curved post plate, a crossarm plate having upper and lower flanges, tongues on the latter extending through slots In the former to contact with the post, means for limiting the extent of the tongue movements through said slots, and a bolt for clamping such plates between a crossarm and a post, substantially as set forth.
5. The combination with a post and a crossarm, of a palr of plates consisting of a curved plate in contact with the post, an outer plate in contact with the crossarm and having tongues extending through the curved plate into the post, and a bolt for clamping such plates between the post and crossarm, substantially as set forth
6. In a cross arm support, a sheet metal plate having forwardly projecting flanges for engaging the crossarm and rearwardly projecting tongues for engaging the pole to which the crossarm is to be attached, said flanges and tongues being struck up from the metal of said plate.
7. In a crossarm support, a sheet metal plate having forwardly projecting flanges for engaging the crossarm and rearwardly projecting tongues for engaging the pole to which the crossarm is to be attached, said flanges and tongues being struck up from the metal of said plate, and a bolt adapted to extend through sald crossarm and said plate to bind them in position on the pole
8. A crossarm support comprising a post plate. a crossarm plate, a crossarm plate, rearwardly projecting tongues on the crossarm plate adapted to extend back of the post plate into a post, and to bind said post plate against the post.
9. A crossarm support comprising a post plate, a crossarm plate, rearwardly projecting tongues on the crossarm plate adapted to extend back of the post plate into a post, and to bind said post plate against the post, and a bolt for clamping such plates between a crossarm and said post.
10. A crossarm support for posts comprising a post plate a crossarm plate, tongues on the latter adapted to cooperate with the former to shape it to the post, and means for clamping both plates between a crossarm and the post.
11. A crossarm support for posts comprising a post plate a crossarm plate, tongues on the latter adapted to engage the former to shape it to the post, sald tongues also engag ing the post, and means for clamping the plates betweeen a crossarm and the post.
12. A crossarm support for posts comprising a post plate, a crossarm plate, tongues on the latter co-operating with the former and with the post to shape the post plate to the post, means for limiting the extent of engagement of said tongues with the post, and a clamping device adapted to clamp both of said plates between a crossarm and the post. 13. A crossarm support for posts comprising a post plate. a crossarm plate having upper and lower flanges, a crossarm contained between said flanges, rearwardly extending tongues upon the crossarm plate qqapted to co-operate with the post piate to shape it to the post, and a device for holding a crossarm between the flanges of the crossarm plate and for clamping the crossarm and the post.
14. A crossarm support for posts comprising a post plate a cross arm plate having upper and lower flanges, a crossarm contained between said flanges, rearwardly extending tongues upon the crossarm plate adapted to co-operate with ithe post plate to shape it to the post, shoulders on said tongues for engagement with the plate to limit the extent of engagement of the post by the tongues and a bolt passing through the crossarm and said plates and also through the post whereby the plates are clamped between the crossarm and the post.
15. The combination of a crossarm and a pole with an interposed member for engaging the crossarm and another interposed member for emhracing the pole, and means for engaging said members and holding the crossarm at right angles to the pole.

\section*{No. 100,834. Rotary Engine. Machine rotatoire.}

Richard Nettersville Story, Philadelphia, Pennsylvannia U.S.A., 4th September, 1906 ; 6 years. Filed 4th June, 1906. Recelpt No. 136,554.

Claim.-1. In a reversible rotary engine the comblnation of a casing forming a working chamber and having two supply ports through one end wall, and two exhaust ports through the other end wall, valves controlling the supply and exhaust ports, a rotary piston head operating in the working chamber or cylinder and provided with a radial piston blade and with two interchangeable acting supply and exhaust ports through it, said piston head acting as an automatic valve for cutting off the supply of working fluid to elther piston port.
2. In a rotary engine the combination of a casing forming a working chamber and having supply and exhaust ports in its end walls. and short groove ports in the inner face of one wall in communication with the supply port, a rotary piston head operating in the working chamber or cylinder and provided with a radial piston blade and with supply and ex-
haust ports which lead from the ends of the piston head to the working chamber, said rotary piston head acting as an

automatic valve for opening and cutting off the supply of working fluid.
3. In a reversible rotary engine the combination of a casing forming a working chamber and having supply and exhaust ports in its end walls, and short groove port extensions in the inner face of one end wall in communication with the supply ports, a rotary piston head operating in the working chamber and provided with a plurality of radial piston blades and with two series of interchangeable supply and exhaust ports, which lead from the ends of the piston head to the warking chamber, one serles of ports entering the working chamber in front of the piston blades, and the other series of ports entering the working chamber behind the piston blades, and reversing valves controlling the supply and exhaust ports.
4. In a reversible rotary engine the combination of a casing forming a working chamber, and having two supply ports through one end wall and two exhaust ports through the other end wall, a rotary piston head operating in the working chamber or cylinder and provided with a series of radial piston blades and with two series of interchangeable acting supply and exhaust ports, one series of ports entering the working chamber in front of the piston blades and the other series entering the working chamber behind the piston blades, and reversing valves controlling the supply and exhaust ports of the casing.
5. In a reversible rotary engine the combination of a casing having two valved supply ports, and two valved exhaust ports, a rotary piston head operating in said casing and having a radial piston blade and two ports, one of which piston ports communicates with one of the supply ports and one of the exhaust ports and leads into the working chamber in front of the piston blade, and the other piston port communicates with the other supply port and the other exhaust port and leads into the working chamber behind the piston blade. and a suitable co-operating abutment.
6. In a reversible rotary engine, the combination of a casing having two series of supply ports, and two series of exhaust ports, with a valve adapted to close either series of the supply ports, a second valve adapted to close either series of exhaust ports, a rotary piston head operating in said casing and having a plurality of radial piston blades and two series of ports, one series of piston ports communicating with one series of supply ports and one serles of exhaust ports and leading into the working chamber in front of the piston blades, and the other series of piston ports communicating with the other series of supply ports and the other series of exhaust ports and leading into the working chamber behind the piston blades, and suitable co-operating abutments.
7. In a reversible rotary engine, the combination of a casing having two series of valved supply ports in one end wall, and two valved exhaust ports in the opposite end wall, the supply ports baving short groove extensions in the inner face of the cylinder wall, a rotary piston head operating in the casing and provided with a plurality of piston blades, two series of ports passing through the piston head and communicating respectively with the two series of supply and exhaust ports in the casing walls, one series of sald piston ports entering the working chamber in front of the piston blades and the other series of piston ports entering the working chamber behind the piston blades, and suitable co-operating abutments, substantially as set forth.
8. In a reversible rotary engine, the combination of a casing having two series of valved supply ports in one end wall, and two valved exhaust ports in the opposite end wall, the supply ports having short groove extensions in the inner
face of the one end wall, and the exhaust ports being in. communication with circular exhaust groove ports in the inner face of the other end wall, a rotary piston head operating in the casing and provided with a plurality of piston blades, two series of ports passing through the piston head and communicating respectively with the two series of supply and with the exhaust ports in the casing walls, one series of said piston ports entering the working chamber in front of the piston blades, and the other series of piston ports entering the working chamber behind the piston blades, and suitable co-operating abutments, said piston head acting as an automatic cut-off for the supply ports.
9. In a reversible rotary engine, the combination of a casing having two series of supply ports in one end wall, and two exhaust ports in the opposite end wall, the supply ports having short groove extensions in the inner face of the cylinder wall, and the exhaust ports being in communication with circular exhaust groove ports in the inner face of the wall of the cylinder, valves controlling the supply and exhaust ports, a rotary piston head operating in the casing and provided with a plurality of piston blades, and two series of ports passing through the piston head and communicating respectively with the supply and exhaust ports in the casing walls, one series of said piston ports entering the working chamber in front of the piston blades, and the other series of piston ports entering the working chamber behind the piston blades, and suitable co-operating abutments.
10. In a reversible rotary engine, the combination of a casing having a fluid supply chamber at one end and an exhaust chamber at the opposite end, two series of fluid supply ports leading from the supply chamber into the casing, and two series of exhaust ports leading from the casing to the exhaust chamber, a partition wall dividing the casing into a plurality of working chambers, said partition wall being provided with two series of ports passing through it, a plurality of rotary piston heads mounted upon a common shaft within said plurality of working chambers, each piston head being provided with radial piston blades and with two series of ports leading into the working chamber in front and rear respectively of the piston blades and communicating respectively with the series of supply ports and exhaust ports, a plurality of abutments operating in the casing and co-operating with the piston blades, means for operating the abutments, and a plurality of valves controlling the two series of ports through the end walls and partition, whereby the engine may be operated in either direction.
11. In a reversible rotary engine, the combination of a casing forming a working chamber and having working fluid. supply ports at one end. and exhaust ports at the other end, a partition wall dividing the casing into two working chambers, said partition wall being provided with suitable ports through it, two rotary piston heads mounted upon a common shaft within said working chambers, each piston head being provided with a plurality of equally spaced radial piston blades and with ports leading into its working chamber and communicating with the ports in one end of the casing and the ports in the partition wall, each piston head having the same number of piston blades, and the blades of the two heads being arranged in different radial planes, abutments operating in the working chambers, and valves controlling the supply and exhaust ports of the casing.
12. In a rotary engine, the combination of a casing formed with a plurality of working chambers and having supply and exhaust ports in its partition and end walls, a plurality of rotary piston heads mounted upon a common shaft and operating in the working chambers, each piston head being provided with an equal number of equally spaced radial piston blades and with supply and exhaust ports through it, the blades of the several piston heads being arranged in different radial planes, and compound abutments operating in the casing, each compound abutment comprising a plurality of recessed abutment heads mounted upon a common shaft and arranged with their recesses in different radial planes to cooperate with the arrangement of piston blades.
13. In a rotary engine, the combination of a casing formed with a plurality of working chambers and having supply and exhaust ports in its partition and end walls, a plurality of rotary piston heads operating in the working chambers and provided each with a plurality of radial piston blades and with supply and exhaust ports through it, and a plurality of compound abutments operating in the casing and co-operating with piston blades, each compound abutment comprising a plurality of abutment heads arranged longitudinally upon a common shaft, and each abutment head being formed with a recess to admit the passing of the piston blades.
14. In a rotary engine, the combination of a casing formed with a plurality of working chambers and having supply and exhaust ports in its partition and end walls. a plurality of rotary piston heads of graduated diameters mounted upon a common shaft and operating in the working chambers, each piston head being provided with a plurality of radial piston blades and with supply and exhaust ports through it.
and a plurality of compound abutments operating in the casing in co-operation with the piston blades, each compound abutment comprising a plurality of abutment heads mounted upon a common shaft, and each abutment head being formed with a recess to admit the passing of the piston blades.
15. In a rotary engine, the combination of a casing formed with a plurality of working chambers of graduated areas and having supply and exhaust ports in its partition and end walls, a plurality of rotary piston heads operating in the working chambers and provided each with a plurality of radial piston blades and with supply and exhaust ports through it, the blades of the several piston heads being of graduated size to correspond with the graduated areas of the working chambers, and suitable abutments co-operating with the piston blades.
16. In a rotary engine, the combination of a casing formull with a plurality of working chambers and having sipply and exhaust ports in its partition and end walls, a plurality of rotary piston heads of graduated sizes operating in the working chambers and provided each with a plurality of radial piston blades and with supply and exhaust ports through it, a plurality of compound abutments operating in the casing and co-operating with the piston blades, each compound abutment comprising a plurality of abutment heads mounted upon a common shaft and graduated in size tc correspond with the graduated piston heads, and each abutment head being formed with a recess to admit the passing of the piston blades.
17. In a rotary engine, the combination of a casing formIng a working chamber and having working fluid supply ports at one end and exhaust ports at the other end. a partition wall dividing the casing into a plurality of working chambers, said partition wall being provided with suitable ports through it. rotary piston heads mounted upon a common shaft within said working chambers, each piston head being provided with a plurality of radial piston blades and with ports leading into the working chambers and communicating with the ports in the end walls and partition walls of the casing, a plurality of compound abutments operating in the casing and co-operating with the plston blades. each compound abutment comprising a pluraiity of abutment heads each of which is formed with a ricess to admit the passage of the piston blades, means for operating the compound abutments. and valves controlling the supply and exhaust ports.
18. In a reversible rotary pngine, the combination of a casing having a steam supply chamber at one end and an exhaust chamber at the opposite end. two series of sumply ports leading from the supply chamber into the casing. and two series of exhaust ports leading from the casing to the cxhaust chamber, short groove ports in the inner face of the end wall at the supplyend of the casing in communication with the two series of supply ports. two circilar cihaust port grooves in the exhaust end wall of the casing in rommunication respectively with the two series of exhanst ports. martition walls dividing the rasing into a plurality of workIng chambers, each partition wall being providri with two circular groove ports in one iace, two series of ports passing through the partition wall and communicating respectively with the circular groove ports, and two series of short groove ports in opposite face of the partition wall and communicating respectively with the two series of through norts, a plurality of rotary piston heads mounted upon a common shaft within said plurality of working chambers. each piston head being provided with radial piston blades and with two series of ports leading into the working chamber in front and rear reancetively of the piston blades and communicating respectively with the series of supniv port gronves and circular exhaust groove ports, a plurality of abutments onerating in the casing and co-onerating with the piaton blades. means for onerating the ahutments. and a plurality of valves controlling the two serles of ports through the end walls and nartition walls, whereby the engine may be operated in either direction.
19. In a reversible rotary engine. the combination of a casing having walle inrming a workine ciamber and two serfes of ports leading through each of said walls, reversing valves controlling the said two series of ports in each wall. a plurality of rotary abutments, and a rotary piaton head operating in sald working chamber, a plurality of radial blades upon sald piston head. two series of radial ports formed in the piston heads, one series communicating with the working chamber in front of the piston bladis. and the other serics communicating with the working chamber hehind the piston blades, and offset ports leading from each radial piston port to ports of both casing walls. substantially as set forth.
2n. In a rotary engine. the combination of a rasing formed with a plurality of working chambers and having supnly and exhaust oorts in its partition and end malls. a plurality of rotary giston heads onerating in the working chambers and provided each with a plurality or radial platon hiados and with sunply and exhaust norts through it, and suitable abutments co-operating with the piston blades.
21. In a rotary engine, the combination of a casing formed with a plurality of working chambers and having supply and exhaust ports in its partition and end walls, a plurality of rotary piston heads operating in the working chambers upon a common axis and provided each with a plurality of radial piston blades and with supply and exhaust ports through it. suitable abutments co-operating with the piston blades, and a valve controlling the casing supply ports.
22. In a rotary engine, the combination of a casing formed with a plurality of working chambers and having supply and exhaust ports in its partitions and end walls, a plurality of rotary piston heads operating in the working chambers upon a common shaft and provided with a plurality of rigidly mounted radial piston blades and with supply and exhaust ports through it, suitable abutments movably mounted in the casing and co-operating with the piston blades, and means controlling the casing supply ports.
23. In a rotary engine the combination of a casing having end walls and partition walls forming a plurality of working chambers, said end walls and partition walls having ports through them, a plurality of rotary piston heads mounted upon a common shaft and operating in the working chambers, each piston head being provided with a plurality of radial piston blades and with two series of supply and exhaust ports passing through it, and suitable abutments mounted in the casing and co-operating with the piston blades.
24. In a reversible rotary engine the combination of a casing having end walls and partition walls forming a plurality of working chambers, said end walls and partition walls having two series of ports through them, a plurality of rotary piston heads mounted upon a common shaft and operating in the working chambers, each of sald piston heads being provided with a series of radial piston blades and with two series of interchangeably acting supply and exhaust ports extending through it, a plurality of abutments co-operating with said piston blades, and reversing means controlling the supply and exhaust of working fluid through the ports of the casing.
25. In a rotary engine the combination of a casing forming a working chamber, am abutment, and a rotary piston hrad operating in sald chamber and provided with a radial piston blade, said blade being formed of the interlocked face plate and spring bearing head, the bearing head belng of hollow spring formation capable of yielding engagement with the cylinder wall.
26. In a rotary engine the combination of a casing forming a working chamber, a ratary abutment, and a rotary piston head operating in said chamber and provided with radial pison blades, each piston blalle being formed of a face plate dove-tailed into the piston head and having the inwardly presented locking flanges, a hollow spring bearing head formed with inwardly presented arms having flanges which interlock with the flanges of the face plate, interlocked T-shaped side bearing sti'ns, and means for rigidly wedging said parts in operative . rsition upon the piston blades.

No. 100,835. Powpi Converting Apparatus.
Apnareil d convertir la force.


George H. Morgan, Ravenna, Nebraska, U.S.A., 4th Septem-
ber, 1906; 6 years. Filed 28th July, 1906. Receipt No. 138,227.
Claim.-In a power transmitting apparatus the combination of a drive shaft, a driven shaft, a train of gearing between the driving shaft and the driven shaft, said train of gearing embodylng a spring motor through the medium of which the driven shaft is driven, a pawl and ratchet device for rreventing the spring motor expending its energy backwards. manually controlled means for connecting one end of sald train of gearing to the drive shaft, manually controlled means for controlling the spring motor, and a governor device geared to the driven shaft.

No. 100,836. Piston Packing. Garniture de piston.


William B. Norton, Detroit, Michigan, U.S.A., 4th September, 1906; 6 years. Filed 30th July, 1906. Receipt No. 138,266.
Claim.-1. A piston packing having in combination a pair of eccentric rings of different diameters and the smaller located inside the larger, a second pair of similarly arrangedr rings superimposed upon the first with the thin part of each immediately above the thick portion of the corresponding ring of the lower pair, and a junk ring adapted to hold the assembled rings in position, substantially as described.
2. In a piston packing the combination of split eccentric rings arranged in pairs, the members of each pair having different diameters, and in each pair the ring of smaller diameter being arranged within the ring of larger diameter and with its split pontion directly above the wide portion of the corresponding ring of the next lower pair, means for bolding the rings in position, and a junk ring adapted to hold the assembled parking rings to their seat, substantially as described.
3. In a piston packing the combination of a purality of pairs of eccentric rings each split at its thinnest portion, the smaller ring of each pair fitting within the larger thereof and the split portion of each ring being placed over the wide part of the corresponding ring in the pair immediately below, substantially as described.
4. A piston packing having in combination a plurality of pairs of eccentric rings fitting the one within the other, each ring being split at its narrow part, and the split portions of each pair being at opposite ends of a diameter, and means for holding said rings in place, substantially as described.
5. In a piston packing in combination with a holding junk ring, a plurality of pairs of rings, one member of each pair fitting within the other, and each ring being wider in one portion of its periphery than in another and being cut across its narrow portion, the narrow cut portion of one ring being located adjacent to the other side of its companion ring, substantially as described.
6. A piston packing having in combination a plurality of pairs of eccentric rings, each split at its narrow part, the smaller ring of each pair fitting closely within the larger and with its split portion adjacent to the wide portion both of its companion ring and of its corresponding ring in the adjacent pair, substantlally as described.

\section*{No. 100,837. Engine. Machine d vapeur.}


Franklin Stratton. Buffalo, New York, U.S.A., 4th September, 1906; 6 years. Filed 22nd August, 1906. Receipt No.138,918. Claim.-1. In an engine the combination with a rotating piston cylinder, of a piston rod, a cam-shaped ring secured directly or mediately to said piston rod and rotating with sald cyllinder, a driving shaft secured to and rotating with said cylinder and cam-shaped ring, and non-rotating guiding means for keeping said ring in a given path.
2. In an engine the combination with a rotating piston cylinder, of a piston rod, a piston head secured approximately at the middle of said piston rod, a piston frame at tached to said piston rod, a cam-shaped ring secured to said piston frame and rotating with said piston cylinder, a driving shaft also secured to and rotating with said cylinder and ring, and non-rotating gulding means for keaping said rings in a given path.
3. In an engine the combination with a rotating piston cylinder, of a piston rod, a plston head secured to sald rod, a piston frame secured to said rod, guiding means for keeping said piston frame in a given path, and attached to the outside of said piston cylinder, a cam-shaped ring attached to sald piston frame and rotating with said cylinder, a driving shaft secured to and rotating with said cylinder and said ring, and non-rotating guiding means for keeping said ring in a given path.
4. In an engine the combination with a rotating piston cylinder, of a power containing chamber surrounding said cylinder and rotating therewith, which is divided into two parts, one of which is adapted for the Inlet of the fresh power and the other to receive the exhaust of the said power after the power stroke, a piston rod, a cam-shaped ring secured directly or mediately to said rod and rotating with said piston cylinder, non-rotating guiding means for keeping said ring in a given path and means for controlling the inlet and exhaust of the motive power.
5. In an engine the combination with a rotating piston cylinder, of a power containing chamber outside of said piston cylinder and rotating therewith, a driving shaft secured to and rotating with the sald cylinder, a piston frame attached to the piston rod of said cylinder, and a rotating cam-shaped ring secured to said piston frame and rotating therewith, rotating guiding means atached to said cylinder for keeping said piston frame in a given path and non-rotating guiding means for keeping said ring in a given path.
6. In an engine the comblnation with a rotating piston cylinder, of a motive power containing chamber surrounding isaid piston cylinder and divided into an inlet part and an outlet or exhaust part, means for controlling the inlet and exhaust of the motive power into and from said piston cylinder, all of which rotate with said plston cylinder, a driving shaft secured to the piston rod of said cylinder and guided in a given path by guiding means rotating with and attached to said cylinder, a cam-shaped ring secured to said piston frame and retating therewith, non-rotating guiding means for keeping said cam-shaped ring in a given path, and inlet and outlet ports in said driving shaft rotating therewith which register with the stationary inlet and outlet pipes, which conduct the motive power therefrom.
7. In an engine the comblnation with a rotating piston cylinder, of a driving shaft secured to and rotating with said cylinder, valve governing cams loosely mounted on said driving shaft, means connected with said cams for controlling the inlet and exhaust valves leading into said piston cylinder, a piston rod, a piston frame, a cam-shaped ring attached to said piston frame and rotating therewith, and non-rotating guiding means for keeping said cam-shaped rings in a given path.
8. In an engine the combination with a rotating piston cylinder, a driving shaft attached to sain rfinder and rotating therewith, valve controlling cams loosely mointed on said driving shaft, inlet and exhaust valves governing the inlet and exhaust of the motive power in the said cylinder, a piston rod, a piston head secured substantially in the middle of said piston rod, means for driving said plston head and said piston rod in a direct line, a piston frame attached to said piston rod, means secured to said piston cylinder for guiding said piston frame in a given path, a cam-shaped ring attached to said piston frame and non-rotating guiding means for keeping said ring in a given path.
9. In an engine the combination with a rotating piston cylinder, of a driving shaft secured thereto and rotating therewith, a power containing chamber surrounding sald cylinder, an inlet and an outlet valve for controlling the inlet and exhaust of said motive power at the one end of said cylinder, corresponding inlet and outlet valves at the opposite end of sald cylinder, valve controlling means mounted on said driving shaft, a piston rod, a piston head and a camishaped ring attached directly or mediately to said piston rod, and non-rotating guiding means for keeping said ring in a given path.
10. In an engine the combination with two or more rotating piston cylinders of two or more piston rods, two or more car-shaped rings secured directly or mediately to sald piston rods and rotating with said cylinders, a driving shaft also secured to and rotating with said cylinders and said rings, and non-rotating guiding means for keeping said rings in a glven path.
11. In an engine the combination with two or more rotating piston cylinders, of power containing chambers surrounding said cylinders, a driving shaft atached to and rotating with said cylinders, inlet and exhaust valves attached to the ends of each of said cylinders, means for controlling
said inlet and exhaust valves attached to and rotating with said driving shaft, piston rods acting through said cylinders, a cam-shaped ring attached directly or mediately to said piston heads and rotating with sald cylinders and said shaft. and means for revising the action of said inlet and exhaust valves.
12. In an engine the combination with two or more rotating piston cylinders, of a driving shaft atached to and rotating with said cylinders, inlet and exhaust ports connecting with said cylinders, inlet and exhaust valves for governing the inlet and exhaust of the motive power, valve controlling means loosely mounted on said driving shaft, means for reversing the action of said valves, piston frames attached to said rods, guiding means attached to said cylinders for keeping said piston irames in a given path, a cam-shaped ring secured to said piston irames and rotating therewith, and non-rotating guiding means for keeping said cam-shaped rings in a given path.
13. In an engine the combination with two or more rotating plston cylinders of a driving shaft secured to and rotating therewith, means for conducting the motive power into and out of the sald cylinders, valve controlling means for regulating the inlet and exhaust of the motive power, piston rods passing through sald piston cylinders, a piston head secured substantially in the middle part of said piston rods. means for keeping said piston rods in a given path, camshaped rings attached either directly or mediately to said piston rods, and rotating with said driving shaft, one or more nower transmitting wheels attached to and rotating with said driving shaft and sald piston cyllnder, and nonrotating gulding means for keeping said cam-shaped rings in a given path.
14. In an engine the combination with a rotating piston cylinder, of a piston rod, a plston head attached substantially in the middle portion of said piston rod, means for keeping said piston rod in a given path, a cam-shaped ring and a ring secured directly or mediately to said piston rod and rotating with sald piston cylinder. and non-rotating guiding means secured to the base of said engine for keeping said ring in a given path.
15. In an engine the combination with a piston cylinder, of a piston rod, a plston head, a cam or bevelled-shaped gulding device attached directly or mediately to said piston rod and adapted to move in consonance with the piston thrust and guiding means co-operating with said cam or bevelledshaped device for converting the direct piston thrust into a rotary motion.

No. 100,838. Steam Engine. Machine d vapeur.


Clifford Albert Holcomb, Ohicago, Illinois, U.S.A., 4th September, 1906; 6 years. Filed 7th May, 1906. Receipt No. 135,624.
Claim.-1. In an engine the combination with a plurality of cylinders and the pistons therein. of a valve frame, means actuating the same and a valve for each cyllnder slidably engaged on and operated by said valve frame.
2. In a rotating engine the combination with a plurality of cylinders and the pistons therein, of a gyratory valve frame, means actuating the same and a valve for each cylinder slldably engaged on and operated by said valve frame and affording maximum port opening and complete closure at dead conters.
3. In an engine the combination with a plurality of cylindors and pistons therein, of a valve frame, means imparting gyratory motion thereto, and a valve for each cylinder slidably engaged by and carried on sald valve frame and a governor acting to move said valve laterally of their normal movement.
4. In a rotating engine the comblnation with a plurality of cylinders and the plstons therein, of a valve frame, means imparting gyratory motion thereto, and a valve for each cylinder slidably engaged by and carried on said valve frame and a governor acting to move said valves laterally of their normal movement
5. In an engine the combination with a plurality of cylinders and the pistons thereln, of a valve frame centrally disposed with respect to the cylinders, means actuating sald valve frame, a valve for each cylinder positively connected with and actuated by said valve frame and means acting to move said valves laterally of the normal movement of the valves comprising a governor.
6. In a rotating engine the combination with a plurality of cylinders and the pistons therein, of a gyratory valve frame centrally disposed with respect to the cylinders, means actuating said valve frame, a valve for each cylinder positively connected with and actuated by said valve frame and centrifugally operated means acting to move said valves laterally of the normal movement of the valves comprising a governor.
7. In an engine the combination with a plurallty of cylinders and pistons therein, of a valve frame disposed centrally of the cylinders, means for actuating said valve frame, a valve for each cylinder carried slidably thereon and means carried on the valve frame and movable independently thereof acting to slide the valves on the valve frame comprising a centrifugal governor.
8. In a rotating engine the combination with a plurality of radially disposed cylinders and pistons therein, of a valve frame disposed centrally of the cylinders. means for actuating sald valve frame, a valve for each cylinder slidably carried thereon and means carrled on the valve frame and movable independently thereof acting to slide the valves on the valve frame comprising a centrifugal governor.
9. In an engine the combination with a cylinder and its piston, of a valve frame, means actuating the valve frame a valve slidably carried on said frame and a centrifugal governor also carried on the valve frame, positive connections between the governor and the valve acting to slide the same on the valve frame and affording the cut off.
10. In a rotating engine the combination with a cylinder and its piston, of a valve frame, means actuating the valve frame, a valve slidably carried on said frame and a centrifugal governor also carried on the valve frame. positive connections between the governor and the valve acting to slide the same on the valve frame and affording the cut off.
11. In an engine the combination with a valve frame located centrally of one or more valves carried thereby and movable therewith and independently thereof and a centrifugal governor mounted on the valve frame and acting to vary the position of the valves with respect to the valve frame and port openings.
12. In a rotating engine comprising a plurality of radially disposed cylinders the combination with a valve frame located centrally, of one or more valves carried thereby and movable with and independently thereof and a centrifugal governor mounted on the valve frame and acting to vary the position of the valves with respect to the valve frame and port openings.
13. In a rotating engine comprising a plurality of radially disposed cylinders the combination with a valve frame \(10-\) cated centrally, of one or more valves carrled thereby and movable with and independently thereof and a centrifugal governor mounted on the valve frame and acting to vary the position of the valves tangentially with respect to the valve frame and nort openings.
14. In a ratating engine the combination with a non-rotative eccentric. of a valve frame revolvable thereon, one or more steam valves adjustably carried on sald valve frame and movable therewith and independently thereof, and a centrifugal governor carried on the valve frame and positively connccted with the valve or valves and acting to shift the same on the frame to cut off admission of steam to the port.
15. In a rotating engine te combination with a non-rotative eccentric of a valve frame revolvable thereon, of steam valves adjustably carried thereby and movable with and independently thereof and provided with apertures normally registering with an inlet passage and a port resrertively and normally acting to admit steam therethrough is the port at dead enters and a centrifugal governor on the valve frame and acting to shift the valves laterally cutting off the steam from passage through the valves.
1f. In an engine the combination with a plurality of oppositely disposed cylinders, their pistons and crank shaft, of a valve frame positioned centrally of the cylinders. means imparting gyratory motion thereto, a valve for earh cylinder rarried thereon and movable therewith and a weighted iever pivoted on the valve frame and positively connected with the valves and acting centrifugally to vary the adjustment thereof with the frame.
17. In a rotative engine the combination with a plurality of oppositely disposed cylinders and their pistons, of a non rotative crank with which the pistons are connected, a valve frame positioned centrally of and eccentrically connected with the cylinders, means imparting gyratory motion thereto, a valve for each cylinder carried thereon and movable therewith and normally at dead center affording full port opening and complete closure respectively, and a weighted lever pivoted on the valve frame and positively connected with the valves and acting centrifugally to vary the adjustment thereof with the valve frame varying the cut off.
18. In a rotative engine, the combination with a plurality of oppositely disposed cylinders and their pistons, of a nonrotative crank with which the inner ends of the plstons are connected, a valve frame positioned centrally of the cylinders and rotating therewith, means imparting gyratory motion thereto, a chambered valve for each cylinder carried on said valve frame and movable therewith and through Which the steam is conveyed to the ports and a weighterl lever pivoted on the valve frame and positively connected with the valves and acting centrifugally to vary the adjustment thereof with the frame and limiting the passage of steam through said valves.
19. In a rotative engine, the combination with a plurality of radially disposed cylinders and their pistons and piston rods, of a non-rotative crank with which the inner ends of the piston rods are connected, a non-rotative eccentric positioned centrally of the cylinders, a valve frame journalled thereon and eccentrically connected with the cylinders and revolvable therewith, a valve for each cylinder carried thereon and movable therewith and a weighted lever pivoted on the valve frame and positively connected with the valves and acting centrifugally to vary the adjustment thereof with the frame.
20. In a rotative engine, the combination with a plurality of radially disposed cylinders, their pistons and piston rods, of a non-rotative crank operatively connected with the piston rods and about which the engine rotates, a valve frame positioned centrally of the cylinders, means imparting gyratcry motion thereto, a valve for each cylinder carried thereon and movable therewith to afford full port openings and complete closure thereof at dead centers and a centrifugally operating governor movable with the valve frame and independently thereof and acting to move the valves laterally to afford a cut-off.
21. In a rotative engine, the combination with a plurality of radially disposed cylinders and the pistons therein, of a non-rotative crank connected with said pistons, a centrally disposed eccentric, a valve frame thereon afforded gyratory motion thereby, a valve for each cylinder adjustably connected with said valve frame and a plurality of weighted and mutually counterbalancing levers pivoted on said valve frame and operatively connected with said valves and acting centrifugally to move the valves laterally with respect to the valve frame.
22. In a rotating engine, the combination with a plurality 0 : radially disposed cylinders and their pistons, of a fixed crank with which each piston is connected, a port at the outer end of each cylinder, a tubular shaft rigidly secured at the axis of rotation of the cylinders, means admitting: steam therethrough, passages leading therefrom and opening adjacent said ports, a non-rotative eccentric through which said shaft passes, a valve frame mounted thereon, an eccentric gulde connecting the same with the cylinders, a valve for each cylinder carried on the valve frame and positioned to normally afford full opening and closure of said ports and a centrifugal governor carried on said valve frame and acting to shift the valves laterally to vary the port openings.
23. In a rotating engine, the combination with a plurality of radially disposed cylinders and their pistons, of a fixed crank with which each piston is operatively connected and about which the engine rotates, of a port at the outer end of each cylinder, a tubular rotative shaft rigidly secured at the axis of rotation of the cylinders and adapted to admit steam therethrough, passages leading therefrom and opening adjacent gaid ports, a non-rotative eccentric through Which the shaft passes, a valve frame mounted thereon, an eccentric guide connecting the same with the cylinders, a valve for each cylinder carried on the valve frame and provided with a plurality of apertures therethrough which normally register with the open end of the passage and with. the ports respectively, thereby normally affording full openIng and closure of the ports at dead centers and a centrifugal governor carried on the frame and acting to shift the valves laterally to restrict or prevent the passage of steam through sald valves and ports.
24. In a rotative engine, the combination with a plurality of radially disposed cylinders, their pistons and piston rods, of a non-rotative crank positioned centrally of the cylinders and means affording a connection thereof with the piston' rods comprising an adjusting bolt passing axially throughi the crank, inwardly facing cones fournalled on the crank one
of which is movable by the bolt, a laterally extended head on each piston rod shaped to engage said cones and rings engaging around said heads and cones within the flanges of the latter and acting to hold the ends of said piston rods in operative engagement therewith.
25. In a rotative engine, the combination with a plurality of radially disposed cylinders, their pistons and piston rods, of a non-rotative crank positioned centrally of the cylinders and means affording a connection thereof with the piston rods comprising an adjusting bolt passing axially through the crank, inwardly facing cones journalled on the crank, one of which is movable by the bolt, a laterally extended head oll each piston rod shaped to engage said cones and ringst engaging around said heads and cones within the flanges of the latter and acting to hold the ends of said piston rods in operative engagement therewith, and a washer having a greater diameter than the crank carried on said bolt and engaging against the larger base of one of said cones and acting to draw the cones inwardly toward each other.
26. The combination with a non-rotative shaft provided with a fixed crank thereon, of a rotative tubular shaft in alignment therewith, a disc_comprising an engine frame secured thereon and provided with substantially radial passages extending therethrough and registering with the bore of the shaft, radial cylinders secured on said frame, plstons therein, operative connections between the pistons thereof and said fixed crank, a non-rotative eccentric on the tubular shaft, a valve frame mounted thereon and eccentrically connected with the engine frame, and revolvable therewith. valves movable thereby and connected therewith to afford normally full opening and complete closure of the ports at centers and a governor movable with the valve frame and independently thereof and aoting to shift the valves laterally of their normal movement to afford a cut off.
27. In an engine the combination with integrally connected radially disposed revolvable cylinders and the pistons therein, of a fixed crank connected with said pistons and about which the engine revolves, ponts at the outer ends of the cylinders, a central non-rotative eccentric, a valve frame operated thereby and revolvable with the cylinders, valves carried by said valve frame and movable normally to afford full opening and closure of the ports and a governor mounted on said valve frame and comprising a governor ring, integral arms thereon, positive connections between said arms and said valves and weighted levers pivoted on said valve frame and connected with said arms and acting centrifugally to partly revolve said governor ring on the valve frame thereby moving said valves to limit the opening of the ports.
28. In a rotating engine provided with a plurality of ports disposed near the periphery thereof, a non-rotative eccentric positioned at the axis of rotation, a valve frame mounted thereon, eccentric guides affording connection thereof with the engine, valves carried on and operated by said valve frame to open and close said ports, and a governor comprising a plurallty of integrally connected arms pivoted on said valve frame and each connected with one of said valves, levers also pivoted on the valve frame and connected at their ends with said arms and springs acting normally to hold said valves in position to permit maximum opening of the ports.
29. In a rotating engine the combination with a rotative shaft of a plurality of cylinders rigidly engaged thereon, a stationary crank pin eccentric with said shaft, a plurality of inwardly facing cones adjustably engaged thereon, pistons operatively connected with said cones, ports opening into said cylinders, slide valves controlling said ports and centrifugally operated means acting to regulate sald valves.
30. In a rotary engine the combination with a plurality of oppositely disposed cylinders, of a chambered disc rigidly engaged thereon, a shaft rigidly engaged on said disc, a nonsotative eccentric on said shaft, an apertured valve frame thereon, a plurality of stud shafts in said disc, anti-friction rollers thereon adapted to engage in the apertures in said frame and a plurality of laterally movable valve plates carried on said frame.

\section*{No. 100,839. Exhaust for Marine Engines.}

Appareil d'échappement pour machines marines.
Henry Walter Going, Brockville, Ontario, Canada, 4th September, 1906; 6 years. Filed 28th April, 1906. Receipt No. \(135,365\).
Claim.-1. An improved under water exhaust comprising a vacuum producing nozzle and means for rotatably supporting the same beneath the surface of the water, as and for the furpose specifled.
2. An improved under water exhaust comprising a vacuum producing nozzle, means for rotatably supporting the same beneath the water and means operated by the movement of the water for changing the position of the nozzle to correspond with the direction of movement of the water as and for the purpose specified.
3. An improved under water exhaust comprising a vacuum producing nozzle, means for rotatably supporting the same

beneath the water and a rudder secured to the exhaust nozzle, as and for the purpose specified.
4. In an under water exhaust the combination with the exhaust nozzle, of means for supporting the same free to rotate In a horizontal plane, and a rudder downwardly extending from the exhaust nozzle, as and for the purpose specifled.
5. An under water exhaust comprising a casing adapted to be fastened to the boat, a passageway therethrough adapted to be connected to the exhaust of the engine, an exhaust nozzle secured to the casing free to rotate about a vertical axis, and having the exhaust orifice therein in alignment with the passageway through the casing, as and for the purpose specifled.
6. An under water exhaust comprising a casing adapted to be fastened to the bottom of the boat, a passageway therethrough adapted to be connected to the exhaust of the engine, an exhaust nozzle having an exhaust orifice, an annular fiange upwardly extending from around the exhaust orlfice and extending within the lower end of the passageway through the casing and connecting means holding the nozzle rotatably in position, as and for the purpose specified.
7. An under water exhaust comprising a casing adapted to be fastened to the bottom of the boat, a passageway therethrough adapted to be connected to the exhaust of the engine, an exhaust nozzle having a circular exhaust orifice, an annular flange upwardly extending from around the exhaust orifice and extending within the lower end of the passageway a rod secured to the exhaust nozzle and upwardly extending through the center of the orifice therein and through the casing, means for holding the rod in position and a rudder downwardly extending from the exhaust nozzle, as and for the purpose specified.
8. In an under water exhaust the combination with the exhaust nozzle having a longitudinal passageway therethrough and an exhaust orifice, of a casing adapted to be secured to the bottom of the boat and having a passageway therethrough adapted to be connected to the exhaust of the engine, of means for holding said exhaust nozzle free to rotate about a vertical axle and with the orifice thereof in allgnment with the passageway through the casing, as and for the purpose specified.
9. In an under water exhaust the combination with the exhaust nozzle having a longitudinal passageway therethrough and an exhaust orifice, of a casing adapted to be secured to the bottom of the boat and having a passageway therethrough adapted to be connected to the exhaust of the engine, of means for holding sald exhaust nozzle free to rotate about a vertical axis and with the orifice thereof in alignment with the passageway through the casing, and a rudder downwardly extending from the exhaust nozzle, as and for the purpose specified.
10. An improved under water exhaust comprising a vacuum producing nozzle, means for rotatably supporting the same
bencath the surface of the water and an indicator located within the boat indicating the position of the same, as and for the purpose specified.
11. An improved under water exhaust comprising a vacuum, means for rotatably supporting the same beneath the surface of the water and a handle above the bottom of the boat for rotating the nozzle, as and for the purpose specified.

\section*{No. 100,840. Rotary Steam Engine. Machine rotatoire d vapour.}


James Henry Howden, Neepawa, Manitoba, Canada, 4th September, 1906; 6 years. Filed 28th March, 1906. Receipt No. 134,369.
Claim.-1. In a rotary engine the combination of a cylinder, rotating piston therein, lateral steam chamber divided longitudinally into two steam passages, a rocking valve having a steamway adapted to admit steam into said passages alternately, and an intermediately pivoted valve having its two flaps extending across its inner ends of the two steam passages, one flap alternately closing and opening. one steam passage and serving as a steam abutment when open.
2. In a rotary engine the combination of a cylinder, rotating cylindrical piston therein of smaller diameter having one or more vanes revolving close to the cylinder walls, a lateral steam chamber longitudinally divided into a main steam passage and an auxiliary steam passage, a rocking valve having a steamway which in one position admits steam into the main passage and in another position admits a relatively small quantity of steam to the auxiliary passage, and a swinging flap valve at the inner end of sald main passage having a tall flap valve alternately opening and closing the main steam passage and serving as a steam abutment when open.
3. In a rotary engine the combination of a cylinder, rotating piston therein, lateral steam passage, a swinging iap valve which in one position closes said passage and in another position opens into the cylinder and constitutes a steam abutment, said flop valve having a tall fiap or part at the opposite side of its pivot, an auxiliary steam passage behind said tail fiap and means for directing steam alteruately into the two steam passages.
4. In a rotary engine the combination with the cylinder, rotating piston therein, and communicating steam chamber at the side of the cylinder, of a valve which in one position closes passage between said steam chamber and cylinder and which in another position opens such passage and consitutes a steam abutment and means whereby steam pressure acts alternately in opposite directions on said valve and thereby inoves the same to and from such positions.
6. In a rotary engine the combination of a cylinder, rotating piston therein, lateral steam chamber, a longltudinal partition dividing sald steam chamber into two passages, a rocking valve having a steamway which admits steam into said passages alternately, and a flap valve intermediately plvoted at the inner end of said partition having its flaps acted upon alternately by the steam in the two passages.
6. In a rotary engine the combination of a cylinder, rotary hollow piston therein having steam vanes, and ports in front of said vanes, a steam operated abutment in the cylinder, means for controlling admission of steam, and an exhaust in communication with said hollow piston.
7. In a rotary engine the combination of a cylinder rotary fiston therein, steam operated abutment, rocking valve for admitting steam, rock arm on the valve shaft and a gear operated by the plston shaft having a crank pin connected to said rock arm.

\section*{No. 100,841. Rotary Motor. Moteur rotatoire.}


Adelbert Sauer, Pittsburg, Pennsylvania, U.S.A., 4th September, 1906; 6 years. Filed 1st March, 1906. Receipt No. 133,440.
Claim.-1. The combination of a casing, a piston set rotatably in the casing, a series of radially disposed ribs on the piston, inlet ports in the casing for the motor fluid, means for directing the motor fluid against the ribs, a series of spirally arranged channels in the piston extending from the spaces between the ribs to the ends of the piston and an exhaust port in the casing connecting with the outer ends of the channels.
2. The combination of a casing, a piston set rotatably in the casing, a series of ribs radially disposed on the piston and extending to the casing, radial ports tangentially disposed in the casing, a series of spirally arranged ribs on the piston extending from the said ribs and forming spiral passages between the ribs of the piston and the inner surface of the casing and leading to the end of the piston, and an exhaust port in the casing connecting with the ends of the spiral passages.
3. The combination of a casing, a piston set rotatably in the casing, a series of ribs radially disposed in the casing, a scries of spiral ribs on the piston arranged in a zig-zag course and extending from the said ribs toward the end of the piston whereby spiral passages alternately increasing and diminishing in their cross sectional area are formed leading from the spaces between the latter ribs to the ends of the fiston, and an exhaust port in the casing connecting with the ends of the spiral passages.
4. The combination of a casing, an outer shell concentric with the casing, longitudinal slots in the middle part of the casing disposed at an angle to the radius of the casing, collars set between the shell and the casing one at each end of the slots, an inlet into the outer shell opening into the space between the collars, a piston rotatably set in the casing, a circumferential flange set on the piston approximately midway between its ends and at right angles to its axis, a series of radial zig-zag ribs extending from the circumferential flange spirally around the piston and toward the ends thereof, engaging the casing with their outer edges, and forming spiral passages alternately increasing and diminishing in their cross sectional area and leading from the circumferential flange to the ends of the piston, an outlet from the cuter ends of the spiral passages into the space between the casing and the shell, and exhaust outlets in the shell.

No. 100,842. Rotary Engine. Machine rotatoire.


Norman R. Smith, Seattle, Washington, U.S.A., 4th September, 1906; 6 years. Filed 27th March, 1906. Receipt No. 134,350 .
Claim.-1. A rotary engine comprising a casing, a carrier rotatable therein, and pressure parts mounted in said carrier
and being rigidly secured to pivoted means, said casing being formed to alternately move said pressure parts into and out of the carrier during rotation of said carrier.
2. A rotary engine comprising a casing, a carrier rotatable therein, spaced apart pressure parts rigidly secured to means pivoted to the carrier and moving in unison alternately into and out of the carrier, said pressure parts having their outer ends continually engaging the inner face of the casing.
3. A rotary engine comprising a casing, a carrier rotatable therein, swing frames mounted in said carrier, and pressure parts rigidly connected to said frames and having their outer ends continually engaging the inner face of said casing, said casing having its inner face so shaped as to cause said pressure parts to move alternately into and out of the carrier.
4. A rotary engine comprising a casing, a carrier rotatable therein, opposite swing frames mounted in said carrier, pressure parts secured to the ends of said frames, and means whereby said pressure parts are moved into and out of the carrier during rotation thereof.
5. A rotary engine comprising a casing, a carrier rotatable therein, a plurality of pairs of pressure parts connected to pivoted means and being slidably mounted in said carrier and having their outer ends engaging the inner face of the casing, said casing having its inner face shaped to cause alternate inward and outward movement of said pressure parts.
6. A rotary engine comprising a casing, a carrier rotatable therein, said carrier being formed with opposite curved ways extending through the periphery of the carrier, pressure parts slidably mounted in said ways, swing frames mounted in said carrier, each of said swing frames having two of said pressure parts rigidly connected therewith, and said casing being formed to cause swinging movement of said frames.
7. A rotary engine comprising a casing, a rotatable carrier therein, said carrier being formed with diametrically opposite cut-out portions extending inwardly from one side face of the carrier, a removable plate secured to the last-named side of the carrier, swing frames mounted in said cut-out portion and being journalled in said carrier and removable plate, pressure parts rigidly connected to said swing frames at their opposite ends and being continually in engagement with the ir.ner face of said casing, and said casing having its inner face shaped to cause inward and outward movement of said Fressure parts during rotation of the carrier.
8. A rotary engine comprising a casing, a carrier rotatable therein, and opposite pairs of pressure parts mounted in said carrier and being rigidly secured to swinging means.
9. A rotary engine comprising a casing, a carrier rotatable therein, a plurality of eccentrically pivoted pressure parts, said pressure parts being connected and swinging in common ares during movement of the carrier.
10. A rotary engine comprising a casing formed with ingress ports, a carrier rotatable therein, pressure parts slidably mounted in the carrier, said pressure parts having their outer ends continually engaging the inner face of the casing, and said carrier being formed in its sides and on opposite sides of the pressure parts with steam channels adapted to register with the ingress ports of the casing during movement of said carrier, the steam channels on one side of said 1 ressure parts being closer to the periphery of the carrier than those channels on the opposite side.
11. A rotary engine comprising a casing formed with opposite abutments and having its heads formed with ingress ports arranged on opposite sides of said abutments, a carrier rotatable in said casing, and pressure parts movably mounted on said carrier, said carrier being formed with channels extending inwardly from its opposite sides and adapted for registration with the respective ports of the casing, and having ducts leading therefrom to opposite sides of said pressure parts.
12. A rotary engine comprising a casing, a carrier rotatable therein, and opposite pairs of pressure parts mounted in said carrier, each pair of pressure parts connected to means, swinging eccentrically to the carrier and having their outer ends continually engaging the inner face of the casing, said inner face of the casing being so shaped as to cause alternate inward and outward movement of the respective pressure parts.

\section*{No. 100,843. Rotary Engine. Machine rotatoire.}

George Stanley MacDonald, Helena, Montana, U.S.A., 4th September, 1906; 6 years. Filed 26th May, 1906. Receipt No. 136.279.
Claim.-1. In a rotary engine, the combination of oppositely moving pistons provided with clutch members, a shaft, and a clutch head mounted on said shaft between said pistons and arranged for engagement with either of the same, as and for the purpose set forth.
2. In a rotary engine, the combination with the cylinder and the two pistons working therein side by side and provided on their opposing faces with gearing teeth, a par-
tition ring between said pistons and provided with pinions meshing with the teeth thereof, each of sald pistons being

provided on its inner face with a female clutch member and a shaft mounted in sald cylinder and provided with a clutch head designed to be moved into enge sement with cither clutch member of the pistons, as and for the purpose set forth.
3. A rotary engine comprising a cylinder, two pistons 10 cated in said cylinder side by side and provided on their opposing faces with gear teeth, and also provided on sald faces with female clutch members, pinions interposed between the two faces of the pistons and meshing with the teeth thereof, whereby the pistons will turn in opposite directions, means for admitting steam to said pistons and for exhausting it from the cylinders, a shaft mounted in the cylinder, and a clutch head on said shart between the two pistons and arranged for engagement with the clutch member.
4. A rotary engine, comprising a cylinder provided with a steam chest divided into two compartments and said cylinder also provided with a partition dividing it into two compartments, pistons mounted to turn in said cylinder on opposite sides of said ring and provided on their opposing faces with female clutch members, pinions mounted in said partition ring and engaging said opposing faces of the two pistons, and a shaft mounted with a clucch head designed to be moved into engagement with the clutch member of the pistons, and means for admitting steam alternately into the compartments of the cylinder whereby to act successively on the two pistons, as and for the purpose set forth.

No. 100,844. Piston Engine. Machine à piston.


Joseph C. Jarvis, Huntington, West Virginia, U.S.A., 4th September, 1906; 6 years. Filed 28th July, 1906. Receipt No. 138,226.
Claim.-1. In an engine of the type described, the combination of a casing, a shaft carrying a serpentine piston, a plurality of gates engaging the plston and having their ends working in chambers at the sides of the casing, and plpes connecting opposite pairs of these chambers, for the purpose set forth.
2. In an engine of the type described, the combination of a casing. a shaft carrying a continuous serpantine piston, Fates engaging this piston and adapted to slide endwis'e auross the casing, and means independent of the piston for endwisely sliding sald gates as the piston rotates.
3. In an entine of the type described. the combination of a casing, a shat carrying a continuous serpentine piston, ketus engaging this piston and adapted to slide endwise arross the rasing, atul means indupendent of the piston for shiding sad fates as the piston rotates. said moans consisting of a rod connmeted to earh of the gatcs and a connecting lever arrankiment.
4. In an engine of the type set forth, the combination of a circular casing, a shaft extending centrally therethrough and carrying a serpentine piston, transversely working gates connected to said piston, inlet ports at each side of the casing in advance of each gate and exhaust ports at opposite sides of the casing behind each gate, a single valve controlling each pair of inlet ports and each pair of outlet ports and means connected to the shaft for operating said valve.
5. In an engine of the type set forth, the combination of a circular casing, a shaft extending therethrough and carrying a serpentine piston, transversely working gates engaging said piston, inlet ports at each side of the casing in advance of each gate and exhaust ports at opposite sides of the casing behind each gate, a valve casing for each pair of inlet ports and a valve casing for each pair of exhaust ports, each of said valve casings being connected to its ports by independent steam passages, a single valve in each valve casing adapted to alternately open and close sald steam passages, means for alternately actuating the inlet valves, and means for alternately actuating the exhaust valves. substantially as set forth.
6. In an engine of the type set forth, the combination of a circular casing, a shaft extending therethrough and carrying a serpentine piston, transversely working gates engaging said piston, inlet ports at each side of the casing in advance of each gate and exhaust ports at opposite sides of the casing behind each gate, these ports being connected to independent steam passages leading to the periphery of the casing, an inlet valve casing for each pair of inlet ports and a valve casing for each pair of exhaust ports, these valve casings extending across the periphery of the casing. a reciprocating piston valve in each casing, and means for operating these valves from the shaft of the engine, substantially as set forth.
7. The method herein described of operating a rotary engine of the continuous piston type, consisting in alternately sliding across the piston a series of gates or abutments, these gates working in closed interconnecting chambers and being actuated by means independent of the piston.

No. 100,845. Rotary Engine. Machine rotatoire.


Benjamin F. Augustine, Buffalo, New York, U.S.A., 4th Sep tember, 1906; 6 years. Filed 28th June, 1906. Receipt No. 137,375.
Claim.-1. The combination of a rotary core, a cylinder surrounding said core and contacting therewith to form an abutment, pistons carried by said core and travelling in contact with the inner surface of sald cyllnder, means for ad mitting the motive fluid into the cylinder at one side of said abutment and cutting it off to act expansively, a supplemental cxhaust port at the opposite side of the abutment and a main exhaust port between said admission means and said supplemental exhaust port, said abutment having a bypass passage whereby the fluid can pass by a plston in conlact with sald abutment and exert its pressure between the preceding piston and sald abutment substantially until said preceding piston reaches said main exhaust port and the
succeeding piston passes off of said abutment, substantially as set forth.
2. The combination of a rotary core. a cylinder surrounding said core and contacting therewith to form an abutment, pistons carried by said core and travelling in contact with the inner surface of said cylinder, an admission port in the end of the cylinder at one side of said abutment, a disc secured to the end of said core and having ports which cooperate with said admission port to cut off the fluid to act expansively, an exhaust port, said abutment having a bypass passage whereby the fluid from the admission port can pass by a piston in contact with said abutment and exert its pressure between the preceding piston and said abutment substantlally until said preceding piston reaches said exhaust port and the succeeding piston passes off of said abutment, substantially as set forth.
3. The combination of a rotary core, a cylinder surroundino said core and contacting therewith to form an abutment, pistons carried by said core and travelling, in contact with the inner surface of said cylinder, an admission port in the cod of the cylinder at one side of said abutment, a dlsc secured to the end of said core and having ports which cooperate with said admission port to cut off the fluid to act expansively, an exhaust port, said abutment having by-pass passages in its opposite sides whereby the fluid can pass by a plston in contact with said abutment. ports connecting with said by-pass passages, and a reversing valve controlling 2ald ports and adapted in one position to close the port at the side of the abutment adjacent to said admission port and open the other port to serve as a supplemental exhaust port, substantially as set forth.
4. The combination of a rotary core, a surrounding cylinder concentric with said core and having an eccentric portion which contacts with the core to form an abutment, pistons carried by said core and travelling in contact with said cylinder, admission ports in the ends of the cylinder at one side of sald abutment. a valve controlling the supply thereto, discs secured to the ends of the core and having ports which co-operate with said admission ports to cut off the fluid to act expansively, sald cylinder having a main exhaust port and also norts at opposite sides of said abutment, a fluid supply, and a reversing valve conitrolling said fluid supply and ports at opposite sides of the abutment and construct-- d to close the port at the side of the abutment next to the admission ports and open the port at the opposite side of the abutment to serve as a supplemental exhaust port. or to connect the last-mentioned port with said fluid supply and open the port next to the admission port for reversing the engine, substantially as set forth.
5. The combination of a rotary core, a cylinder surrounding said core and contacting therewith at one side to form an abutment, plstons carried by eaid core and travelling in rontact with the inner surface of said cylinder, means for admitting motive fluid to the cylinder at one side of sald abutment and cutting it off to act expansively, a valve controlling the supply of fluld to said means, and a reversing mechanism independent of said cut-off mechanism for admitting and exhausting motive fluid to and from the cylinder at opposite sides of sajd abutment, substantially as set forth.
6. The combination of a rotary core, a cylinder surrounding the core and contacting therewith at one side to form an abutment, pistons slidably mounted in radial guldes in said core, means for holding sald pistons out against the inner surface of the cylinder, counter weights connected to sald pistons, stops to limit the outward movement of the plstons. shoes on said pistons which are pressed against the cylinder independently of the means for holfing said pistons out, and means for admitting and exhausting fluid to and from the cylinder. substantlally as set fortb.
7. The combination of a rotary core, a cylinder surrounding said core and contacting therewith at one side to form an abutment, pistons carried by said core and travelling in contact with the inner surfare of said cylinder, means for admitting motive fluid to the cylinder at one side of sald abisment and cutting it off to act expansively, admissinn and exhaust ports at opposite sides of sald abutment, and a reversing valve controlling said ports to admit and exhaust motive fluld to and from the cylinder at opposite sides of said abutment, said reversing valve being also constructed and arranged to close the admission and exhaust port at the side of the abutment adjacent to said cut-off means and open the admission and exhaust port at the opposite side of the abutment, substantially as set forth.
8. The combination of a rotary core, a cylinder surrounding the core and contacting therewith at one side to form an abutment, pistons slidably mounted in radial guides in said core, means for holding said pistons out against the inner burface of the cylinder, stops to limit the outward movement of said pistons, counter weights connected to said pistons and movable in guides in said core, and means for admitting and exhausting fluid to and from the cylinder, substantially as set forth.
9. The combination of a rotary core, a cylinder surrounding the core and contacting therewith at one side to form an abutment, diametrically opposite pistons arranged to slideinradial guides in said core, a counterweight arranged diametrically opposite to each piston to slide in a radial guide in the core, rods connecting each piston and the opposite counterweight and passing through the counterweight for the opposite piston, means for holding the pistons in contact with the cylinder, and means for admitting and exhausting fluid to and from the cylinder, substantially as set forth
10. The combination of a rotary core, a cylinder surround Ing the core and contacting therewith at one side to form an abutment, pistons carried by said core. cams secured to the heads of said cylinder for holding the pistons in contact with the inner surface of the cylinder, end plates secured to the ends of said core and located between said cams and the heads of the cylinder, packing rings between the heads of the cylinder and said end plates, packing rings between the ends of said core and the inner sides of said cams, and means for admitting and exhausting fluid to and from the cylinder substantially as set forth.

No. 100,846. Mechanism for Feoding a Bar of

\section*{Mécanisme alimentateur de barre de Mldere.}


The Standard Screw Company, assignee of Walter Beverly Pearson, all of Detroit, Michigan, U.S.A., 4th September 1906; 6 years. Filed 5th July, 1906. Receipt No. 137,541. Claim.-1. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck and means to impart reciprocating movement to the feed tube of said wire feed, said means comprising a slide in which said feed tube is revolubly secured, a crank or disc, a rod or bar connected to said slide and adapted to be connected to sald crank or disc at different distances from its axis of rotation and on different radial lines thereof, and means to impart step-by-step rotation to sald crank or disc, the relation beIng such that during periods of rest of said crank or disc the point of attachmeit of said connecting rod or bar to sald crank or disc will be at a dead point.
2. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, sald wire feed comprising a feed tube, means to operate sald chuck and means to impart reciprocating movement to the feed tube of said wire feed, said means comprising a slide in which said feed tube is revolubly secured, a crank or disc, a rod or bar connected to said slide and adapted to be connected to said crank or disc at different distances from its axis of rotaticn and on different radial lines, a shaft to which said crank or disc is secured, a gear on said shaft, a driven shaft and a seg mental gear or gears on said driven shaft adapted to engage the gear on sald crank shaft. the angular distances between the radial lines passing through the different points for the sttachment of said connecting rod to said crank or disc being equal to or a multiple of 360 degrees divided by the number of teeth in the gear on said crank shaft.
3. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto. sald wire feed comprising a feed tube, means to operate said chuck and means to impart reciprocating movement to the feed tube of said wire feed, said means comprising a slide in which said feed tube is revolubly secured, a crank or disc provided with a plurality of holes at different distances from its axis of rotation, a rod or bar connected to said slide, a pin theeon interchangeable in the holes in said crank or disc, a shaft to which said crank or disc is secured, a gear on said crank shaft, a driven shaft and a segmental gear or gears on said driven shaft which engage the gear on said crank shaft, the holes in sald crank
or disc being arranged on radial lines the angular distances between which are equal to or a multiple of 360 degrees divided by the number of teeth in the gear on said crank shaft.
4. The combination with a stock spindle, of a stock chuck and a wire feed applled thereto, said wire feed comprising a feed tube, means to operate said chuck and means to impart reciprocating movement to the feed tube of said wire feed. said means comprising a slide in which said feed tube is revolubly secured, a crank or disc, a rod which connects said slide with said crank or disc, means for connecting said rod to sald slide at different points longitudinally thereof and to said crank or disc at different distances from its axis of rotation and means to rotate said crank or disc.
5. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto. said wire feed comprising a feed tube, means to operate said chuck and means to impart reciprocating movement to the feed tube of said wire feed, said means comprising a slide in which said feed tube is rerevolubly secured, a crank or disc, a rod which connects said slide with said crank or disc, means for connecting said rod to said slide at different points longitudinally thereof and to said crank or disc at different distances from its axis of rotation. a shaft to which sald crank or disc is secured, a gear on said crank shaft, a driven shaft and a segmental gear or gears on said driven shaft which engage the gear on said crank shaft.
6. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, sald wire feed comprising a feed tube, means to operate said chuck and means to impart reciprocating movement to the feed tube of said wire feed, salid means comprising a slide in which said feed tube is revolubly secured provided with a plurality of holes arranged lengthwise thereof, a crank or disc provided with a plurality of holes at different distances from its axis of rotation, a rod or bar., pins thereon interchangeable in the holes in said slide and in sald crank or disc and means to rotate said crank or disc.
7. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck and means to impart reciprocating movement to the feed tube of said wire feed, said means comprising a slide in which said feed tube is revolubly secured provided with a plurality of holes arranged lengthwise thereof, a crank or disc provided with a plurality of holes at different distances from its axis of rotation, a rod or bar, pins thereon interchangeable in the holes in said slide and in said crank or disc, a shaft to which said crank or disc is secured, a gear on said crank shaft, a driven shaft and a segmental gear or gears on said driven shaft which engage the gear on said crank shaft.
8. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck and means to inpart reciprocating movement to the feed tube of said wire feed, said means comprising a slide in which said feed tube is revolubly secured provided with a plurality of holes arranged lengthwise thercof. a crank or disc provided with a plurality of holes at different distances from its axis of rotation, a rod or bar. pins thereon interchangeable in the holes in said slide and in said crank or disc, a shaft to which said crank or disc is secured, a gear on said crank shaft, a driven shaft and a segmental gear or gears on said driven shaft which engage the gear on said crank shaft. the holes in sald crank or disc being arranged on radial lines the angular distances between which are equal to or a multiple of 360 degrees divided by the number of teeth in the gear on said crank shaft.
9. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck and means to impart reciprocating movement to the feed tube of said wire feed, said means comprising a slide in which said feed tube is revolubly secured, a crank or disc, a rod or har, pas thereon which are fitted to holes in said slide and in said crank or disc, a bar which extends over said rod. a spring pressed shoe in said bar which bears on said rod, a shaft to which said crank or disc is sceured, a sear on said crank shaft, a driven shaft and a segmental gear or gears on said driven shaft which engage the gear on said crank shaft.
10. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck and means to impart reclprocating movement to the fied tube of said wire feed, sald means comprising a slide in which said fied tub, is revolubly secured, a crank or dise, a rod, pins thercon which are interchangeable in a scries of holes in said slide and in said crank or disc, a bar which extends over said rod a spring pressed shoe in said bar which bears on sald rod, a shaft to which said crank or dise is secured. a gear on said crank sliaft, a driven shaft and a segmental gear or gears on said driven shaft which engage the gear on said gears on shaft.
crank shaf
11. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, said wire teea comprising a feed tube, means to operate sald chuck, means to impart reciprocating movement to the feed tube of said wire fred, said means comprising a slide in which said ferd tube is revolubly secured. a crank or disc, a rod which connects said crank or dise with said slide, a shaft to which said rank or disc is secured, a gear thereon, a driven shaft, a segmental gear or gears on said shaft which engage the gear on said crank shaft and means to lock said slide against movement between engagements of said segmental gear or bears with the gear on said crank shaft.
12. Thecombination with a stock spindle, of a stock chuck and a wire feed applied thereto, sald wire feed comprising a fced tube, means to operate said chuck, means to impart reciprocating movement to the feed tube of said wire feed. said means comprising a slide in which sald feed tube is revolubly secured, a crank or disc, connection between said slide and said crank or disc whereby rotation of said crank or dise will impart reciprocating movement to said slide, a shaft to which said crank or disc is secured, a gear on said crank shaft, a driven shaft, a segmental gear or gears on said driven shaft which engage the gear on said crank shaft, and means to lock said slide in position between successive engagements of said segmental gear or gears with the gear on said crank shaft.
13. The combination with a stock spindle, if a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck, means to impart reciprocating movement to the feed tube of said wire feed. said means comprising a slide in which said feed tube is revolubly secured, a crank or disc, a rod which connects said slide with said crank or disc, a bar which extends over said rod, a spring pressed shoe in said bar which bears on said rod, the surface of said rod engaged by said shoe being angular in cross section and said shoc being provided with a corresponding recess, a shaft to which said crank or disc is secured, a gear on said crank shaft, a driven shaft and a segmental gear or gears on said driven shaft which engage the gear on said crank shaft.
14. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chu \(\because\). means to impart reciprocating movement to the ferd tubs of said wire fced. said means comprising a slide in which said feed tube is revolubly secured, a crank or disc, operative connection between said crank or disc and said slide whereby rotation of said crank or dise will impart reciprocating movement to said slide, a shaft to which said crank or disc is secured, a gear on said crank shaft, a driven shaft and a segmental gear or gears on said driven shaft which engage the gear in said crank shaft.
15. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto. said wire feed comprising a feed tube, means to operate said chuck, means to impart reciprocating movement to the feed tube of said wire feed, ejector fingers which project inwardly through slots in the spring jaws of the feed tube of the wire feed which regis ter with slots in the stock chuck and means to impart reciprocating movement to said ejector fingers.
16. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck means to impart reciprocating movement to the feed tube of said wire feed, ejector fingers which project inwardly through slots in the spring jaws of the feed tube of said wire feed which register with slots in the stock chuck and means controlled by the feed tube operating mechanism for imparting reciprocating movement to said ejector fingers.
17. The combination with a stock spindle, of a stock chuck and-a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck, means to impart reciprocating movement to the feed tube of said wire feed, rods fitted to and longitudinally movable in grooves formed in the chuck plunger and in the wire feed tube. ejector fingers on said rods which project inwardly through slots in the spring jaws of the wire feed tube which register with slots in the stock chuck and means for imparting reciprocating movement to said rods.
18. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, sald wire feed comprising a feed tube, means to operate said chuck, a slide in which the feed tube of said wire feed is revolubly secured, means to impart reciprocating movement to said slide, rods fitted to and longitudinally movable in grooves formed in the chuck plunger and in the feed tube of the wire feed. ejector fingers on said rols which project inwardly through slots formed in the spring jaws of the wire feed tube which register with slots in the stock chuck, a sleeve on said feed tube to which rods are secured, a lever pivoted upon the slide in which the feed tube is secured, one end of which is connected to the ejector sleeve and a stop which forms a fulcrum for the opposite end of said lever.
19. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, said wire feed comprising a ffed tube, means to operate said chuck, a slide in which the fted tube of said wire feed is revolubly secured, means to impart reciprocating movement to said slide, rods fitted to and longitudinally movable in grooves formed in the chuck pianger and in the feed tube of the wire feed, ejector fingers on said rods the ends of which project inwardly through slots formed in the spring jaws of sald feed tube which register with slots in the stock chuck, a sleeve on the feed tube to which the ejector rods are secured, a lever pivoted on the feed tube slide, connection between one end of said lever and the ejector sleeve, a stop which projects into the path of travel of the opposite end of sald lever as said slide advances, and a spring applied to said lever adapted to impari pivotal movement to said lever to retract said ejector slnceve.
20. The combination with a stock spindle, of a stock chucl: and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck, a sllde in whic!. the feed tube of said wire feed is revolubly secured, means to impart reciprocating movement to said slide, rods fitted to and longitudinally movable in grooves formed in the stock chuck plunger and in the feed tube of said wire feed, ejector fingers on said rods the ends of which project inwardly through slots formed in the spring jaws of said feed ulube which register with slots in the stock chuck, a sleeve on the feed tube to which the ejector rods are secured, means to impart reciprocating movement to said sleeve and a stop which limits the rearward movement thereof relatively to the feed tube of the wire feed.
21. The combination with a stock spindle, of a stock cbuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck, a slide in which the feed tube of said wire feed is revolubly secured, means to impart reciprocating movement to said slide, rods fitted to and longitudinally movable in grooves formed in the chuck plunger and in the feed tube of the wire feed, ejector fingers or said rods the ends of which project inwardly through slots formed in the spring jaws of said feed tube which register with slots in the stock chuck, a sleeve on the feed tube to which the ejector rods are secured, a lever pivoted upon the feed tube slide, connection between one end of said lever and the ejector sleeve, a stop which projects into the \(\mu \mathrm{a}+\mathrm{l}\) : of travel of the opposite end of sald lever as said slide advances, and a stop which limits the rearward movement of said sleeve relatively to the feed tube of the wire feed.
22. The combination with a stock spindle, of a stock chuck and a wire feed applicd thereto, said wire feed comprising a feed tube, means to operate said chuck, a slide in which the feed tube of said wire feed is revolubly secured, means to impart reciprocating movement to said slide, rods fitted to and longitudinally movable in grooves formed in the chuck plunger and in the feed tube of said wire feed, ejector fingers on sald rods the ends of which project inwardly through' slots formed in the spring jaws of said feed tube which register with slots in the stock chuck, a sleeve on the feed tube to which the ejector rods are secured, a lever pivoted upon the feed tube slide, connection between one end of said lever and the ejector sleeve, a stop which projects into the path of travel of the opposite end of said lever as said slide advances, a spring applied to said lever adapted to move the same pivotally to retract said sleeve and a stop which limits the rearward movement of said sleeve relatively to the feed tube of the wire feed.
23. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck, a slide in which the feed tube of said wire feed is revolubly secured, means to impart reciprocating movement thereto. rods fitted to and longitudinally movable in grooves formed in the chuck plunbir 9 ud in the feed tube of the wire feed, ejector fingers on said rods which project inwardly through slots formed in ih spring jaws of said feed tube which register wich slots in the stock chuck, a groeved sleeve on said feed tubie to which the ejector rods are secured, a lever pivoled upin the fued tube slide, one end of which engages the groove formed in the ejector sleeve and a stop which forms a fulcrum for the opposite end of said lever.
24. The combination with a stock spindle of a stock chuek and a wire feed applied thereto. said wire feed comprising a leed tube, means to operate sald chuck, a slide in which the feed tube of said wire feed is revolubly secured, means to impart reciprocating movement thereto, means to vary the movement of said slide, rods fitted to and longitudinally movable in grooves formed in the chuck plunger and in the feed tube of said wire feed, ejector fingers on said rods which project inwardly through slots in the spring jaws of the feed tube in register with the slots in the stock chuck, a sifeve on the feed tube to which the ejector rods are secured. a lever plvoted on the feed tube slide, connection between pote end of said lever and the ejector slefve and a stud or profection which forms a fulcrum for the opposite end of
said lever, said stud or projection being interchangeable in a series of holes.
25. The combination with a stock spindle, of a stock chuck and a wire fred applied thereto, said wire feed comprising a fced tube, means to operate said chuck, a slide in which the feed tube of said wire feed is revolubly secured, means to impart reciprocating movement thereto, means to vary the movement thereof, rods fitted to and longitudinally movable ir grooves formed in the chuck plunger and in the feed tube of said wire feed, ejector fingers on said rods which project in wardly through slots formed in the spring Jaws of the feed tube in register with slots in the stock chuck. a sleeve or said feed tube to which the ejector rods are secured, a leve, pivoted upon the feed tube slide, connection between one end of said lever and the ejector sleeve. a stop which projects into the path of travel of the opposite end of said lever as said slide advances, said stop being interchangeable in a scries of holes and a spring applied to said lever adapted to move the same pivotally to retract said ejector sleeve.
26. The combination with a stock spindle. of a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck, a slide in which the feed tube of said wire feed is revolubly secured, means to impart reciprocating movement thereto, means to vary the movement thereof, rods fitted to and longitudinally movable in grooves formed in the chuck plunger and in the feed tube of said wire feed, ejector fingers on said rods which project inwardly through slots in the spring jaws of the feed tube in register with slots in the stock chuck, a sleeve on said feed tube to which the ejector rods are secured, a lever pivoted upon the feed tube slide, connection between one end of said lever and the ejector sleeve, a stop which projccts into the path of travel of the opposite end of said lever as said slide advances, said stop being changeable in a series of holes, a spring applied to sald lever adapted to move the same pivotally to retract said ejector sleeve and a stop which limits the rearward movement of said sleeve relatively to the feed tube of the wire feed.
27. The combination with a stock spindle, of a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck, means to impart reciprocating movement to the feed tube of said wire feed, ejector fingers which project inwardly through slots formed in the spring jaws of said feed tube in register with slots formed in the stock chuck, stops which limit the inward movement of said ejector fingers relatively to the spring jaws of the wire feed tube and means to impart reciprocating movement to said ejector fingers.
28. The combination with a stock spindle, of a slock chuck and a wire feed applied thereto. said wire feed comprising a feed tube, means to operate said chuck, means to impart reciprocating movement to the feed tube of said wire feed, ejector fingers which project inwardly through slots formed in the spring jaws of said feed tube in register with slots formed in the stock chuck, shoulders on said spring jaws which limit the inward movement of said ejector fingers relatively thereto and means to impart reciprocating movement to said ejector fingers.
29. The combination with a stock spindle, a stock chuck and a primary wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck and means to impart reciprocating movement to the feed tube of said wire feed. of an auxiliary wire feed, comprising spring jaws secured in the feed tube in the rear of the spring jaws of the primary wire feed, a fixed support in the rear of said ferd tube, a sleeve revolubly mounted in said support and means on said sleeve to prevent rearward movement of a bar of stock therethrough.
30. The combination with a stock spindle, a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck and means to impart reciprocating movement to the feed tube of said wire feed, of an auxiliary wire feed comprising spring jaws secured in the feed tube of said wire feed in the rear of the spring jaws of the primary wire feed, a fixed support in the rear of said feed tube, a sleeve revolubly mounted therein provided with a hole adapted to receive a bar of stock, a plate pivoted to the rear face of said slecve at one side of the hole therein and which extends across said hole, said plate being provided with a hole adapted to reccive a bar of stock, a spring applied to said plate to force the frce end thereof away from the face of said sleeve and a stop which limits the movement of said plate under the influence of said spring.
-31. The combination with a stock spindle, a stock chuck and a wire feed applied thereto, said wire feed comprising a feed tube, means to operate said chuck and means to impart reciprocating movement to the feed tube of said wire feed, of an auxillary wire feed, comprising spring jaws secured in said feed tube in the rear of the spring jaxis of the primary wire feed, a fixed support in the rear of said feed tube, a sleeve revolubly mounted in sald support provided
with a hole adapted to receive a bar of stock, a plate pivoted to the rear face of sald sleeve at one side of the hole therein and which extends across said hole, sald plate being provided with a hole adapted to recelve a bar of stock, a spring applied to said plate to force the free end thereof away from the face of the sleeve, a stop which limits the movement of said plate under the influence of said spring, a catch or detent adapted to secure said plate in contact with the face of sald sleeve, a pin for disengaging said detent from said plate and means to throw said pin into and out of the path of travel of said detent.

No. 100,847. Screw Machine. Machine d vis.


The Standard Screw Company, assignee of Walter Beverly Pearson, all of Detroit. Michigan. U.S.A., 4th September. 1906; 6 years. Filed 5th July, 1906. Recelpt No. 137.542.
Claim.-1. In a screw machine the combination of a revoluble stock holder and means for rotating the same, a cutting device for partially severing a bar of stock secured in said revoluble stock holder, a sceond stock holder for seizing the end of said partially severed bar of stock and holding the same stationary, means for intermittently stopping said revoluble stock holder, and means to cause said second stock holder to grasp the end of sald partially severed bar of stock when said revoluble stock holder is in positions of rest, substantially as described.
2. In a screw machine the combination of a revoluble stock holder and means for rotating the same at relatively fast and slow speeds, a cutting device for partlally severing a bar of stock secured in said revoluble stock holder. a second stock holder for seizing the end of said nartially severed bar of stock and holding the same stationary, means for intermittently stopping said revoluble stock holder, and means to cause sald serond stock holder to grasp the end of said partially severed bar of stock when said revoluble stock holder is in position of rest. substantially as descrihnt.
3. In a screw machine the combination of a stock spindle, a movable holding device adapted to be brought into register with sald stork spinille to saize one end of the bar of stock. a cutting device for partially severing a bar of stock secured in sald stock spindle mechanism for rotating said stock spindle, means for intermittently stopping the rotation of said stock spindle, and means to cause the holding device to approach and seize the stock during intervals of rest of the stock spindle, substantially as described.
4. In a screw machine, means for rotating a bar of stock, a change of speed device for said rotating means, a cutting device for partially severing sald stock. means for holding stationary one end of said bar, means to operate the change of speed devier wher by there will be a change from fast to slow sped and then to Inoperative position before the end of the har is s.imed hy the holding device, means for operatfiti the chance of surnd device subsequent thereto and after tho. partial s.verather of satd stock, for the purpose specified. ©. In a screw machine a main nperating device a stock spindle and a stock holder connectod therewith for an annular bar of stock, a clutch for connecting said operating
device with sald spindle, a stop device for said clutch and spindle and a second stock holder adapted to co-operate with sald angular bar when at rest for clamping same to sald stock holder, means for operating said stop device arrunged first to disengage said clutch from said operating dfevice and immediately thereafter hold said clutch and spindle stationary in proper predetermined position to insure the proper registry of the second holding device a=d Lar of stock and subsequently to release sald stop device. and means for effecting re-engagement of said clutch for the purpose of twisting the bar on its axis.
6. In a screw machine a main operating device, a stock spindle and a stock holder for an angular shaped bar of stock, a clutch for connecting the operating device with sald spindle for rotating same, a stop device for sald spindle, a second stock holder, angular shaped jaws thereon, means fo: moving the stop device to disengage said ciuten from the main operating device and hold said bar of stock and sald spindle at a predetermined point of rotation. means for operating the jaws of the second stock holder while sald spindle is held by said stop device, and means for releasing said stop device subsequent to the operation of sald jaws, for the purpose specifled.

\section*{No. 100,848. Sorew Making Machino. Machine a faire des ols.}


The Standard Screw Company, assignee of Walter Beverly Pearson, all of Detroit. Michigan, U.S.A., 4th September, 1906 ; 6 years. Flled 6th July, 1906. Receipt No. 137.581.

Claim.-1. The combination with a revoluble and longitudinally movable member, of an indexing head thereon provided with slots and holes, a converting disc, a pin thereon, a driven shaft, operative connection between sald driven shaft and converting disc whereby rotation of sald shaft will impart intermittent rotary movement to sald converting disc, projections on the indexing head, a cam on the driven shaft ergaged by said projections and a locking stud which engages a hole in said indexing head between rotary actuations thereof on which said converting disc is mounted, substantially as described.
2. The combination with a revoluble and longitudinally movable member, of an indexing head thereon provided with slots and holes, a converting disc, a pin thereon, a gear secured to rotate with said converting disc, a driven shaft, a segmental gear thereon which engages the gear on said converting disc, projections on the indexing head, a cam on the driven shaft engamed by said projections and a locking stud which engages a hole in said indexing head between rotary actuations thereof on which said converting disc is mounted, substantially as described.
3. The combination with a revoluble and longitudinally novable member, of an Indexing head thereon provided with slots and holes, a converting disc, a pin thereon, a gear secured to rotate with said converting disc, a driven shaft, a scgmental gear thereon which engages the gear on said con-
verting disc, projections on the indexing head, a cam on the driven shaft engaged by said projections. a locking stud which engages a hole in the indexing head between rotary actuations thereof on which the converting disc is slidably mounted, and shoulders on said movably supported member which embrace the sides of said converting disc whereby* soid converting disc will be maintained in fixed relation to the indexing head, substantially as descrbed.
4. The combination with a revoluble and longitudinally movable member, of an indexing head thereon provided with slots and holes, a converting disc, a pin thereon, a gear secured to rotate with sald converting disc, a driven shaft, a segmental gear thereon which engages the gear on said converting disc, projections on said indexing head, a cam or said driven shaft engaged by said projections, a locking stud which engages a hole in said indexing head between rotary actuations thereof on which said converting disc is mounted and means to prevent over carrying of said converting disc, substantially as described.
5. The combination with a revoluble and longitudinally movable shaft, of an indexing head thereon provided with slots and holes, a converting disc, a pin thereon, a gear secured to rotate with said converting disc, a driven shaft, a segmental gear thereon which engages the gear secured to said converting disc, projections on said indexing head, a cam on said driven shaft engaged by said projections, a locking stud which engages a hole in said indexing head between rotary actuations thereof on which said converting disc is mounted and a cam faced groove block yieldingly supported in said convering disc, which engages said movably supported shaft, when the locking stud is in register with a hole in the indexing head, substantially as described.
6. The combination with a revoluble member, of means to impart rotary movement thereto, comprising an indexing head provided with slots, a converting disc, pins thereon adapted to engage the slots in said indexing head, the relation being such that a pin on said converting disc will always be in engagement with a slot in said indexing head, and means to impart intermittent rotary movement to said converting disc, substantially as described.
7. The combination with a revoluble member, of means for imparting rotary movement thereto, comprising an indexing head provided with slots, a converting disc, a pin thereon adapted to engage the slots in said indexing head and means to impart intermittent rotary movement to said converting disc, the relation being such that in positions of rest sald pin will be in engagement with a slot in said indexing head, and the sides of said slot will be perpendidicular to a radial line through sald pin, substantially as described.
8. In a combination with a revoluble member, of means for imparting rotary movement thereto, comprising an indexing head provided with slots, a converting disc, a pin thereon adapted to engage the slots in sald indexing head, means to impart intermittent rotary movement to said converting disc, a part fixed relatively to said converting disc to said fixed part between rotary actuations thereof, the relation being sucb that in positions of rest said pin will be in engagement with a slot in said indexing head and the eides of said slot will be perpendicular to a radial line through said pin, substantially as described.
9. In combination with a revoluble member, of means for imparting rotary movement thereto, comprising an indexing head provided with slots, a converting disc, pins thereon adapted to engage the slots in sald indexing head and means to impart intermittent rotary movement to said conrerting disc. the relation being such that a pin on said converting disc will always be in engagement with a slot in said indexing head and such also that in positions of rest a radial line through a pin in engagement with a slot in said indexing head will be perpendicular to the sides of said slot, substantially as described.
10. The combination with a revoluble member, of means for imparting rotary movement thereto comprising an indexing head provided with slots, a converting disc, pins thereon adapted to engage the slots in said indexing head, means to impart intermittent rotary movement to said converting disc, a part fixed relatively to said converting disc and means to lock said converting disc to said fixed part between rotary actuations thereof, the relation being such that a pin on said converting disc will always be in engagement with gaid slot in said indexing head, and such also that in positions of rest a radial line through a pin in engagement With a slot in said indexing head will be perpendicular to the sides of said slot, substantially as described.
11. The combination with a revoluble member, of means for impaiting rotary movement thereto, comprising an infexing bead provided with shots, a converting disc, pins thereon adapted to engage the slots in said indexing head means to impart intermittent rotary movement to said converting disc, a part fixed relative to said converting disc and a cam-faced, grooved block yleldingly supported in said con-
verting disc adapted for engagement with said fixed part, substantially as described.
12. The combination with a revoluble member, of means to impart rotary movement thereto, comprising an indexing head provided with slots and holes, a converting disc, pins thereon adapted to engage the slots in said indexing head, a driven shaft, a gear secured to said converting disc, a segmental gear on said driven shaft adapted to engage the gear on said converting disc, means to prevent over-carrying of said converting disc, means to impart reciprocating movement to said revoluble member and means to lock said revoluble member against the rotary movement between engagements of said segmental gear with gear on said converting disc, comprising a rigid stud adapted to enter the holes in said indexing head, substantially as described.
13. In a machine for making screws and the like, the combination of a movably supported head, means for imparting reciprocating and rotary movement thereto, shucks on said head, a wedge applied to each of said chucks for closing the same and a movable member supported independently of said movably supported head in position to engage the wedge of a chuck when in receiving position and adapted to impart movement to said wedge to close said chuck and to leave said wedge at rest with said chuck closed and means to actuate said movable member to thus close the chucks on said movably supported head in succession.
14. In a machine for making screws and the like, the combination of a movably supported head. means for imparting reciprocating and rotary movement thereto, chucks on said head, a wedge applied to each of said chucks for closing the same, a lever pivoted on the machine frame in position to engage the wedge of a chuck when in receiving position and adapted to impart movement to said wedge to close said chuck and to leave said wedge at rest with said chuck closed, a driven shaft, a cam thereon and a projection on said actuating lever which engages said cam, the relation being such that said lever will be actuated to thus close the chucks on said head in succession.
15. In a machine for making screws and the like, the combination o a movably supported head, means for imparting reciprocating and rotary movement thereto. chucks on said head. a wedge comprising eccentric wedging surfaces applied to each of said chucks for closing the same, separate slides on said movably supported head in which said wedges are secured so as to be axially adjustable. a movable member supported independently of sald movably supported head in position to engage the wedge of a chuck when in receiving position and adapted to impart movement to said wedge to close sald chuck and to leave said wedge at rest with said chuck closed and means to actuate said movable member to thus close the chucks on said movably supported head in succession.
16. In a machine for making screws and the like, the combination of a movably supported head, means for imparting reciprocating and rotary movement thereto, flanges on said head, chuck bodies provided with slots secured in one of said flanges, shanks on said chuck bodies secured in the other of said flanges, chuck levers pivoted in the slots in said chuck bodies, a wedge mounted on the shank of each chuck body adapted to move the chuck levers of said chuck pivotally to close said chuck, a movable member supported independently of said movably supported head in position to engage the wedge of a chuck when in receiving position and adapted to impart movement to sald wedge to close said chuck and to leave said wedge at rest with said chuck closed and means to actuate said movable member to thus close the chucks on sald movably supported head in succession.
17. In a machine for making screws and the like, the combination of a movably supported head, means for imparting reciprocating and rotary movement thereto, chucks on said head, a wedge comprising eccentric wedging surfaces mounted on the shank of each chuck body, separate slides provided with guide surfaces which engage corresponding guide surfaces on sald movably supported head in which said wedges are secured so as to be axially adjustable, a movable member supported independently of said movably supported head in position to engage the wedge of a chuck when in receiving position and adapted to impart movement to said wedge to close the chuck and to leave said wedge at rest with said chuck closed and means to actuate ald movable member to thus close the chucks on said movably supported head in succession.
18. In a machine for making screws and the like, the combination of a movably supported head, means for imparting reciprocating and rotary movement thereto. chucks on said head, a wedge applied to each of said chucks for closing the same, means to impart movement to said wedges to successfully close said chucks when they are in receiving position and to leave said wedges at rest with said chucks closed and means to retract sald wedges to permit said chucks to open as they successfully come into discharging position, said means consisting of a fixed pin which
projects into the path of travel of the wedge of a chuck or of a rigid part thereof when said chuck is in discharging position as the movably supported head advances.
19. In a machine for making screws and the like, the combination with a movably supported head and means for imparting reciprocating and rotary movement thereto, of levers pivoted thereon, chuck jaws on said levers, springs applied to said levers, wedges, an oscillating lever for advancing said wedges between said levers when the chuck jaws thereon are in receiving position, means to retract said wedges from between said levers when the chuck jaws thereon are in discharging position and means to discharge articles from said chuck jaws comprising plungers, a member pivoted to the wedge operating lever which strikes a discharge plunger when said chuck jaws are in discharging position and a shank on said member which engages a suitable guide bearing, substantially as described.
20. In a machine for making screws and the like, the combination of a discharge tube and a plurality of tools mounted in a circle, a movably supported head, means to impart reciprocating and rotary movement thereto. chucks on said head, a wedge applied to each of said chucks for closing the same, discharge plungers fitted to and longitudinally movable in axial bearings in said chucks, a movable member supported independently of said movably supported head in position to engage the wedge of a chuck when in receiving position and to leave said wedge at rest with said chuck closed and comprising a part adapted to engage the discharge plunger of a chuck when in register with the discharge tube and to impart movement to said plunger to advance the end thereof through said chuck and means to actuate said movable member to thus close the chucks on said movably supported head and advance the discharge plungers thereof in succession.
21. In a machine for making screws and the like the combination of a discharge tube and a plurality of tools mounted in a circle, a movably supported head, means to impart reciprocating and rotary movement thereto, chucks on said head discharge plungers fitted to and longitudinally movable in axial bearings in said chucks, a movable member supported independently of said movably supported head in position to engage the discharge plunger of a chuck when said chuck is in register with the discharge tube and adapted to impart movement to said plunger to advance the end thereof through said chuck, and means to actuate said movable member to thus advance the plungers of said chucks in succession.
22. In a machine for making screws and the like the combination of a plurality of tools mounted in a circle, a head means to impart reciprocating and rotary movement to said head, chuck jaws on said head, means to open and close said chuck jaws, a receiving member, means to discharge articles from said chuck jaws into said receiving member and fingers which hold said chuck jaws closed during the operation of said discharge mechanism, substantially as described.
23. In a machine for making screws and the like the combination of a plurality of tools mounted in a circle, a head, means to impart reciprocating and rotary movement thereto, levers pivoted upon said head, chuck jaws on said levers, wedges, means to advance said wedges between said levers and to retract them therefrom, a receiving member, means to discharge articles from said chuck jaws into said receiving member and fingers which embrace said chuck jaw levers and hold said chuck jaws closed during the operation of the discharge mechanism, the relation being such that the wedge will be retracted from between said levers after said levers are embraced by said fingers and before the operation of the discharge mechanism, substantially as described.
24. In a machine for making screws and the like the combination of a plurality of tools mounted in a circle, said tools including a broach, a head, means to impart reciprocating and rotary movement to said head, chuck jaws on said head and means to discharge articles from said chuck jaws through said broach, substantially as described,
25. In a machine for making screws and the like the combination of a plurality of tools mounted in a circle, said tools including a broach, a head, means to impart reciprocating and rotary movement to said head, chuck jaws on said head and means to discharge articles from said chuck jaws through said broach, said means comprising plungers and means to advance said plungers through said chuck jaws, substantially as described.
26. In a machine for making screws and the like the combination of a plurality of tools mounted in a circle, said tools including a broach, a head, means to impart reciprocating and rotary movement of said head, chuck jaws on said head and means to discharge articles from said chuck jaws through said broach, said means comprising plungers and a reciprocating member adapted to advance said plungers through said chuck jaws, substantially as described.
27. In a machine for making screws and the like the combination of a plurality of tools mounted in a circle, said tools including a broach, a head, means to impart recipro-
cating and rotary movement to said head, chuck jaws on said head and means to discharge articles from said chuck jaws through said broach, said means comprising plungers, springs applied thereto, stops which limit the movement of said plungers and a reciprocating member adapted to advance said plungers through said chuck jaws, substantially as described.
28. In a machine for making screws and the like the combination of a discharge tube and a plurality of tools mounted in a circle, said tools comprising a broach in register with said discharge tube, a head, means to impart reciprocating and rotary movement thereto. chuck jaws on said head and means to discharge articles therefrom through said broach and into said discharge tube, substantially as described.
29. In a machine for making screws and the like the combination of a stock spindle and a plurality of tools mounted in a circle, a head, means to impart reciprocating and rotary movement thereto, chuck jaws thereon, means to feed a bar of stock through said stock spindle, means to rotate said stock spindle, means to stop said stock spindle, a piroted lever, a cut-off tool carried thereon, a spring applied to said cut-off tool lever adapted to retract the cut-off tool, a driven shaft, cams thereon one of which is adapted to impart pivotal movement to said cut-off tool lever to partially sever a blank from a bar of stock in said stock spindle and the other of which is adapted to impart pivotal movement to said cut-off tool lever to finish the end of a blank on the end of a bar of stock in said stock spindle, substantially as described.
30. In a machine for making screws and the like the combination with a stock spindle and a plurality of tool carrying spindles mounted in a circle and in parallel position a blank carrying head a plurality of chucks thereon, means to impart movement to said head towards and from said stock and tool carrying spindles, means to impart intermittent rotary movement to said blank carrying head to bring the chucks thereon successively in register with the different spindles, both stock and tool carrying spindles, means to feed a bar of stock through said stock spindle to a chuck on the blank carrying head in register therewith and means to sever blanks from said bar of stock.
31. In a machine for making screws and the like, the combination of a plurality of tools mounted in a circle, a blank carrying head and means to impart reciprocating and rotary movement to said blank carrying head, said tools including a pointing tool, a spindle on which said pointing tool is carried, means to rotate said spindle and means to impart movement to said pointing tool away from said blank carrying head as said blank carrying head advances and at a slower rate of spred, substantially as described.
32. In a machine for making screws and the like, the combination of a plurality of tools mounted in a circle, a blank carrying head and means to impart reciprocating and rotary movement to said blank carrying head, said tools including a pointing tool, a spindle on which said pointing tool is carried, means to rotate said spindle and means controlled by the movement of said blank carrying head for imparting movement to said pointing tool away from said blank carrying head as said blank carrying head advances and at a slower rate of speed, substantially as described.
33. In a machine for making screws and the like, the combination of a plurality of tools mounted in a circle, a blank carrying head and means to impart reciprocating and rotary movement to said blank carrying head, said tools including a pointing tool, a spindle on which said pointing tool is carried, means to rotate said spindle and means to impart movement to said pointing tool away from said blank carrying head as said blank carrying head advances, said means comprising a pivoted lever, connection between said lever and said pointing tool and a plunger on said blank carrying head adapted to strike a rigid portion of said lever, the point of engagement of said plunger with said lever and the point of connection of said lever to said pointing tool being at different distances from the pivotal point of said lever, substantially as described.
34. In a machine for making screws and the like, the combination of a plurality of tools mountd in a circle, a blank carrying head and means to impart reciprocating and rotary movement to said head, said tools including a pointing tool, a spindle on which said pointing tool is carried, means to rotate said spindle, means to impart movement to said pointing tool away from said blank carrying head as said blank carrying head advances and at a slower rate of speed, said means comprising a pivoted lever, connection between said lever and said pointing tool, a plunger on said blank carrying head adapted to strike a rigid portion of said pivoted lever as said blank carrying head advances, a spring applied to said pointing tool adapted to advance the same and a stop which limits the movement of said pointing tool under the influence of said spring, substantially as described.
35. In a machine for making serews and the like, the combination of a plurality of tools mounted in a circle, a blank
carrying head and means to impart reciprocating and rotary movement to said head, said tools including a pointing tool, a hollow spindle, means to rotate the same, an auxillary spindle fitted to and longitudinally movable in bearings in said hollow spindle, in which said pointing tool is directly secured, a pin in said auxiliary spindle which extends through longitudinal slots in said hollow spindle, a spring applied to said auxiliary spindle adapted to advance the same, a pivoted lever, connection between said lever and said auxlilary spindle and a plunger on said blank carrying head adapted to strike a rigid portion of said pivoted lever, the point of engagement of said plunger with said lever and the point of connection of said lever with said auxiliary spindle being at different distances from the pivotal point of said lever, substantially as described.
36. In a machine for making screws and the like the combination of a plurality of tools mounted in a circle, a blank carrying head and means to impart reciprocating and rotary movement to said blank carrying head, said tools lacluding a pointing tool, a bollow spindle, an auxiliary spindle fitted to and longitudinally movable in bearings in said hollow spindle in which said pointing tool is directly secured, a pin secured in said auxiliary spindle which extends through a longitudinal slot in said hollow spindle, a spring applied to said auxiliary spindle adapted to advance the same, a pivoted lever, connection between said lever and said auxiliary spindle, a plunger on said blank carrying head adapted to strike a rigid portion of said lever, the point of engagement of said plunger with said lever and the point of connection of said lever with said auxiliary spindle being at different distances from the pivotal point of said lever, substantially as described.
37. In a machine for making screws and the like the combination of a plurality of tools mounted in a circle, a blank carrying head and means to impart reciprocating and rotary movement to said blank carrying head, said tools including a pointing tool, a hollow spindle, means to rotate the same, an auxiliary spindle fitted to and longitudinally movable in bearings in said hollow spindle in which said pointing tool is directly secured, a ring on said hollow spindle, a pin secured in said ring and in said auxiliary spindle which extends through a longitudinal slot in saíd hollow spindle, a box fitted to said hollow spindle provided with an opening or recess the sides of which embrace the ring pinned to said auxiliary spindle, a pivoted lever, pivotal connection between said lever and the box on said hollow spindle, a plunger on the blank head which strikes a rigid portion of said pivoted lever as said blank carrying head advances, the point of engagement of said plunger with said lever and the point or connection of said lever with said auxiliary spindle being at different distances from the pivotal point of said lever, and a spring applied to said auxiliary spindle adapted to advance the same, substantially as described.
38. In a machine for making screws and the like the combination of a plurality of tools mounted in a circle, a blank carrying head and means to impart reciprocating and rotary movement to said head, said tools including a pointing tool, a hollow spindle, means to rotate said hollow spindle, an auxiliary spindle fitted to and longitudinally movable in bearings in said hollow spindle in which said pointing tool is directly secured, a ring on said hollow spindle, a pin secured in said ring and in said auxiiary spindle and which passess through a longitudinal slot in said hollow spindle, a box on said hollow spindle provided with a recess or opening the sides of which embrace the ring pinned to said auxiliary spindle, a pivoted lever, pivotal connection between said lever and the box on said hollow spindle, a plunger on the blank carrying head adapted to strike a rigid portion of said pivoted lever as said blank carrying head advances, the point of engagement of said plunger with said lever and the point of pivotal attachment of said lever to said box on said hollow spindle being at different distances from the pivotal point of said lever, and a spring applied to saidi auxiliary spindle adapted to advance the same, substantially as described.
39. In a machine for making screws and the like the combination of a plurality of tools mounted in a circle, a blank carrying head and means to impart reciprocating and rotary movement thereto, said tools including a pointing tool, a hollow spindle, means to rotate said hollow spindle, an auxiliary spindle fitted to and longitudinally movable in bearings in sald hollow spindie, in which said pointing tool is directly secured, a ring on said hollow spindle, a pin secured in said ring and in said auxiliary spindle and which passes through a longitudinal slot formed in sald hollow spindle, a spring applied to said auxilary spindle adapted to maintain the same at the forward limit of its movement, a box - on sald hollow spindle provided with a recess the sides of which embrace the ring pinned to said auxiliary spindle, a pivoted lever, pivotal connection between said pivoted lever and the box on said hollow spindle and a plunger on the blank carrylng head adapted to strike a rigid portion of said
proted lever, the point of attachment of said pivoted lever to the box on said hollow spindle being between the pivotal point of said lever and the point of engagement of the plunger on said blank carrying head with said lever, substantially as described.
40. The combination with an opening die, of a spring or springs applied thereto adapted to operate the same in one direction, a lever applied thereto adapted to operate the same against the force of said spring or springs and means to impart pivotal movement to said lever comprising a driven shaft, a cam thereon a bar on said lever which projects into the path of said cam, means to adjust sald bar lengthwise of said lever and means to secure said bar in adjusted position on said lever, substantially as described.
41. In a machine for making screws and the like the combination with a blank carrying head, means to actuate the same and a counter, of means to operate said counter disposed in position to be actuated by a screw or blank supported on said blank carrying head, substantially as described.
42. In a machine for making screws and the like the combination of a plurality of tools mounted in a circle, a blank carrying head, means to impart reciprocating and rotary movement to said head, chuck jaws on sald head, a counter and means to operate said counter, said means comprising a longitudinally movable rod mounted in the circle with the tools the end of which projects into the patch of a blank secured in the chuck jaws when in alignment therewith, means to secure said rod against rotary movement, a sleeve on said rod which is movable both revolubly and longitudinally thereof, an arm on said sleeve, operative connection beiween said arm and counter, said sleeve being provided with a cam slot comprising a straight and an inclined section, a pin secured in said rod which engages the cam slot in said sleeve, stops which secure said sleeve in fixed longitudinal position, a spring applied to said rod and a stop which limits the movement of said rod under the influence of said spring, the relation of parts being such that normally the pin in said rod is in engagement with the inclined section of the cam slot in said sleeve, substantially as described.
43. In a machine for making screws and the like the combination of a plurality of tools mounted in a circle, a blank (arrying head, means to impart reciprocating and rotary movement to said head, chuck jaws on said head, a counter and means to operate said counter, said means comprising a longitudinally movable rod mounted in the circle with the fools the end of which projects into the path of a blank secured in the chuck jaws when in alignment therewith, means to secure said rod against rotary movement, a sleeve on said rod which is movable both revolubly and longitudinally thereof, an arm on said sleeve, operative connection between said arm and counter, said sleeve being provided with a cam slot comprising a straight and an inclined section, a pin secured in said rod which engages the cam slot in said sleeve, a stop which secures said sleeve against movement in one direction, a stop which limits the movement of sald rod in the opposite direction and a spring inserted between the stop on said rod and the end of said sleeve, the relation of parts being such that normally the pin in said rod is in engagement with the inclined section of the cam slot in said sleeve, substantially as described.
44. In a machine for making screws and the like the combination with a plurality of tool spindles including a threading die spindle and a power shaft, of driving connections for said spindles other than the threading die spindle comprising driving connection between one of sald spindles and aaid power shaft and driving connections between said spindle so driven from said power shaft and the other of said spindles and independent driving connection between said power shaft and the threading die spindle, substantially as described.
45. In a machine for making screws and the like the combination with a plurality of tool spindles including a threading die spindle and a power shaft, of driving connections for said spindles other than the threading die spindle comprising bevelled gears connecting sald power shaft with one of said spindles and spur gears connecting said spindle with the other, and worm gears connecting said power shaft with said threading die spindle, substantially as described.

\section*{No. 100,849. Rotary Engine. Machine rotatoire.}

Sarah J. Christie, assignce of Elza James Christie, both of Marion, Iowa, U.S.A., 4th September, 1906; 6 years Filed 30th March, 1906. Receipt No. 134,446.
Claim.-1. In a rotary engine, the combination with suitable bearings, of a steam chest ring forming the equatorial section of a hollow sphere, a driver fitted to revolve therein, and provided with a circumferential steam recess adjacent to the stcam chest ring, and with an externally accessible steam disc or valve seat to take a centrally mounted valve or steam disc in an expanded part of the driver transverse to the ring, a valve or steam disc mounted to turn in said
2. In a rotary engine, the combination with a suitable base and bearings, of a rotary driver provided with a cir-

cumferential steam recess, a steam chest ring in contact therewith, and provided with oppositely disposed abutments fitting said recess, a disc having oppositely disposed gaps to pass sald abutments carried by the driver and adapted to intercept the steam in said recess at points intermedlate of the abutments, and means for giving positive rotation to the disc in a plane transverse to that of the driver.
3. In a rotary engine the combination with a suitable base and bearings, of a rotary driver having a central ring with a circumferential steam recess, and a transverse disc forming a seat for a steam disc, a steam chest ring in contact with said driver ring and provided with abutments fitting said recess, a steam disc seated in the driver, and adapted to cut across said recess, with peripheral gaps to permit it to pass the abutments, and means for revolving it in a plane transverse to that of the driver
4. In a rotary engine, the combination with a suitable base and bearings, of a rotary driver having a cylindrical middle portion with circumferential steam recess therein, a steam chest ring fitted thereto, and having abutments fitting sald recess, a disc carried by the driver, having peripheral gaps to permit it to pass the abutments, and adapted to cut across and bridge said recess, a fixed gear concentric with the axis of the driver, and gearing connecting the same and the disc, whereby it is positively revolved in a plane transverse to that of the driver
5. In a rotary engine, the combination with a rotary driver, of a steam chest ring forming the equatorial section of a hollow sphere, in continuous contact with said driver, and a disc carried by the driver, the disc being the corresponding section of a solid sphere, and means for revolving the disc on an axis central to the ring and parallel with its sides.
5. In a rotary engine the combination of a rotating driver having a cylindrical central portion with a circumferential steam recess therein, a ring enclosing the same. abutments on said ring fitting said recess, steam ports adjacent to the abutments, a disc mounted in the driver in a plane transverse to the ring and having peripheral gaps for the passing of the abutments, the said disc being adapted to cut across the recess and contact with the ring between the abutments, means for imparting rotary motion to the disc as the driver revolves, an auxiliary cut-off valve, and means for operating the same to open after the gaps in the disc have passed the abutments.

\section*{No. 100,850. Lock. Serrure.}

John Jorgenson and Augustus Quad, assignee of a half interest. San Francisco. California, U.S.A.. 4th September, 1906; 6 years. Filed 3rd April, 1906. Recelpt No. 134,543.
Claim.-1. In a lock the combination of inner and outer hollow stationary knobs, a locking bolt and separate actuators carried by each knob to retract the bolt, means to permit either of said actuators to operate independently of the other, and means to set one actuator to pervent the actuation of the other
2. In a lock the combination of outer and inner knobs, a locking bolt, one of said knobs having a plurality of actuators operated by different means to reciprocate sald bolt. and means carried by the inner knob to prevent the operation of one or both of said actuators.
3. In a lock the combination of a locking bolt and operating means therefor. said operating means including a pair of arluators disposed on the same slide of the bolt and enkagcable therowith, one of said actuators operable by a key only and a key to operate said actuator.
4. In a lock the combination of inner and outer hollow non-rotatable knobs, a locking bolt a plurality of actuatora

carried by one knob and engageble with the bolt to retract the same, said actuators operable by Independent means, an independent actuator carried by the other knob, and meana to set said independent actuator to prevent the operation of either of said other actuators.
5. In a lock the combination with inner and outer hollow non-rotatable knobs, a locking bolt, a pair of actuators carried by one of said knobs and reciprocal transverse to the tolt, said actuators operable by separate meana and one operable separately from the other, and means carried by the other knob to limit the movement ot one or both of gaid actuators.
6. In a lock the combination of a locking bolt, a hollow knob or equivalent support, a carrier reciprocal in said knob provided with an actuator engageable with the bolt, second actuator supported by said carrier and movable indopendently thereof, and means to hold said bolt and actuators in normal operative relation to one another
7. In a lock the combination of a locking bolt, a hollow knob or equivalent support, a carrier reciprocal in said knob provided with an actuator engageable with the bolt, a second actuator supported by said carrier and movable independently thereof, and means to hold said bolt and actuators in normal operative relation to one another, said independently operable actuator being provided with a keyway, and means to prevent the actuation of the carrier to retract the bolt
8. In a lock the combination of a locking bolt a hollow knob or equivalent support, a carrier reciprocal to sald knob 'or support and provided with an actuator to engage said bolt to operate the same, another actuator slidably supported in said carrier and operable independently of the firstnamed actuator, said independent actuator having a keyway and tumbler mechanism interposable in the keyway.
9. In a lock the combination of a locking bolt, a hollow knob or equivalent support a carrier reciprocal to said knob or support and provided with an actuator to engage sald bolt to operate the same, another actuator slidably supported in said carrier and operable independently of the firstnamed actuator, said independent actuator having a keyway and tumbler mechanism in the keyway, said tumbler mechanism including a tumbler plate movable in cam guidea in the carrier and provided with pins fitting perforations in the keyway portion of said actuator and intersecting the keyway.
10. In a lock the combination of a locking bolt, a hallow knob, a carrier reciprocal in said bolt and provided with an actuator to engage said bolt to operate the same, another actuator slidably supported in said carrier and operable independently of the first-named actuator, said independent actuator having keyway and tumbler mechanism in the keyway, sald tumbler mechanism including a tumbler plate movable in cam guldes in the carrier and provided with pins fitting perforations in the keyway portion of said actuator and intersecting the keyway, and means to prevent the operation of elther of said actuators, said last-named means including a wedge member interposable in the path of said actuators.
11. In a lock the combination of outer and inner hollow stationary knobs,a locking bolt, a carrier mounted for reclprocation in the outer knob, a pair of actuators supported by said carrier, one of said actuators movable separately from the other and an Independent actuator carried by the inner knob and operable by a push button.
12. In a lock the combination of outer and inner hollow stationary knobs, a locking bolt a carrier mounted for reciprocation in the other knob a palr of actuators supported by sald carried, one of sald actuators movable separately from the other and an independent actuator carried by the inner knob and operable by a push button, sald independent
actuator having a reciprocating and rotative movement and part rotatable with said independent actuator and interposable in the path of one of the first named actuators on said carrier to prevent the operation thereof.
13. In a lock the combination of outet and inner stationary knobs, a slotted locking bolt a pair of actuators operated by independent means suitably supported for reciprocation in the outer knob and engageable in the slot in said bolt to retract the latter, means for holding the bolt and actuators in operative relation and an independent actuator carried the inner knob and engageable with the bolt to retract the latter.
14. In a lock the combination of outer and inner stationary knobs, a slotted locking bolt a pair of actuators operated by independent means suitably supported for reciprocating in the outer knob and engagable in the slot in sald bolt to rethe outer knob and engageable in the slot in eaid boit to rein operative relation, an independent actuator carried by the inner knob and engageable with the bolt to ratract the latter, said independent actuator mounted to rotate and adapted to lie in a plane parallel with the first-named actuators of in a plane transverse thereto.
15. In a lock the combination with a sliding latch bolt provided with lateral notches and a keyway and having perforations intersecting sald keyway, of a tumbler member supported indepentently of but movable with the bolt, said member operable across the keyway.
16. In a lock the combination with a sliding bolt provided with a keyway and having perforations intersecting said keyway, of a tumbler plate supported independent of and movable transverse to the bolt and provided with projections reglstrable with the perforations in the bolt.

No. 100,851. Mould for mailaing Ioolm. Moute pour blocs de construction.


William F. Cowham, assignee of Levi P. Normandin, both of Jackson, Michigan, U.S.A., 4th September, 1006 ; 6 years. Filed 28th May. 1906. Receipt No. 136,302.
claim.-1. In a mould the combination with a bed, of a rectangular mould frame comprising articulated sides, a botcom plate adjacent to said sides and a completifg side rigidIf athached to maid bed and extending over said bottom plate, for the porpose dencribed.
3. The combination with a bed and an erticulated mould frame mounted thereon, of an angle plate secured to said bed having a portion parallel with one of the sides of said rectangular frame and an oblique portion, and a bottom plate provided whic a rectangular portion fitting between the sides of said rectangular frame and an angling portion extending adjacent to said oblique side.
3. The combination with a bed and an articulated mould frame mounted thereon, of an angle plate secured to said bed, one portion thereof being parallel with the side of said rectangular mould and another portion extending obliquely in relation thereto, a plate extending perpendicular from the ond of sald oblique portion to the side of eald rectanguler mould, and a bottom plate fitting agtainst said angle plate, having a rectangular portion fitting within the sides of the rectangular mould.
4. The combination with a bed and an articulated rectangular mould mounted thereon, of a plate secured to said bed having a portion thereof parallel to one of the rectangular sides of said mould and a portion extending obliquely therefrom, and a complementary plate secured to said angling portion and extending perpendicular thereto, the combine angling plates extending between parallel sides of said rec tangulear mould and being adjustable in relation to the third side thereof.
b. The combination with a bed and an articulated rectan gular mould frame mounted thereon, of a plate extending between parallel sides of said articulated frame, and having a portion parallel to a third side of said frame and two oppositely angling oblique portions and a filling block inserted in the angle of said rectangular mould, adjacent to one of said oblique portions and parallel to the other oblique portion.
6. A mould comprising a mould frame forming three sides of a rectangle, a plate having a portion parallel to one of said sides and two oppositely angling oblique portions, the total length of said portions extending between the parallel sides of said frame and said plate, being adjustable toward or from the third side of said frame and a variable sized block having a moulding face parallel with one of eald oblique portions and perpendicular to the other oblique portion.
7. A mould for an obliquely angling block, the sides of each portion of which are parallel and the ends of which are perpendicular to the sides of said mould comprising an articulated rectangular mould frame, a rigid plate extending between the parallel sides of sald rectangle and adjustable toward of from the third side of sald rectangle, said rigid plate comprising a portion parallel to the side of the rectangle, and two oppositely angling oblique portions, and a variable fllling block within the corner of said rectangle, having a moulding face parallel with one of said oblique sides and perpendicular to the other side.
8. The combination with a bed and an articulated rectangular mould frame mounted thereon, of a mould plate mounted upon sald bed having a portion parallel to one of the sides of said rectangular mould frame, and two oblique portions perpendicular to each other and a triangular block fitting between the sides of said rectangular mould frame and one of said angling portions and forming a mould face parallel to the other angling portion
9. The combination with a bed and an articulated rectangular mould frame mounted thereon, of a plate F secured to said bed and having the oblique portions \(a\) and \(b\), a bottom plate fitting against said plate \(F\) and having a portion fitting between the rectangular sides of said mould frame and the plate \(H\) extending over said bottom plate adjacent to one side of said rectangular frame.
10. The combination with a bed and an artlculated rectangular mould frame mounted thereon, of an engle plate \(F\) rigidly secured to said bed, a bottom plate I fitting against said plate \(F\) and within the rectangular sides of sald mould frame, the plate \(H\) secured to the plate \(F\) extending over the bottom plate and the block J, substantially as and for the purpose specified.

No. 100,852. Fire Hydrant. Borne-fontaine pour le fcu.


The Corey Estate Company, assignee of Robert Marion Pringle, both of St. Louis, Missouri, U.S.A., 4th September, 1906; 6 years. Filed 14th June, 1906. Receipt No. 136,886.
Claim.-1. In a fire hydrant the combination with a stand pipe and its valve seat, of a main valve, a valve operating rod provided with oppositely pitched threaded portlons, nuts co-operating with said threaded portions, links pivotally connected to said nuts and to said main valve, and independent connection between sald links whereby said links are caused to approach each other to nearly parallelism, when the main valve is seated, substantially as described.
2. In a fire hydrant the combination with a stand pipe and its valve seat, of a main valve, a valve operating rod provided with oppositely pitched threaded portions, nuts cooperating with said threaded portions, links pivotally connected to said nuts and to said main valve, and a link 11 pivotally connected to said first-mentioned links on opposite sides of the pivotal points of connection of said first-mentioned links to the main valve, substantially as described.
3. In a main valve operating mechanism for fire hydrants, the combination with a valve operating rod provided with two oppositely threaded portions, of a nut on each of said threaded portions, a main valve. a link extending from each nut and pivotally connected thereto and to the main valve, and a link co-operating with said links for maintaining the main valve in a vertical plane in its different adjusted positions, substantially as described.
4. In a fire hydrant the combination with a stand plpe and its valve seat, of a main valve, a valve operating rod, a barrel for a drain valve arranged in the lower portion of the stand pipe, said barrel having interior longitudinally disposed grooves in one of its ends, and a drain valve connected to and operated by said operating rod, said drainvalve in its movement passing the inner termini of said grooves, substantially as described.

No. 100,853. Process of Distilling Coal, Bhales. Iignites and other Eydro-Carbonate Procédé pour distiller le charbon, etc.


The American Eduction Company. Washington, District of Columbia, assignee of Henry Wurts, Jr., Newark, New Jersey, both in the U.S.A., 4th September, 1906; 6 years, Filed 17th February, 1906. Receipt No. 132,482.
Claim.-1. The process herein described of distilling coals, shales, lignites and other hydro-carbonaceous substances which consists in dividing a charge of the substance to be distilled into relatively small isolated bodies confined in an air tight chamber and subjecting the same to the action of free moving currents or properly heated neutral gases or the deoxidized products of combustion, substantially as described.
2. In the process herein described of distilling coals, shales, lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance to be distllled Into relatively small isolated bodies confined in an air tight chamber, subjecting the same to the action of free moving currents of properly heated neutral gases of the deoxidized products of combustion, which said heated currents are caused to flow over and under each of the said bodies, substantially as described.
3. The process herein described of distilling coals, shales, lignites and other hydro-carbonaceous substances, consisting in dividing a charge of the eragments of the substance to be distilled into relatively small isolated bodies arranged one above the other in suitable receptacles confined in an air tight chamber and subjecting the said bodies to the action of free moving currents of properly heated neutral gases or the deoxidized products of combustion, which are caused to flow over and under each of the said bodies, successively, substantially as described.
4. The process herein described of distilling coals, shales, lignites and other hydro-carbonaceous substances, consisting in dividing a charge composed of fragments of the substance to be distilled into relatively small isolated bodies, spread in relatively thin layers in suitable receptacles confined in an air tight chamber and arranged with spaces between them and also between their ends and the walls of
the chamber and subjecting the said layers of the substance to the action of free moving currents of properly heated neutral gases or the deoxidized products of combustion which are caused to flow over and under each of said layers successively, substantially as described.
5. The process of distilling coals, shales. lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance into relatively small bodies confined in an air tight chamber and causing currents of neutral gases heated to a temperature below incandescence, that is, from about \(650^{\circ}\) to \(800^{\circ} \mathrm{F}\)., to pass through the chamber and impinge upon the separate bodies, substantially as described.
6. The process of distilling coals, shales, lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance into relatively small bodies confined in an air tight chamber, and causing currents of neutral gases heated to a temperature below incandescence. that is, from about \(650^{\circ}\) to \(800^{\circ} \mathrm{F}\)., to jass over, around and under the several bodies, substantially as described.
7. The process of distilling coals, shales. lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance into relatively small bodies, depositing the same in separate layers and causing the currents of neutral gases heated to a temperature below incandescence, that is, from about \(650^{\circ}\) to \(800^{\circ} \mathrm{F}\)., to pass over, under and between the several layers, substantially as described.
8. In the process of distilling coals, shales, lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance to be distilled into relatively small bodies, depositing the same in separate layers on suitable surfaces and causing the neutral gases heated to a temperature below incandescence. that is. from about \(650^{\circ}\) to \(800^{\circ} \mathrm{F}\)., to pass over and under the said layers and through the spaces between the same, substantially as described.
9. The process of distilling coals, shales, lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance to be distilled into relatively small bodies. spreading the same in separate layers on suitable surfaces senarated from onf annther and with passages at opposite ends of adjoininz surfaces that connect with the spaces above and below thus forming a sigzag passage through the distilling chamber, and causing the neutral gases heated to a temperature below incandescence, that is, from about \(650^{\circ}\) to \(800^{\circ} \mathrm{F}\)., to nass through the zig-zag passages over the respective layers and under the same, substantially as described.
10. The process of distilling coals. shales. lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance into relatively small bodies, spreading the same in thin layers on surfaces arranged in an air tight chamber with spaces between, and with communicating passages between adjoining spaces situated at the ends of adjoining surfaces thus forming a zig-zag passage through the chamber, and causing currents of neutral gases heated to a temperature below incandescence, that is, from about \(650^{\circ}\) to \(800^{\circ}\) F., to pass over the tops of the layers and under the botloms of the surfaces on which the layers are deposited. substantially as described.
11. The process of distilling coals, shales, lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance into relatively small bodies each of which is spread on a chair in the air tight chamber, causing currents of neutral gases heated to a temperature below incandescence, that is, from about \(650^{\circ}\) to \(800^{\circ} \mathrm{F}\)., to pass through said chamber in contact with the bodies of material to distill the vanours therefrom, and which are withdrawn with the oils, oleaginous vapours and other volatile distillates out of the chamber and driven into a condenser. substantially as described.
12. The grocess of distilling coals, shales, lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance into relatively small bodies and causing rapidly moving hot products of combustion from a ron-contiguous fire to pass over the layers and under the surfaces and to sweep the vapours as they develop away from the material from which they are distilled and the heat engendered by their distillation and to carry them directly to a condenser. substantlally as described.
13. The process of distilling coals, shales. ligniter and other hydro-carbonaceous substances consisting in dividing a charge of the substances into relatively small bodies which are snread on a series of trays supported horizontally in an air tight chamber with spaces between and passages between onposite ends of those that adjoin and the walls of the chamber, causing the product of combustion from a non-contiguous fire to enter the chamber and pass lengthwise of the trays through the spaces between adjoining trays and in contact with the substance on one tray and the bottom of the adjoining tray, substantially as described.
14. The process of distilling coals, shales, lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance into relatively small bodies, spreading the same in layers on a series of surfaces, causing hot currents of products of combustion from an exterior fire to pass through the distilling chamber in contact with the material on the trays, and drawing the products of combustion and the vapours distilled from the coal out of the distilling chamber and driving them to a condenser, substantially as described.
15. The process of distilling coals, shales, lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance into relatively small bodies. spreading the same in layers on a series of trays supported in the distilling chamber with spaces between them and with Dassages around the opnosite ends of adjoining trays, and causing hot gaseous products of combustion from non-contiguous fires to pass into the distllling chamber at the top and then downward through the zig-zag passage, and horizontally over and under the material in the trays and sweed the vapours of oils and waxes and other volatile products distille from the material away from the point where they are developed and then out of the distilling chamber and into a condenser, substantially as described.
16. The process of distilling coals, shales. lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance into relatively small isolated bodies confined in an air tight chamber and causing currents of hot products of combustion from a non-contiguous fire to pass through the chamber and impinge on the several bodies of coal, substantially as described.
17. The process of distilling coals, shales. lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance into relatively small bodies spread in uniform layers on trays or shelves arranged in a distlling chamber and adjusted to form a zig-zag passage through the chamber and causing a current of hot products of combustion from non-contiguous fires to pass over the layers of coal and under the bottoms of the trays, substantially as described.
18. The process of distllling coals, shales, lignites and other hydro-carbonaceous substances consisting in dividing a charge of the substance into relatively small bodies, spreading the same in layers on trays in an air tight distilling chamber arranged and adjusted to form a zig-zag passage through said chamber, causing a current of gaseous products of combustion to enter the ton of the chamber and pass downward through the zigzag passage over the tops of the successive layers of coal and under the bottoms of the trays, and to issue from the bottom of the chamber with the vapours distilled from the coal, and thence driven into a condenser, substantially as described.
19. The nrocess of distilling coals, shales, lignites and other hydro-carbonaceous substances, consisting in placing the substance in a casing open at top and bottom and enclosed in an air tight compartment, leading the hot products of combustion from a noncontiguous fire into the casing at the toD and downward through the same and the hydro-carbonaceous substance therein, and drawing the vapours and products of combustion out of the casing at the bottom, substantially as described.
20. The process of distilling coals, shales, lignites and other hydro-carbonaceous substances consisting in placing the substance in a casing open at the top and bottom and enclosed in an air tight compartment between non-contiguous fires, leading the hot products of combustion from both fires into the casing at the top and downward through the same and the hydro-carbonaceous substance therein, and drawing the vapours and products of combustion out of the casing at the bottom, substantially as described.

\section*{No. 100,854. Apparatus for Distilling Coals, Shales, and Hydro-Carbonaceous Enbstances. \\ Apparcil pour distiller le charbon, etc.}

The American Eduction Company, District of Columbia, assignee of Henry Wurts, Jr., Newark, New Jersey, both in the U.S.A.. 4th September. 1906: 6 years. Filed 17th February. 1906. Recelpt No. 132.483.
Claim.-1. In an apparatus for distilling coals, shales, lignites and other hydro-carbonaceous substances, spaced and staggered trays. for holding the substance to be distilled, ecclosed in a compartment which is in communication on the one band with a heat flue from a fire chamber adjoining the compartment, and on the other hand with an exhaust pipe, and means for inducing currents of heated products of combustion to enter the compartment from the heat flue and to zig-zag over the substance on the trays, and under and around the ends of the trays and to draw the products of combustion and distillation out of the compartment and into the exhaust pipe, substantially as described.
2. In an apparatus for distilling coals, shales, lignites and other hydro-carbonaceous substances, spaced and staggered

trays for holding the substance to be distilled, enclosed in a compartment which is in communication on the one hand with heat flues from fire chambers adjoining the two sides of the compartment, and on the other hand with an exhaust pipe, and means for inducing currents of heated products' of combustion to enter the compartment from the heat flues and zag-zag over the substance on the trays, and under and around the ends of the trays and to draw the products of combustion and distillation out of the compartment and into the exhaust pipe, substantially as described.
3. In an apparatus for distilling coals, shales, lignites and other hydro-carbonaceous substances, spaced and staggered trays, for holding the substance to be distilled, enclosed in a compartment which is in communication on the one hand with heat flues from fire chambers adjoining the two sides of the compartment, and on the other hand with an exhaust pipe, means for inducing currents of heated products of crombustion to enter the compartment from the heat flues and zag-zag over the substances on the trays and under and around the ends of the trays, and to draw the products of combustion and distillation out of the compartment and into the exhaust pipe, and means far controlling the inflow of the products of combustion to the compartment, substantially as described.
4. In an apparatus for distilling coals, shales, lignites and other hydro-carbonaceous substances. the combination of a fire chamber and a compartment adjacent thereto, but separated therefrom by a wall, and a heat flue leading from the fire chamber, openings in the wall between the heat flue and a compartment for the passage of the products of combustion into the compartment, trays supported one above the other in the compartment and staggered to form a zag-zag passage through the compartment, an exhaust pipe and an exhaust connected therewith to induce currents of products of combustion from the heat flues into and through the compartment and to draw the products of combustion and distillation out of the compartment and into the exhaust pipe, substantially as described.
5. In an apparatus for distilling coals, shales, lignites and other hydro-carbonaceous substances the combination of fire chambers and a compartment located between the same, heat flues leading from the fire chambers, openings leading to the heat flues in the walls of the compartment, trays supported one above the other in the compartment and. staggered to form a zag-zag passage through the compartment, an exhaust pipe and an exhaust connected therewith to induce the products of combustion from the heat flues into and through the compartment and to draw the products of combustion and distillation out of the compartment and into the exhaust plpe, substantially as described.
6. In an apparatus for distiliing coals, shales, lignites and other hydro-carbonaceous substances the combination of a fire chamber, a compartment adjacent to the fire chamber, heat flue leading from the fire chamber, and a casing inserted in the compartment having trays arranged in the same for the coal, substantially as described.
7. The combination of one or more fire chambers, a compartment adjacent thereto, a heat flue or flues leading from the fire chamber or chambers to the compartment, a casing open at top and bottom and having trays arranged therein to form a zag-zag passage through the casing and adapted to receive the coal to be distilled, substantlally as described.
8. The combination of one or more fire chambers, fuel magazines located above the fire chambers having water sealed tops, a compartment adjacent to the fire chamber or chambers but divided therefrom by a partition or partitions,
heat flue or flues leading from the fire chamber or chambers to the compartment and a casing located in the compartment having trays arranged therein for the coal, substantially as described.
3. The combination of one or more fire chambers, a compartment adjacent thereto divided therefrom by a partition or partitions through which openings lead into the compartzuent, a valve chamber or chambers located in the compartment and valves for controlling the temperature in the compartment, substantially as described.
10. The combination of one or more fire chambers, a compartment adjacent thereto, heat flue or flues leading to the compartment, a casing arranged in the compartment and having trays arranged therein to receive the coal, said casing adapted to be moved into the compartment during distillation and to be moved out of the same to discharge the residual coke and recharge with coal, substantially as described.
11. The combination of one or more fire chambers, a compartment adjacent thereto, heat flue or flues leading to the compartment, valves for regulating the temperature in the compartment, a casing in the compartment having trays arranged therein for the coal, an exhaust blower under the casing to draw the products of combustion and the vapours arising from the distillation of the coal out of the casing, substantially as described.

No. 100,855. Exhaust for Locomotives.
Appareil d'échappement pour locomotites.


The Robinson Company. assignee of Frank Robinson, both of Bangor, Maine, U.S.A., 4th September. 1906; 6 years Filed 23rd April, 1906. Receipt No. 135,178.
Glaim.-1. An apparatus of the character spectfed having a steam expanding and holding chamber for the exhaust discharges, sald chamber having an annular outlet, the walls forming the outlet being so separated and the area of the outlet so proportioned that the exhaust intermittently discharged into said chamber may be held and allowed to commingle and expand thereln, which apparatus also has walls inclined to form a gradually harrowing approach to said outlet whereby the exhaust may issue therefrom in a freely moving continuous column.
2. An apparatus of the character specified having a steam expanding and holding chamber with an annular outlet, the walls forming sald annular outlet being so arranged that said outlet will be of relatively small diameter and large area so proportioned however to the capacity of said chamber that the exhaust intermittently discharged inta the same may not issue therefrom through said nutlet, but may be held to commingle and expand within sald chamber, which arparatus also has walls inclined to form a gradually parrowing approach from ingide said chamber to its outlet whereby the exhaust may issue therefrom in a freely moving continuous column.
3. An apparatus of the character specified having a steam expanding and holding chamber with an annular straight walled escape opening or outlet thereto, the walls
forming the annular outlet being so separated and the area of said outlet being so proportioned to the capacity of said chamber that the exhaust intermittently discharged into said chamber may not escape directly therefrom through said outlet, but may be held to commingle and expand therein, which apparatus is also so made that slightly inclined guiding surfaces shall extend to the walls forming said outlet. Whereby a gradually narrowing approach is made thereto and exhaust controlled to exit through the outlet in a freely moving continuous column.
4. An exhaust apparatus having a globular steam holding and expanding chamber the bottom part of which is provided with a single exhaust receiving inlet, the upper portion of said chamber having a straight walled opening with a \(V\) shaped crossbar located at about the largest dlameter of said chamber with an inverted cone mounted on said cross. har having a base adapted to form with the opening in said chamber a straight walled annular exhaust passage thereto.

\section*{No. 100,856. System of Dlectrical Distribution.} Systìme de distribution électrique.


The Electric Storage Battery Company, assignee of Justus B. Entz, both of Philadelphla, Pennsylvania,U.S.A., 4th September, 1906: 6 years. Filed 27th February, 1905. Receipt No. 122,848 .
Claim.-1. A system of electrical distribution comprising the combination of a working circuit, a battery provided with a booster and its circult connections, a generator for ronerating alternating current and feeding the working circuit, a prime mover for driving the generator, transforming provisions interposed between the working circuit and batlery for converting direct and alternating current to permit the battery to charge and discharge, and means for mechanically insuring synchronism of the generator and transforming provisions whereby the frequency of the current generated by the alternating generator and of the superimposed battery current is the same, substantially as described.
2. A system of electrical distribution comprising the combination of a working circuit. a battery provided with a booster and its circuit connection, an alternating generator feeding the working circuit and provided with a commutator, a prime mover for driving the generator, and connections between the commutator and battery, whereby the frequency of the current generated and of the superimposed battery current is the same.
No. 100,857. Rotary Eingine. Machine rotatoire.


The Taylor Herrick Engine Company, assignee of Edwin Taylor, all of Brooklyn, New York. U.S.A., 4th September, 1906: 6 years. Filed 9th August, 1906. Recelpt No. 138,536.
Claim.-1. In a rotary engine having a barrel eccentrically arranged within the casing, a central shaft and a piston extending therefrom through the barrel to the casing, a serles or passages arranged to connect the chambers inside and outside the barrel and to be sucessively fully closed and then opened on the passage of the piston.
2. In an apparatus for the conversion of energy the combination, a cylinder, an eccentric barrel, a shaft, a piston extending from the shaft through the barrel, inlet and outlet ports, and a series of passages between the chambers interlor and exterior to sald barrel arranged radially in respect to the center of the shaft as set forth, whereby the pressure is applied to only part of the piston area during part of the stroke and is upon the full piston area during another substantial part of the stroke.
3. In a rotary engine in combination, a cylinder. an eccentric barrel, a shaft, a piston extending from the shaft through the barrel, inlet and outlet ports, passages betwen the chambers interior and exterior to said barrel arranged radially in respect to the center of the shaft as set forth, whereby the pressure is applied to only part of the piston area during a part of the stroke and is upon the full piston area during another part of the stroke, and means for cutting off the steam to secure its expansive action upon the full area of the piston.
4. In a rotary engine having a cylinder, an eccentric barrel, a shaft and a piston extending from the shaft through a packed opening of the barrel, inlet and outlet ports and channels arranged radially to the center of the shaft as set forth. whereby the pressure is upon only part of the piston area during the first half of its traverse and is uniformiy upon the full piston area during another substantlal part of the raverse.
5. In a rotary engine having a casing, an eccentric barrel, a shaft, a piston extending therefrom through the barrel, ports communicating with the chambers outside of and within the barrel, channels whereby the steam may pass from one chamber to the other and means whereby the steam may be admitted directly from the supply to either the port communicating with the outside chamber or that communicating with the inside chamber at any point of the stroke.
6. The combination with the eccentric barrel, a shaft and a piston extending therefrom through the barrel and having fts edges bevelled, substantially as described.
7. The combination in a rotary engine, of the casing having a circular chamber and sides with annular grooves, eccentric barrel extegding into said grooves, tapering, packing and bearing rings surrounding the periphery of the barrel within the grooves, the inclined aces of the rings adapted to inclined faces of the grooves, and means for moving the rings inward.
8. The combination with the casing and eccentric barrel of a rotary engine, of a shaft carrying a piston extending through the barrel and provided with a hollow enlargement within the barrel, the said enlargement having a port in its periphery, and a series of passages radial to the shaft through which the steam can pass between the outside chamber and said port and the casing having an exhaust port communjcating with the chamber within the enlargement.
9. The combination with the casing and eccentric barrel of a rotary engine, of a shaft carrying a piston extending through the barrel and provided with a hollow enlargement within the barrel, the gaid enlargement having a port in its periphery, and the casing having chanuels or passages affording a communication between the chambers within and outside the barrel and an exhaust port communicating with the chamber within the enlargement.
10. The combibation with the casing having inlet and exhaust ports and eccentric barrel, of a shaft carrying a piston extending through the barrel and provided with a hollow enlargement or hub within the barrel and a series of channels \(t\) affording communication between the chambers inside and outside of the barrel, the said hug having a port \(n\) arranged to aflord'communication betwen the hub and the chamber outaide the barrel until a material area of the piston is exposed within the barrel.
11. The combination in a rotary engine, of a casing, eccentric barrel, shaft and piston extending through a sealed opening of the barrel, inlet and outlet ports and passages arranged radially for approximately one half of the piston's travel to secure the pressure of the steam on the piston area outside the barrel during a part of the traverse and a pressure upon the piston area at the same side of the piston both outside of and within the barrel for another part and only within the barrel for another part of the traverse.
12. The combination in a rotary eagine, of a casing, eccentric barrel, shaft, and piston extending through a sealed opening of the barrel, inlet and exhaust ports, and passages arranged radially for approximately one-halt of the piston's travel to secure the pressure of the steam on the platon area in the primary chamber outside of the barrel as the piston passes the inlet port and during part of the traverse, and only on the piston area within the barrel during another part of traverse and a pressure upon the platon both outside of and within the barrel for another part of traverse and until the piston passes the inlet and the engine ex\& hausts.
13. The combination with the piston of a rotary engine recessed at the edge, of a packing strip within the recess provided with pins 19, and L-shaped grooves in the sides of the recesses recelving said pins.
14. The combination with the shaft and piston of a rotary engine, of an eccentric barrel consisting of two rings or sections with meeting edges, and a recess formed partly in each section, and a rocking bearing having a recess for the passage of the piston fitted to the rock in the recess formed in sald sections.
15. In an apparatus for the conversion of energy, in combination, a casing, an eccentric barrel, a shaft, a piston extending therefrom through the barrel, ports communicating with the chambers interior and exterior to said barrel and a plurality of channels of communication betweeen the said chambers, the distance between the outer edges of the first and last channels comprehending about one-half the circumperence of the barrel, said channels arranged to secure a working pressure within the parts of said chambers beshind the piston at all points of the stroke.
16. In an apparatus for the conversion of energy in combination, a casing, an eccentric barrel, a shaft, a plston extending therefrom through the barrel, ports communicating with the chambers exterior to and interior to said barrel, and a series of passages between said chambers though which the fluid passes in a direction backwardly inclined to the radii of the barrel.
17. In an apparatus for the conversion of energy in combination, a casing, an eccentric barrel, a shaft, a piston extending therefrom through the barrel, ports communicating with the chambers exterior to and interior to said barrel, a series of passages between said chambers through which the fluid passes in directions increasingly inclined to the radii of said barrel.
18. In an apparatus for the conversion of energy in combination, a casing, shaft concentric with the interior of sald rasing, an eccentric circular barrel forming peripheral contact with the interior of said casing, a piston carried by the shaft and extending from said shaft through the barrel, a port near said contact for the chamber exterior to said barrel, a port near the shaft for the chamber interior to said barrel and a series of passages radial to the axis of the shaft connecting said chambers and extending substantially from the point of said barrel nearest said shaft to the point of said barrel nearest the casing.
19. In an apparatus for the conversion of energy in combination, a cylinder, an eccentric barrel, a shaft, a b'ston extending from the shaft through the barrel, inlet and out let ports in the casing and passages partly in the edges of the barrel and partly in the casing adjacent thereto arranged to permit steam to pass from the outside to the inside of the barrel.
20. In an apparatus for the conversion of energy in combination, a cylinder, an eccentric barrel, a shaft, a piston with bevelled edges extending through the barrel, a rocker bearing \(E\) between the piston and the barrel, packing strips therein bearing on the faces of the piston and \(U\)-shaped packing pieces 19 fitting the side edges of the piston.
21. Iu an apparatus for the conversion of energy in combination, a cylinder, an eccentric barrel, a concentric shaft, a piston extending from the shaft through the barrel, inlet and outlet ports to the chambers within and without said barrel anl a series of passages connecting sail chambers anl means whereby the fluid passing through said passages is heated.
22. In an apparatus for the conversion of energy in combiration, a casing, a shaft, an eccentric barrel the ends of which abut in grooves in the heads of said casing, tapered split rings surrounding said barrel within said groove and means for adjusting the same, the faces of said rings presented to said barrel being substantially cylindrical.
23. In an apparatus for the conversion of energy in combination, a cylinder, a shaft, an eccentric barrel forming peripheral contact with the interior of said cylinder, a piston extending from said shaft through said barrel, a series of passages between the chambers exterior and interior to said barrel, a port for said interior, a port in the periphery of said exterior chamber near said barrel contact and a clearance space 40 , extending from said peripheral port toward said contact.
24. In an apparatus for the conversion of energy in comdination, a cylinler, a shaft, an eccentric barrel, a piston carried by said shaft and extending through said barrel, a hollow boss carried by said shaft and containing ports it its periphery and head and a steam box 8 with which said head prort communicates extending subetantially around the shaft.
25. In a rotary engine in combination, a cylinder, a shaft. an eccentric barrel, a piston extending from the shaft through the barrel, passages radial to the axis of the shaft connecting the chambers interior and exterior to said barrel ports respectively in said exterior and interior chambers,
supply and exhaust passages connccted with said ports and unitary valve mechanism whereby the connection between said ports and said passages may be reversed.
26. In a rotary engine in combination the cylinder the shaft, a cylindrical barrel a piston extending from the shaft through the barrel, passages connecting the chambers interior and exterior to said barrel ports for said chambers, a valve chamber, passages leadinb from sail ports to said valve chamber, a constantly rotated cut-off valve member 12, connections whereby the same is rotatel by the engine and an intermittently oscillated valve member 10 provided with a by-pass passage around the cut-off.
27. In a rotary engline in combination the cylinder. the shaft, a cylindrical barrel a piston extending from the shaft through the barrel, passages connecting the chambers interior and exterior to said barrel, ports for said chambers, a valve chamber, passages leading from said ports to said valve chamber. a constantly rotated cut-off valve member 12 , connections whereby the same is rotated by the engine and an intermittently oscillated valve member 10 provided with a by-pass passage around the cut-off, and means whereby said valve member 10 may be moved to introduce said bypass passage.between the steam main and either port.
28. In a rotary engine in combination a cylinder, an eccentric barrel, a shaft, a piston extending from the shaft through the barrel, inlet and outlet ports, passages between the chambers within and without the barrel arranged substantially as set forth whereby the pressure is applled to only part of the piston area during part of the stroke and is upon substantially the full piston area during another part of the stroke, means whereby the steam may be cut off during the stroke, and means independent of the cut-off whereby the boiler pressure may be admitted to the piston at any point. of the stroke.
29. In a rotary engine in combination a cylinder, a shaft, an eccentric barrel, a piston extending from said shaft through said barrel, a series of passages radial to the axis of the shaft connecting the primary and secondary chambers on opposite sides of said barrel and arranged as set forth, whereby the number of said passages transferred to the low pressure side of said piston in the secondary chamber increases in proportion, substantially as the area of the piston in the said secondary chamber increases.
30. The combination with an engine having a casing, radial piston barrel and a rocking bearing in the barrel for the passages of the piston, of shims adjustable at the edges of the bearing to compensate for wear.
31. The combination with an engine having a casing, radial piston barrel and rocking bearing in the barrel for the passage of the piston, of curved wedge-like shims, and means for connecting them adjustably to the edges of the bearing.
32. The combination of an engine having a casing. radial piston barrel and rocking bearing in the barrel for the passage of the piston, of ccrved wedge-like shims, and means for connecting them adjustably to the edges of the bearing, said shims and edges having interlocking ribs.
33. In a device for receiving and transmitting energy, the combination of a shaft, an eccentrically located barrel, a piston extending from sald shaft through sald barrel, a cylinder with a recess \(Y\) into which the said barrel extends, chambers exterior and interior to said barrel, and a series of passages connecting sald chambers through which the fuid passes inclined in a direction at angles to the radial of said barrel.

\section*{No. 100,858. Press. Presse.}


The Sherwin-Williams Company, assignee of Albert D. Anderson, both of Cleveland. Ohio, U.S.A., 4th September, 1!06; 6 years. Filed 1st August, 1906. Receipt No. 138.332.

Claim-1. In combination with a perforate shell or casing, a series of separated screws mounted therein, means for imparting motion thereto until a determinate pressure is exerted thereby ubon the matorial under treatment, a screw
mounted in the discharge end of the shell, said screw being of less depth than those in the forward end thereof, and means for imparting independent positive rotary motion to said screw.
2. In combination with a perforate shell or casing, a series of separated screws mounted therein, means for imparting rotary motion to the screws until a determinate pressure is exerted thereby upon the material under treatment, a screw mounted in the discharge end of the shell, said screw being of less depth than those in the forward end thereof, means for imparting an independent positive rotary motion to said screw and means for deflecting or spreading the material outwardly toward the shell of the press as it passes from the last of the series of screws to the screw working in the discharge end of the press.
3. In a press the combnation of a perforated shell or casing a series of separated screws mounted in the feed end thereof. a screw mounted in the opposite end thereof, said screw being of less depth than the separated screws, means intermediate said screws for effecting a compression of the material previous to its being acted upon by said last or discharge screw, and means for imparting a continuous motion to the discharge screw and permitting the series of screws to come to rest when a determinate pressure is exerted thereon by the material.
4. In a press the combination of a perforate shell or casing. a series of separated screws mounted in the feed end thereof. a screw mounted in the opposite end thereof, said latter screw being of less depth than the separated screws, an inclined conical member placed intermediate said screws whereby the material acted upon by the first set of screws is condensed and spread out before being aoted upon by the final compression and discharge screws and means for imparting a continuous motion to the discharge screw and permitting the series of screws to come to rest when a determinate pressure is exerted thereon by the material.
5. In a press the combination of a cylindrical perforate shell or casing, a series of separated screws mounted in the forward end thereof, a discharge screw mounted in the opposite end of the shell or casing, the space intermediate the shell and the screw being less at the discharge end of the press than at the forward end thereof, subsuntially as described, and means for driving the discharge screw constantly and the other screw intermittently according as the pressure of the material thereon varies, substantially as described.
6. In a press the combination of a perforate shell or casing, a shaft extending therethrough, a quill mounted upon said shaft, a series of separated screws carried by said quill, a sleeve also mounted upon the shaft within the shell or casing the forward end of said sleeve being tapered, substantially as described, a screw carried by said sleeve at a point in rear of the tapered end and means for imparting a continuous motion to said shaft and an intermittent motion to the quill.
7. In a press the combination of a perforate shell or casing. having grooves or depressions formed upon its interior face and extending longitudinally thereof, independent of the draining spaces formed in the shell and a series of separated screws mounted within said shell or casing, substantially as and for the purpose described.
8. A shell for a press, comprising a series of bars secured together so as to form draining spaces between the adjacent bars, one or more of said bars being proviled with means extending longitudinally thereof upon the inner face and substantially throughout its length to prevent rotation of the material undergoing treatment within the shell.
9. A shell for a press, comprising a series of bars secured together so as to form draining spaces.between the adjacent bars, one or more of said bars being provided with grooves or channels extending longitudinally thereof, substantially throughout its entire length, said grooves or channels serving to prevent rotation of the material within the shell, substantially as described.
10. In a press the combination of a perforate shell or casing, a series of separated screws mounted therein and means for preventing the rotation of the material intermediate the separated screws.
11. A shell or barrel for presses, comprising a series of hinged ribs, a series of bars secured to said ribs, a second series of bars and ring-shaped members secured to both sets of bars, substantially as described.
12. In a press the combination of a suitable frame, a rod sccured in said frame, a serles of ribs hinged upon said rod, a series of bars secured to said ribs and adapted when the latter are brought together to form the shell or barrel of the press, projections extending outwardly from said ribs, lugs extending from the frame of the press, locking bars arranged to bear upon said lugs and the projections of the ribs, and means for securing said locking bars in position.
13. In a press the combination of a suitable frame, a rod carried thereby, a series of ribs hinged to said rod, said ribs being provided with laterally extending lugs \(R\), a series of
bars \(\mathbf{S}\) secured to satd lugs, a series of bars \(U\) placed intermediate the bars \(S\), ding-shaped members attached to said bars \(S\) and \(U\), and means for securing the ribs in their closed position.
14. A member for the barrel or shell of a press comprising a bar having a series of spacing strips or plates riveted to the side faces thereof.
15. A member for the barrel or shell of a press comprising a bar having spacing strips riveted to the opposite side faces thereof.
16. In a press the combination of a perforate shell or casing. a series of separated screws mounted in the forward end thereof, a discharge screw working in the opposite end of the shell, an inclined bearing face located intermediate the series of screws and the discharge screws serving to condense and spread out the material under treatment substantially as described, and means for imparting a continuous motion to the discharge screw and permitting the series to come to rest when a determinate pressure is exerted thereon by the material.
17. In combination with the shaft of a press, a head or plug located at the discharge end thereof mounted on and rotatable with said shaft, a follower mounted upon the threaded end of the shaft in rear of said head, and means for arresting the rotation of said follower and thereby causing it to advance upon the shaft whereby the head or plug will be moved inwardly, substantially as described.
18. In combination with the main shaft of a press, a head or plug located at the discharge end thereof mounted and longitudinally movable on said shaft, a gear carried by the threaded section of the shaft in rear of sald head, a second shaft, a pinion splined upon said second shaft and meshing with the gear, and means for holding said second shaft against rotation or for imparting to it a speed of rotation in excess of that of the main shaft.
19. In combination with the main shaft of a press, a head or plug mounted thereon, said plug rotating with the shaft and being free to move longitudinally thereof, a gear mounted upon the threaded portion of the shaft in rear of the head, a shaft \(e\) having an extended keyway formed therein, a shrouded pinion splined upon said shaft, and means applied to said shaft for arresting or increasing the speed of rotation thereof, substantially as and for the purpose described.

2c. In combination with a perforate shell or casing, a series of separated screws mounted in the forward end thereof, means for imparting intermittent motion thereto, a series of screws mounted in the discharge end of the shell, caid screws being of less depth than those in the forwand end thereof, and means for imparting independent positive rotary motion thereto.
21. In combination with a perforate shell or casing, means contained within the forward end thereof for compressing the material undergoing treatment, independent means mounted in the discharge portion of the shell for further compressing and discharging the mass, said last-named means having a relatively restricted working area immediately adjacent to the inner surface of the shell, substantially as describel, and a disintegrator working adjacent to the discharge means.

\section*{15. 100,869. Preas. Presse.}


The Sherwin-Williams Company, assignee of Albert D. Anderson, both of Cleveland, Ohio, U.S.A., 4th September 1906 : 6 years. Filed 1st August, 1906. Recelpt No. 138,333.
Claim.-1. A shell for a press comprising a substantially circular series of metallic bars, said bars being separately
formed and secured together with their side faces in parallelism throughout those portions which lie adjacent to thes interior of the shell.
2. A shell for a press, comprising a series of bars arranged s!de by side, the adjacent faces of said bars at thelr inner portions standing parallel to each other while the remainder of the space between each pair of bars gradually increases toward the outer faces of the bar.
3. A shell for a press, comprising a series of bars, sald bars being substantially rectangular in cross section and. each alternative bar having those faces which are adjacent to the next bars slightly bevelled so that said bevelled portions stands parallel to the next adjacent bars.
4. A shell for a press, comprising a series of radially arranged bars, said bars being placed side by side and having a space or opening of a definite width between the inner edges of each pair of bars, said space projecting inwardly between the bars to a limited extent while the bars are separated a greater distance throughout the remainder of: their side faces, substantially as described.
5. A bar for the shell or casing of a press, provided with inwardly bevelled side faces adjacent to its inner edge.
6. A bar for the shell or casing of a press, said bar being substantially rectangular in cross section and provided with inwardly bevelled faces extending throughout its length adjacent to the inner edge thereof.
7. A shell or casing for a press, comprising a series of bars, the adjacent faces of sald bars at their inner portions standing parallel to each other, a series of spacing members secured to the bars and adapted when the bars are assembled to separate the inner edges thereof to a predetermined extent, and means for preventing the bars from stacking when the same are secured in position.
8. In combination with a supporting member having a curved face, a series of bars mounted thereon, means for spacing the bars at their inner edges, means independent of the spacing means for preventing the bars from stacking, and means for securing the bars in position upon said supporting member.
9. A shell or casing for a press, comprising a series of, supporting members having curved bearing faces, a fixed bar extending through the series by supporting members, a second fixed bar carried by said members, a series of loose bars, means for properly positioning said bars with reference to each other, and a wedge-shaped member adapted to act upon one of the outer bars of the loose series, whereby said bars are forced against the first-mentioned fixed bar and against the positioning means.
10. In a press the combination of a series of semi-circular ribs or supporting members, each of said members belng provided with three notches or recesses, one of which is located at the midlength of said rib while the others are formed adjacent to the outer faces of the rib, a bar mounted in each of said notches or recesses, a removable shoe secured to one face of each of the bars mounted in the outer recesses, a wedge-shaped member secured to the intermediate bar, and a series of loose bars resting upon the ribs intermediate, the wedge-shaped member and the outer bars, substantially as described.
11. In a press the combination of a series of semi-circular ribs or supporting members, each of said members being provided with three notches or recesses, one of which is located at the midlength of said rib while the others are formed adjacent to the outer faces of the rib, a bar mounted in each of sald notches or recesses, a removable shoe secured to one face of each of the bars mounted in the outer recesses, a wedge-shaped member secured to the intermediate bar, a series of loose bars resting upon the ribs intermediate the wedge-shaped member and the outer bars, and means for securing the proper spacing of the bars as they are locked in position.
12. A bar for the shell of a press or the like, said bar having bevelled faces adjacent to its inner edge, spacing members arranged upon the outer faces of the bar, and a rivet passing through said spacing members, the rivet being provided with a bevelled head upon each end.

\section*{40. 100,860. Fluid Preanure Motor.}

Moteur d thide sous pression.
The National Engine Company, assignee of J. P. Magney and F. R. Kellogg, all of Los Angeles, California, U.S.A. 4th September, 1906 ; 6 years. Filed 18th July, 1906. Receipt No. 137,944
Claim.-1. A compound engine comprising a high pressure cylinder having a high pressure inlet and intermediate pressure and low pressure outlets, and a cylinder having an inlet connection to the intermedlate pressure outlet of the high presure cylinder
2. A compound engine comprising a high pressure cylinder having an inlet port and having a plurality of outlet ports
and a piston member movable in the cylinder and provided with fluid receiving means communicating, in the movement

of said piston member, successively with the inlet port and with the outlet ports for delivering to sald outlet ports fluid at successively lower pressures, and cylinders having supply conncctions respectively to said outlet ports.
3. A compound engine comprising a high pressure cylinder and a low pressure cylinder connected to the hlgh pressure cylinder at a point of intermediate pressure thercin.
4. A compound engine comprising a plurality of cylinders, rotary piston members therein having intermeshing teeth, the wall of each cylinder having a portion extending between the piston members to fit the pheripheral faces of the teeth, and provided with a central inlet port, said wall portion of one of the cylinders being provided with an outlet port at one or each side of the inlet and a connection between said outlet and the inlet of another cylinder.
5. A compound engine comprising a high pressure cylinder having a high pressure inlet and intermediate and low pressure outlets, piston members in said cylinder movable to open communication with said ports successively, an intermediate pressure cylinder having an inlet connected to the aforesaid intermediate outlet port of the high pressure cylinder and having an outlet connected to the aforesaid low pressure outlet port of the high pressure cylinder.
6. A compound engine comprising a high pressure cylinder having a high pressure inlet and intermediate and low pressure outlets, piston members in said cylinder movable to open communication with said ports successively, an intermediate pressure cylinder having an inlet connected to the aforesaid intermediate outlet port of the high pressure cylinder and having an outlet connected to the aforesaid low pressure outlet ports of the high pressure cylinder, and a low pressure cylinder provided with an outlet and having an inlet port connected to the low pressure outlet of the high pressure cylinder and to the outlet of the intermediate pressure cylinder.
7. An engine comprising two rotary piston members provided with intermeshing teeth and a cylinder inclosing said members and having a wall portion extending between the members and fitting the peripheral faces of the teeth of said members, said wall portion formed with inlet and outlet ports, and the inner wall of the cylinder being clear of the piston members at other points.
8. An engine comprising two rotary piston members formed as intermeshing gears, and a cylinder inclosing said gears and formed on one wall with a face portion extending between said gears and fitting the peripheral faces of the teeth thereof, said face portion being provided with inlet and outlet ports, and the remaining portion of said wall of the cylinder being separated from the gears to form a low pressure chamber in the cylinder, the cylinder being provided with an exhaust port communicating with said low pressure chamber.
9. An expansive fluid pressure engine comprising a cylinder, piston means movable therein and dividing the cylinder into high pressure, intermediate pressure and low pressure portions, said cylinder being provided with ports communicating respectively with said high pressure, intermediate pressure and low pressure portions, a supply connection to the high pressure port and an engine cylinder having a supply connection from the intermediate pressure port.
10. An expansive fluid pressure engine comprising a cylinder having high pressure and low pressure ports, and provided with an outlet connection from a point of intermediate pressure.
11. An expansive fluid pressure engine comprising a cylinder having high pressure and low pressure ports, and provided with an outlet connection from a point of intermediate pressure, and means for conducting away and utilizing wo lluid from said intermediate pressure outlet.
12. An expansive fluid pressure engine comprising a cylinder having high pressure and low pressure ports, and provided with an outlet connection from a point of intermediate pressure, and piston means connected to and utilizing the fluid from said intermediate pressure outlet.

No. 100,861. Gas Engine. Machine agas.


Ernest Emil Schmidt and Michael Joseph Miller, assignee of a half interest, both of Covington, Kentucky, U.S.A., 4th September, 1906; 6 years. Filed 13th December, 1905. Receipt No. \(130,973\).
Claim.-1. In a gas engine the combination with the revolving engine shaft and a jump spark igniter, of a circuit in which said engine shaft and said jump spark igniter are included and which said engine shaft at certain times or periods closes and opens and means for changing or altering the periods or times when said circuit is closed and opened by said shaft.
2. In a gas engine the combination with the revolving engine shaft and a jump spark igniter, of an outside circuit in which said engine shaft and said jump spark igniter are included and which said engine shaft at certaln times or periods closes and opens and means for changing or altering the periods or times when said outside circult is closed and opened by said shaft.
3. In a two-part cycle gas engine the combination with the engine cylinder, the jump spark igniter held therein, the piston head, the crank case communicating with said cylinder, the engine shaft and connecting means between sald piston head and suid engine shaft, of the igniter circuit which said engine shait at certain times or periods closes and opens. and means for changing or altering the periods or times when said circuit is closed and opened by said engine shaft.
4. In a two-part cycle gas engine the combination with the engine cylinder, the jump spark igniter held therein, the piston head, the crank case communicating with said cylinder, the engine shaft provided with a projection, and connecting means between said piston head and said engine shaft, of the igniter circuit, a contact strip in said igniter circuit with which the projection on said engine shaft comes in contact so as to close and open said igniter circuit and means for changing or altering the position of said contact strip so as to change or alter the periods of times when the projection on said shaft opens and closes said igniter circuit by association with said contact strip.
5. In a two-part cycle gas engine the combination with the engine cylinder. the jump spark igniter held therein, the piston head, the crank case communicating with sald cylinder, the englne shaft provided with a projection and connecting means between said piston head and said engine shaft, of the igniter circuit, a contact strip in sald igniter circuit with which the projection on said engine shaft comes in contact so as to close and open sald igniter circuit, a support held on said engine shaft from which said contact strip is insulated, an arm secured to or forming part of sald support, and a quadrant suitably supported from said engine and provided with a plurality of notehes in which said arm rests in order to hold said support and contact strip in the desired rosition.
6. A reversing gear for gas engines, comprising a support, a contact strip supported thereby but insulated therefrom, an arm secured to or forming part of said support, and a quadrant with which said arm is assoclated so as to hold said support and said contact strip in the desired position.

No. 100,862. Antomobile. Automobile.


Edward Cliff and Albert T. Plummer, assignee of a half interest, both of New York City, New York, U.S.A., 4th September, 1906; 6 years. Flled 25th January, 1906. Receipt No. 132,265.
Claim.-1. A vehicle comprising a body, axles and wheels combined with semi-elliptic springs extending transversely of and mounted on sald axles and supporting said body, and colled springs upon which said axles are supported, said elliptic springs each having a top re-acting spring plate, substantially as set forth.
2. A vehicle comprising a body, axles and wheels combined with leaf springs of elliptic character mounted on said axles and supporting said body and colled springs upon which said axles are supported, said elliptic springs each having as a part thereof a re-acting spring plate to resist the rebounding action of the spring, substantially as set forth.
3. In a vehicle the axle supporting the body and having on its ends, said wheels having hollow hubs combined with spring cushioning means within said hubs for the ends of baid axle, said means for each wheel comprising a casing around which the wheel may turn and containing a vertical chamber, a part on the end of the axle and occupying the upper part of said chamber, a coiled spring confined between said part and the base of said chamber and recelving the load placed on the axle and means for keeping said casing vertical, substantially as set forth.
4. In a vehicle the axle supporting the body and having on its ends, said wheels having hollow hubs combined with spring cushioning means within said hubs for the ends of said axle, said means for each wheel comprising a casing around which the wheel may turn and containing a vertical chamber, an inverted cup-shaped casing on the end of the axle and disposed within said chamber, a coiled spring confned within said chamber between said casings and receivIng the load placed on the axle and means for keeping said arst-mentioned casing vertical, substantially as set forth.
5. In a vehicle the axle supporting the body and having wheels on its ends, said wheels having hollow hubs combined with spring cushioning means within said hubs for the ends of said axle. said means for each wheel comprising a casing around which the wheel may turn and containing a vertical chamber, an inverted cup-shaped casing on the end of the axle and disposed within said chamber, a colled spring confined within saild chamber between said casings and receiving the load placed on the axle and a bolt extending vertically through said casings and springs, substantially as set forth.
6. In a vehicle the axle supporting the body and having wheels on its ends, said wheels having hollow hubs combined with spring cushioning means within said hubs for the ends of said axle, said means for each wheel comprising a casing around which the wheel may turn and containing a vertical chamber, an inverted cup-shaped casing on the end of the axle and disposed within said chamber, a colled spring confined within said chamber between said casings and receiving the load placed on the axle and a bolt extending vertically through said casings and springs, said cup shaped casing having a depending sleeve and the other casing and upwardly extending sleeve to receive said bolt, substantially as set exten
i. In a vehicle the axle supporting the body and having wheels on its ends. said wherels having hubs combined with spring cushioning means within sald hubs for the ends of said axle. said means for each wheel comprising a casing around which the wheel may turn and containing a vertical
chamber extending above and below the horizontal plane of the axle, a part on the end of the axle and occupying the upper part of said chamber, a colled spring confined between said part and the base of said chamber and receiving the load placed on the axle, and means for keeping sald casing vertical, substantially as set forth.
8. In a vehicle the axle supporting the body and having wheels on its ends, said wheels having hollow hubs, combined with spring cushioning means within sald hubs for the ends of said axle, sald means for each wheel comprising a casing around which the wheel may turn and containing a vertictl chamber extending above and below the horizontal plane of the axle, an inverted cup-shaped casing on the end of the axle and extending above and below the same and disposed within said chamber, a coiled spring confined within said chamber between said casing and receiving the load placed on the axle, and means for keeping said first-mentioned casing vertical, substantially as set forth.
9. In a vehicle the axle supporting the body and having wheels on its ends, sald wheels having hollow hubs combined with spring cushioning means within said hubs for the ends of said axle, said means for each wheel comprising a casing around which the wheel may turn and containing a rertical chamber extending above and below the horizontal plane of the axle, an inverted cup-shaped casing on the end of the axle and extending above and below the same and disposed within said chamber, a coiled spring confined within sald chamber between sald casings and receiving the load placed on the axle. and means for keeping said first-mentionf:d casing vertical, said casing being formed of upper and lower sections bolted together and affording a cylindrical chamber, and said cup-shaped casing being conformed to sald chamber, substantially as set forth.
10. In a vehicle the axle supporting the body and having wheels on its ends, said wheels having hollow hubs provided with raceways for the bearings, and said hubs containing hollow casings having complemental raceways for said bearings and vertical openings at their inner sides for the axle. combined with spring cushioning means within said hubs foi said axle, said means for each wheel comprising the said hollow casing forming within it a vertical chamber, a part on the end of the axle and occupying the upper part of said chamber, and a colled spring confined between said part and the base of said chamber and receiving the load placed on the axle. substantially as set forth.
11. In a vehicle, the axle supporting the body and having wheels on its ends, said wheels having hollow hubs provided with raceways for the bearings, and said hubs containing hollow casings having complemental raceways for sald bearings and vertical openings at their inner sides for the axle, combined with spring cushioning means within said hubs for said axle, said means for each wheel comprising the sald hollow casing forming within it a vertical chamber, an inverted cup-shaped casing on the end of the axle and disposed within said chamber, and a colled spring confloed within said chamber between said casings and recelving the load placed on the axle, substantially as set forth.
12. In a vehicle, the axle supporting the body and having wheels on its ends, said wheels having hollow hubs provided with raceways for the bearings, and said hubs containing hollow casings having complemental raceways for said bearings and vertical openings at their inner sides for the axle, combined with spring cushioning means within said hubs for said axle, said means for each wheel comprising the said hollow casing forming within it a vertical chamber, an inverted cup-shaped casing on the end of the axle disposed within said chamber, and a coiled spring confined within said chamber between said casings and receiving the load placed on the axle, said casings at their outer meeting faces being respectively provided with the vertical flange and groove, substantially as set forth.
13. In a vehicle, the axle supporting the body and having wheels on its ends, said wheels having hollow hubs, combined with spring cushioning means within said hubs for the ends of said axle, said means for each wheel comprising a casing around which the wheel may turn and contalining a vertical cylindrical chamber, an inverted cup-shaped casing on the axle fitting within and adapted to guide on the walls of said chamber, a colled spring confined at its ends between said casings and at its sides by the walls of said cup-shaped casing and adapted to receive the load placed on the axle, and means for keeping the first-mentioned casing vertical, arbstantially as set forth.
14. In a vehicle. the axle supporting the body and having wheels on its ends, said wheels having hollow hubs which are closed at their outer faces and open at their inner faces to receive the ends of the axle, combined with spring cushioning means within said hubs for the ends of said axle, said means for each wheel comprising a non-rotable casing around which the wheel may turn and affording a vertical chamber, a part on the axle extended into said chamber, and a colled spring confined in said chamber between sald part and said casing, substantially as set forth.
15. In a vehicle, the axle supporting the body and having wheels on its ends, said wheels having hollow hubs which are closed at their outer faces and open at their inner faces to receive the ends of the axle, combined with spring cushloning means within said hubs for the ends of sald axle, said means for each wheel comprising a non-rotable casing around which the wheel may turn and affording a chamber, an inverted cup-shaped casing on the end of the axle and disposed within said casing, and a coiled spring confined at its ends between said casings and at its sides by said cup-shaped casing, substantially as set forth.
16. In a vehicle, the axle supporting the body and having wheels on its ends, said wheels having hollow hubs which are closed at the outer faces and open at their inner faces te receive the ends of the axle, combined with spring cushfoning means within said hubs for the ends of said axle, said means for each wheel comprising a non-rotatable casing around which the wheel may turn and affording a chamber into which the axle projects, and a colled spring confined within said chamber and receiving the load placed on the axle, substantially as set forth.
17. In a vehicle, the axle supporting the body and having wheels on its ends, said wheels having hollow hubs which are closed at their outer faces and open at their inner faces to receive the ends of the axle, combined with spring cushioning means within said hibs for the ends of said axle, said means for each wheel comprising a non-rotatable casing around which the wheel may turn and affording a chamber into which the axle projects and which extends above and below the main horizontal plane of the axle, a part on the axle occupying the upper portion of said chamber, and the colled spring confined within said chamber between said part and said casing and normally extending above and below. the main horizontal plane of the axle, substantially as set forth.
18. In a vehicle, the axle supporting the body and having wheels on its ends, said wheels having hollow hubs closed at their outer faces and open at their inner faces to receive the ends of the axle, and the sprocket wheel and the brake flange open at their center to admit the axle through them and secured by bolts to the inner face of said hubs, combined with spring cushioning means in said hollow hubs for the ends of the axle, said means for each hub comprising a non-rotatable casing around which the wheel may rotate, and a coiled spring recelving the end of the axle, substantially as set ferth.

No. 100,863. Sprinc Neok Beavime. Coussinet a ressort.


Aktiebolaget Pumpseparator, assignee of Gustaf Theodor Söderström, Stockholm. Sweden. 4th September, 1906; 6 years. Filed 24th July, 1906. Receipt No. 138,124.
Claim.-1. In spring neck bearings the combination of a ring 5, and wires or bands of suitable springy material wound round the ring and extending outward from the same at some places, forming a circle of springs, mounted between the shaft and some outer ring-shaped abutment 3 , enclosing the shaft, said springs keeping the shaft in its central position.
2. The combination of the shaft collar 1, the circle 7, of spring enclosing the same, a ring-shaped part 5 hodding the said springs, and a part 2 , screw-threaded on the sald collar 1, by means of which part 2 the circle of springs may be forced into the axially tapering space between the collar 1 and an outer ring-shaped abutment 3.

No. 100,864. Panch. Poingonncusc.
The Crown Cook and Seal Company, assignee of William E. Lindsay, all of Baltimore. Maryland, U.S.A., 4 th September, 1906; 6 years. Filed 13th August, 1906. Recelpt No. 138,619.
Claim.-1. In a machine of the class described the combintion of main punching devices, and means for punching out the partial blanks and delivering the same separately
from the complete blanks or the complete articles formed therefrom, the main punching devices operating idly in the

openings formed by the partial blank punching means, substantially as described.
2. In a machine of the class described the combination of main punching devices, means for punching out the parilal blanks and delivering the same separately from the complete blanks or the articles formed therefrom, and timing means for operating the partial blank punching means after a certain number of operations of the main punching devices have taken place, the main punching devices operating idly in the openings formed by the partial blank punching means, substantially as described.
3. In a machine of the class described the combination of main punching devices, means for punching out the partial blanks and delivering the same separately from the oomplete blanks or the articles formed therefrom and means for feeding the material with the forward edge of the fresh sheet adjacent the trailing edge of the sheet previously fed in whereby the partial blanks will be cut out and delivered from the adjacent edges of the sheets before reaching the main punches, substantially as described.
4. In combination in a machine of the class described main punches, partial blank punches, means for feeding the sheets with their edges adjacent, means for operating the main punches to utilize the stock throughout the body of the sheets and timing means for operating the partial blank punches when the meeting edges of the sheets are brought below the same, substantially as described.
5. In combination in a machine of the class described, main punching and die mechanism for cutting out complete blanks and forming the articles thenefrom and partial blank punches for cutting out the partial blanks from the edges of the sheet.
6. In combination in a machine of the class described, the main punches, the reciprocating crosshead carrying the same, partlal blank punches, a supplemental crosshead carrying the same, and timing means for operating the supplemental crosshead at intervals in respect to the operation of the main crosshead, said main punches operating idly is the openings formed by the partial blank punches, substantially as described.
7. In combination in a machine of the class described, the main punches, partial blank punches, the crogs shaft 24 , a crosshead operated from said shaft and means for driving the said shaft intermittingly, said main punches operating idly in the openings formed by the partial blank punches, substantially as described.
8. In combination in a machine of the class described, the main punches, partial blank punches, the cross shaft 24 , a crosshead operated from said shaft and means for driving the said shaft intermittingly, said means including the constantly rotating member, the clutch block on the shaft, a pin carried thereby to engage the constantiy rotating member, and means for controlling the said clutch pin including a timing ratchet wheel and the cam segment, substantially as described.
9. In combination in a machine of the class described, main punches, partial blank punches, feeding means for the sheets of material, connections thereto from the main shaft of the machine, timing means for operating the partial blank punches and connections for operating the same from the feed connections, said main punches operating idiy in the openings formed by the partial blank punches, substantially as described.
10. In combination in a machine of the class described, main punches, partial blank punches, timing mechanism for operating the partial blank punches including a constantly rotating member, a slow motion member, a clutch and means for controlling the clutch from the slow motion member. substantially as described.
11. In combination in an organization of the class described, the combination of means for feeding the sheets with their edges adjacent and means for cutting half blanke from the said adjacent edges and delivering the same without shaping them, substantially as described.

No. 100,865. Comant ITirer. Mélangeur de oiment.


James Arrand, McInnes, and Wettlaufer Brothers and Sons, Stratford, both in Ontario, Canada, 4th September, 1906; 6 years. Filed 17th April, 1906. Receipt No. \(135,006\).

Claim.-1. In a cement mixer the combination with rotary miring vessel of a plurality of radial arms therein and mixIng blades adjustably secured to said arms, as and for the purpose specifled.
2. In a cement mixer the combination with a plurality of radial arms of a plurality of mixing blades extending transversely on said arms, a plurality of bolt holes in each of said arms and bolts extending through the blades and arms, as and for the purpose specifled.
3. In a cement mixer the combination with the rotary mixing vessel of two rotating cylindrical feeding hoppers, as and for the purpose specified.
4. In a cement mixer the combination with a mixing vessel, a shaft rotating the same, of a plurality of cylindrical feeding hoppers, and means operated by the rotation of the shaft for rotating the same as and for the purpose specified.
5. In a cement mixer or the like an improved foeding devioe compriaing two cylinders rotating in opposite directions haviag pockets thereon to recelve the materials to be mixed, as and for the purpose specified.
6. In a cement mixer or the like an improved feeding device compriaing two cylinders rotating in opposite directions with different velocities having pockets therein to receive the material to be mixed, as and for the purpose specifled.
7. In a cement mixer or the like the combination with a tiltably supported mixing vessel of a pluraity of cylindrical feeding hoppers and means for rotating the same, as and for the purpose specified.
8. An improved movable cement mixer comprising a conial mixing vessel. a shaft rotating the same, a tiltable truck sapporting the shaft, a trough adjacent to the large end of the mixing vessel, an opening through the mixing vessel oppesite the treugh, two abuting cylinders having a plurality of pockets thereon, shafts supporting the same and journalled in the trough, gearing ratating the sald cylinders in opposite directions operated by the rotation of the main shaft and means for rotating the main shaft, substantially as described.
9. An improved movable cement mixer comprising a tiltable truck, a conical mixing vessel having an opening at one end for the introduction of the material and an opening at the other end for the emptying thereof, a shaft, a tiltable truck supporting the same, a plurality of radial arms supporting the mixing vessel from said shaft, a plurality of mixing blades adjustably secured to said radial arms. a trough adjacent to the opening at the large end of the mixing vessel. two mixing cylinders journalled therein having a plurality of pockets thereon. gearing for rotating the cylinders in the opposite directions operated by the rotation of the central shaft, and means for notating the said central shaft, as and for the purpose specified.

No. 100,866. Rear Axle Driving Meohanism. Mécanisme de commande d'essieu de derrière.


The Winton Motor Carriage Company, assignee of Alexander Winton and Harold B. Anderson, of Cleveland, Ohio, U.S.A., 4th September, 1906; 6 years. Filed 17th January, 1906. Recelpt No. 131,967.
Claim.-1. A supporting and riving mechanism for vehicles, comprising a differental housing baving projecting therefrom axle section housings, a differential gearing supported and journalled in the said differential housing, two separate axle sections located respectively within the axle housings, the inner ends of the axle sections and the differential gearing constructed to interlock, and supporting and driving wheels connected with the cutter ends of the said axle sections.
2. A supporting and driving mechanism for vehicles, comprising a differential housing having axle housings projecting from opposite sides thereof, a differential gearing supported by the differentual housing, supporting and driving wheels having hubs, the axle housings extending through the said hubs and forming a journal and support for the said wheels, and members at the outer ends of the wheel hub and constructed to interlock with the wheel hub and the outer ends of the axle sections.
3. A propelling and driving mechanism for vehicles, comprising a differential housing having oppositely extending axle housings, a differential gearing journalled in the differential housing, driving and supporting wheels journalled on the outer ends of the axle housings, separate axle sections placed respectively in the axle housings, and means for locking the inner ends of the axle sections to the differential gearing, and the outer ends of said axle sections to the supporting and driving wheels
4. A propelling and driving mechanism for vehicles, comprising a differential housing having oppositely projectng axle housing, a differential gearing supported in said housing, supporting and driving wheels journalled on the outer ends of the axle housings, a separate axle section in each axle housing, the inner ends of the axle sections connected with the differential gearing, and a member located outside of the axle housing and constructed to connect the outer ends of the axle sections and the outer end of the wheel hubs.
5. A supporting and driving mechanism for vehicles, comprising a differential housing, a differential gearing supported in said housing, axle housings secured to and projecting from opposite sides of the differential housing, supporting and driving wheels journalled on the outer ends of the axle housings, an axle section for each housing having their inner ends connected with the differential gearing, a member constructed to connect the outer ends of the axlo sections to the outer ends of the wheel hubs. and means for holding the said member in position.
6. A supporting and driving mechanism for vehicles, comprising a differential housing having oppositely projecting axle housing, a differential gearing supported in the differential housing, supporting and driving wheels journalled on the outer ends of the axle housings, a separate axle section for each housing, the inner ends of the axles interlocking with the differential gearing, the outer ends of the axles projecting beyond the axle housings, and members interlocking with the outer ends of the wheel hubs and with the projecting ends of the axle sections.
7. A supporting and driving mechanism for vehicles, comprising a differential housing having oppositely projecting axle housings, a differential gearing supported in said housing, supporting and driving wheels journalled on the outer ends of the axle housings, a separate axle section in each axle housing, the inner ends of the axle sections connected with the differential gearing, a member for the outer end of
each axle housing and constructed to connect the outer ends of the axle sections to the outer ends of the wheel hubs, and a hub caj enclosing and holding the said connecting member in position.
8. A supporting and driving mechanism for vehicles, comprising a differential housing having oppositely projecting axle housings, a differential gearing supported in the said differential housing, supporting and driving wheels journalled on the outer ends of the axle housings, a separate axle section for each housing having their inner ends connected with the differential gearing, the outer ends of the axle sections projecting beyond the axie housings, a member for the projecting end of each axle section and enclosing and interlocking with the projecting ends of the axle sections and with the outer ends of the wheel hubs, and means for holding the interlocking member in position.
9. A supporting and driving mechanism for vehicles, comprising a differential housing, a differential gearing within the said housing. adjustable bearings connecting the housing and the differential gearing, whereby the differential gearing may be adjusted within the housing, a shaft journalled at right angles to the differential gearing, and a pinion carried by the shaft meshing with a driving gear of the differential, combined with separate axle sections connected with the differential at their inner ends, and supporting the driving wheels operatively connected with the outer ends of the said axle sections.
10. A supporting and driving mechanism for vehicles, comprising a differential housing. a differential gearing journalled within the said housing, the differential gearing including separate concentric pinions journalled in a subdifferential housing. oppositely extending axle housing connected with the differential housing, separate axle sections in the said axle housings, the inner ends of the axle sections and the said differential pinions constructed to interlock, supporting and driving wheels journalled on the outer ends of the axle housings, and means for connecting the outer ends of the axle sections with the supporting and driving wheels.

No. 100,867. Air Brake for Automobiles. Frein d air pour automobiles.


The Winton Motor Carriage Company, assignee of Alexander Winton and Harold B. Anderson, all of Cleveland, Ohio. U.S.A., 4th September, 1906; 6 years. Filed 17th January, 1906. Receipt No. 131,973.

Claim.-1. The combination in a motor vehicle, having propelling wheels and a stecring gear, a transmission mechanism between the motor and the propelling wheels, a disconnecting device between the motor and said propelling whecls, an air actuated braking mechanism for the vehicle propelling wheels, an air producing device operatively connected with and operated by the motor and in communication with said air braking mechanism, an air controlling device between the air braking mechanism and said air producing device. whereby alr pressure for the braking mechanism is furnished for controlling the movement of the vehicle when the motor is disconnected from the propelling wheels.
2. In a motor vehicle the combination of a propelling motor therefor, propelling wheels, a brake, an air actuated device operatively connected with the brake for applying it, an air producing device operatively connected with the propelling motor, a communication between the air producing device and the air actuated device for the brake, a valve for controlling said communication, and a combined manually and air pressure controlled device for the said valve.
3. In a motor vehicle the combination of an air braking system including an air actuated member, a brake operatively connected therewith, means for supplying air pressure to the air actuated device, and a comblned manually and air pressure controlled means for controlling the air pressure supply to the sald air actuated device.
4. The combination with a vehicle of an air pressure actuated brake therefor, an air pressure supply. and a combined manually and alr pressure controlled valve for the said alr pressure supply.
5. The combination in a motor vehicle, of an air actuated brake, an air supply therefor, and controlling means for the air supply comprising an air actuated member, and a yielding connection with the air actuated member for moving the latter.
6. A braking system for vehicles, including an air actuated brake, an air supply therefor, a valve for the said supply, an air actuated device operatively connected with the said valve, and means having a ylelding connection with the air actuated member for moving it.
7. An air braking system for vehicles comprising an air actuated brake, an air supply therefor, a valve controlling the sald supply, an air actuated diaphragm operatively connected with sald valve, and a yielding means for moving the diaphragm in a direction opposing the air pressure thereon
8. An air braking system for vehicles comprising a pressure actuating brake, a pressure supply in cummunication therewith, and a combined air and manually controlled valve for the sald pressure supply.
9. A braking system for vehicles comprising an air actuated brake, an air pressure supply therefor, an air pressure relief for the air pressure brake, and a movable member controlling the air pressure supply and the said relief.
10. An air braking system for vehicles comprising an air actuated brake, an air pressure supply therefor, a check valve between the supply and the air actuated brake, and means for unseating the check valve to admit the air pressure to the brake, and means for permitting the closing of the check valve and opening an air relief for the brake.
11. A braking system for vehicles comprising an air actu. ated brake, an air supply therefor, and a controller for the air supply including a valve, a diaphragm for controlling the valve, the diaphragm being subjected to the air pressure on one side, and a yielding operating member for moving the diaphragm in opposition to the alr pressure thereon.
12. A braking system for vehicles comprising an air actuated brake, an air supply therefor, a controller for the air supply comprising a casing having a chamber in communication with the air supply and with the brake, a valve controlling the inlet to said chamber, a diphragm within said chamber and adapted by its movement to control the valve. and a yielding member for moving the diaphragm in opposition to the air pressure in the said chamber.
13. An air braking system for vehicles comprising an air brake, an air supply therefor, a controller for air supply comprising a case having a chamber in communication with the supply and with the brake, a valve controlling the communication between the chamber and the supply, a diaphragm within the chamber and subjected to the air pressure therein on one side, a relief for the pressure in the air brake, and a yielding member operating upon the diaphragm in opposition to the air pressure and controlling also the relief.
14. An air braking system for motor vehicles comprising a driving wheel for the vehicle having a brake flange, a brake supported adjacent the flange, an air cylinder supported by the vertical and operatively connected with the brake, an air supply for the said cylinder, and a controller for the air supply to said cylinder.
15. An air braking system in combination with a motor vehicle having a driving shaft and propelling wheels attached thereto, a housing for the propelling shaft, a propelling wheel having a brake flange, a braking member co-operating with the sald flange, an air cylinder supported by the housing and having a piston operatively connected with the brake member, an air pressure supply for the cylinder, and a controller for the said air pressure supply.
16. In combination with a motor vehicle having a propelling shaft and drive wheels operatively connected thercwith. the drive wheels having a brake flange, a housing for the driving shaft, an oscillating cylinder supported by the housing. a brake member co-operating with the sald flange, an oscillating member for operating the brake member, a piston in the cylinder operatively connected with the oscillating member, an air supply for the said cylinder, and a controller for said air supply.

\section*{No. 100,868. Sanding Device. Appareil à sabler.}

Augustus Leicester Moss. Sandusky, Ohio, U.S.A., 4th September, 1906; 6 years. Filed 7th April, 1906. Receipt No. 134,732 .
Claim.-1. A sanding device for automoblles and like vehicles, provided with a revoluble distributor connected with a sand supply and adapted to scatter the sand on the roadbed by centrifugal force.
2. A sanding device for automoblles and like vehicles, provided with a revoluble distributor connected with a sand supply an dadapted to scatter the sand on the road bed by
centrifugal force, the distributor being disposed horizontally and provided with ribs for scattering the sand.

3. A sanding device for automobiles and like vehicles comprising a sand box, a horizontally disposed revoluble distributor, adapted to scatter the sand on the road bed by centri fugal force, a feeding device for feeding the sand from the said sand box to the centrer of the said distributor, and a driving means for rotating the distributor from a driven part of the vehicle.
4. A sanding device for automobiles and like vehicles combrising a sand box, a horizontally disposed revoluble distributor, adapted to scatter the sand on the road bed by centrifugal force, a feeding device for feeding the sand from the said sand box to the center of the said distributor, a driving means for rotéating the distributor from a driven part of the vehicle, and a stopping and starting device under the control of the operator, for connecting and disconnecting the said driving means and the said distributor.
5. A sanding device for automobiles and like vehicles comprising a sand box, a revoluble disc disposed horizontally and having ribs on its upper face, and a feed chute connected wth the said sand box and discharging onto the said upper face of the disc.
6. A sanding device for automoblles and like vehicles comprising a sand box, a revoluble disc disposed horizontally and having ribs on its upper face, the said ribs beng alternately of dfferent length, and a feed chute connected with the said sand box and discharging onto the said upper face of the disc.
7. A sanding device for automoblles and like vehicles comprising a sand box, a feed chute leading therefrom, a horizontally disposed distributing disc having guide ribs on its upper face and on which discharges the said feed chute, a feed screw in the said sand box, for feeding the sand from the sald sand box into the said feed chute, a gearing for rotating the said feed screw and disc in unison, and a driving device for driving the said feed screw from a driven part of the vehicle.
8. A sanding device for automobiles and like vehicles comprising a sand box, a feed chute leading therefrom, a horizontally disposed distributing disc having guide ribs on its upper face and on which discharges the said feed chute, a feed screw in the said sand box, for feeding the sand from the said sand box into the said feed chute, a gearing for rotating the said feed screw and disc in unison, a driving device for driving the said feed screw from a driven part of the vehicle, and manually controlled means for throwing the feed screw in or out of gear with the said driven part.

\section*{No. 100,869. Sanding Device for Antomobiles. Apparctl d sabler pour automobiles.}

Augustus Leicester Moss, Sandusky, Ohio, U.S.A., 4th September, 1906 ; 6 years. Filed 9th April, 1906. Receipt No. 134,763.
Claim.-1. An automobile provided with a sanding device having pipes terminating \(n\) nozzles and extending at an angle toward the path to be travelled by the driving wheels but terminating away from the wheels, at the inner side of said path, for scattering sand over a roadway in front of the driving wheels of the automobile and across their pathway.
2. An antomoblle provided with a sanding device having pipes terminating in flat nozzles and extending forwardly and outwardly toward the path of travel of the driving wheels but terminating away from the wheels at the inner side of sald path, the nozzles being-arranged to scatter sand in fan shape over a roadway in front of the driving wheels of the automobile and across their pathway.
3. The combination with an automobile, of a sanding device comprising a sand container, a compressed air reservoir car-
ried on the automobile, an air pump for charging the sald compressed air reservoir with compressed air, nozzles for

scattering sand over a roadway in front of and around the driving wheels of the automobile, a valve for controlling the connection between the said sand container and the said nozzles and for controlling the connection between the compressed air reservoir and the said nozzles, to force the sand out of the latter by compressed air from the said reservoir, and means under the control of the chauffeur for actuating in unison the said valve and the stopping and starting device of the sald air pump.
4. The combination with an automobile, of a sanding device held on the said automobileand comprising a sand container, nozzles connected with the said container and arranged to scatter sand over a roadway in front of and around the driving wheels of the automobile, a compressed air reservoir, a pipe leading therefrom and a manually controlled valve having a nozzle adapted to register with said pipe, the sald valve simultaneously controlling the connection between the said nozzles and the said air reservoir.
5. The combination with an automobile, of a sanding device held on the said automobile and comprising a sand container, nozzles connected with the said container and arranged to scatter sand over a roadway, in front of and around the driving wheels of the automobile, a compressed air reservoir, a manually controlled valve for simultaneously controlling the connection between the said nozzle and the said sand container and between the said nozzles and the said air reservoir, an air pump having a stopping and starting device connected with a driven part of the automobile, and means under the control of the chauffeur and connected with the said stopping and starting device and with the said valve, for successively actuating the same.
6. The combination with an automobile, of a sanding device held on the said automobile and comprising a sand container, nozzles connected with the said container and arranged to scatter sand over a roadway, in front of and around the driving wheels of the automobile a compresser air reservoir, a manually controlled valve for simultaneously controlling the connection between the said nozzles and the said sand container and between the said nozzles and the said air reservoir, an air pump having a stopping and starting device connected with a driven part of the automobile, and means under the control of the chauffeur and connected with the said stopping and starting device and with the said valve, for successively actuating the same, to start the pump ahead of the opening of the said valve.
7. A sanding device provided with a valve having a valve casing connected with a sand container, a compressed air reservoir, a pipe connecting said reservoir with the valve casing, a sand discharge leading from the valve casing, and a valve plug mounted to turn in the said casing and under the control of the operator, the valve plug having an outlet adapted to register with the said discharge, and a nozzle in the valve plug registering with the outlet of the valve plug and adapted to register with the pipe leading from the reservoir the said valve plug connecting the said discharge simultaneously with both the sand container and the said compressed air reservoir.
8. An automobile provided with a sanding device, an air reservoir for delivering a blast of air to the said sanding device, a pump for pumping air into the reservoir, and means under the control of the operator, for actuating the said sanding device, the said means also controlling the starting mechanism of the pump to start the same.
9. An automobile provided with a valve contrulled sanding device, an air reservoir for delivering a blast of air to the said sanding device, a pump for pumping air into the reservoir, and means under the control of the operator, for actuating the said sanding device and for starting the sald pump ahead of the said sanding device, the sald means comprising
a rod movable in the direction of its length and connected with the valve of the sanding device, the sald rod also controlling the starting mechanism for the pump.
10. An automobile provided with a sanding device, a compressed air reservoir for delivering a blast of air to the said sanding device, a pump, mechanism for actuating the pump, a clutch for connecting said mechanism with a driven part of the automobile, for charging the said reservoir with compressed air, and means under the control of the operator, for actuating the sair sanding device and for actuating said clutch to stop or start the pump.
11. An automobile provided with a sanding device comprising a sand container mounted on the automobile and provided with an outlet, and plpes extending downwardly, outwardly and forwardly from the said outiet, the said pipes each extending at an angle toward the path to be travelled by the respective driving wheels, but terminating short of said path, for scattering sand over the roadway in front of the driving wheels and across the path of travel thereof.
12. An automobile provided with a sanding device comprising a sand container mounted on the automobile and provided with an outlet and pipes branching in opposite directions from said outlet, the said pipes extending downwardly, outwardly and forwardly from the said outlet, the said pipes each extending at an angle toward the path to be travelled by the driving wheel but terminating short of said path, and each provided at its terminal with a flat nozzle for spreading the sand in fan-shape over the roadway in front of the driving wheels and across their path of travel.
13. A sanding device comprising a sand container, a valve for controlling the discharge of sand from said container, an air reservoir connected with the sanding device, a pump for pumping air into the reservoir, mechanism for actuating the pump, a stopping and starting device for the pump, and means connccted with the said valve to actuate the same. the said means also having a controlling connection with the stopping and starting device for the pump.
14. A sanding device comprising, a said container, a valve for controlling the discharge of sand from said container, an air reservoir for delivering a blast of alr to the said sanding device, a pump for pumping air into the reservoir, means for actuating the pump, a stopping and starting device for the pump, and a rod for actuating said valve and having a loose sliding connection with the same, the said rod also controlling the stopping and starting device for the pump.
15. In a sanding device, the combination with a sand container, of a valve casing connected with the sand container, a compressed air reservoir connected with the valve casing. a pump for pumping air into the reservoir, a stopping and starting device for the pump, a sand discharge leading from the valve casing, a valve plug mounted to turn in the casing to connect the said discharge with the sand container and with the compressed air reservoir, an arm on the said valve plug provided at its free end with a pin, a rod for actuating said valve and having an elongated slot engaged by said pin, a lever connected with said rod, a spring connected with sald lever, and a controlling connection between the said rod and the stopping and starting device for the pump.
16. The combination with a valve controlled sanding device, of an air reservoir for delivering air to the said sanding device, a pump for pumping air into the reservoir, means for actuating the valve of the sanding device, the said means including a longitudinally movable rod operatively connected with the said valve, mechanism for actuating the pump, a clutch for controlling said mechanism, a shifting fork engaging the said clutch, a spring connected with the shifting fork for moving the clutch into active position, and a ce. nection between the said longitudinally movable rod and the shifting fork for normally holding the shifting fork against tension of its spring.
17. A sanding device comprising a sand container, a valve casing connected at its top by ports with the sand container, a compressed air reservoir connected by a pipe with the valve casing, a sand discharge pipe connected with the valve casing, a valve plug mounted to turn in the said casing and under the control of the operator, the said plug having a recess in its upper part into which open ports adapted to register with the ports in the top of the casing, the said recess terminating at its lower end in a side extension adanted to register with the discharge pipe, and a nozzle In said valve plug opening into the said side extension and adapted to register with the pipe leading from the air reservolr.
18. A sanding device comprising a sand container, a compressed air reservoir. an air pump for charging the said reservoir with compressed air, a sand discharge, a valve for controlling the connection between the sand container and the said discharge and for controlling the connection between the compressed air reservoir and the said discharge. and means for actuating in unison the sald valve and the stopping and starting device for the air pump.

Ne. 100,870. Ey-irometer. Hydromètre.


Richard Edward Oscar Bock, Philadelphia Pennsylvania, U.S.A., 4th September, 1906; 6 years. Filed 12th March, 1906. Recelpt No. 133.841.

Claim.-1. In a hydrometer, a liquid containing vessel having a nozzle, combined with a float having a pointer, and a scale co-operating with said pointer, substantially as specified.
2. A hydrometer provided with a float, an enclosed pocket. a ballast within the pocket, and a hollow stem extending through the float into the pocket, substantially as specifled. 3. In a hydrometer, a liquid containing vessel having a nozzle combined with a float having a stem, and a gulde having a spring pressed finger and adapted to engage the stem, substantially as specified.
4. In a hydrometer, a liquid containing vessel having a nozzle combined with a float, a ballasted pocket enclosed thereby, a thermometer tube between pocket and float, and a stem extending through the float into the pocket, substanlially as specified.

No. 100,871. Grain Door for Freight Cave.
Porte d grain pour chars id marchandises.


William John Cocklin, Rising City, Nebraska, U.S.A., 4th September, 1906; 6 years. Filed 30th April, 1906. Receipt No. 135,377.
Claim.-In a device of the character described the combination with a grain door, of two vertical door reinforcing members of a length less than the width of the door to provide shoulders below, a stop block secured centrally to the grain door, two angle flanges, one secured to each vertical edge of the grain door, one edge of each angle flange extending outward in the form of a web, each of said webs being slotted, two headed locking levers secured to the grain door, said heads extending through the slots within sald webs and being adapted to work within a pocket, of a sultable door post, securing members fastened to each of said fianges, a \(U\)-shaped keeper pivotally fastened to each securing member, and a guide rod adapted to be engaged by each keeper, said gulde rod being suitably secured as set forth.

\section*{No. 100,872. Traction Engine. Machine d traction.}

Gforge Cuff, Poynette, Wisconsin, U.S.A., 4th September, 1906; 6 years. Filed 8th June, 1906. Recelpt No. 136.719. Claim.-1. In a traction engine, a winding mechanism for hauling loads, comprising a winding drum having a spirally arranged groove on the surface thereof, a cable secured thercto, gulde pulleys for gatd cable, means for permitting
the drum to move laterally upon its shaft to wind the cable In the groove on said surface, a plaion having guide projec-

tions to engage a gear wheel on the drum, said pinion adapted to move laterally on its shaft, and means for rotating said shaft, substantially as described.
2. In a winding mechanism for traction engines, a drum provided with a spirally grooved surface for a cable, means for permitting said drum to move laterally upon its shaft, in pinion connected to a gear wheel on said drum, sald pinion adapted to slide laterally with the drum, means for revolving its shaft, a friction wheel mounted in a sliding guide and adapted to be moved into and out of contact with the crank wheel of the traction engine, and connections between the friction wheel and the pinion shaft, substantially as desscribed.

No. 100,873. Door Closer for Scows. Fermeture de porte pour chalands.


Frank Hayes and William Clifford, co-inventors, Duluth, Minnesota, U.S.A., 4th September, 1906; 6 years. Filed 25th June, 1906. Recelpt No. 137,255.
Claim.-1. In a door closing means for scows the combination with a scow having a load receiving hopper proviled with hinged floor doors, of a rotatable shaft journalled on said scow above the plane of said doors when closed, flexible means secured at one end to gald shaft and at the opposite ends to the meeting edges of said doors, a ratchet wheel keyed to said shaft, a rock shaft journalled in suitable supports on said scow, an eccentric pawl mounted on said rock shaft and adapted in operative position to engage said ratchet wheel to rotate the same, means adapted in operative position to prevent the counter rotation of said ratchet wheel, and means adapted in operation to rock said rock shaft.
2. The combination with a suitable support containing a load receiving hopper or compartment provided with a load retaining door or doors adapted to close a load discharging opening in said compartment, of a shaft journalled on said support, flexible means secured to said shaft and to a pree edge of said door or doors, a ratchet wheel keyed to said shaft. a rocking shaft. an arm secured thereon and adapted to rock therewith, a pawl pivotally secured to said arm and adapted in operative position to engage said ratchet wheel tc rotate the same, a dog mounted on said support and adapted in opera.ive position to engage said ratchet wheel oppositely to said pawl to prevent counter rotation of said wheel, a second arm keyed to said rock shaft, a connecting rod pivotally cecured at one end to the outward end of the latter sald arm and means for reciprocating said connecting rod.
3. The combination with a structure containing a load receiving compartment having a load retaining doer or doors, adapted to close a load discharging opening, of a shaft journalled on said construction, flexible means secured at one end to said shaft and adapted to be partly wound thereon and secured at its other end or ends to the free edge of said door or doors, a ratchet wheel on said shaft adapted to rotate therewith, a rock shaft journalled on said structure an arm mounted on said rock shaft and adapted to rock therewith, a pawl pivotally connected to said arm and adapted to be manually raised into operative engagement with said ratchet wheel to rotate the same, means adapted in operative position to prevent the counter rotation of sald ratchet wheel, a second arm mounted on said rock shaft a nd adapted to rock therewith, a connecting rod pivotally connected to the latter said arm and by an eccentric pin to a gear wheel, and means including an engine adapted to rotate said gear wheel, substantially as described.

No. 100,874. Motor Vehicle. Véhicule motcur.


Peter Edwin Hanson, Galveston, Texas, U.S.A., 4th September, 1906 ; 6 years. Filed 28th May, 1906. Receipt No. 136,319.
Claim.-1. A self propelled, dumping dray comprising an exle provided with and supported by travelling wheels, a main frame having a rear section connected with and arranged to swing vertically on the axle, and also having a forward section hinged to the rear section at a point in advance of the axle, whereby the frame is adapted to flex, means detachably connecting the said frame sections with a view of retaining the same in alignment with each other, a pilot wheel carried by the forward frame section, a motor carried by the rear frame section, and a driving connection intermediate said motor and the axle.
2. In a self propelled, dumping dray, the combination of an axle provided with and supported by travelling wheels, a main frame comprising a rear section connected with and arranged to swing vertically on the axle and having a transverse loop on its forward portion, and a forward section hinged to and lapping the forward portion of the rear section and having a transverse loop arranged to register with that of said rear section, a removable bar occupying said loops of the frame sections, a hanger having an upwardly extending shaft journalled in the forward frame section and provided with a handle, a pilot wheel carried by said hanger. a motor carried by the rear frame section and connected with the axle, and means on said rear frame section for controlling the motor.

\section*{No. 100,875. Power Trangmitting Device. \\ Appareil d transmettre la force.}

Otto Hoffmann, Granite, Minnesota, U.S.A.. 4th September, 1906; 6 years. Filed 27th February, 1906. Receipt No. 133,393.
Claim.-1. The combination with a vehicle axle having carrying wheels, of a spoke or plate centrally pivoted on said axle, a spocket wheel loosely mounted on said axle and having a swivelled connection with the ends of said spoke, and a driving connection for said spocket wheel, substantially as described.
2. The combination with an axle having carrying wheels provided with a centrally arranged loop, of a flattened spoke centrally pivoted in said loop. a sprocket wheel mounted on said axle and having swivelled connections with the ends of said spoke, and said swiveled connections being at right angles substantlally with the pivot of said spoke in said lcop, and a driving connection for said spoke wheel, substantially as described.
3. The combination with a forward axle having carrying wheels and a frame with a steering post, of a vehicle body

swivelled on said frame, a sprocket wheel loosely mounted on said axle and having a universal joint connection therewith, and a driving connection for said sprocket wheel.
4. The combination with the forawrd axle having carrying wheels, of a frame mounted on said axle, a steering post for said frame. a vehicle bottom supported on zaid frame, guides depending from said vehicle bottom, a sprocket wheel having ball bearings in said guides, and a spoke centrally piroted on said axle and having swivelled connections at its ends with said sprocket wheel, substantially as described.
5. The combination with a vehicle axle having carrying wheels, of a wheel having a swivelled connection with said axle between said carrying wheels, and a driving connection for said swivelled wheel, substantially as described.
6. The combination with a vehicle having carrying wheels, of a sprocket wheel having a universal joint connection with sald axle between said carrying wheels, and a driving connection for said sprocket wheel.
7. The combination with a vehicle axle having carrying wheels, of a wheel having a universal joint connection with said axle, guides for said wheel, and a driving connection for said wheel.

No. 100,876. Corner for Show Cases.
Coin pour boîtes de montre.


Otto Charles Kade, Chicago, Illinois U.S.I.. 4th September, 1906; 6 years. Filed 11th April, 1906. Receript No. 134,839. claim.-1. A device of the class described consisting of an outer member comprising an upper plate having its front edg's bent downward and then backward so as to form a ledge, a lower plate made to fit over an outside corner, and means for securing said plates in applied position.
2. A device of the class described consisting of an outer nember comprising an upper plate having its front edges bent downward and then backward so as to form a ledge, a lower plate made to fit over an outside corner, a plate adapted to fit an inside corner, and means for securing said device in applicd position.
3. A device of the class described consisting of an outer n.ember comprising an upper plate having its front edges \({ }^{\prime}\) but downward and thein bukward so as to form a ledge, a lew.r phate mad. to fit over an outside corner, a plate adapted to fit an inside corner and movided with slots, lugs securid to or formed a pari of sad upper and lower plates, and *erows adjustably held in sald lugs so as to hold said device ir. applind position.
4. A device of the class described consisting of an upper member comprising an upper plate having its front edges bent downward and then backward so as to form a ledge, a icwer plate made to fit over an inside corner, a support secured to or formed a part of said lower plate and projecting thercabove so as to provide support for said upper plate, and means for securing said plates in applied position.
5. A device of the class described consisting of an outer member comprising an upper plate having its front edges bent downward and then backward so as to form a ledge, a lower plate made to fit over an outside corner, a support secured to or formed a part of said lower plate and projecting thereabove so as to provide support for said upper plate near its outer portion, a plate adapted to fit an inside corner and provided with slots, lugs secured to or formed a part or said upper and lower plates, and screws adjustably held it said luys so as to hold said device in applled position.
6. A member for a device of the class described constructed to fit an inside corner and composed of an upper and two side portions. each provided with a slot.
7. The combination with the top and side plates of glass, of a show case, of a member comprising a corner designed ts fit over or upon the corner of said top plate of glass and so protect or strengthen same, a member designed to fit over the outside corner formed by said side plates of glass, and means for holding said corner members in applied position so as to bind said top and side plates of glass together.
8. In a show case or similar article, the combination with the top and vertical sides thereof, of a corner designed to fit over or upon the front corners of said top to protect same, and means passing from said corner into the interior of said show case so as to secure said corner in place.
3. In a show case or similar article, the combination with the top thereof having its front corners cut away or removed. and the vertical sides thereof, of a corner designed to complete the configuration of sald top and to support said top to said vertical sides by being held over or around the cutaway or removed corners, and means passing down between said cut-away corner and said vertical sides whereby sald top and sides and corner are all bound together.

\section*{No. 100,877. Unloader for Wagons.}

Apparcil à dćcharger les wagons.


Wilfid Ledoux. Arnaud, Manitoba, Canada, 4th September.
1906;6 years. Filed 18th April, 1906. Receipt No. 135,010.
Claim.-1. In a device of the class described, the combination with the bottom of the wagon box having an adjustable opening, of a chute leading from the opening, as specifled.
2 . In a device of the class described. the combination with the wagon box having an adjustable opening, of a chute leading from the opening. as specified.
3. In a device of the class described, the combinaton with the bottom board having an opening. of a slidable plate designed to close within the opening, a chute extending downwardly from the opening and means for restraining the plate when in its closed position, as specified.
4. In a device of the class deseribed, the combination with th, wagon box, having an opening centrally and at the side of the bottom board provided with a slant side, of a chute ixtruding downwardly and outwardly from the opening. a sille piate designed to fit the opening and have access thereto from the side of the box and means for restraining the slide plate when in the closed position, as specified.
5. In a device of the class described, the combination with the wagon box having an opening centrally and at the side ("f the buttom board, sald opening being of less dimension at the bottom than at the top, a plate extending over the entire elne of the opening and tlanged outwardly and secured to the Loltom board and flanged with the upper face, a chute extending downwardly and outwardly from the opening and
secured by means of a flanged edge to the bottom board, an adjustable slide plate designed to fit the opening and having access thereto from the side of the box, means for preventing upward displacement of the slide plate and adjustable means for holding the said slide plate in its closed position, as specified.
6. The combination with the wagon side and bottom having an opening at one side, of a chute extending downwardly from the opening and a cut-off valve for normally closing the opening, as specified.
7. The combination with the wagon side and bottom having an opening at one side, of a chute extending downwardly from the opening and a cut-off valve for normally closing the opening, and a holdfast means on the outside of the box designed to hold the valve closed, as specified.

\section*{No. 100,878. Means for the Prevention of Side Slip with Mechanically Driven Vehicles. Moyen d'empêcher les véhicules de glisser de côté.}


Henry Bridges Molesworth, 39 Victoria Street. Westminster, England, 4th September, 1906; 6 gears. Filed 20th June, 1908. Receipt No. 137,087.

Claim.-1. In combination with a mechanlcally driven vehicle having driving and steering wheels, a subsidiary wheel or wheels held in rolling contact with the ground but left entirely free both from the driving power and the brake.
2. The combination of a carrlage axle, a driven wheel on cach end of it and a free subsidiary wheel alongside of each driven wheel and concentric with it.

No. 100,879. Ventilator. Ventilateur.


Gllman Moulton, West Somerville, Massachusetts, U.S.A., 4th September, 1906; 6 years. Filed 19th June, 1906. Receipt No. 137,067 .
Claim.-1. A ventilator comprising a span board having an oponing therein, a deflecting box or casing supported by said board and provided with outlet openings, valvular shutter mounted in said box or casing and having a preponderant side, and means for positively adjusting said shutter.
2. A ventilator comprising a span board having an opening therein, a deflecting box or casing supported by said board, s sliding top for said casing provided with outlet openings, a shutter pivotally mounted in said box or casing and having a preponderant side, and means for positively adjusting said shutter.
3. A vtntilator comprising a span board having an opening therein, a deffecting box or casing supported by sald board and provided with outlet openings, a valvular shutter mounted in said box or casing and having a preponderant side, and an arm mounted in said casing and provided with a detent adapted to engage said shutter.
4. A ventilator comprising a span board having an opening therein, a deflector box or casing supported by said board and provided with outlet openings, a valvular shutter mounted in said box or casing and having a weight secured to one side thereof, and adjusting means adapted to engage the opposite edge of said shutter.
5. A ventllator comprising a span board having an opening therein, extension pieces for said board, a deflector box or casing supported by said board and provided with outlet openings, a valvular shutter mounted in said box or casing and having a preponderant side, and means for positively adjusting said shutter.

No. 100,880. Logging sled. Traineau d billots.


Alexander D. McDonell, Mediord, Wisconsin, U.S.A., 4th September, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,168.
Claim.-1. In a logging sled, a medially disposed transverse beam, a roller in the front end of the sled, the roller being provided with a tongue, dralt chains secured to sald beam and passing the ends of the roller by which the chains are held in place apart from each other and coming together in front of the roller, and means for connecting the front ends of the chains and coupling them to a hauling device.
2. A sled having a medially disposed transverse fixed beam, draft chains secured at their rear ends to this medially disposed sled beam, a roller provided with a tongue, and a coupling device on the tongue at a distance in front of the sled to which the chains at their front ends are directly secured and which coupling device is adapted to couple the chains up to a hauling means.
3. A sled having a fixed medially disposed transverse beam, draft chalns secured to the beam, plate links in the chain provided with longitudinal slots, a roller in the front end of the sled, said roller having pin pivot terminals that pass through the slots in the plate links, and means for coupling the chains at their front ends to a hauling means.
4. In a sled, a roller, a tongue fixed to the roller. an extension tongue secured detachably to the tongue and having means for securing it detachably to a hauling means, and means other than the tongue secured to the sled at the rear of the roller adapted to be attached in front of the roller detachably to the hauling means for pulling the sled along. 5. In a sled, a roller having a thereto secured rigid tongue, a detachable tongue extension having furcate legs adapted to straddle and fit on the tongue, a band on the ends of the legs also adapted to fit on the tongue, sald tongue extension being provided with pin holes for pins to secure it to the tongue, and to a hauling means.
6. In combination, a sled with a medially disposed fixed beam, draft chains secured at a distance apart severally to the beam, a tongue roller interposed between the chains keeping them apart at the front end of the sled a distance substantially equal to the width of the sled, and a coupling device to which the front ends of the chains are secured near together and having means for coupling it to a hauling means.
7. In combination, a plurality of sleds one following another, a roller between and mounted in the front ends of the runners of each sled, a single transverse beam mexlially on and secured to the runners, a pair of sled connecting chains attached at a distance apart to the beam of the preceding sled and at their rear ends to the beam of the following sled, said chains being crossed medially and held apart by the roller of the following sled.

No. 100,881. Traction Sled. Traineau d traotion.


James McGillis, Chippewa Falls, Wisconsin, U.S.A., 4th September, 1906; 6 years. Filed 23rd March, 1906. Receipt No. 134,213.
Claim.-1. In a traction sled the combination with a frame supported on fixed runners, of a crank shaft, a movable runner, a spring hanger connecting the crank and the movable runner, and means to drive the shaft.
2. In a traction sled the combination with a runner supported frame, of a crang shaft, means to drive the shaft, a movable runner, a spring hanger having one end connected to the runner and its opposite end connected to the crank, and a guard member carrled by the runner and loosely embracing the hanger.
3. In a traction sled the combination with a frame supported on fixed runners, means to drive the shaft, a spring hanger connecting the crank and the movable runner, a guideway, and means upon the movable runner to engage the guldeway and support the movable runner in an elevated position when travelling forward.
4. In a traction sled the combination with a frame having a fixed runner, of a movable runner working at one side of the fixed runner, means for working the movable runner back and forth, a cam track carried by the movable runner and working upon the track during the forward moviment of the movable runner to elevate the same.
5. In a traction sled, the combination with a runner supported frame, of a movable runner, a crank shaft, means for driving the crank shaft, a flexible hanger connected to the crank and the runner, a guide member carried by the runner, and a track located in the forawrd path of the guide member to elevate the movable runner during its forward movement.
6. In a traction sled, the combination with a frame having a pair of fixed runners, a pair of shafts mounted transversely of the frame and provided with cranks respectively located at the inner and outer sides of the individual runners, the members of each pair of cranks being disposed at opposite sides of the adjacent shaft, means for simultaneously rotating the shafts in the same direction, movable runners working back and forth at opposite sides of the respective fixed runners, spring links having their forward ends connected to the respective movable runners and inclined upwardly and rearwardly therefrom with their upper ends pivotally connected to the adjacent cranks, looped guards carried by the movable runners and loosely embracing the respective spring links, anti-friction guide rollers carried by the movable runners and located between the latter and the respective fixed runners, and tracks carried upon opposite sides of the fixed runners and located in the paths of the forward movements of the rollers to elevate the movable runners when moving forwardly.
7. In a traction sled, the combination with a frame supported on fixed runners, of a movable runner, a crank shaft upon the frame, a spring hanger connecting the movable runner and the crank, a guideway upon the fixed runner, and a guide carried by the movable runner and working upon the upper side of the guideway to support the movable runner in an elevated position, when moving forwardly and running at the under side of the guideway during the rearward movement of the runner to prevent elevation thereof.
8. In a traction sled, the combination of fixed runners, movable runners working at opposite sides of each fixed runner, means for raising and lowering and at the same time working the movable runners back and forth, guide members carried by opposite side of the movable runners, tracks carried upon opposite sides of the fixea runners for co-operation with adjacent guides of the movable runners, and other tracks supported at the outer sides of the movable runners in co-operative relation with the adjacent guldes.
9. In a traction sled, the combination with a fixed runner having a substantially horizontal irame extending around the top thereof, of movable runners working at upposite sides of the fixed runner, means to raise and lower and at the same time work the movable runners back and forth, tracks upon opposite sides of the fixed runner, tracks hung from the frame at the outer sides of the movable runners, and guide members carried by opposite sides of the movable runners for engagement with the respective tracks.

No. 100,882. Fur Trimmer.
Appareil d̀ arranger les fourrures.


Albert Frederick Schnaufer, Toronto, Ontario, Canada, 4th September, 1906; 6 years. Filed 10th April, 1906. Receipt No. 134,797.
Claim.-1. In a fur trimming machine, the combination with the main frame, the stationary cutting plate and the co-acting cutting cylinder, of a swinging frame pivotally secured to the main frame, and a compression spring extending between the swinging frame and the main frame, and on which the fur is designed to rest during the cutting operation, as and for the purpose specified.
2. In a fur cutting machine, the combination with the main frame, the stationary cutting plate and the co-acting cutting cylinder, of a swinging frame pivotally secured to the main frame comprising arms pivotally secured to the base of the main frame, a cross connecting bar connecting the ends of the arms together, and a roller journalled between the arms over which the fur is designed to be passed, as and for the purpose specified.
3. n a fur cutting machine the combination with the main supporting frame, the stationary cutting plate and the coacting cutting cylinder, of a swinging frame comprising bars pivotally secured to the base of the main frame, a cross connecting bar, a cross roller journalled between the arms and means for regulating the forward swing of the arms igainst the knives, as and for the purpose specifled.
4. In a fur cutting machine the combination with the main supporting frame, the stationary cutting plare and the coacting cutting cylinder, of a swinging frame comprising bars pivotally secured to the base of the main frame, a cross connecting bar, arc-shaped bars connected to the swinging bars and designed to pass through holes in the main Prame, and a roller journalled on supports adjustably secured to the arcshaped bars, as and for the purpose specified.
5. In a fur cutting machine the combination with the main frame, the stationary cutting plate and the co-acting cutting cylinder, of a swinging frame pivotally secured to the main frame comprising arms pivotally secured to the main frame, arc-shaped bars secured to the arms and designed to pass through an opening in the main frame, standards adjustably sccured to the bars, a roller journalled between the standards and collars forming limiting stops adjustably secured to the arc-shaped bars, as and for the purpose specified.
6. In a fur cutting machine, a swinging frame comprising piroted slde bars, a cross connecting bar, arc-shaped supporting bars and a roller adjustably journalled in bearings adjustably secured between the arc-shaped bars, as and for the purpose specified.
7. In a fur cutting machine, a swinging frame designe 1 to be pivotally secured to the body of the machine, and a compression spring extending between the frame and thr body. as and for the purpose specifled.
8. In a fur cutting machine, a swinging frame comprising pivoted side bars, a cross connecting bar and a roller journalled between the bars, as and for the purpose specified.
10. In a fur cutting machine, a swinging frame comprisin: pivoted side bars, a cross connecting bar, arc-shaped sup porting bars and a roller journalled between the arc-shaped bars, as and for the purpose specified.

No. 100,883. Gange for Saw Blade Edges.
Jauge pour le tranchement do lames de soies.


Seneca Edward Smith, Victoria, British Columbia, Canada, 4th September, 1906; 6 years. Filed 14th May, 1906. Receipt No. 135,859.
Claim.-1. As a means for detecting any deviation from a straight line in the edye of a saw blade, the combination with a bench or support having stop members secured thercto against which the edge of the blade may be pressed, of a gauge bearing on the edge of the blade between the supports that will indicate any deviation of the edge of the saw from a straight line between the point of contact on the stops.
2. In a device of the class described the combination with a bench or support for a saw blade having stops spaced a convenient distance apart, against which the edge of the blade may be pressed, of a member endwise slidable against the edge of the blade midway between the supports, and means connected to the stem whereby any deviation of the edge of the blade from a siraight line between the supports will be indicated and its amount determined.
3. In a device of the class described the combination with a bench or support, of adjustable stops spaced a convenient distance apart offering an elongated bearing surface to the edge of a saw blade pressed against them, a gauge member endwise slldable in a support against the edge of such blade. a pointer pivotally connected to the slidable member and fulcrumed to said support on a pin adjacent so that endwise movement of the slidable member will be multiplied to the cad of the pointer, and a spring to pressthe slidable member In contact with the edge of a blade against the supports.

\section*{No. 100,884. Cab Rnmner. Patin de voitures.}

James W. Sorenson, Grayling, Michigan, U.S.A., 4th September, 1906 ; 6 years. Filed 20th June, 1906. Receipt No. 137,085.
Claim.-1. A runner of the character described, having upwardly curved front and rear ends, the front end having a downwardly curved portion terminating in a vertically pendent shank, rectangular in cross section, the rear end terminating in an inwardly extending horizontal shank, rectangular in cross section, and socket members for receiving the axle spindles. sald socket members having rectangular apertures to receive the vertical and horizontal shanks, and set screws for holding the same in their adjusted position, substantially as shown and described.
2. A runner of the character described, having its front ends curved upwardly, backwardly and downwardly, and ter-

minating in a vertical shank having a plurality of adjusting apertures, and said runner having its rear end curved upwardly and terminating in an inwardly extending horizontal shank, T-shaped bearing boxes slidable on either shank ends, said bearing boxes having set screws for clamping them in their different adjustments and having portions to receive the axle spindles, substantially as shown and described.
3. A runner of the character described, having its front end bent into a circular shape and terminating into a vertical downwardly projecting shank portion rectangular in cross section and having its rear end bent up into a semi-circle and terminating in an inwardly projecting horizontal shank portion, rectangular in cross section, and a pair of T-shapel socket members. each consisting of a cylindrical bearing portion to receive an axle spindle, a set screw for co-operating with sald bearing portion, and each of said bearing members, having squared apertures for receiving the shank portions of the runners, and a set screw for co-operating with said squared apertures for holding the bearing members, adjustable on the runners, substantially as shown and described.

\section*{No. 100,885. Controller for Vehicles. \\ Controleur pour téhicutes.}


Alexander Winton, Cleveland, Ohio, U.S.A., 4th September, 1906; 6 years. Filed 17th January, 1906. Receipt No. 131,969.
Claim.-1. A controller for self-propelled vehicles, including a rotatable steering tube, a concentrically arranged longitudinaliy movable member carried by the tube, a spiral cam carried by the tube and adapted to be oscillated therewith, means for oscillating the cam independent of the tube, a controller for the engine, and a connection between the controller and said longitudinally movable member.
2. A controlling mechanism for self-propelled vehicles comprising a rotatable steering tube, a concentrically arranged longitudinally movable member exterior said tube, a spiral cam adapted to oscillate in said tube, a member connected with said cam and extending through and beyond the upper end of the tube, a handle for oscillating the cam independently of the tube, means for locking the cam to said tube, and a controller connection connected with said longitudinally movable exterior member.
3. A controlling mechanism for self-propelled vehicles comprising a rotatable steering tube, a longitudinally movable sleeve surrounding said tube and rotatable therewith, a cam within said tube and operatively connected with said sleeve, an operating member for the cam extending through the upper end of said tube, means for locking said member and thereby the cam to said tube, and a controller connfection non-rotatably mounted on said sleeve.
4. A controller for explosive engines, including a rotatable steering tube, an oscillatable spiral cam within the tube, a icngitudinally movable sleeve surrounding the tube, the tube provided with a longitudinal opening, the sleeve having an operative engagement with said cam through the said opening, a member connected with the cam and extending through the tube and beyond the upper end thereof, a member connected with the steering tube for oscillating it, a handle connected with the cam member, means for locking the handle to said tube operating member, the said sleeve having a groove, a ring loosely placed in the groove, means for holding the ring against rotation, a controller for the engine, and a connection between the ring and said controller.
5. A controller for explosive engines, including a steering tube, two independently oscillatable spiral cams located in the tube, one above the other, a tube connected with the upper cam and extending through the steering tube and beyond the upper end thereof, a handle connected with the tube, a rod passing through the said tube and connected to the lower cam, the upper end of the rod extending beyond the said cam tube, a handle connected with the extended end of the rod, longitudinally movable sleeves surrounding the steering tube and operatively connected respectively with the said cams through the steering tube, two controllers for the engine, and separate operative connections connecting the respective sleeves with the respective controllers.

No. 100,886. Driving Shaft for Motor Vehicles.
Arbre de commande pour téhicules motcur.


Alexander Winton, Cleveland. Ohio, U.S.A., 4th September. 1:06; 6 years. Filed 28th May, 1906. Recelpt No. 136,328.
Claim.-1. In a motor vehicle, the combination of a driving engine, a vehicle driving shaft operatively connected therewith, and a connecting shaft provided with an intermediate transversely yiclding portion.
2. In a motor vehicle, the combination of an explosive engine provided with a crank shaft. a vehicle drlving shaft, a connecting shaft provided with two universal joints, the connecting shaft provided with a transversely yielding portion located between said universal joints.
3. In a motor vehicle, the combination of a motor, a yieldingly supported vehicle driving shaft, a connecting shaft extending longitudinal the vehicle, one end of the ocnnecting shaft operatively connected with the vehicle driving shaft and its opposite end operatively connected with the motor driving shaft, the longitudinally extending connecting shaft constructed to longitudinally expand and contract for the purpose described.
4. In a motor vehicle the combination of motor having a driving shaft, a yieldingly supported vohicle driving shaft, a connecting shaft having one end operatively connected with the whicle driving shaft and its opposite end adapted to be operatively connerted with the motor shaft, said connecting shaft adapted to yield in a direction transverse its axis and to expand and contract in a direction longitudinal its axis, for the purpose described.
5. In a motor vehicle, the combination of a motor having a driving shaft, a vehicle driving shaft, and a longitudinally expanding and contracting shaft connecting the motor and the vehicle driving shaft.
6. In a motor vehicle, the combination of a motor having a driving shaft, a vehicle driving shaft, and a longitudinally expanding and transversely yielding shaft connecting the sbaft and the vebicle driving shaft.
7. In a motor vehicle, the combination of a motor having a driving shaft, a vehicle driving shaft, and a two-part shaft connecting the motor and vehicle driving shafts, the two parts of the connecting shaft having interposed yielding members, for the purpose described.

\section*{No. 100,887. Pulveriser and Grinding Mill. Pulvérisatcur et broyeur.}


James Wheeler Fuller, Jr., Catasauqua, Pennsylvania, U.S.A., 11th September. 1906; 18 years. Filed 17 th August. 1906. Receipt No. 138,754.
Claim.-1. In a pulverizing or grinding mill, separating, collecting and discharging chambers in communication with each other, grinding means, rotatable means to create a suction action of air above said grinding means, and eald separating. collecting and discharging chambers respectively in communication with said grinding means and discherge spouts of the mill.
2. In a pulverizing or grinding mill, grinding means, rolatable blades or wings arranged at different angular positions with respect to each other to create a suction action of air and arranged to permit of the free descent of matter to be ground to said grinding means, separating. collecting and discharging chambers communicating with each other. and respectively connected with said grinding means and discharge spouts of the mill.
3. In a pulverizing or grinding mill, grinding means, separating, collecting an discharging chambers connected with each other and with discharge spouts of the mill and rotatable means located above the grinding means for creating and maintaining a suction action of air, the construction and arrangement being such as to permit of free passage of matter to be ground to said grinding means, of separation of finely divided or ground matter from the coarser matter, in the separating chamber by the force of air from said rotatable means lifting the finely divided or ground matter into the collecting and discharging chambers and spouts of the mill, and the conveying of the coarser matter by gravity back into the path of said grinding means.
4. In a pulverizing or grinding mill, grinding means, rotatable means located above the grinding means for creating and maintaining currents of air, and separating. collecting and discharging chambers in communication with each other. the currents of air created by said rotatable means adapted to lift ground matter vertically and radially into the separating chamber, wherein the finely divided or ground matter is separated from the coarser matter, and the former then lifted by the force of the air into the collecting and discharging chambers and the latter conveyed back into the path of said grinding means.
j. In a pulverizing or grinding mill, grinding means, rotatable wings or blades located above the grinding means, and said blades or wings arranged at different angular positions with respect to each other, separating, collecting and discharging chambers connected with each other, said separating and collecting chambers closed at the top but connected with each other by an adjustable inlet device and the series of said chambers respectively in communication With said grinding means and discharge snouts of the mill.
6. In a pulverizing or grinding mill, grinding means. rotatable wings or blades arranged at different angular positions with respect to cach other and above said grinding means, separating, collecting and discharging chambers conpected with each other and respectively in communication
with said grinding means and discharge spouts of said discharging chamber of said mill.
7. In a pulverizing or grinding mill, grinding means, separating, collecting and discharging chambers communicating with each other, wings or blades located above said grinding means and permitting of free descent of matter to be ground to the grinding means, and when rotated elevation of ground matter vertically and discharging transversely into said separating chamber wherein by force of the impelled air separating in said chamber the finer matter from the coarser matter and discharging said tinely divided or ground matter in the collecting chamber into the discharging chamber and then through the discharge spouts of the mill, and at the same time, returning from the separating chamber the coarser matter back into the path of sald grinding means.
8. In a pulverizing or grinding mill, casings arranged concentrically in relation to each other and forming respectively suction, separating and collecting chambers and means interposed between the separating and collecting chambers for increasing or decreasing the area of the separating chamber.
9. In a pulverizing or grinding mill, a casing, a second casing surrounding the same, means slidably arranged on said second casing for increasing or decreasing the heighth thereof and in conjunction with said second casing forming baffing walls, and means arranged in said first casing for generating currents of air and raising and forcing ground matter with the air from the first casing against the baffing walls of the second casing to permit of separation of the finer matter from the coarser matter and discharge of said finer matter by the impelled air.
10. In a pulverizing or grinding mill, grinding means, separating, collecting and discharging chambers communicating with each other, wings or blades located above said grinding means and permitting of free descent of mattor to be ground to the grinding means, and when rotated, elevation of ground matter vertically and discharging transversely into said separating chamber, wherein by the force of the impelled air separating in said chamber the finer matter rrom the coarser matter and discharging said flnely divided or ground matter in the collecting chamber into the discharging chamber and then through the discharge spouts of the mill, and at the same time, returning from the separating chamber the coarser matter back into the path of sald grinding means, and said slidable means determining the degree of fineness of the separated ground matter, by increasing or decreasing the length of travel thereof in the exit of the same from said second casing.
11. In a pulverizing or grinding mill, a casing, two concentrically arranged casings surrounding the same, means for connecting the outer casing with the inner casing and forming a deflecting wall for air, and means arranged in the inner casing for generating currents of air and forcing the air as well as raising and discharging ground matter against the intermediate casing to separate the finely ground matter from the coarser matter therein and permit in conjunction with said deflecting means the discharge of said finer matter from the intermediate chamber into the outer chamber of said casings by the currents of air generated in the inner chamber of said casings.
12. In a pulverizing or grinding mill, a casing having a discharge for finely ground matter therein, two concentrically arranged casings surrounding deflecting means for air connecting the outer of sald casings with the inner casing at their upper ends, means forming a part of said inner casing and carrying the outer and Intermediate casings and having passageways connecting the intermediate with the inner of said casings and the outer casing with the dischargea, means arranged in the inner of said casings for generating currents of air and forcing air and raising and discharging ground matter against the intermediate of said casings to separate the finely ground matter from the coarser matter therein, and permit of discharge of the finer matter from the intermediate of aaid casings to and through the outer casing by said deflecting means and from the outer of said casings through the discharges of the outer of said casings by the currents of air and of the return of the coarser matter from the intermediate of said casings to the inner of said casings, by gravity.
13. In a pulverizing or grinding mill, a casing forming a discharge chamber with outlets or spouts, grinding means located adjacent to said chamber, but separated therefrom by the grinding ring and acessories of said means, a channelled nelled casting supported about said grinding means and casting supported about said grinding means and carrying casings constituting separating and collecting chambers of the mill and connected with each other, adjustable means for lacreasing or decreasing the length of the wall separating sald two chambers from each other. an air and matter defecting roof above the casing of said chambers and means located above the grinding means for creating and maintainlig currents of air for lifting ground matter and deflecting
the same against the casing between said separating and collecting chambers.
14. In a pulverizing or grinding mill, grinding means, means for creating and maintalning currents of air within a central chamber, concentrically arranged casings surrounding said chamber and constituting separating and collecting chambers of the mill in communication with each other, and said chambers connected with said grinding means and with discharge outlets or spouts of the mill.
15. In a pulverizing or grinding mill, a grinding means, means for creating and maintaining currents of air within a central chamber to lift by said means and the alr created thereby, ground matter vertically and radially from sald means concentrically arranged casings surrounding said chamber and constituting separating and collecting chambers of the mill in communication with each other and said chambers connected with said grinding means and discharge out lets or spouts of the mill.
16. In a pulverizing or grinding mill, grinding means ro- \(^{\text {ro }}\) tatable means for creating currents of air within a central chamber to lift by said means and air creating thereby, ground matter vertically and radially from said means, concentrically arranged casings supported from a channelled casting above said grinding means and constituting the separating and collecting chambers of said mill, means adjustably connected with the casings separating said two communlcating chambers with each other to control the length of travel of separated fine matter from coarse matter in the separating chamber prior to its discharge into the collecting chamber impelled by the air, under pressure, and said two chambers connecting with said grinding means and with the discharge outlets or spouts of the mill.

\section*{No. 100,888. Pulverizing and Grinding Mill.} Pulvérisatcur et broyeur.


James Wheeler Fuller. Jr., Catasaqua, Pennsylvania, U.S.A., 11th September, 1906. 6 years. Filed 20th August, 1906. Receipt No. 138.817 .
Claim.-1. In a pulverizing or grinding mill, a casing having outlets, grinding means arranged within the casing below the outlets, a second casing surrounding the first casing and outlets thereof, air current generating means arranged within the Inner casing above the grinding means, means for controlling the outlets of the inner casing. and means for controlling the position of all of the outlets controlling means from a given point.
2. In a pulverizing or grinding mill, a casing having outlets, grinding means arranged within the casing below the outlets, a second casing surrounding the first casing and outlets thereof, air current generating means arranged within the inner casing above the grinding means, means for controlling the outlets of the inner casing, and means for simultanepusly actuating the outlet controlling means and holding at a uniform position within the inner casing.
3. In a pulverizing or grinding mill, casings arranged concentrically with respect to each other and forming suction, separating and collecting chambers, the inner one of said casings having peripheral outlets, grinding means arranged within the inner casing below the outlets, air current generating means arranged within the inner casing, means for controlling the outlets of the inner casing and by the same the exit of air therefrom, and means for closing the upper end of the outer casing and deflecting air rising in the separating chamber in a downward direction into the collecting chamber.
4. In a pulverizing or grinding mill, casings arranged concentrically with respect to each other, a partition wall arranged between sald casings to form communicating, separating and collecting chambers outside the inner casing. means adjustably connected with the partition wall for de-
creasing or increasing the height thereof, the inner of the asings having peripheral outlets, grinding means arranged w:thin the inner casing below the outlets, air current generating means arranged within said inner casing, means for controlling the outlets of the inner casing and by the same the current of air striking the partition wall, and means for closing the upper end of the outer casing and deflecting the air in a downward direction in the collecting chamber.
5. In a pulverized or grinding mill, a casing having peripheral outlets, grinding means arranged within the casing below the outlets, air current generating means arranged within the inner casing above the grinding means, a series of superposed deflector slats guarding each outlet of the inner casing, means for moving sald deflector slats in the casing to vary the angle of discharge through said outlets, and means for simultaneously actuating the moving means for each series of said slats to hold the same in a uniform position in the outlets of the inner casing.
6. In a pulverizing or grinding mill, a casing having peripheral outlets, grinding means arranged within the casing below the outlets, air current generating means arranged within the inner casing above the grinding means, a series of superposed deflector slats guarding each outlet of the inner casing, means for moving said deflector slats in the casing to vary the angle of discharge through said outlets, means for simultaneously actuating the moving means for each series of said slats to hold the same in a uniform position in the outlets of the inner casing, an outer casing surrounding the inner casing, a partition wall separating the inner casing from the outer casing to form communicating separating and collecting chambers, means carried by said partition wall to increase or decrease the height thereof, and a cap carried by the casings for deflecting air coming from the separating chamber in a downward direction into the collecting chamber.
7. In a pulverizing or grinding mill, a casing having posts forming peripheral outlets therein, slats arranged in said outlets and carried by said posts, means removably arranged in said posts for locking the slats thereto, means for connecting the slats with each other, and actuating means for said connecting means to control the position of the slats.
8. In a pulverizing or grinding mill, a casing having posts forming peripheral outlets therein, a series of slats arranged in each of the outlets and carried by the posts, means arranged in the posts for removably locking the slats thereto, means for connecting the slats of one series with the other, means for engaging the connecting means to actuate the slats. and means carried by the casing for actuating the engaging means of each serles of slats from a given point, and thereby to insure uniformity of position of each of the series of slats.

No. 100,889. Pad for Horses. Bourrelct pour harnais.


Seble A. Ladd, Duane, New York, U.S.A., 11th September, 1906: 6 years. Filed 13th August, 1906. Receipt No. 138,624.
Claim.-1. A sweat pad for horses composed of an outside and inside layer of cloth, as drilling, and an intermediate layer of composite stuffing, said layers being perforated through and through and quilted, the lines of all quilting stitches crossing in the perforations.
2. A sweat pad for horses composed of suitable coverings of cloth, and an inner stuffing, said layers or plies being perforated through and through and finished by cross quilting. the cross quilting lines of stitches crossing the perforations as, described, and hooks being connected with the outer edges.
3. A sweat pad for harness perforated through and through and quilted by lines of cross stitches, the latter crossing in cach perforation.

\section*{No. 100,890. Horse Training Device.}

\section*{Apparcil pour cntrainer les chevalux.}

Samuel 13. Arthurs, Brookville. Pennsylvania, U.S.A., 11th September, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 1:3, 143.
Claim.-1. A horse trainer embodying a revoluble mast, a horizontal frame supported by sald mast and consisting of
a plurality of radially disposed arms, extensions slidaby mounted in the arms of sald frame bars detach-

ably connected to said arms, separate bars detachably connected to said extensions, a brake band carried by said frame, and engaging posts mounted adjacent to said mast and engaged by said brake band, means to operate said brake band, and a belt wheel carried by said mast.
2. A horse trainer and exerciser embodying a revoluble mast, radially disposed arms supported by sald mast, extensions slidiably mounted in sald arms, bars detachably connected to said arms, separate bars detachably connected to said extensions, a platform carried by said arms, and means to retard the movement of said mast, substantially as described.
3. A hoise trainer embodying a mast, a socket spider carried by said mast, a plurality of radially disposed arms supported by said socket spider and said mast, extensions slidably mounted in said arms, bars detachably connected to said arms, and separate bars detachably connected to said extensions, substantially as described.
4. A horse trainer and exerciser embodying a revoluble mast, radially disposed arms carried by said mast, and means to retard the movement of sald mast, substantially as described.
5. In a horse trainer, a revoluble mast, a plurality of arms projecting radially from the mast near the base thereof, main guy wires attached to said mast to steady the same and hold it in a vertical position, inner guy wires attached at their upper ends to the mast and at their lower ends to said radially projecting arms to support the latter, and bars detachably connected to said arms.
6. In a horse trainer, a revoluble mast, power transmitting mechanism carried by the mast, a plurality of radially disposed arms carried by the mast, bars detachably connected to said arms, Inner guy wires connected to the mast and to said arms for supporting the latter, a plurality of anchor posts, a clearance post located adjacent each anchor post, and main guy wires connected at their upper ends to the mast and at their lower ends to the anchor posts, said guy wires intermediate their ends being looped around the clearance posts.
7. A horse trainer and exerciser embodying a revoluble mast, power, transmitting mechanism carried by said mast, a plurality of stalls arranged around the mast and means to retard the movement of said mast.
8. A horse trainer and exerciser, embodying a revoluble mast, power transmitting mechanism carried by said mast, anchoring means for steadying the mast and holding the same in a vertical position, a plurality of radially disposed arms carried by said mast, detachable means for forming one or more stalls between each pair of arms, and means supforting the arms from the mast.
9. In a horse trainer and exerciser, a revoluble mast, a plurallty of radially disposed arms carried by said mast, bars detachably connected to said arms, extension arms engaging the first-named arms, and separate bars detachably connected to said extension arms.
10. In a horse trainer and excriser, a revoluble mast, power transmitting mechanism carried by the mast, means for forming one or more stalls adjacent to the mast, and a brake for retarding the movement of the mast.
11. In a horse trainer and exerciser, a revoluble mast. a plurality of radially extending arms carried by said mast. means for forming one or more stalls between each pair of arms, extension arms engaging the first-named arms, and nueans for forming one or more stalls between each pair of extension arms.

No. 100,891. Door Chate. Chute.


Theodore F. Clark, Seattle, Washington, U.S.A., 11th September, 1906; 6 years. Filed 19th July, 1906. Receipt No. 137,977.
Claim.-1. The combination with the casing frame, of a chute having a sliding hinge connection therewith whereby the bottom of the chute will be caused to entirely cover the opening of said frame when closed and be protruded into said opening when the chute is tilted down for use.
2. The combination with the casing frame, of a chute having a sliding hinge connection therewith whereby the bottom of the chute will be caused to entirely cover the opening of said frame when closed and be protruded into said opening when the chute is tllted down for use, and means to automatically lock said chute in its closed position.
3. The combination with the casing frame, of a chute having a sliding hinge connection therewith whereby the bottom said frame when closed and be protruded into said opening When the chute is tilted down for use, mears to automatically lock said chute in its closed position, and means to limlt the extent of the outward tilting of the chute.
4. The combination with a casing frame having an inclined bottom, and the journal attachments secured to the frame, of the chute having sides adapted to enter the opening of said frame and a bottom of greater width and length than the corresponding dimensions of said opening, said chute bottom being formed with a taper at one end, a horizontally disposed rod secured to sald chute bottom and projecting into the said attachments, bars secured to said chute sides, a bar connecting the said bars, and a latch bar suspended from the top of the said frame and adapted to engage with said second-named bar.
5. The combination with a casing frame having an inclined bottom, and the journal attachments secured to the frame, of the chute having sides adapted to enter the opening of said frame and a bottom of greater width and length than the corresponding dimensions of said opening, said chute bottom being formed with a taper at one end, a horizontally disposed rod secured to said chute bottom and projecting into the said attachment, diagonally disposed bars secured to said chute sides, a bar connecting the said bars, and a latch bar suspended from the top of the said frame and adapted to engage with said second-named bar.
6. The combination with a casing frame having an inclined bottom, and the journal attachments secured to the frame, of the chute having sides adapted to enter the opening of said frame and a bottom of greater width and length than the corresponding dimensions of said opening, said chute bottom being formed with a taper at one end, a horizontally disposed rod secured to said chute bottom and projecting into the said attachments, diagonally disposed bars secured to said chute side and terminating in bends, a bar connecting the said bars, and a latch bar suspended from the top of the said frame and adapted to engage with said secondnamed bar.
7. The combination with a casing frame having an inclined bottom, and the journal attachments secured to the frame, of the chute having truncated sides adapted to enter the opening of said frame, and a bottom of greater width and length than the corresponding dimensions of said opening, sald chute bottom being formed with a taper at one end, a horizontally disposed rod secured to said chute bottom and projecting into the said attachments, diagonally disposed bars secured to said chute sides and terminating in bends, a bar connecting the sald bars, and a latch bar suspended from the top of the said frame and adapted to engage with sald second-named bar.

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8. The combination wilh a casing frame having an inclined bottom and flanged inner and outer edges, and the journal attachments secured to the frame, of the chute having truncater sides adapted to enter the opening of sald frame, and a bottom of greater width and length than the corresponding dimensions of said opening, said chute bottom being formed With a taper at one end, a horizontally disposed rod secured to said chute bottom and projecting into the said attachments, diagonally disposed bars secured to said chute sides and terminating in bends, a bar connecting the sald bars and a latch bar suspended from the top of the said frame and adapted to engage with said second-named bar.

No. 100,892. Gyrating Machine.
Machine à giration.


George William Combs and Frederick David Combs, co-Inventors, both of Leavenworth, Kansas, U.S.A., 11th September, 1906; 6 years. Filed 14th August, 1906. Receipt No. 138,686.
Claim.-1. A gyrating machine consisting of a plurality of sieve boxes, independent bridge trees connecting the boxes in diagonal pairs and provided with centrally disposed bearings, and a centrally arranged shaft having for each pair oppositely disposed cranks journalled in the bearings.
2. A gyrating machine consisting of a plurality of vertically arranged sieve boxes, diagonally extending independent bridge trees connecting the boxes in diagonal pairs and provided with centrally disposed bearings, and a centrally arranged vertical shaft having for each pair of boxes oppositely disposed cranks journalled in the bearings
3. A gyrating machine consisting of a plurality of sieve boxes, bridge trees connecting the boxes in diagonal pairs and provided with centrally disposed bearings, a centrally arranged shaft having oppositely disposed cranks journalled in the bearings, a hanger having two bearings in which the upper portion of the shaft is journalled, a cap secured to the upper end of the shaft, anti-friction balls interposed between the cap and the adjacent bearings of the hanger, and means for rotating the shaft from a point between the bearings.
4. A gyrating machine consisting of a plurality of sieve boxes, bridge trees connecting the boxes in diagonal pairs and provided with centrally disposed bearings, a centrally arranged vertical maia shaft having oppositely disposed cranks journalled in the bearings, a hanger having two bearings, a drive shaft journalled therein, a short section of shafting arranged between the main and the driving shafts, and universal joints connecting the adjacent ends of the shafting.
5 . \(\Lambda\) gyrating machine consisting of four boxes, bridge trees arranged in duplicate pairs extending at right angles to each other and connecting the boxes in diagonal pairs. centrally disposed bearings formed integral with the bridge trees, and a centrally arranged shaft having two like sets of oppositely disposed cranks journailed in the bearings.
6. A gyrating machine consisting of a plurality of sleve boxes, diagonally extending bridge trees connecting the boxes in diagonal pairs and provided with centrally disposed bearings, a centrally arranged shaft having oppositely disposed cranks journalled in the bearings, and means for preventing the shaft from gyrating consisting of a member connected by universal joints with one extreme end of the shaft and a stationary object.
7. A gyrating machine consisting of a plurality of sleve boxes, diagonally extending bridge trees connecting the boxes in diagonal pairs and provided with centrally disposed bearings, a centrally arranged shaft having oppositely disposed cranks journalled in the bearings, a spring, and universal connections at its opposite ends to a stationary obfect and the lower end of the shaft to prevent the latter from gyrating.
8. In a gyrating machine, a plurality of sieve boxes loosely supported driving mechanism leading to said shaft.

No. 100,893. Ash Sifter and Bucket. Tamis d cendres et seau.


Charles W. Conradt, West Chester, Pennsylvania, U.S.A., 11th September, 1906; 6 years. Flled 13th August, 1906. Receipt No. 138,621.
Claim.-1. In an ash sifter, the combination with an outer receptacle having an inverted T -shaped slot extending downwardly from its upper edge to a point above the bottom thereof, of supporting strips secured at intervals against the inner face of the receptacle below the slot, and having their upper end portions bent inwardly in a common horizontal plane, a sifting member located within the outer receptacle upon the inwardly bent portions of the strips, a handle carried by the sifting member and extending outwardly through the horlzontal portion of the T-shaped slot, and being of a size to just pass through the stem of the slot, and a cover removably engaged over the outer receptacle and extending downwardly to close the whole of the stem of the T-shaped slot, said handle being removable longitudinally of the horizontal portion of the slot, to oscillate the inner receptacle.
2. An ash sifter comprising an outer receptacle having a door in its lower portion and having an inverted T-shaped slot in its upper portion dlametrically opposite from the door, the stem of the slot opening through the upper edge of the receptacle, supports for the sifting member and extending outwardly through the horizontal portion of the slot, and being of a size to just pass through the stem of the slot, sald handle being movable longitudinally of the horizontal portion of the slot to oscillate the sifting member, a cover fitted upon the outer receptacle and closing the end of the slot, and a bail pivoted to the outer receptacle at points midway between the vertical plane of the door and the slot, said handle of the sifting member extending beyond the outer rcceptacle for manipulation to move the receptacle with respect to the bail.

\section*{No. 100,894. Radiator. Radiatcur.}

Samuel Drew, Rochester, New York, U.S.A., 11th September, 1906; 6 years. Filed 8th August, 1906. Receipt No. 138,492.
Claim.-1. In a heating drum and in combination with the body portion thereof, a deflector adapted to produce eddy currents in practically horizontal planes in the gases passing therethrough.
2. In a heating drum and in combination with the body portion thereof, a deflector adapted to produce eddy currents i:! practically horizontal planes in the gases passing therethrough and detachable means for supporting such deflector i: operative position.
3. In a heating drum and in combination with the body porion thereof. a deflector adapted to produce eddy curreuts in practically horizontal planes in the gases passing therethrough and detachable means for supporting such de-
flector in operative position and for holding the parts of such drum together.

4. In a heating drum and in combination with the body portion thereof, a deflector adapted to produce eddy currents in practically horizontal planes in the gases passing therethrough and detachable means for supporting such deflector il operative position and for holding the parts of such drum together and adapted to be held in place by such deflector.
5. In a heating drum and in combination with the body portion thereof, a deflector adapted to produce eddy currents in practically horizontal planes in the gases passing therethrough and detachable and elastic means adapted by its resiliency to hold such deffector in operative position and permit the removal of the same.
6. In a heating drum and in combination with the body portion thereof, a deflector adapted to produce eddy currents in practically horizontal planes in the gases passing therethrough and detachable and elastic means adapted by its resiliency to hold such deflector in operative position and permit the removal of the same and adapted also to hold the parts of such drum together.
7. In a heating drum and in combination with the body portion thereof, a deflector adapted to produce eddy currents in practically horizontal planes in the gases passing therethrough and detachable and elastlc means adapted by its resiliency to hold such deflector in operative position and permit the removal of the same and adapted also to hold the parts of such drum together and to be held in place by such deffector.
8. In a heating drum and in combination with the body portion thereof, a deflector and detachable means for supporting such deflector in operative position and for holding the parts of such drum together and adapted to be held in place by such deflector.
6. In a heating drum and in combination with the body portion thereof, a deflector and detachable and elastic means adapted by its resiliency to hold such deflector in operative position and permit the removal of the same.
10. In a heating drum and in combination with the body portion thereof, a deflector and detachable and elastic means adapted by its resiliency to hold such deflector in operative position and permit the removal of the same and adapted also to hold the parts of such drum together.
11. In a heating drum and in combination with the body portion thereof, a deffector and detachable and elastic means adapted by its resiliency to hold such deflector in operative portion thereof, a deflector and detachable and elastic means to hold the parts of such drum together and to be held in place by such deflector.

\section*{No. 100,895. Turntable. Table tournantc.}

Charles K. Ernst, Buffalo, New York, U.S.A, 11th September, 1906; 6 years. Filed 17th August, 1906. Receipt No. 138,763.
Claim.-1. The combination of a fixed hollow bearing box having an open upper end provided with a circular race, a turntable arranged above the bearing box and having a cenier post depending into the bearing box, anti-friction supporting bearings for the turntable arranged between the same and the circular race at the upper end of the bearing box, and a center bearing betwern the lower end of said crater post and the lower portion of the bearing box, substantially as set forth.
2. The combination of a fixed hollow metal bearing box having an open upper end provided at its rim with a circular
race, a turntable arranged above the bearing box and having a center post depending into said box, anti-friction sup-

porting bearings for the turntable arranged in said circular race and bearing against a circular face on the turntable and a center bearing for the turntable consisting of a bearing member removably secured to the bottom of the bearing box and provided with means for engaging the lower end of said center post. substantially as set forth.
3. The combination of a fixed hollow metal bearing box having an open upper end provided with a circular race, a turntable arranged above the bearing box and having a center post depending into said box, braces for said center post also arranged within said bearing box, anti-friction supporting bearings for the turntable arranged between the same and said circular race at the upper end of the bearing box, and a center bearing between the lower end of said center post and the lower portion of the bearing box, substantially as set forth.
4. The combination of a fixed hollow bearing box having ai: open upper end, a turntable having a horizontal bearing plate arranged above the bearing box, a center post depending below said bearing plate into the bearing box, braces connecting sald bearing plate and the depending portion of the bearing post and located within the bearing box, antifriction bearings arranged between the upper open end of the bearing box and said bearing plate and a center bearing between the lower end of said center post and the lower portion of the bearing box, substantially as set forth.
5. The combination of a flexd hollow bearing box having an open end, a turntable frame comprising a hub and floor supporting members secured to said hub, said hub consisting of a horizontal bearing plate provided with upwardly projecting parts to which the floor supporting members are secured ard a center post which depends from said bearing plate into the bearing box and braces connecting the center post and bearing plate and located within the bearing box, anti-friction bearings arranged between the open upper end of the bearing box and sald bearing plate and a center bearing between the lower end of said center post and the lower portion of the bearing box, substantially as set forth.
6. The combination of a fixed hollow bearing box having an open upper end, a turntable frame comprising a hub, radial noor suporting members secured to said hub and a rim conpecting the outer ends of said floor supporting members, said bub consisting of a horizontal bearing plate and a center post depending from said bearing plate into the box bearing parts extending upwardly from said bearing plate to which the sald radial floor supporting members are secured and braces connecting said center post and sald bearing plate and located within the bearing box, anti-friction bearings arranged between the upper end of the bearing box and said bearing plate and a center bearing between the lower end of said center post and the lower portion of the bearing box, substantially as set forth.
7. The combination of a fixed hollow bearing box having an open upper end provided with a circular race, a turntable arranged into the bearing box and having a center post depending into the bearing box, anti-friction supporting bearings for the turntable between the same and the circular race at the upper end of the bearing box, anti-friciton retaining bearings arranged between the upper end of the bearing box and a depending portion of the turntable and a center bearing between the lower end of said center post and the lcwer portion of the bearing box, substantially as set forth.

No. 100,896. Steam Heating System.
Système de chauffage de la chaleur.


Frank C. Goff, Denver, Colorado, U.S.A., 11th September, 1906; 6 years. Filed 13th August, 1906. Recelpt No. 138,633.
Claim.-1. In a heating system the combination of a radiaing device, a discharge pipe, a valve device interposed between the outlet of the radiating device and discharge pipe, a pressure motor for operating the valve plece of sald valve device, the motor having its opposite sides acted upon respectively by the pressures within the valve device on the outlet side of the radiator and discharge pipe and means located in the radiating device outside of or beyond the inlet side of the valve device and controlled by conditions at the point of location, to automatically control the pressures on the outer side only of said motor.
2. In a fluid system the combination of a discharge pipe connected with the system, a valve device for controlling the fluld discharge through the pipe, a pressure motor for operaling the valve plece of said valve device, said motor having its opposite sides acted on respectively by the pressures within the valve device on the outlet slde of the system and discharge pipe and means located within the system outside of or beyond the inlet side of the valve device and controlled by conditions at the place of location, whereby the pressure on the outer side only of the motor is regulated or controlled.
3. In a heating system the combination of a heater or radiator, a discharge pipe, a valve device in said discharge fipe having a suitable valve casing provided with a port for the discharge of the water, a fluid pressure motor controlling said port, the valve casing being provided with a fluid pressure chamber on the outside of said motor, a passage connecting the said fluid pressure chamber only with a portion of the pressure system beyond the valve casing and means located within the last-named portion of the system for controlling said passage, said means being adapted to be controlled by the collection of water of condensation within the system outside of or beyond the valve device.
4. In a steam heating apparatus the combination of a radlating device, a return for the air and water of condensation leading therefrom, a valve device interposed between the outlet of the radiating device and the return, a pressure motor for operating the valve piece of said valve device and having its opposite sides acted upon respectively by the pressures in the radiator outlet and return and means automatically controlled by the conditions within the radiating device outside of or beyond the valve device to control the differential pressure acting on the outer side only of the motor.

\section*{No. 100,897. Apparatus for Handling Cans.} Apparcil d manier les boittes de fer blanc.
Swan Johnson, Melrose Park, Illinois, U.S.A., 11th September, 1906; 6 years. Filed 15th August, 1906. Receipt No. 138,720.
Claim.-1. In an apparatus for handling articles in combination, a table, a removable tray thereon, means to feed the articles to the table, and means to transfer the same from the table to the tray.
2. In an apparatus for handling articles in combination, a table. a removable tray thereon, means to feed the articles to the table and the tray and constructed to transfer the articles from the former to the latter.
3. In an apparatus for handling articles in combination, a table, a removable tary thereon, a transfer frame movable over the table and tray and having guides for the articles and means to feed the articles to the said frame.
4. In an apparatus for handling articles in combination, a table having inclined tracks at the ends, a removable tray
on the table between said ends, a transfer frame movable upon said tracks and having dopending ribs, and means to

feed articles to the table under the frame between said ribs.
5. A carrying tray for articles having a discharging slide secured thereto and movable back and forth thereon, substantially as described.
6. A carrying tray for articles, comprising the bottom frame \(H\) having a handle, and the discharging slide I secured to the frame, and having the handle \(i\) extending thereover.
7. In an apparatus for handiling articles in combination, a table having a bed plece at the rear thereof, and inclined tracks at the ends, a removable tray on the table, in front of said bed plece and between the tracks, a transferring frame movable back and forth on the tracks over the bed piece and tray, and having depending ribs and means to feed the articles onto the bed piece under said frame and between the ribs.
8. In an apparatus of the kind stated, the movable transferring frame having depending longitudinal ribs and friction gulde strips extending between said ribs, substantially as described.
9. In an apparatus for handling articles in combination, a table having a bed piece at the rear thereof and inclined tracks at the ends, a leed chute at the end of the table, delivering the articles in rows onto the bed piece. a removable tray on the table in front of the bed plece, and a transfer frame movable back and forth on the tracks and having depending ribs between which the articles are received and rear extension at the ends which close the chute when the frame is drawn forward.
10. In an apparatus of the kind stated the movable transfer frame having longitudinal depending ribs forming ways to recelve articles, and stops on the frame between the ribs, adjustable to vary the length of the ways.
11. In an apparatus for handling parkages or articles, in combination, a receiver and means to deliver articles thereto, a removable carrier supported adjacent to the receiver, means to transfer the articles from the recelver to the carrier, and means to discharge the articles from the carrier.
12. In an apparatus for handling articles. in combination, a receiver oden at one side, means to deliver articles to the receiver a removable carrier supported adjacent the open side the receiver and having means to discharge articles therefrom. and mcans to simultaneously transfer the articles from the recelver to the carricr.
13. In an apparatus for handling articles, in combination, a receiver, means to deliver articles thereto in orderly arrangement, a removable carrier supported adjacent to the receiver, means to simultaneously transfer the articles from the receiver to the carrier in the same orderly arrangement, and means to discharge articles from the carrior in the same arrangement.
14. A carrying tray for articles, comprising a frame having a handle, and a discharging slide attached to the frame and movable back and forth thereon, and having a handle extending thereover, and arranged to assist in carrying the frame.

\section*{No. 100,898. Can. Boite de fer blanc.}

Joseph Montpetit, Montreal, Quebec, Canada, 11th Scptember, 1906; 6 years. Filed 18th August, 1306. Receipt No. 138,792 .
Claim.-1. The herein described method which consists in stamping from a can body a plurality of lips, and placing under the lips ball ears.
2. The hereln described method which consists in stamping from a can converging lips and a horizontal lip, and disposing between sald lips ears having converging outer edges and a horizontal upper edge.
3. The herein described method which consists in securing a bail ear to a can body and providing the bail ear with

a projecting portion adapted to be turned down over the edge of the can.
4. In a can, the combination comprising a body provided with stamped lips, and ears disposed under the lips.
5. In a can, the combination co:nprising a body provided with stamped lips, and ears secured by the lips and provided with projecting ingers adapted to be turned over the upper edge of the body.
6. In a cam, the combination comprising a body having on its opposite sides converging lips and adjacent its upper edge horizontal lips, ears provided with inclined sides and a horizontal upper edge disposed under sald lips, and means carried by the ears for securing a closure on the can.
7. In a can, the combination comprising a body having stamped lips, ears disposed under the lips and provided with openings, and a bail disposed through said cars.

No. 100,899. Device Ror Preventing Train Robberies.
Apparcil pour empêcher le pillage des convois de chemins de fer.


John C. Pillsbury, Whitefield, New Hampshire, U.S.A., 11th September, 1906 ; 6 years. Filed 13th August, 1906. Receipt No. 138,623.
Claim.-1. In a device of the class described, the combination with an engine including a boller, and a tender, of a tubing connected with the boiler and extending forwardly of the engine upon both sides and exteriorly thereto, and rearwardly and directed unon both sides of the tender, the tubing being provided with a series of nozzles to permit the exit of steam from the tubing, and a single valve in the line of the tubing to permit steam passing through all of the nozzles of the latter.
2. In a device of the class deseribed, the combination with an engine including a boiler, and a tender, of a tubing associated with the boller and directed forwardly and rearwardly thercof and provided with a series of nozzles to promit the exit of steam therefrom, and a single valve crinnected with the tubing to cause the exit of steam through the various nozzles of the tubing.

\section*{No. 100,900. Stand for Washing Machines.}

Plateforme pour machine d laver.
Norman J. Spencer, Vancouver, British Columbia, Canada, 11th September, \(1!n G ; 6\) years. Filled 20th August, 1906. Receipt No. 138,823.
Claim.-1. The combination with a washing machine, of a standard frame on which the washer is pivotally mounted, a wash tub support beneath the washer susceptible of being folded against the standard frame, and means for securing the washer to the upper edge of a wash tub on the support. 2. The combination with a washing machine, of a standard frame to which the washer is pivotally connected by links
to each end of the base board of the washer, a wash tub support beneath susceptible of being folded up against the

standard frame and having leg members extending to the floor, and means for resting and staying in the base board of the washer to the upper edge of and just within a wash tub on the support.
3. In combination a washing machine comprising a base board having upwardly projecting side frames, a relatively large diameter corrugated roller the axle of which passes through vertically elongated apertures in the side frames and is rotatable in bearings connected to the side frames and vertically movable upward against the resistance of springs, a series of smaller diameter rollers corrugated and plain rotatable in the side frames beneath the larger roller, links secured to the base board and pivotally connected to the standards, of a support frame, means for supporting a wash tub beneath the washer, said means being articulated and hinged to the standard frame so as to fold up against it when not required, and means for securing the base board of the washer to the upper edge of a wash tub on the support, said means comprising loops pivotally connected to each end of the base board and having downwardly turned ends.
4. In combination an open center standard frame having provision for the reception of an ironing board therein, a washing machine pivotally connected to the standard frame, a wash tub support beneath the washer susceptible of being folded against the standard frame, and an Ironing board removably secured to the standard frame opposite to the washer and outwardly supported from the floor by a frame susceptible of being folded against the standard frame when not in use.
5. The combination with a washing machine pivotally mounted on a standard frame, of a wash tub support beneath the washer, a wringer the rollers of which are rotatably mounted between the side frames of the standard on the side opposite to the washer, a receiving plate pivotally mounted on each side of the rollers, spreader plates having convex upper edges on each side of the rollers. a water chute pivotally mounted beneath the rollers, and susceptlble of being inclined to either side and an iron board removably secured to the standard frame below the wringer.
6. The combination with a central standard frame, of a washer pivotally mounted thereto on one side, a wringer on the opposite side, a tup support beneath the washer comprising a slat connected frame pivotally mounted on the side frames of the standard and a leg frame pivotally connected to the end of the slat connected frame, an froning board removably connected to the standard frame beneath the wringer, said ironing board supported outwardly by a slat connected frame pivotally mounted to the standard irame and having a leg frame and a strut irame pivotally connected to its other end, clothes rods suspended from the side frame of the standard and susceptible of being horizontally secured thereto and radially spread apart, and an iron stand hinged to the upper end of the side standards and susceptible of being turned over the upper end thereof.

No. 100,901. Sawmill Dog. Renard de scierics.


William Henry Trout, Milwaukee, Wisconsin, U.S.A., 11th September, 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,646.
Claim.-1. In a sawmill dog the combination with a standard, of a plate guided and movable obliquely towards and from the face of the standard and cylindrical teeth secured in said plate and having on one side plane oblique faces arranged parallel with the line of movement of the plate, substantially as described.
2. In a sawmill dog the combination with a dog plate having threaded sockets or holes, of adjustable cylindrical teeth threaded in said sockets or holes and having points formed hy plane faces intersecting their cylindrical faces obliquely and set screws threaded in said plate and engaging the shanks of the teeth, substantially as described.
3. In a sawmill dog the combination with a standard, of a plate guided and movable obliquely towards and from the working face of the standard and having oblique sockets or holes, cylindrical teeth threaded in said sockets or holes and having plane bevelled or oblique faces forming their points and set parallel with the direction of movement of said plate and set screws threaded in said plate and engaging longitudinal grooves in the shanks of said teeth, substantially as described.
4. In a sawmill dog the combination of a standard provided with transverse gulde pins, dog plates provided with teeth and having obliquely and reversely arranged guide slots through which sald pins pass and an operating lever connected with said plates arranged to move them in opposite directions, substantially as described.
5. In a sawmill the combination of a standard provided with transverse guide pins, dog plates provided with teeth and having obliquely and reversely arranged guide slots through which said pins pass and an operating lever pivoted directly to one of said plates and connected with the other by a link, substantially as described.
6. In a sawmill dog the combination of a recessed standard provided with transverse guide ping held at the ends in sleeves threaded in the sides of the standard, and dor plates provided with teeth and having reversely arranged oblique guide slots through which said pins pass, the inner ends of sald sleeves forming bearings for the outer faces of said plates, substantially as described.
7. In a sawmill dog the combination of a recessed standard provided with guide pins passing transversely through it and held at the ends in sleeves which are threaded and adjustable endwise in the sides of the standard, rollers mounted on said pins and dog plates provided with tecth and having oblique guide slots adapted to work with said rollers, substantially as described.
8. In a sawmill dog the combination of a recessed standard provided with guide pins passing transversely through it. dog plates provided with teeth and having oblique gulde slots through which said pins pass and face plates attached to the standard with their inner edges in position to guide and support the teeth against lateral displacement, substantially as described.

\section*{No. 100,902. Sawmill Dog. Renard de 8 deries.}

William Henry Trout, Milwaukee, Wisconsin, U.S.A., 11th September, 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,647.
Claim.-1. In combination with a sawmill carriage knee, a standard connected with said knee parallel with its working face and movable independently of the knee forward and
lackward towards and from the saw line, a dog vertically adjustable on said standard and means tending to carry said

standard and dog back out of working position, substantially as described.
2. The combination with a sawmill carriage knee, of a standard hinged or pivoted at one side thereof to said knee in a line parallel with its working face and movable independently thereof towards and from the plane of the saw, a spring tending to swing said standard back from the saw plane, a dog vertically adjustable on said standard, a lever for operating said dog and steps for limiting the forward and backward movement of the standard and dog with relation to the knce, substantially as described.
3. The combination with a sawmill carriage knee, of a standard connected with said knee and movable independently thereof parallel with its face towards and from the saw plane, a dog adjustable vertically on said standard, means tending to raise the dog on said standard and means tending to move the standard away from the saw plane, substantially as described.
4. The combination with a sawmill carriage knee, of a slandard having two legs, one of which is hinged to said hnce parallel with its face, a dog adjustable vertically on the other leg, a lever for operating said dog, a spring tending to swing said standard and dog away from the saw plane and a counterweight connected with the log and tending to lift it on said standard, substantially as described.
5. The combination with a sawmill carriage knee, of a standard connected with said knee parallel with its face and movable relatively thereto towards and from the saw plane, upper and lower dogs movable vertically on said standard and means for adjustably connecting said dogs and forcing them towards and from each other, substantially as described.
6. The combination with a sawmill carriage knee, of a standard connected therewith and movable independently thereof towards and from the saw plane. upper and lower dogs mounted and vertically movable on said standard, the lower dog being provided with an upwardly extending rack and the upper dog with a pawl adapted to work with said rack and an operating lever connected with said upper dog and with said pawl, substantially as described.
7. The combination with a sawmill carriage knee, of a standard connected therewith and movable independently theroof towards and from the saw plane means tending to move said standard away from saw plane, upper and lower dogs mounted and vertically movable on said standard, the lower dog being attached to a rack parallel with the standard and the upper dog having a pawl normally held by a spring in engagement with said rack and a lever connected with the upper dog and said pawl and adapted to disconnect the pawl from the rack and to move the dogs towards and from each other when the pawl engages said rack, substantially as described.
s. The combination with a sawmill carriage knee, of a standard connected therewith and movable towards and from the saw plane, upper and lower dogs mounted and vertically adjustable on said standard and means for connecting the upper dog with the lower dog and for forcing said dogs when so connected towards and from each other and a counterweight connected with the lower dog and overbalancing the same but underbalancing the two dogs when they are connerted together, substantially as described.
!. Thr combination with a sawmill carriage knee, of a standard pivotally connected therewith and movable towards and from the saw plane, a dog mounted and vertically adjustable on said standard and a guide arm connecting the dog with a guide way on the knee and adapted to maintain the working face of the dog in all positions of the standard parallel with the face of the dog, in all positions of the standard parallel with the face of the knee, substantially as deseribed.
10. The combination with a sawmill carriage knee, of a standard pivotally connected therewith and movable towards and from the saw plane, upper and lower dogs mounted and
movable vertically on said standard, the lower dog being attached to a rack parallel with the standard and the upper dog being provided with an operating lever and with a pawl connected with said lever and adapted to work with said rack, and a guide arm connecting the standard with a guide way on the knee and having a sliding connection with the lower dog adapted to maintain the working faces of the dogs parallel with the working face of the knee in all positions of the standard, substantially as described.
11. In combination with a sawmill carriage knee, of a standard pivotally connected therewith and movable towards and from the saw plane, a dog mounted and vertically adjustable on said standard, steps for limiting the movement of said standard in its extreme positions and a special lock or stop for intermediate positlons of the standard, substantially as described.
12. The combination with a sawmill carriage knee, of a tubular standard having parallel legs, one of which is hinged or pivoted to said knee, dogs mounted and vertically adjustable on the other leg, the lower dog belng attached to a rack extending upwardly therefrom parallel with the standard and the upper dog having a lever and a pawl connected therewith for engaging the rack and connecting and operating the dogs and a lever fulcrumed to the upper part of the standard and connected at one end with the lower dog and at the other with a counterweight which is enclosed and movable up and down in the pivot leg of the standard, substantially as described.
13. The combination with a sawmill carriage knee, of a standard connected therewith and movable independently thereof towards and from the saw plane, dogs mounted and movable vertically on said standard means for connecting said dogs and moving them towards and from each other and an auxiliary dog detachably fitted to said upper dog and having a tooth adapted to be secured between and behind the teeth of said upper dog which are arranged on opposite sides of said standard for quarter sawing. substantially as described.
14. The combination with a sawmill carriage knee of a standard pivotally connected therewith and movable towards and from the saw plane, a spring tending to move and hold the standard away from the saw plane, dogs mounted and vertically movable on said standard which is free to turn therein, means for connecting and disconnecting said dogs and for moving them towards and from each other, a guide arm pivoted to said standard and having a sliding connection with the lower dog parallel with said standard and a guide way engaping said guide arm and adapted to maintain the working faces of the dogs parallel with the face of the knee in all positions of the standard. substantially as described.

No. 100,903. Work Folder. Portc-outrage.


Addie Ann Whitman, Boston, Massachusetts, U.S.A.. 11th September, 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,674.
Claim.-A work holder comprising a bed jaw formed to bear on a table, its upper surface forming a jaw face, an arm extending downwardly from the front edge of the jaw and inwardly under the jaw, said arm having an adjustable attaching device for engagement with the table, a, U-shaped arm extending from one of the side edges of the bed and overhanging the jaw face of the bed, said overhanging arm being in a plane substantially at a right angle to the plane of the downwardly extending arm and presenting an unobstructed space for the passage of the work, and a lever pivoted to said overhanging arm and having a jaw adapted to co-operate with the bed jaw, the arrangement of the overhanging arm being such that the bed jaw is unobstructed at its rear edge, so that the work can project indefinitely backward from the rear edge, the lever being pivoted to swing in a direction transverse to the plane of the overhanging arm, whereby the work at one side of the point of engagement of the jaws may be rolled up within the space afforded by the overhanging arm and moved along through said space.

No. 100,904. Golosh. Galoches.


Alfred Edwin Nicholls and James Gunning Silly, co-inventors, both of Christchurch, New Zealand, 11th September,
1906; 6 years. Filed 8th August, 1906. Recelpt No. 138,511.
Claim.-In goloshes, a wearing sheet of leather placed upon the outside face of the heel and secured in position by means of rivets or other fastenings passing through it, through the heel, and through a sheet of leather laid upon the inside face of the heel, substantially as specified.

No. 100,905. Broadcast Device for Planters and Fertilizer Distributorm..
Appareil de semis pour plantation, distributeur, ctc.


Benjamin Franklin Cranwell, Charles F. F. Allan, and Joseph Henry Trudgeon, co-inventors, all of Auckland, New Zealand, 11th September, 1906 ; 6 years. Filed 18th August, 1906. Receipt No. 138,810 .
Claim.-1. A broadcast attachment for planters and like machines consisting of a tubular tapering body having an interior baffle lip between its end and an opposing distributing or scattering lip at its lower end.
2. A broadcast attachment for planters, fertilizer distributors and the like consisting of a tubular tapering body provided with an interior baffle lip at its forward portion, having a downward inclination, and a wider distributing or scattering lip at its lower or discharge end, extending from the rear of the said body at an inclination in a forward direction.
3. As an improved article of manufacture, a broadcast attachment for planters, fertilizer distributors and the like, consisting of a tubular tapering body wider at its lower end ard open at both ends, the rear of the said body being flat and its forward portion convexed, a spreading or baffle lip located within the said body and secured to its forward portion and having a downward and rearward inclination, and a wider distributing or scattering lip located at the lower end of said body, extending from the back thereof downwardly and forwardly, said distributing or scattering lip being of a length corresponding to the full width of the said body at its discharge end.

\section*{No. 100,906. Sawset. Fer à contourner.}

Samuel L. Hawn and Abraham Coan, assignee of a half interest, both of Crisman, Colorado, U.S.A., 11th September, 1906; 6 years. Filed 30th July, 1906. Receipt No. 138,249.
Claim.-1. In a setting device, a hammer, a spring handle therefor, a controlling lever, a trigger pivotally mounted on sald lever and having a shoulder to engage with the handle,
a plate having a slot therein within which the trigger is arranged to travel, and a spring secured to said plate and ar-

ranged to hold the trigger against one wall of the slot whereby the trigger is caused to disengage the hammer.
2. In a saw setting device the combination with a suitable support, and an anvil carried by said support, of a leaf spring having one end mounted on the support, a saw setting tool formed integral with the other end of said leaf spring and thereby held suspended over the anvil, a second leaf spring having one end mounted on the support, a hammer carricd by sald second leaf spring, and means for automatically raising and releasing said second leaf spring and hammer.
3. In a saw setting device, a hammer, a spring handle therefor, a controlling lever, a spring for returning the lever to its starting position, a trigger pivotally mounted on said lever and having a shoulder engaging with the handle whereby said handle is raised and released, a plate having a slot within which the trigger is arranged to travel, and a spring arranged to hold the trigger against one wall of the slot whereby the trigger is caused to disengage the hammer.
4. In a saw setting device, an anvil, a saw setting tool movably mounted above said anvil, a hammer mounted above the saw setting tool and adapted to engage therewith, a hammer head, a flexible handle for said hammer head, a support having one end of said handle rigidly secured thereto, a second support, a lever mounted thereon, a spring actuating said lever, a trigger pivotally mounted on the lever and arranged to operate the handle, a plate adjustably mounted on said second support and having a slot therein within which the upper end of the trigger is arranged to travel, and a spring secured to said plate and arranged to hold said trigger in place.
5. In a saw setting device, a suitably mounted bed plate, a vertical crosspiece secured thereto, an anvil secured thereto. a setting tool movably mounted above the anvil, a hammer head mounted above the anvil, a flexible handle for said hammer head, a lever pivoted on the crosspiece, a spring secured to the bed plate and arranged to control one end of the lever, a trigger pivotally mounted on said lever and arranged to throw the handle into and out of operation, a plate adjustably mounted on said crosspiece and overhanging the same, a slot in said plate within which the upper end of the trigger is arranged to travel, a support rigidly secured to the bed plate and having one end of the flexible handle rigidly mounted thereon, and a spring secured to said plate and to the upper end of said trigger and adapted to control the same.
6. In a screw setting device, an anvil mounted on a suitably support, a hammer head mounted above said anvil, a spring handle having the hammer head secured to one end thereof, a rigid support having the other end of the handle mounted thereon, a second support, a lever pivotally mounted on said second support, a spring controlling one end of the lever, a trigger pivotally mounted on said lever and adapted to raise and release the handle, a plate adjustably mounted on the top of said second support and having a slot therein within which the upper end of the trigger is arranged to travel, a spring secured to said plate and arranged to control the upper end of said trigger, and means for actuating said lever.

\section*{No. 100,907. Loose Leat Binder.}

Reliure à feuilles mobiles.
The Business Systems, Limited, assignee of Daniel Smith Baird, all of Toronto. Ontario. Canada, 11th September, 1906; 6 years. Filed 31st July, 1905. Receipt No. 127,310.

Claim.-1. A loose leaf binder comprising in its construction a binder back consisting of a middle member and two laterally movable side members located at opposite sides of
the middle member, an operating screw mounted in bearings connected to the binder back, two wrist plates pivoted with-
in the binder back, a slide nut movable on the operating screw, a link actuated by the slide nut and pivotally connected with the wrist plates whereby it will oscillate them during the movement of the slide nut, two sets of links pivotally connected to the wrist plates on opposite sides of the wrist plate pivot and pivotally connected to their respective movable side members at substantially right angles to the length of the operating screw whereby the links of cach set may move in substantially parallel planes during the oscillation of the wrist plates and during said movement constantly exert their lines of force on said movable side members at substantially right angles to the length of the screw.
2. A loose leaf binder comprising in its construction a binder back consisting of a middle member and two laterally movable side members located at opposite sides of the middle member, an operating screw mounted in bearings connected to the binder back, two wrist plates pivoted within the binder back, a slide nut movable on the operating screw, a link actuated by the slide nut and pivotally connected with the wrist plates whereby it will oscillate them during the movement of the slide nut and two sets of links having their inner ends pivotally connected to the wrist plates on opposite sides of the wrist plate pivots and at the same distance therefrom and having their outer ends plvotally connected to their respective side members on lines passing diametrically through the wrist plate pivots at substantially right angles to the length of the operating screw whereby the links of each set may move in substantially parallel planes during the oscillation of the wrist plates and during the said movement constantly exert their lines of force on said movable side members at substantially right angles to the length of the operating screw.
3. A loose leaf binder comprising in its construction a binder back consisting of a middle member and two laterally movable side members located on opposite sides of the middle member, an operating screw operatively mounted in the binder back, two wrist plates pivoted within the binder back, a slide nut movable on the operating screw, a lillin actuated by the slide nut and pivotally connected with the wrist plate's whereby it will oscillate them during the movement of the slide nut and two sets of links connected to the wrist plates and to their respective movable side members.

\section*{No. 100,808. Fumigator. Fumigatoire.}

John Brown, Niagara Falls, and William McLean, Lockport, assignce of a half interest, both in New York, U.S.A.. 11th September, 1906; 6 years. Filed 26th April, 1906. Receipt No. 135,286.
claim.-1. A fumigating attachment, comprising a door adapted to be applied to an elevator leg or similar chamber and provided with movable end and side extensions, and a fumigating spout or conduit connected with said door and adapted to communicate with the interior of the elevator leg, substantially as set forth.
2. In a fumigating apparatus, the combination of an elevator \(1 \cdot \mathrm{~g}\) or similar chamber provided with an opening having one of its horizontal edges undercut, a door provided at one end with a movable extension and at its opposite end with a tenon adapted to engage with said undercut edge and on opposite sides of said tenon with horizontally swinging extensions, and a fumigating spout or conduit connected with said door and communicating with the interior of the elevator leg, substantially as set forth.
3. A fumigating attachment, comprising a door adapted to be applied to an elevator leg or similar chamber and

provided at one end with a vertically swinging extension and at its opposite end with a tenon and horisontally swinging extensions arranged on opposite sides of the tenon, and a fumigating spout or conduit connected with the door and adapted to communicate with the interior of the elevator leg, substantially as set forth.
4. In a fumigating apparatus, the combination of an elevator leg or similar chamber having an opening provided with a bevelled upper edge and a bevelled undercut lower edge, a door applied to said opening and provided at its upper edge with a bevelled extension, a vertically swinging bail connecting said extension with the body of the door, the door being provided at its lower edge with a bevelled tenon adayted to interlock with said undercut edge and on opposite sides of said tenon with horizontally swinging extensions having bevelled lower edges and a fumigating spout or conduit connected with the door and adapted to communicate with the interior of the elevator leg, substantially as set forth.

No. 100,909. Means of Purifying and Regulating Water.
Moyen pour purifler et régler l'eau.


Joseph S. L. Wharton, William S. Hallwell and John C. Jones, doing business under the firm name of The Harrison Safety Boiler Works, assignee of Joseph Willard Gamble, all of Philadelphia, Pennsylvania, U.S.A., 11th September, 1906; 6 years. Filed 28th April, 1906. Receipt No. 135,366 .
Claim.-1. A filter, and a passage about the same opening into the outlet from the filter, and containing an obstruction adapted to be diminished as the resistance of the filter increases.
2. A filter and a passage about the same opening into the outlet from the fllter, and containing a loaded valve normally closed, but adapted to open when the resistance of the filter equals its own load.
3. A filter and a passage about the same opening into the outlet from the filter, and containing a resistance automatically diminishing or increasing as the resistance of the filter increases or diminishes.
4. A filter and a by-pass about the same opening into the outlet from the filter, and having a resistance therein greater than the normal resistance of the filter, adapted to be automatically overcome and established according as the resistance of the fller exceeds or falls below itself.
5. A filter and a by-pass about the same opening into the outlet from the filter, and having an adjustable resistance therein, adapted to diminish as the resistance of the filter increases.
6. The combination of a water heater, a filter beyond the heater, and an automatic by-pass about the filter so placed as to take water from a point approximately close to the filter on the supply side, and discharging on the outlet side. 7. The combination of a heater, a filter, and a conduit having its inlet covered by a hood vented at the top and opening below the water line near the fllter bed, and having an outlet opening into the outlet of the heater.
8. The combination of a heater, a filter, and a conduit vented at the top and opening above and near the filter bed. and having an outlet opening into the outlet of the heater, and provided with means for exerting a resistance greater than the normal resistance of the filter ped.
9. The combination of a water purifier, and a by-pass comprising a hood, a vent in said hood, a conduit, the inlet of which is located within the hood above the normal water line, and the outlet of which communicates with the outlet of the purifier.
10. The combination of a water heater, a chemical feeder, a filter, and means for automatically supplementing the out flow through the filter through an increment of chemically treated water taken from a point near the fller and increasing in quantity according as the resistance of the fllter increases.
11. The combination of a heater, a chemical supply, a filter, and a by-pass around the filter to the outlet thereof, containing a resistance adapted to automatically vary inversely as the resistance of the filter.
12. The combination of a water heater, a chemical supply, a filter and means for automatically supplanting the outficw through the filter by an increment of chemically treated water, varying inversely as the supply passing through the filter.
13. The combination of a hrater, a chemical supply, a filter, a conduit having an inlet at the water line of the heater, and a closed hood vented at the top covering the inlet and opening below the water line near the filter bed, the outlet to the conduit opening into the outlet of the heater.
14. The combination of a heater, a chemical supply, a filter, a conduit having a closed hood vented at the top covering the inlet to the conduit, and opening below the water line near the filter bed, and a loaded valve having a resistance greater than the normal resistance of the filter.
15. The combination of a heater, a chemical supply and feeder, a filter, and means for automatically supplementing the outflow from the filter by an increment of chemically treated but unflitered water.
16. The combination of a chemical water purifier and heater, a horizontal filter, and means for automatically and adjustably supplementing the outflow from the filter with ap increment of chemically treated but unfiltered water.
17. The method of heating, purifying and regulating water, which consists in automatically supplying water and a puritying chemical to a heater in proportion as the water is discharged therefrom, heating the solution, filtering the water, discharging the same, and automatically supplementing the quantity of filtered water discharged by such an increment of heated but unfiltered water as will keep substantially uniform at all times the ultimate quantity discharged form the heater.
18. The method of heating, purifying and regulating water which consists in automatically supplying water and a purifying chemical to a heater in proportion as the water is discharged therefrom, heating the solution, filtering the water, and automatically supplementing the quantity of water passing through the filter, by an increment of unfiltered but heated water, varying in quantity inversely as the quantity passing through the filter.
19. The method of heating. purifying and regulating water which consists in heating the water, precipitating the impurities therein, filtering the water. and automatically supplementing the quantity of filtered water by an increment of unfltered water varying inversely as the quantity flltered.
20. The method of heating and regulating water, which consists in heating the water, filtering the same, and automatically supplementing the quantity of filtered water by an increment of unfiltered but heated water varying inversely as the quantity filtered.

\section*{No. 100,910. Vacuum Breaker for Condenserm.}

\section*{Frein à vacuum pour condensturs.}

The International Steam Pump Company, assignee of Bronson C. Woodford, both of New York City, New York, U.S.A.. 11th September, 1906 ; 6 years. Filed 8th January, 1906. Receipt No. 131,634.
Claim.-1. The combination with a condenser, of a vacuum breaker having an air inlet valve exposed to atmospheric
pressure on its outer side, a valve actuating piston, a control valve and passages for varying the pressure on sald pis-

ton to open and close the air inlet valve and a float and connections for actuating said control valve to secure the opening of the air inlet valve when the liquid in the condenser reaches a certain level.
2. The combination with a condenser, of a vacuum breaker having the inlet valve exposed to atmosphere pressure on its outer side, a piston connected to said valve and exposed to atmospheric pressure tending to open the valve. a control valve and passages for connecting the opposite side of the piston with the atmospheric or condensing chamber and a float and connections for actuating said control valve.
3. In a condenser vacuum breaker, the comblnation with the air inlet valve \(b\) of piston \(c\) connected to the valve \(b\), said valve and piston being exposed to atmospheric pressure on their adjacent sides, pressure chamber 19 on the opposite side of said piston, passages for connecting said chamber 19 with the atmospheric or the condenser and float actuated control valve a controlling said passages, substantially as described.
4. In a condenser vacuum breaker, the combination with the air inlet valve \(b\) of piston \(c\) connected to the valve \(b\), said valve and piston being exposed to atmospheric pressure on their adjacent sides, pressure chamber 19 on the opposite side of said piston, passages 16, 17, 18 for connecting said pressure chamber with the atmosphere of the condenser, control valve a controlling said passages, float \(F\) and link 15 connecting said float to control valve \(a\) for actuating said control valve.

\section*{No. 100,911. Governor for Engines.}

Gourerneur pour machines à vapeur.


The Pickering Governor Company, assignce of Richard \(H\). Pascall, all of Portland, Connecticut, U.S.A., 11th September, 1906; 6 years. Filed 14th March, 1906. Receipt No. 133,900.
Claim.-1. A governor for steam engines and the like comprising the valve chamber, the valve and its stem, the governor head and means for adjusting the valve vertically independently of the governor head comprising a non-rotary nut and an adjusting rod threaded into said nut with its end connected with the end of the valve setm and connections between the top flange of the governor head and sald adjusting rod to cause them to move together vertically, as and for the purposes specified.

2, A governor for steam engines and the like comprising the valve chamber, the valve and its stem, yielding means normally exerting an upward pressure on said valve. the governor head, and means for adjusting the valve vertically independently of the governor head comprising a non-rotary nut and an adjusting rod threaded into said nut with its end connected with the end of the valve stem and connections between the top flange of the governor head and said adjusting rod to cause them to move together vertically, as and for the purpose specified.
3. A governor for steam engines and the like comprising the valve chamber, the valve and its stem, yielding means normally exerting an upward pressure on said valve, the governor head and means for adjusting the valve vertically independently of the governor head comprising a non-rotary nut, an adjusting rod threaded into said nut with its end connected with the end of said valve stem and a bonnet nut secured to the top flange of the head and having engagement with said nut whereby sald nut takes its vertical movement from the vertical movement of said governor cap.
4. A governor for steam engines and the like comprising the valve chamber, the valve and its stem, ylelding means normally exerting an upward pressure on said valve, the governor head. and means for adjusting the valve vertically independently of the governor head comprising a nut splined to a non-rotary part of the governor and adapted for lengthwise movement thereof, an adjusting rod threaded into sald nut with its end connected with said valve stem and connections between said nut and the top flange of the governor head to cause them to travel together vertically.
5. In a governor the cap and base rings and two or more springs secured thereto, the plane of attachment of said spring to said rings being angularly disposed with reference to the axis of the governor.
6. In a governor the cap and its rings having peripheral slots the bottoms of which are angularly disposed with relation to the axis of the governor and springs having their ends firmly secured to the bottoms of sald slots and weights attached to said springs.
7. A governor for steam engines and the like comprising a valve chamber, a valve and its stem, a governor head and means for adjusting the valve vertically independently of the governor head comprising an adjusting rod threaded in a non-rotary part with its end connected with the end of said valve stem and engaging points on the end of said adjusting rod.

No. 100,912. Rock Drill. Foret à roche.


The Ingersoll-Rand Company, New York City, New York, assignee of Arthur Henry Gibson, Easton, Pennsylvania, both in U.S.A., 11th September, 1906; 6 years. Filed 19th January, 1906. Receipt No. 132,029.
Claim.-1. The combination with a rock drill cylinder having a rear extension, of a piston having a hollow tail rod extended into and entirely inclosed by sald rear extension, a sleeve surrounding the tail rod forming an annular chamber within the rear extension, a riffe bar telescoping within the tall rod and a port leading from the annular chamber to the air space within the sleeve and tall rod.
2. The combination with a rock drill cylinder having a rear extension, of a piston having a hollow tall rod extended into and entirely inclosed by said rear extension, a sleeve surrounding the tail rod forming an annular chamber within the rear extension, a rifie bar telescoping within the tall rod, a port leading from the annular chamber to the air space within the sleeve and tall rod and an aperture leading from the annular chamber to the exterior.
3. The combination with a rock drill cylinder having a rear extension, of a plston having a hollow tall rod extended into and entirely inclosed by said rear extension, a hollow sleeve surrounding the tall rod, a washer surrounding the tail rod for preventing as much as possible the leakage of air past the same from the piston chamber and a rifle bar telescoplng within the hollow tail rod.

No. 100,913. Channelling Machine.
Machine ì rainure.


The Ingersoll-Rand Company, New York City, New York. assignee of Arthur H. Gibson, Easton, Pennsylvania both in U.S.A., 11th September, 1906; 6 years. Filed 4th June, 1906. Receipt No. 136,519.
Claim.-1. A tool cylinder having a piston chamber therein, a piston having heads in sald chambers, air feeding tubes said cylinder having front and back ports for the two chambers communicating with their respective tubes and an auxiliary back port for one chamber communicating with the tube other than the one with which the other back port communicates, and a valve for opening and closing said auxiliary back port.
2. A tool cylinder having piston chambers therein, a piston having heads in said chambers, air feeding tubes, said cylinder having front ports for the chambers communicating with one air tube, back ports for the chambers communicating with the other tube, and an auxiliary back port for one of said chambers communicating with the first-named air tube and a valve for opening and closing the said auxiliary back port.
3. A tool cylinder having piston chambers therein, a piston having heads in said chambers. air feeding tubes, sald cylinder having front ports for the chambers communicating with one air tube, back ports for the chambers communicating with the other air tube, and an auxiliary back port for one of said chambers communicating with the first-named air tube and a manually operated valve for opening and closing the auxiliary back port.
4. A tool cylinder having front and back piston chambers therein, a piston having heads in said chambers, alr feeding tubes, said cylinder having front and back ports for the two chambers communicating with their respective tubes and an auxiliary back port for the back piston chamber communicating with the tube other than the one which the other back port in said chamber communicates and a valve for opening and closing the auxiliary back port.
5. A tool cylinder having front and back piston chambers therein, a piston having heads in said chambers, air feeding tubes, said cylinder having front ports for the chambers ccmmunicating with one air tube, back ports for the chambers communicating with the other air tube and an auxiliary back port for the back chamber communicating with the first-named air tube and a valve for opening and closing the auxiliary back port.
6. A tool cylinder having piston chambers therein, a piston having heads in sald chambers, air feeding tubes, sald cylinder having front ports for the chambers communicating with one air tube, an intermediate front port for one chamber communicating with said air tube, an auxiliary back port for said other chamber communicating with said air tube and back ports for both chambers communicating with the other air tube, a valve for opening and closing the front port for one chamber and a valve for opening and closing the auxiliary back port for the other chamber.
7. A tool cylinder having piston chambers therein, a piston having heads in said chambers, air feeding tubes, said cylinder having front ports for the chambers communicating with one alr tube, an Intermediate front port for one chamber communicating with said air tube, an auxiliary back port for sald other chamber communicating with said air tube and back ports for both chambers communicating with the other air tube, a manually operated valve for opening and closing the front port for one chamber and a manually operated valve for opening and closing the auxiliary back port for the other chamber.
8. A tool cylinder having front and back piston chambers therein, a plston having heads in said chambers, air feeding tubes, sald cylinder having front ports leading from the said chambers to one air tube, an intermediate front port for the front chamber communicating with said air tube, an auxi-
lary back port for the back piston chamber communicating with said air tube and back ports for the front and back chambers communicating with the other air tube, a valve for opening and closing the front port for the front piston chamber and a valve for opening and closing the auxiliary back port for the back piston chamber.
9. A tool cylinder having front and back piston chambers therein, a piston having heads in said chambers, alr feeding tubes. said cylinder having front ports leading from the said chambers to one air tube, an intermediate front port for the front chamber communicating with said air tube, an auxiliary back port for the back piston chamber communicating with said air tube and back ports for the front and back chambers communicating with the other air tube, a manually operated valve for opening and closing the front port for the front plston chamber, and a manually operated valre for opening and closing the auxiliary back port for the back piston chamber.

No. 100,914. Cock for Steam Cylinders. Robinet pour cylindres à vapeur.


Swan Anderson, Ottumwa, Iowa, U.S.A., 11th September, 1906; 6 years. Filed 14th May, 1906. Receipt. No. 135,917.

Clain.-1. A cylinder drain cock including a casing provided with draining openings and having a valve seat in advance of sald openings, a direct seating valve arranged to close against the seat and there hold in part by the pressure: of the piston actuating fluid in the cylinder, said casing heing provided also with a pair of allgning cyllnders, pistons arranged in said cylinders and connected to the valve, and valved connections leading to said cylinders to permit the operation of either piston and the opening or closing of the valve.
2. A cylinder drain cock comprising a casing including a pair of aligned cylinders, said casing being provided with drain openings and having a valve seat in advance of said orenings, a pair of pistong arranged in the cylinders, a stem connecting the pistons, a direct seating valve carried by the stem and arranged to be held to its seat in part by the reressure of the piston actuating fluid in the cylinder, aid valved conneotions leading to the cylinders to permit operatina of either piston and the opening or closing of the valve.
3. The combination with a source of steam supply and a source of compressed air supply, of a drain cock provided with opposed and aligned cylinders and an inlet communicating with the cylinders one of said cylinders being provided with an exhaust aperture and with a valve seat at its inner end. a valve proportioned to close the end of the cylinder ond the exhaust aperture and carrying aligned pistons movable within the cylinders and to open and close the valve, and means to selectively admit steam or compressed air to either cylinder to move the valve in either direction.

\section*{No. 100,915. Cover for Shaving Mugs. Couvercle pour pots a barbe.}

Samuel J. Connies, Brooklyn, New York, U.S.A., 11th September, 1906 ; 6 years. Filed 4th May, 1906. Receipt No. 135,539.
Claim.-1. The combination of a receptacle, a cover thercfor having a portion thereof cut away, a member projecting from the receptacle and passing through the cut away portion of the cover, and a movable leaf located upon th., cover and adapted to fit closely around the member projecting from the receptacle.
2. The combination of a receptacle, a cover therefor having a portion thereof cut away, a member projecting from the receptacle and passing through the cut away portion of
the cover, and a pair of movable leaves located upon opposite sides of the cut away portion of the cover and adapted

to fit closely about the member projecting from the receptacle.
3. The combination of a receptacle, a cover therefor havIng a portion thereof cut away, a member projecting from the receptacle and passing through the cut away portion of the cover, and a pair of movable leaves located upon opposite sides of the cut away portion of the cover, the said movable leaves being provided upon their adjacent edges with notches which are adapted to fit closely about the member projecting from the receptacle.
4. The combination of a receptacle, a cover therefor having a portion thereof cut away, a member projecting from the receptacle and passing through the cut away portion of the cover, and a pair of leaves pivoted to the cover an 1 located upon the opposite sides of the cut away portion: thereof, said leaves being adapted to fit closely about the member projecting from the receptacle.
5. The combination of a receptacle, a cover therefor having a portion thereof cut away, a member projecting from the receptacle and passing through the cut away portion of the cover, and a pair of leaves pivoted to the cover and located upon opposite sides of the cut away portion thereof the pivoted leaves being provided upon their adjacent edges with notches which are adapted to fit around the member projecting from the receptacle.

No. 100,916. Dispensing Apparatus for Beverates. Appareil d distribuer les breuvages.


John Campbell Cory, New York City, New York, U.S.A., 11th September, 1906 ; 6 years. Filed 7th May, 1906. Recelpt No. 135,647.
Claim.-1. A dispensing apparatus for liquids and the like comprising a case for the liquid receptacle, means for retaining the receptacle in sald case and means for permitting the decanting of the liquid from the receptacle and for preventing the refilling of the receptacle while it is in said case, substantially as described.
2. A dispensing apparatus for liquids and the like comprising a case for the liquid receptacle means for permitting the decanting of the liquid from the receptacle and for preventing the refiling of the receptacle while it is in sald case and means for preventing the removal of thte receptacle from the case so long as the said receptacle remains intact, substantially as described.
3. A dispensing apparatus for liquids and the like comprising a case for the liquid receptacle, means for permitting the decanting of the liquid from the receptacle and for preventing refilling of the receptacle while it is in said case and means for preventing the removal of the receptacle from the case so long as the said receptacle remains intact, said
case being so arranged as to permit the destruction of the liquid receptacle therein without injury to said case and the retaining means being adapted to release said receptacle upon a substantial destruction thereof, substantially as described.
4. A dispensing apparatus for liquids and the like comprising a case for a liquid receptacle, said case having a movable section adapted to be locked in place and to permanently retain the receptacle in said case when so locked, means associated with said case for permitting the decanting of the liquid in the receptacle and for preventing the refilling thereof while it is in said case, said means being so arranged as to permit of the destruction of the liquid receptacle therein without injury to the said case and means for releasing the movable section upon a substantial destruction of the liquid receptacle, substantially as described.
5. A dispensing apparatus for liquids and the like comprising a case for a liquid receptacle, said case having a movable section adapted to be locked in place and to permanently retain the receptacle in said case when so locked, means associated with said case for permitting the decanting of the liquid from the receptacle and for preventing the refilling thereof while it is in said case, and means for releasing the movable section upon a substantial destruction of the liquid receptacle and automatic means for destroying said receptacle, substantially as described.
6. A dispensing apparatus for liquids and the like comprising a case for the liquid receptacle, means for retaining the receptacle in said case, an outlet from said receptacle through said case for permitting the decanting of the liquid in the receptacle and means for preventing the passage of liquid into said receptacle while it is in said case and for deverting it through an overflow device attached to said case, substantially as described
7. A dispensing apparatus for liquids and the like comprising a case for the liquid receptacle means for retaining the receptacle in said case, an outlet from said receptacle through said case for permitting the decanting of the liquid in the receptacle, means including a check valve in said outlet for preventing the passage of liquid into said receptacle while it is in said case and for diverting it through an overflow device attached to said case and means for preventing the removal of the receptacle from the case so long as the said receptacle remains intact, substantially as described.
8. A dispensing apparatus for liquids and the like comprising a case for the liquid receptacle means for retaining the receptacle in said case. an outlet from said receptacle through said case for permitting the decanting of the liquid in the receptacle, means for preventing the passage of liquid into said receptacle while it is in said case and for diverting it through an overflow device attached to said case means for preventing the removal of the receptacle from said case so long as the said receptacle remains intact and means for removing the cork from said receptacle, substantially as described.
9. A dispensing apparatus for liquids and the like comprising a case for the liquid receptacle means for retaining the receptacle in said case, means associated with said case for permitting the decanting of the liquid from the receptacle and for preventing the refilling of the receptacle while it is in said case, said case being so arranged as to permit the destruction of the liquid receptacle therein without injury to the said case and the retaining means being adapted to release said receptacle upon a substantial destruction thereof, and a single lever for releasing and retaining means and operating the receptacle rupturing means, substantially as described.
10. A dispensing apparatus for liquids and the like comprising a case for the liquid receptacle, said case having a movable section adapted to be locked in place and to permanently retain the receptacle in said case when so locked, an outlet from said receptacle through said case for permitting the decanting of the liquid in the receptacle means for cooling the liquid while it is being decanted, means including a check valve and an overflow device for preventing the passage of liquid into said receptacle while it is in said case and means for releasing the movable section upon a substantial destruction of the liquid receptacle, substantially as described.
11. A beverage dispensing apparatus comprising means for holding a bottle, means for decanting its contents and automatic means acting to rupture the bottle before it is released, substantially as described.
12. A beverage dispensing apparatus comprising means for holding a bottle, means for decanting its contents, means for preventing the refllling of the bottle and means acting automatically to rupture it before it is released from the holder, substantially as described.
13. A beverage dispensing apparatus comprising the combination of means for holding a bottle, means for withdrawing the cork , means for decanting its contents and means for automatically destroying the bottle before it is released from automatically destroying the bottle befo
the holder, sub inly as described.
14. A beverage dispensing apparatus, comprising the combination of a bottle holder, means for withdrawing the cork, means for decanting the contents of the bottle, means for preventing back flow into the bottle, means for replacing the cork in the bottle, substantially as described.
15. A beverage dispensing apparatus, comprising the combination of a bottle holder, means for withdrawing the cork, means for destroying the bottle after its contents are withdrawn, and means for preventing the bottle fragments from falling into the operative parts of the mechanism, substantially as described.
16. A beverage dispensing apparatus, comprising the combination of a reciprocating rod carrying a corkscrew, a sleeve partly enveloping the rod, reciprocating therewith and haring a rack on its periphery, a pinion meshing with the rack, a spring actuated bottle breaking hammer, and means cooperating with the pinion to trip the hammer, substantially as described.
17. A beverage dispensing apparatus, comprising the combination of a casing, a bottle holder within the casing, a door closing the casing, means whereby the bottle is clamped in the holder upon closure of the door, means within the casing for automatically locking the door, means for decanting the contents of the bottle, a bottle breaking hammer and means for automatically tripping the hammer and unlocking the door when the contents of the bottle have bees decanted, substantially as described.
18. A beverage dispensing apparatus, comprising the combination of a casing, a bottle holder therein, a closure door therefor, interior means for automatically locking the door when closed, means for decanting the contents of a bottle mounted in the holder, means for releasing the door, and means for automatically rupturing the bottle on release of the door, substantially as described.
19. A beverage dispensing apparatus, comprising a case, means for permanently holding a bottle therein, means to release said bottle which destroy the bottle before releasing it, stopper discharging means, means for decanting the liquid and means to prevent refilling of said bottle by tipping or inverting the apparatus, substantially as described.
20. A beverage dispensing apparatus, comprising a case, means for permanently holding a bottle therein, means to release said bottle which destroy the bottle before releasing it, stopper discharging means, means for decanting the liquid and means to prevent refilling of said bottle by flooding the apparatus, substantially as described.
21. In a device of the character described, an emergency valve movably supported in the case, and adapted to close the fluid channel, means for obstructing the access of surreptitiously introduced devices from without the case to said valve and means for automatically closing the said valve if the case is tipped, inverted or flooded, substantially as described.
22. For use in a device of the character described, a bottle made of glass or other frangible material and formed with an integral puncturing recess, substantially as described.
23. In a device of the character described, an outlet for the fluid comprising a reservoir, a bridged outlet therefrom, projecting wings extending therein, and a channel communicating with said reservoir, substantially as described.
24 . In a device of the character described, an outlet for the fluid comprising a reservoir, a bridged outlet therefrom, projecting wings extending therein, a channel communicating with said reservoir, a perforated rear wall to said reservoir, a deflecting wing projecting downward and outward below said channel and guiding surreptitiously liquid through the perforations, substantially as described.
25. In a device of the character described, an outlet for the fluid comprising a reservoir, a bridged ouclet therefrom, projecting wings extending therein, a channel communicating with said reservoir, a perforated rear wall to said reservoir, a deflecting wing projecting downward and outward below said channel and guiding surreptitious liquid through the perforations, an emergency valve adapted to close the outlet to said channel and means to operate same, said deflecting wing likewise protecting said emergency valve, a service valve in said channel normally closed and means for operating same, substantially as described.
26. A portable dispensing apparatus for beverages comprising a casing, means for locking a receptacle thereto, means for fracturing the receptacle which in operating automatically release the lock after fracturing the receptacle, means for decanting the liquid, and a handle for the device, substantially as described.
27. A portable dispensing apparatus for beverages comprising a casing, means for locking a receptacle thereto, means for fracturing the receptacle which in operating auto matically release the lock after fracturing the receptacle, means for decanting the liquid comprising a fluid channel, service valve therein normally closed, and means for opening the valve automatically, operated by tipping the devic to decant the liquid, an emergency valve and a gravity operating weight for automatically closing the same if the de-
vice is tipped sidewise and a float for automatically closing the same if the device is inverted, substantially as described.
28. A beverage dispensing apparatus comprising a casing, means for locking a bottle thereto, means within the casing for destroying the bottle, a connection between the destroying means and the lock, whereby the latter is released after the receptacle is destroyed, means for decanting the liquid, automatically operating means to prevent reflling of the bottle and a vertically movable cork removing rod, adapted to discharge the cork into the bottle, substantially as described.
29. A beverage dispensing apparatus comprising a support for the bottle, means for decanting the liquid from the botthe through said support, means for preventing reflling of the bottle while connected with said support, and means for preventing the removal of the bottle from said support so long as the bottle remains intact, substantially as described.
30. A beverage dispensing apparatus comprising means for rigidly securing a liquid receptacle thereto, means for decanting its contents and for preventing the reflling of the receptacle whlle it is in its secured position, and means for releasing the receptacle adapted to operate upon the rupture thereof, substantially as described

No. 100,917. Bell Ringer for Locomotives.
Sonneur de cloches pour locomotives.


Richard Moore Crosby, Tacoma, Washington, U.S.A., 11th
September, 1906; 6 years. Filed 19th January, 1906. Rece!pt No. 132,033.
Cloim.-1. In an apparatus of the class described the com. bination of a fixed piston, a piston cylinder slidably mominted thereon having a closed upper end forming a piston chamber provided with an exhaust passage leading therefrom, on: of such m:ribers having an inlet passage leading to surt pision chamber, and means for opening and closing such inle: and exhaust passages.

2 In an apparatus of the class described the combination of a piston, a piston cylinder slidably mounted thereon having a closed upper end forming a piston chamber provide. with an exhaust passage leading theroirom, one of such members having an inlet passage leading to such piaion chamber and the other having an inlet passage commun'inting with a source of fluid supply, such inlet passages being adapted to be connected and disconnected by the movesnen: of the cylinder with relation to the niston
3. In an apparatus of the class described the combination of a piston, a piston cylinder slidably mounted thercoa iaving a closed upper end forming a plston chamber prov.ded with an exhaust passage leading therefrom, one of such mombers having an inlet passage leading to such pisiny. chamber and adapted to communicate with a sjurce of flui.i supply, and a sleeve valve mounted in the piston cylinder and movable into and out of engagement with such oibaust and inlet passages.
4. In an apparatus of the class described the combination. of a piston provided with a fluid inlet passage, a piston cylinder slidably mounted thereon having a closed upper end forming a piston chamber provided with an exhaust passage leading therefrom and having an inlet passage communirating with such piston chamber and adapted to be moved with the cylinder into and out of connection with the inlet passage in the piston, and means for opening and closing the exhaust passage.
5. In an apparatus of the class described the combination of a piston provided with a fluld inlet passage, a piston cylinder slldably mounted thereon forming a piston chamber provided with an exhaust passage leading therefrom and having an inlet passage communicating with such piston chamber and adapted to be moved with the cylinder into and out of connection with the inlet passage in the piston,
and a sleeve valve slidably mounted in engagement with the inner wall of such cylinder and movable into and out of closed engagement with the exhaust and inlet passages in such cylinder.
6. In an apparatus of the class described the combination of a piston, a piston cylinder slldably mounted thereon provided with an upper portion closing the upper end and extending beyond the main body portion of such cylinder adapted to engage the bell crank of a bell to be operated thereby, such cylinder forming a piston chamber having an exhaust passage leading therefrom and one of such members having an inlet passage leading into such piston chamber, and means for opening and closing such inlet and exhaust passages.
7. In an apparatus of the class described the combination ot a piston, a piston cylinder slidably mounted thereon forming a piston chamber provided with an exhaust passage leading therefrom, one of such members having an inlet passage communicating with the piston chamber, and means for partially closing the admission passage before the exhaust passage is onen during the stroke in one direction and movable into position to partially close the exhaust passages during the return movement before the admission passage is open.
8. In an apparatus of the class described the combination of a fixed piston, a piston cylinder slidably mounted thereon having a closed upper end forming a piston chamber provided with an exhaust passage, such piston and cylinder being provided with inlet passages communicating with a scurce of fluid under pressure, and means for opening and closing such exhaust and inlet passages.
9. In an apparatus of the class described the combination of a piston provided with an admission passage communicating with a suitable source of fluid under pressure, a piston cylinder provided with a closed upper end and open lower end mounted upon such piston and having an exhaust passage and an admission passage adapted to communicate with such admission in the piston when the cylinder is in one position and movable out of communication with such admission passage when the cylinder is in a second position, and a slecve valve slidably mounted in such cylinder for covering and uncovering such exhaust and admission passages
10. In an apparatus of the class described, the combination of a piston provided with a fluid inlet passage and having an annular recess and an annular shoulder above and below such recess, a piston cylinder in sliding engagement with such piston having a closed upper end and side walls forming a piston chamber and provided with a passage in its side walls leading to such chamber and adapted to communicate with such inlet passage in the piston, and a sleeve valve mounted in the recess between the piston and cylinder walls movable with the cylinder into and out of engagement with the shoulders upon the piston for opening and closing the fluid passage.
11. In an apparatus of the class described, the combination of a fixed piston having a fluid inlet passage and provided with an annular recess having annular shoulder portions forming the upper and lower ends of such recess, a cylinder closed at its upper end slldably mounted upon such piston forming a piston chamber having a pasasge communicating with the space formed by such recess and provided with a passage having its lower end movable into and out of communication with the inlet passage of the piston and its upper end opening into the recessed portion of the piston, and a sleeve valve mounted in slidable engagement with the inner wall of such piston cylinder and movable into and out of engagement with the upper end of such fluid passage in the cylinder.
12. In an apparatus of the class described the combination of a fixed piston having a fluid inlet passage provided with an annular recess having annular shoulder portions at the upper and lower ends of such recess, a cylinder closed at its upper end slidably mounted upon such piston forming a piston chamber having a passage communicating with the space formed by such recess and provided with an exhaust passage leading from the recess and an inlet passage having its lower end movable into and out of communlcation with the inlet passage of the piston and its upper end opening into the recessed portion of the piston, and a valve slidaury mounted in the recess formed between the piston and the walls of the piston cylinder and movable with the piston cylinder into and out of engagement with the shouldered portions of the piston for opening and closing the inlet and exhaust passages in the cylinder.
13. In an apparatus of the class described the combination of a piston and piston cylinder mounted in sliding engagement with each other and provided with fluid inlet and exhaust passages, and means for partially closing the admission passage before the exhaust passage is open during the upward movement of the cylinder and movable into position to partially close the exhaust passage before the admis-
sion passage is open during the downward movement of the cylinder.
14. In an apparatus of the class described the combination of a piston and piston cylinder mounted in sliding engagement with each other and provided with fluid inlet and exhaust passages, and a piston ring slidably mounted in engagement with the inner surface of the piston cylinder movable into position to partlally close the admission passage before the exhaust passage is open during the upward movement of the cylinder and movable into position to partially close the exhaust passage before the admission passage is open during the downward movement of the cylinder.

No. 100,918. Pouch. Sac.


Uberto Deroix Ezell, Kimball, Texas, U.S.A., 11th September, 1906 ; 6 years. Filed 5th May, 1906. Receipt No. 135,576.
Claim.-1. A pouch adapted to be applied to the male organ, a ring adapted to be fitted around the cervix immediately above the corona, and posterior and anterior cords connecting the pouch and ring, the anterior cord being longer then the posterior cord to permit the application of the ring.
2. A pouch adapted to be applied to the male organ, an clastic ring adapted to be fitted around the cervix immediately above the corona, and posterior and anterior elasic cords connecting the pouch and ring. the anterior cord being longer than the posterior cord to permit the application of the ring.
3. A pouch adapted to be applied to the male organ, said pouch being reduced to provide a flaring entrance, an elastic ring adapted to be fitted around the cervix Immediately above the corona, and posterior and anterior elastic cords connecting the pouch and ring, the anterior cord being longer than the posterior cord to permit the application of the ring.

No. 100,919. Engine. Machinc d vapeur.


Charles E. Hastings. Grimin, California, U.S.A., 11th September, 1906 : 6 years. Filed 6th December, 1905. Receipt No. 130.740
Claim.-1. An engine comprising a steam chest, steam cylinders arranged on opposite sides thereof and communi--ating therewith, a longitudinally shiftable and rotary valve strm extending into the steam chest and having a longitudinal passage formed with a lateral vent, a steam rhamber surrounding the stem and communicating with the lateral vent, said chamber being elongated to maintain connection with the lateral vent, under any longitudinal adis"tment of the stem, and the rotary valve shiftable in the
steam chest and mounted on the vaive stem, said vaive having a plurality of inlet ports communicating with the end of the steam chest and a plurality of exhaust ports communicating with the longitudinal passage in the valve stem.
2. An engine comprising a steam chest, steam cylinders arranged at opposite sides thereof and communicating therewith, a rotary valve working in the steam chest and shiftable endwise therein, a valve stem provided with a steam exhaust passage leading from the valve outward and provided with a lateral vent, and a steam chamber surrounding the atem and communicating with the lateral vent, said chamber being elongated to maintain communlcation with the exhaust passage under any adjustment of the valve.

No. 100,920. Rook Delll. Foret d roche.


Henry Hellmen and Lewis Condict Bayles, co-inventors, both of Johannesturg, Transvaal, South Africa, 11th September, 1906; 6 years. Filed 8th August, 1905. Receipt No. 127,533.
Claim.-1. In a rock drilling machine or engine of the nature indicated the combination of a casing, a power cylinder slidingly and rotatively carried by said casing, percussive apparatus in the power cylinder, a drill or bit operatively carried at the forward end of the power cylinder and in such manner that it is compelled to rotate therewith, a rearward extension or tail pipe connected to the power cylinder, and means for imparting rotary motion to the power cylinder in one direction, substantially as described.
2. In a rock drilling machine or engine the combination of a casing, a power cylinder slidingly and rotatively carried by said casing. precussive apparatus in the power cylinder. a drill or bit operatively carried at the forward end of the power cylinder, packing between the casing and power cylinder or its connections which packing by confining the actuating fluid at its rear utilizes the pressure of said fluid to fced the drill, a rearward extension or tall pipe revolubly connected to the power cylinder and means located in said extension or tail pipe or between it and the nower cylinder for imparting an intermittent rotary motion to the latter, substantially as described.
3. In a rock drilling machine or engine of the nature indicated in combination, a power cylinder, a reciprocating precussive member therein, a drill or bit positioned at the forward end of said cylinder, a casing slidingly supporting the power cylinder, said casing being constructed with forwardly directed exhaust ports surrounding said cylinder. substantially as and for the purposes described.
4. In a rock drilling machine or engine of the nature indicated in combination, a power cylinder, a casing surrounding said power cylinder, a split sleeve surrounding the casing and adjustable longitudinally thereof. and means for decreasing the internal diameter of said spllt sleeve to grip the casing, substantially as described.
5. In a rock drilling machine or engine of the nature isdicated in combination, a power cylinder, a casing in which said cylinder is slidingly and rotatively carried, a drill or bit carried at the forward end of said power and in such manner that it is compelled to rotate therewith, a reciprocating precussive member in the power cylinder, an impact piece loosely positioned in the forward end of the power cylinder at the rear of the drill or bit, said impact piece being constructed with a longitudinal port for permitting a quantity of the actuating fluid to pass therethrough, a water swivel located at the forawrd end of the power cylinder, said swivel serving to conduct water to a hole formed longitudinally of the drill or bit to the cutting extremity of which it is carried by the fluid passing through the impact piece, substantially as and for the purposes described.
6. In a drilling or boring machine or engine of the nature indicated in combination, a power cylinder, a casing slidisgly and rotatively supporting said cylinder, a drill or bit carried at the forward end of said cylinder, a reciprocating percussive member in said cylinder, a valve for alternately admitting the actuating fluid to either end of said cylinder, a rearward extension or tail pipe revolubly attached to the rear of the power cylinder, a reciprocating member in said tail pipe adapted to be operated by the actuating fluid, and means actuated by said reciprocating member to impart an intermittet rotary motion in one direction to the power cylinder and drill or bit, substantially as described.
7. In a rock drilling machine or engine of the nature indicated, in combination, a power cylinder a casing slidingly and rotatively carrying said power cylinder, a reciprocating percussive member in said cylinder, a drill or bit carried at the forward end of said cylinder in such manner that it is compelled to rotate in unison therewith, a valve for admitling the actuating fluid alternately to either end of the power cylinder, a rearward extension or tail pipe rotatably attached to the power cylinder, a piston in said tail pipe and a valve for alternately admitting the actuating fluid to edther side of said piston, and mechanism actuated by the piston in the tail pipe which imparts an intermittent rotary motion to the power cylinder, substantially as described.
8. In a rock drilling machine or engine of the nature indicated, a power cylinder, a casing rotatively supporting the same, packing between said casing and cylinder which by confining the actuating fluid at its rear utilises the pressure of said fluid to feed the drill, a reciprocating percussive member \(n\) the power cylinder, a drill or bit carried at the forward end of the power cylinder in such manner that it is compelled to rotate therewith, a valve for admitting the actuating fluid to either end of the power cylinder to actuate the percussive member, a rearward extension or tail pipe, rotatably attached to the rear of the power cylinder, a cylinder in said extension or tail pipe, a piston in sald cylinder and a valve for admitting the actuating fluid to either end of the cylinder to actuate said piston, ratchet mechanism between the power cylinder and tail pipe or rearward extenslon which operates to impart an intermittent rotary motion to the power cylinder and drill or bit, and means for rotating by hand the tail pipe or rearward extension, power cylinder and drill or bit independent of the automatic rotation, substantially as described.
9. In a rock drilling machine or engine of the nature indicated, in combination, a protective casing, a power cylinder slidingly and rotatively carried therein, a tail pipe or rearward extension rotatively attached to the rear of the power cylinder, a clamping device arranged around said tail pipe or extension at the rear of the casing, said device comprising a split strap or band having one extremity constructed with a slot into which the other extremity projects and a key placed in the slot which when driven in one direction tightens the strap or band round the tail plpe or extension and when driven in the reverse direction loosens the band or strap, thereby permitting it to be adjusted longitudinally of the tail pipe or extension, substantially as and for the purroses described.
10. In a rock drilling machine or engine of the nature indicated, in combination, a power cylinder, a casing in which said power cybinder is slidingly and rotatively mounted, said casing being constructed with forwardly directed exhaust ports surrounding the cylinder, a clamp comprising a split sleeve adjustable longitudinally of the casing, a reciprocating percussive member in the power cylinder, a valve carried by the power cylinder which serves for admitting the actuating fiuld to the power cylinder, an impact piece positioned in the forward end of the power cylinder and formed with a port along which a quantity of the actuating fluid may fass from the power cylinder, a bit positioned at the front end of the power cylinder and in front of sald impact piece, a swivel carried at the front end of the power cylinder which serves for conducting water to the port in the impact piece sarves for condich the actuating fluid passes from the power cylin-
der, a drill or bit having a longitudinal port along which water is conducted from the swivel to the bottom of the hole through the medium of the actuating fluid passing through the impact piece, packing located between the casing and power cylinder or its connections for utilising the pressure of the actuating fluid to feed the drill, a cylindrical piece rigidly attached to the rear end of the power cylinder, said piece being constructed with internal ratchet teeth, a rearward extension or tail pipe rotatably connected to the power cylinder, a cylinder in said tail pipe or extension and a piston in said cylinder, a rifle nut carried by said piston, a riffe bar working through said rifie nut, said rifle bar carrying pawls engaging the ratchet teeth in the cylindrical piece, a valve arranged in the extension or tail pipe for admitting the actuating fluid to operate the piston, pawls which serve by engaging teeth in the cap at the rear of the casing to prevent said tail pipe rotating in one direction, and means for rotating it in the reverse direction to rotate the power cylinder and drill or bit by hand, substantially as and for the purposes described
11. In a rock drilling machine or engine of the nature indicated, the combination of a casing and a power cylinder slidingly and rotatively supported therein. a reciprocating percussive member in said cylinder, means for admitting the actuating fluid alternately to either end of sald cylinder, an impact piece loosely positioned in the forward end of the cylinder, a drill or bit operatively carried at the front end of sald impact piece, the power cylinder being constructed with a port or ports normally closed by the inner end of the impact piece, which when said impact piece is driven forward by the reciprocating percussive member serve as exhaust ports for the actuating fluid and prevent said percussive member being propelled on its rearward stroke until the impact piece is moved in a rearward direction to close sald ports, substantially as and for the purpose described.
12. In a rock drilling machine or engine of the nature indicated, in combination a power cylinder, a casing slidingly and rotatively supporting said cylinder, said casing being constructed at the forward end with exhaust ports surrounding said cylinder, a clamp consisting of a split sleeve adjustable longitudinally of said casing, a percussive reciprocating member in the power cylinder. a valve for alternately admitting the actuating fluid to either end of said cylinder, a valve box and valve box cap enclosing said valve, packing between the casing and cylinder or valve box cap for utilising the pressure of the actuating fluid to feed the drill, an impact piece in the forward end of the power cylinder, a port through said impact piece along which a quantity of the actuating fluid may pass from the power cylinder to and along the drill or bit to the cutting end, a water swivel arranged at the forward end of the power cylinder for conducting water to the drill or bit along which it is conducted by the actuating fluid. means for compelling the drill bit to rotate in unison with the power cylinder, a rearward extension or tail pipe rotatably attached to the rear end of the power cylinder, a cylinder in said tall pipe, a piston in said cylinder, a rifle nut carried by said piston, a rifle bar working through said rifle nut, ratchet mechanism actuated by said rifle bar to impart an intermittent rotary motion to the power cyllnder and drill or bit in one direction, a valve and valve box in the tail plpe or rearward extension which serves for admitting the actuating fluid to elther side of the piston, pawls carried by a plece fixed to the tail pipe, said pawls being adapted to engage teeth provided on a part rigidly attached to the casing which operates to prevent said tail pipe rotating in one direction whilst permitting it to be rotated in the opposite direction to permit said tail pipe, power cylinder and drill or blt to be rotated by hand independent of the automatic power rotation, substantially as described.
13. In a rock drilling machine or engine of the nature indicated, in combination a power cylinder, a casing in which said power cylinder is slidingly and rotatively carried, a drill or bit carried at the forward end of said power cylinder and in such manner that it is compelled to rotate therewith, a reciprocating percussive member in the power cylinder, an impact piece loosely positioned in the forward end of the power cylinder at the rear of the drill or bit, said impaat plece being constructed with a longltudinal port for permitting a quantity of the actuating fluid to pass therethrough to and along the drill or bit to the cutting extremity thereof, substantially as described.

No. 100,921. Fair Fastener. Attache pour cheveux.
Frank B. Rogers and Charles H. Dittmer, co-inventors, both of Maddux, Montana, U.S.A., 11th September, 1906; 6 years. Filed 7th May, 1906. Recipt No. 135,614.

Claim.-A hair fastener comprising a pair of forked pins, the prongs of which are presented towards each other, the
head of one of said pins having an opening, and the head of the other pin a socket, and a pin slidably mounted in the

aforesaid opening, and extensible into the socket, and removably secured therein.

No. 100,922. Match Box. Boite al allumettes.


Thomas H. Pace, Richmond, Virginia, U.S.A., 11th September, 1906; 6 years. Filed 25th April, 1906. Receipt No. 135,260. Claim.-1. A match box comprising side plates, blocks between said plates, an intermediate pivoted match receptacle between said plates, an elastic connection between the inner lower end of said receptacle and one of said blocks, and a trigger for normally holding the receptacle in an inward position against sald elastle connection, substantially as described.
2. A match box comprising side plates, blocks holding the same in their separated position, a receptacle between said plates, a ball and socket connection between said receptacle and one of said blocks, means normally tending to throw the receptacle into an outward position and locking means for normally holding the receptacle in an inward position between the plates, substantially as described.
3. A match box comprising side plates, blocks holding said plates in their separated position, a receptacle between said plates, a ball and socket connection between said receptacle and one of said blocks, locking means normally tending to throw the receptacle into an outward position, and a trigger having a ball and socket connection with one of said blocks and having a downwardly extending member adapted to engage and hold the receptacle in an inward position between the plates, substantially as described.
4. A match box comprising side plates, blocks holding the same in their separated position, a match receptacle pivoted between said plates intermediate its ends, means normally tending to throw the receptacle in an outward position and locking means for normally holding the receptacle in an inward or closed position, substantially as described.
5. A match box comprising side plates, blocks holding the same in their separated positions, a match receptacle between said plates, a ball and socket connection between said receptacle and one of said blocks, means normally tending to throw the receptacle in an outward position, and a trigger having a ball and socket connection with one of sald blocks, and means carried by the trigger for holding the receptacle in an inward position, substantially as described.
6. A match box comprising plates in the form of human fingers and spaced apart by blocks, a match receptacle pivoted to said block between the plates, intermediate its ends. an elastic connection between the lower end of said block and receptacle and normally tending to throw the upper end outwardly, and a cap pivoted between the upper end of said plates and having a downward extending member adapted to elngage the upper end of the receptacle and normally hold it in an inward position, substantially as described.

No. 100,923. Engine and Boiler.
Machine a vaptur et chaudiere.


Dexter M. Small, Providence, Rhode Island, U.S.A., 11th September, 1906; 6 years. Filed 3rd April, 1906. Receipt No. 134,557.
Claim.-1. In an engine of the class described the combination with cylinder \(A\), of a heating device thereunder. the heat from which is automatically applied thereto when piston is down and then removed when piston has been raised to its adjusted limit.
No. 100,924. Disinfecting Apparatus. Appareil désinfectant.


Plerre Lassablière, No. 2 Boulevard Brune, Paris, France, 11th September, 1906. 6 years. Flled 28th November, 1905. Receipt No. 130,500.
Claim.-1. A process of disinfection by means of gaseous formic aldehyde, which consists in the production and utllization of gaseous formic aldehyde in a continuous manner. and at a pressure of between 7 and 12 atmospheres, substantially as specified.
2. An apparatus for carrying out the process of disinfection by means of gaseous formic aldehyde, comprising a pressure chamber \(a\), a valve \(k\) for maintaining the pressure between predetermined limits, and an escape valve \(i\) for controlling the closure of the escapement, substantially as specified.

\section*{No. 100,925. Burial Cagket. Cercueil.}


Charles C. Adams, Kalamazoo, Michigan, U.S.A., 11th September, 1906; 6 years. Filed 3rd August, 1906. Receipt No. 138,385 .
Claim.-1. In a burial casket the combination of a shell, a cover or tod hinged thereto at the back, a movably sup-
ported bottom links connecting said bottom to said cover a pair of counterbalance springs secured to sald bottom, rollers arranged at each end of said bottom, cords connecting said springs to said shell arranged over said rollers, said cords being connected to said shell at the bottom thereof, and an inner casket carried by said bottom, for the purpose specified.
2. In a burial casket, the combination of a shell, a cover or top hinged thereto at the back, a movably supported bottom. links connecting said bottom to said cover, a counterbalance spring connected to said bottom and to said shell, and an inner casket carried by said bottom, for the purpose specified.
3. In a burial casket, the combination of an outer shell, an inner casket, and means for relatively adjusting said outer shell and said inner casket, for the purpose specified.
4. In a burial casket, the combination of a shell, a cover or top hinged thereto at the back, a movably supported bottom, links connecting said bottom to said cover, a pair of counterbalance springs secured to sald bottom. rollers arranged at each end of said bottom, and cords connecting said springs to said shell, arranged over said rollers, said cords being connected to sald shell at the bottom thercof, for the purpose specifled.
5. In a burial casket, the combination of a shell, a cover or top hinged thereto at the back, a movably supported bottom, links connecting said bottom to said cover, and a counterbalance spring connected to said bottom and to said shell, for the purpose specified.
6. In a burial casket, the combination of a shell. a suitable cover therefor, a bottom, sald bottom and shell being adjustablv supported in relation to each other. and a counterbalance spring connected to said shell and to said bottom, for the purpose specified.

No. 100,926. Cntter for Tobacco. Cou/eau d tabao.


Bernhard Baron. 5 St. James Place, London, England, 11th September, 1906; 6 years. Filed 13th June, 1906. Receipt No. 136,844.
Claim.-1. In apparatus for cutting cake or leaf tobacco and in combination, a crosshead, a knife blade adjustably mounted thereon, guide rods for said crosshead, and means operated from the crosshead shaft for feeding the tobacco beneath the knife, substantlally as described.
2. In apparatus for cutting cake or leaf tobacco and in combination, a reciprocating knife blade, a shaft for driving same, a grooved plate adapted to be rotated by said shaft, a block adjustably mounted in said plate, a ratchet arm connected to said block, and a rachet wheel adapted to be operated from the rachet arm and to impart feed motion to the tobacco, substantially as described.
3. In apparatus for cutting cake or leat tobacco and in combination a reciprocating knife blade, a shaft for driving same, a rachet wheel operated from said shaft and feeding devices for the tobacco operated from said rachet wheel, substantially as described.

\section*{No. 100,927. Feed Mechanism for Oigarette Making Machines.}

Jécanisme d'alimentation pour machine à faire des cigarettes.
Bernhard Baron, 5 St. James Place. London, England, 11th September, 1906; 6 years. Filed 18th June, 1906. Recelpt No. 135,003.
Claim.-1. In apparatus for feeding tobacco to cigarette making machines and in combination, a feed hopper. carding cylinders therein a belt beneath the same adapted to receive any tobacco falling behind the lower carding cylinder and carry it forward for admixture with that carried over by the cylinder, substantially as described.
2. In apparatus for feeding tobacco to cigarette making machines and in combination, a feed hopper, carding cylin-

machines and in cumbination a feed hopper, carding cylinder a belt beneath same adapted to receive any tobacco falling from said plate and carry it forward for admixture with that carried over by the cylinder, substantially as described.
3. In apparatus for feeding tobacco to cigarette making machines and in combination a feed hopper, carding cylinders therein, a doffing cylinder for removing the tobacco from the carding cylinder and a belt beneath the latter adapted to receive any tobacco falling behind the carding cylinder and carry it forward for admixture with that removed by the doffing cylinder, substantially as described.
4. In apparatus for feeding tobacco to cigarette making machlnes and in combination a feed hopper, carding cylinders therein presser fingers adapted to lightly hold tho tobacco to the lower carding cylinder. a doffing cylinder adapted to remove said tobacco and a belt beneath the carding cylinder adapted to receive any tobacco falling behind same an carry it forward for admixture with that removed by the doffing cylinder, substantially as described.
5. Ino apparatus for feeding tobacco to cigarette making machines and in combination a leed hopper, carding and doffing cylinders therein, a thrower for receiving the tobacco from the doffing cylinder and a belt beneath the carding cylinder adapted to receive the tobacco from the thrower. substantially as described.
6. In apparatus for feeding tobacco to cigarette making machines and in combination a feed hopper, carding cylinders therein, a belt forming part of the bottom of the hopper and adapted to carry any fine particles of cobacco to the lower carding cylinder, a plate in close proximity to the cylinder and the belt, and a second travelling belt beneath said plate adapted to receive any particles of tobacco falling from sald plate, and carry same forward to be mixed with the tobacco carried over by the cylinder, substantially as described.
7. In apparatus for feeding tobacco to cigarette making machines and in combination a feed hopper, carding cylinders therein, a belt forming part of the bottom of the hopper, a doffing cylinder and a second travelling belt adapted to receive any tobacco falling between the first belt and the cyllnder and carry same forward to be mixed with that removed by the doffing cylinder, substantially as described.
8. In apparatus for feeding tobacco to cigarette making machines and in combination a feed hopper, carding cylinders therein, a belt forming part of the bottom of the hopper, a plate in close proximity to the lower carding cylinder and to the belt, a travelling belt beneath sald plate adapted to receive any particles of tobacco falling from sald plate and carry same forward, and a doffing cyllinder adapted to remove the tobacco from the lower carding cylinder, substantially as described.
9. In apparatus for feeding tobacco to cigarette making machines and in combination a feed hopper, carding cylinders therein, a belt forming part of the bottom of the hopper, a second belt below same, a doffing cylinder adapted to remove the tobacco from the lower carding cylinder, and a thrower adapted to receive said tobacco and throw same iorward onto the lower belt, substantially as described.
10. In apparatus for leeding tobacco to clgarette making machines and in combination, a hopper, carding cylinders therein, a belt forming part of the bottom of the hopper, a plate in close proximity to the lower carding cylinder and to the belt, a second belt below same, a doffing cylinder adapted to remove the tobacco from the carding cylinder and a thrower adapted to recelve said tobacco and throw same forward into the lower belt. substantially as described.
11. In apparatus for feeding tobacco to clgarette making machines and in combination a hopper, carding cylinders

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therein, a belt forming part of the bottom of the hopper, a second belt adapted to receive and carry forward any tobacco falling thereon. presser fingers adapted to lightly hold the tobacro to the lower carding cylinder, a dofling cylinder adapted to remove said tobacco, and means for delivering same to the lower travelling belt, substantially as described.
12. In apparatus for feeding tobacco to clgarette making machines and in combination, a feed hopper, carding cylinders therein. a belt formine part of the bottom of the hopper, a plate in close proximity to the lowr carding rylinder and said belt a lower belt adapted to receive and carry forward any particles falling from said plate, presser fingers adapted to lightly hold the tobacco to the lower carding cylinder, a doffing cylinder adapted to remove same and means for delivering same to the lower belt, substantially as described.

\section*{No. 100,928. Press for Leaf Tobacco.}

Presse pour tabao en feuilles.


Bernhard Baron, 4 to 8 St. James Place, Aldgate, London, England. 11th September, 1906; 6 years. Filed 20th June, 1906. Receipt No. 137,090.

C'laim.--1. In apparatus for pressing leaf tobacco, a mould one part of which is removable, means for compressing the tobacco therein, and clamps adapted to hold the mould in a closed condition or to release one part thereor, substantially as described.
2. In apparatus for pressing leaf tobacco. a mould one part of which is removable, pivoted arms carrying presser plates, and means for holding the inner ends of said arms while pressure is being exertid. substantlally as described.
3. In apparatus for pressing leaf tobacco, a mould one part of which is removable, clamps adapted to hold the mould in a closed condition or to release one part thereof and pivoted arms carrying pressure plates, substantially as described.
4. In apparatus for pressing leaf tobacco, a mould one part of which is removable, clamps adapted to hold the mould in its closed condition or to release one part thereof, pivoted arms carrying presser plates, and means for holding the inner ends of said arms while pressure is being exerted, substantally as described.

No. 100,929. Cigarette Making Machine.
Wachine a fairc des cigarettes.


Canaan de Cazen, 1496 Notre Dame Street, Montreal, Quebec, Canada, 11th September, 150t; 6 years. Filed 18th June, 1516. Receipt No. 137,006.

Claim.-1. A clgarette making machine comprising a feed mechanism having a belt carrier travelling on rollers jour-
nalled in the sides of a casing, said belt carrier having rows of picks projecting from its outer surfaces, and a belt travelling on rollers journalled in said casing above the aforesaid belt carrier and having rows of picks projecting from its outer surface, a forming tube, a guideway from sald feed to said forming tube, a frame supporting sald parts, and means for operating, as and for the purpose specifled.
2. A cigarette making machine comprising a feed mechanism having an endless carrier suitably arranged in the lower part of a casing, said carrier having picks inclined forwardly in the direction of travel, and a belt arranged above the aforesaid carrier in said casing have its face opposing the aforesaid carrier travelling in an opposite direction, sald carrier having picks inclined rearwardly to the direction of travel, a forming tube, a guideway from said feed to said fcrming tube, a frame supporting said parts, and means for operating, as and for the purpose specified.
3. A cigarette making machine comprising a feed mechanism, a forming tube, a guideway from said feed to said forming tube, means for carrying a ribbon of paper through said tube, a stamping table over which said paper passes, a stamp beneath said table, means for shearing, means for engaging and operating said stamp one time to every two operatlons of said shearing mechanism, a frame supporting sald parts, and a main driving shaft journalled from said frame, as and for the purpose specifled.
4. A cigarette making machine comprising a feed mechanism, a forming tube, a rotating wheel forming a guldeway from said feed to said forming tube, a shaft sultably journalled and operatively connected to the shaft of sald rotating wheel, a pulley on the aforesaid shaft, a ribbon belt extending around said pulley and through sald forming tube, a roller suitably journalled having a roll of paper in ribbon form mounted thereon, a plurality of rollers over which said paper passes to said forming tube, a pivoted arm having a roller at the end thereof resting against the paper between the stamping table and forming tube, a shearing mechanism, a stamping mechanism, means for operating said stamping mechanism one time to every two operations of the shearing mechanism, a frame having a plurality of bearings and supporting the various parts, and a main shaft journalled in bearings from the frame, as and for the purpose specifled.
5. In a cigarette making machine, the combination with the frame supporting a table, a casing containing a feed mechanism supportcd above said table, and a forming tube, of a rotating wheel journalled in the frame of the machine beneath said fecd mechanism and having a plain arc-shaped surface to its rim extending without interruption from side to side, a ring mounted on said wheel at each side of said rim, and forming a passage from said feed to said forming tube, and a main driving shaft, as and for the purpose specified.
6. In a cigarette making machine, the comblnation with the frame supporting a table, and a casing containing a feed mechanism supported above said table and a forming tube. of a rotating wheel having an arc-shaped periphery to its rim, a pair of rings mounted on said rim and having annular tlanges forming a guideway from said feed to said forming tube, a plurality of pins ex:ending through the frame of the machine and adjustably secured therein, and having rollers journalled at the ends thereof engaging the said rings, a rotating wedge turning on a shaft adjustably held in the frame diametrically opposite said guideway and extending between said flanges, and a main driving shaft, as and for the purpose specified.
- In a cikarette making machine, in combination a frame supporting a table, a feed mechanism supported thereabove, a forming tube, a shaft extending across sald frame, a pulley mounted on said shaft, a ribbon belt extending around said pulley and through said forming tube, a roll of paper in ribbon form mounted on a roller journalled in the frame of said machine and extending to said ribbon belt, a plurality of rollers guiding said paper, a pivoted arm having a roller journalled at the end thereof engaging said paper intermediate of the distance between two of said rollers, a self-inking stamp through which said ribbon of paper extends, means for of crating the plunger of said stamp co-incidentally with the operation of the other parts of the machine, and a main driving shaft, as and for the purpose specified.
8. In a cigarette making machine, in combination, a frame supporting a table, a feed mechanism supported thereabove, a forming tube, a shaft extending across said frame, a pulley mounted on said shaft, a ribbon belt extending around said p,ulley and through said forming tube, a roll of paper in ribbon form mounted on a roller journalled in the frame and extending to sald ribbon belt, a plurality of rollers gulding said paper, a pivoted arm having a roller journalled at the end thereof engaging said paper intermediate of the distance hotween two of said rollers, a self-inking stamp over which salid ribbon of paper extends, a lever plvoted in the frame and encaging the plunger of sald stamp, an eccentric mounted on the driving shaft, and a strap encircling sald eccentric
and having an arm therefrom pivotally connected with said lever, and a main driving shaft, as and for the purpose specified.
9. In a cigarette making machine, in combination a frame supporting a table, a feed mechanism supported thereabove, a forming tube, and a shaft extending across said frame, a pulley mounted on said shaft and turned thereby, a ribbon extending around said pulley and through said enveloping tube, a roll of paper in ribbon form mounted on a roller jcurnalled in the frame of sa!d machine and extending to said ribbon belt, a plurality of rollers gulding said paper, a plvoted arm having a roller journalled at the end thereof engaging said paper intermediate of the distance between two oi said rollers. a self-inking stamp secured to a bracket from the machine, a lever pivoted in the frame of the machine having a projection from the end thereof engaging the plunger of sald stamp. an eccentric mounted on the main driving skaft, a strap encircling said eccentric, having an arm therefrom pivotally connected to said lever, and a main driving shaft, as and for the purpose specifled.
10. In a device of the class described, in combination. a frame having a plurality of bearings, a casing supported above sald frame, a plurality of belt carriers, turning on rollers journalled in the sides of said casing. a sprocket and ctain mechanism connecting the shafts of said rollers, a main driving shaft journalled in bearings in brackets from the side of the frame. a shaft parallel with said main driving shaft furnalled in brackets in the side of the frame thereabove, a sprocket and chain mechanism connecting said shafts, a sprocket and chain mechanism connecting the upper shaft and the aforesaid rollers, a rotating wheel journalled in suitable bearings beneath said feed mechanism forming a guideway from sald feed. a forming tube leading from said guidenay, a shaft journalled in bearings in said frame at right angles to the aforesaid shaft. having a pulley secured therecn, a sprocket and chain mechanism forming the operating connection between said shaft and the shaft of said rotating wheel beneath said feed mechanism, a gear mechanism forming the operating connection between the shaft above the main driving shaft and the shaft journalled at right angles thereto in the frame. a shearing mechanism, a cam on sald main driving shaft operating said shearing mechanism, a slid: ble table carrying said shearing mechanism, a stamping mechanism, an eccentric on said main driving shaft having an operating connection with sald slidable table and said stamping mechanism, a pasting mechanism, a belt and pulley ronnection thereto from the main shaft, and a belt and pulley connection from the shaft above the main shaft of said shearing mechanism, as and for the purpose specified.
11. In a cigarette making machine the combination with a prame, a forming tube supported therebv, and means for guiding the length of paper into said forming tube, of a box supported above said frame and having bearings in the upper and lower portions of the sides thereof, a pair of rollers fournalled in the upper bearings in said box, a belt carrier pxtending around said rollers and having a downward inclination in the direction of travel, a pair of rollers journalled in bearings in the lower portion of said box. a belt carrier extending therearound and having an upward inclination in its direction of travel, a hooper extending into sald box and having its discharge opening immediately over the lowermost carrier, a roller journalled in bearings in the lower portion of said box in proximity to the sald lowermost belt carrier and gathering the tobacco therefrom. and a hopper below sald roller having a discharge opening leading towards said forming tube, as and for the purpose specified.
12. In a clgarette making machine the combination with a frame, a forming tube supported thereby. and means for suiding the paper into said forming tube, of a box supported rbove said frame having bearings in the upper and lower dortions of the sides, a pair of rollers journalled in bearings in the lower portion of said side, a belt carrier extending around sald rollers and having a plurallty of picks projecting from the surface thereof inclined forwardly in the direction of travel of said carrier, a hopper extending into said box and having its discharge opening directly over sald carrier, a roller fournalled in bearings in the lower portion of sald box to one end of sald carrier and having picks meshing with the aforesald picks and gathering the tobacco from said arrier. a pair of rollers journalled in bearings in the upper portion of said box, a belt carrier extending around said rollers and located over the forward part of the aforesald helt rarrier and angularly inclined thereto, and having a plurality of picks projecting from the surface thereof inlined backwardly from the direction of travel of said carrier and means for guiding the tobacco from the first-named carrier into the machine, as and for the purpose specifled.
13. Ino a cigarette making machine the coinbination with the frame, a forming tube supported thereby and means for guiding the paper into sald forming tube, of a box supported above sald frame and having bearings in the upper and lower portions of its sides and adjustable parts hinged to the top
of said sides and bearings in said parts, a palr of rollers journalled in the bearings in the lower portion of sald sides, a belt carrier extending around sald rollers and having picks rojecting from the surface thereof inclined in the direction of travel of said carrier. a roller rotating in the opposite direction to the aforesaid rollers and having pleks meshing vith the aforesald picks and fournalled in bearings in the lower portion of said sides. a pair of rollers rotating in the same direction as the rollers of the aforesaid carrier, one of which is journalled in bearings in the upper portion of the ides and the other journalled in the bearings in the said adjustable parts, a belt carrier extending around said rollrrs and having picks projecting from its surface inclined rearwardly from the direction of travel of the said carrier. a hopper extending into the box and having the discharge opening immediately over the lowermost carrier, and a hopner receiving the tobacco from said lowermost carrier and the gathering roller and dropping the same into the machine, as and for the purpose specified.
14. In a cigarette making machine the combination with the frame, forming tube supported thercby means for gulding the length of paner into sald tube, and driving mechin nism. of a rotating wheel journalled in suitable bearings in said frame in allgnment with sald tube and having an arcshaped periphery. a ring of concave convex form mounted on said wheel at each side of said rim, a box supported by said frame above sald wheel having bearines in the upper and lower portions of the sides. a belt carrier extending around suitable rollers journalled in said lower hearings and having picks from the surface thereof inclined forwardly in the direction of travel of said carrier, a hopper extending into said box and emptying on to said carrier. a roller journalled in the sides of said box having picks moshing with the aforesaid picks at one end of said carrier and gathering the tobacco therefrom, and depositing it on sald rotating wheel between said rings, and a belt carrier extending around rollers journalled in the upper bearings in sald box and having picks inclined backwardly from the dircction of travel and extending into proximity with the aforesald belt carrier at the dellivery end of the latter, as and for the purpose speclfied
15. In a device of the class described in combination a frame sup-orted on suitable standards and raving an elevated nortion at one end thereof. a hopper box supported above sald elevated nortion, a plurality of bearings arranged in connection with the subdorting bars of said hopper box, a nair of rollers journalled in said bearings, a belt carrier extending around said rollers having picks projecting from its surface inclined forwardly in the direction of travel of said carrler being arranged in an upward incline. a palr of 1 ollers fournalled in said bearings above the bearings of the :foresald carrier, a belt extending around sald rollers and laving an upward incline from the dellvery end of sald carrier and picks projecting from its surface inclined backwardly in the direction of travel. the onposing surfaces of said carrier and belt moving in an opposite direction, a roller fournalled in said bearings at the end of the bars of the said hopper box and having picks projecting from its periphery meshing with the picks of said carrier and gathering tobacco from the sald carrier. a honjer beneath sald gathering roller recelving tobarco therefrom and having an upward extending portion hooding sald roller. forming mechanism supported by said frame receiving tobacco delivered from said hopper. and means for operating said feeding and forming mechanism coincidentally, as and for the purpose specifled.
16. In a device of the class described in combination a frame having an elevated portion at one end thereof. a hopder box supnorted above said elevated nortion and sultable bars arranged at right angles to said frame, a plurality of adjustable hoarings formed in and supported by said bars. a pair of rollers journalled in the lowermost of said bearines, a carrier encircline said rollers and having picks projecting from its surfacs inclined forwardly in the direction of travel and its unper side passing through said hopper box in an inclined upward direction, a pair of rollers journalled in the unnermost of said bearines having the inner roller thereof immediately above the roller at the dellvery end of said carrier. a belt havine picks profectine from its surface and extending around said upper rollers and inclined in an upper direction from its inner roller thereof, the opposing surfaces of the said belt and the said carrier travelling in an opposite direction. a roller journalled in the adjustable bearings, at the inner ends of the said supporting bars of the hopper box and having pleks from its periphery meshing with the picks of sald carrier and gathering tobacco therefrom, a hopper beneath said roller having an extension thereabove hooding said roller. a sorocket wheel mounted on the shaft of one of the belt rollers, a sprocket wheel mounted on the shaft of one of the carrier rollers, an idle roller journalled on a suitable pin projecting from one of said supporting bars, a main driving shaft iournalled in suitable bearings from said frame, a sprocket wheel on sald main shaft, a
hain exterding around said sprocket wheel on said main haft and over and under the aforesaid sprocket wheels and ver the said idle roller, a pulley on said gathering roller haft, a groovel pulley on said main shaft, and a belt extending from said prooved pulley to said pulley on said roller shaft, as and for the purpose specified.
1i. In a device of the class described, in combination a frame having an elevated portion to one end thereof, a hopier box, a pair of bars arranged at right angles to said frame and supported thereabove from said elevated portion and having slots at the ends thereof and intermediate of beir length and an upright therefrom opposite said intermediate slots, adjustable bearing blocks arranged in one of said end slots and in said intermediate slot, a roller jourcalled in said bearing blocks and having a sprocket wheel on the shaft thereof, a belt carrier extending around said rollers and having picks inclined forwardly in the direction oi travel and moving in an incline upward direction in said hopper box, adjustable bearing blocks in the slots at the other end of said bar, a roller journalled in said bearing hlocks and having picks from its periphery thereof meshing with the picks on sald carrier, bearing blocks supported by adjustable links secured to said bars and said upright portions therefrom, adjustable bearings at the upper end of said uprights from the bar, a roller journalled in said uprights and having a sprocket wheel on the shaft thereof, a roller journalled in said bearing blocks supported by said links, a belt cxtending around said rollers and having its opposing faces to said carrier travelling in an opposite direction and picks projecting from the surface inclined backwardly in the direction of travel, a driven shaft, a sprocket wheel mounted thereon, a chain connecting the aforesaid sprocket wheels and said sprocket wheel on the main shaft and driving the rollers of said belt and said carrier coincidentally, a hopper receiving tobacco from said carrier, and forming means sup ported by said frame, as and for the purpose specified.
18. In a device of the class described, in combination a frame. a hopper box arranged thereabove and to one end thereof, adjustable bearings supported independently of sald hopper box and rollers journalled therein, belts extending around two pairs of said rollers respectively and having their opposing faces moving in opposite directions and inclined angularly one from the other, the lower of said belts form ing the carrier for the tobacco from sald hopper and travelling over a suitably supported bridge within said hopper, a roller gathering the tobacco from said carrier, a hopper re ceiving the tobacco from said roller, a rotating guideway receiving tobacco from the latter hopper, a forming tube receiving the tobacco from said rotating guideway. and means for operating said feed mechanism and the forming mechanism coincidentally, as and for the purpose specified.
19. In a device of the class described, in combination a frame baving circular parts to one end thereof and arcshaped slots in said circular parts, a shaft journalled in suitable bearings arranged centrally in said circular parts of the frame, a wheel mounted on said shaft, rings secured on the sides of the rim forming an annular channel groove therebetween, rollers journalled on pins suitably set in said arcshaped slots and regulating the space at points circumfer entially between said links. a bracket supporting a bearing a: the front of said rotating guide wheel, a pressure wheel journalled in sald bearing and extending in rotation into said channel groove, a feed mechanism delivering tobacco to said channel groove, a forming mechanism receiving the tobacco from said channel groove, and means for operating the parts coincidentally, as and for the purpose specified.
20. In a device of the class described, in combination a frame having circular parts to one end thereof, bearings arranged centrally in said circular parts, a shaft rotating in said bearings, a wheel having an arc-shaped periphery to its rim mounted on said shaft and turning between said circular parts. a ring having a corresponding inner surface to said arc-shaped periphery mounted on each side of said rim, a plurality of rollers journalled on pins adjustably secured in said circular parts of the frame. said rollers having annular rooves engaging said rings and retaining them on sa'd wheel. and a central annular tongue formed by said grooves spacing said rings apart to form an annular channel groove around said wheel, rollers engaging the sides of said rings oposite the aforesaid rollers and journalled at the ends of mins adjustably arranged in said circular parts and project ing inwardly to said rings, an adjustable bearing supported from a bracket rigidly secured to the frame to the front of said wheel, a pressure wheel journalled in said bearing extending into said channel groove, a feed mechanism delivering tobacco into said channel groove, a forming mechanism receiving tobacco from said forming groove, a main shaft, and means from said main shaft for driving the various parts of the mechanism coincidentally, as and for the purpose specified.
21. In a device of the class described, in combination a frame supporting a table, a forming tube arranged longitu-
dinally on said table and having a length of paper travelling therethrough, a cylindrical paste receptacle arranged at right angles to said tube and having an opening at one end thereo and a journal orifice at the other end, a semi-circular member secured to the mouth opening of said cylinder and having a channel groove therein communicating with said mouth opening, a piston head in said cylindrical receptacle, automatic means for operating said piston head, a paste disc mounted at the top of a spindle journalled in suitable bearings secured to the frame of the machine, said paste disc turning in said semi-circular member and picking up paste herefrom and applying it to the paper along said forming tube, a feed mechanism, and means for operating the various parts coincidentally, as and for the purpose specified.
22. In a device of the class described, in combination a frame supporting a table, a forming tube longitudinally arranged on said table, receiving a length of paper travelling thcrethrough, a cylindrical paste receptacle having an adjustable mouth opening at one end thereof and secured on said table at right angles to said forming tube and a journal orifice in the other head, a semi-circular member secured over said mouth opening and having a channel groove therein, communicating therewith, a piston head travelling in said receptacle, a cover capping the outer end of said cylinder and having a journal orifice in alignment with the aforesaid jcurnal orifice, a ratchet wheel rotating between said cover and said head and having a hub journalled in said orifices and internally threaded. a spindle correspondingly threaded and extending through said head and secured to said plston head and having at its outer end a crank handle, a pendant arm hanging from said hub, a pawl secured to the end thereof and spring-held to said ratchet, a reciprocating rod se cured to said pendant arm, means for causing said rod to reciprocate, a bracket secured to said frame and supporting a vertical bearing, a spindle journalled in said vertical bearing and extending upwardly through the table, an adjustable point bearing supporting the lower end of said spindle, a disc mounted on the upper end of said spindle and turning in said semi-circular member and collecting paste therefrom and applying said paste to the paper travelling along said fcrming tube, a pulley mounted on said spindle below said table and having belt connection with the driving mechan ism, a feed mechanism, and means for driving the various parts coincidentally, as and for the purpose specified,
23. In a device of the class described, in cimbination, a frame a table slidably arranged on one end thereof, a link pivotally connected thereto, a vertical lever pivotally connocted to said link and having a journal orifice in the centre thereof, a shaft extending through said journal orifice and secured to the frame of the machine at each end there of, a toggle foint having one of its members pivotally connected to said lever at the lower end thereof and its other member pivotally connected to the frame of the machine, a shaft journalled in suitable bearings in the frame of the machine and extending thereacross. a main shaft driving the said shaft, an eccentric mounted on the shaft extending across the machine having its strap pivotally connected to one of the members of said toggle joint, an adj"stably arranged knife mounted on said table, a forming tube sup ported by said frame and delivering a string of cigarette under said knife means for onerating said knife on every movement of the table, a feeding machanism. and means for operating the various coincidentally, as and for the purpose snecified.
24. In a device of the class described, in combination a frame, a slidably arranged table at the end of said frame. a forming tube supported by said frame, automatic means for moving said slidable table backward and torward, a bracke nrojecting unwardly from said table, an arm having forked end and pivotally secured at the top of said bracket extending upwardly from said table and having an arcshaped slot therethrough and intermediately arranged to the length of said arm, said arm being set in any desire position in said arc-shaned slot, a spindle journalled suitable bearings in said fork-shaped end, a circular knife mounted on said spindle, a pulley mounted on said spind'e, a driving pulley connected by a suitable belt to the afore said pulley and supported by a bracket from the frame adjustable means for bringing the string of cigarette in celved from the forming tube into contact with said rotating knife, a feeding mechanism delivering tobacco to said forming tube, and means for operating the various parts coin cidentally, as and for the purpose specified.
25. In a device of the class described, in combination a frame, a table slidably arranged thereon at one end thereof, automatic means for sliding said table backwardly and forwardly, a bracket projecting unwardly from said table an arm projecting from said bracket having a forked end and supporting bearings, a spindle turning in said bearings. a knife mounted on said spindle at one end thereof, a pulley mounted on said spindle, a hracket intermediately arranged in the length of said arm having slots in its upwardly pro
jecting portions, a pin extending through said arm and through said slots and adjustably arranged in the latter, a bracket extending upwardly fiom the table below said knife, a forked arm pivotally secured to said bracket, a funnelshaped tube projecting inwi rdly from an orifice in one of the prongs of the latter forked arm, a tube extending outwardly from the orifice in the cther prong in alignment with said funnel-shaped tube, a pin pivotally secured to said forked arm beneath said knife having a reduced lower end extending through the table of the machine and a head or nut at the extreme lower end thereof, a spiral spring encircling the said reduced lower end of said rim between said table and said head or nut, a lever pivoted in a suitable bracket extending downwardly and extending across the table through a suitable gulde loop and having a roller journalled thereon, a threaded pin inserted in a correspondingly threaded orifice in the center of sald lever and normally abutting the head or nut at the lower end of said pin extending through the table, a crank lever pivoted intermediate of the length of its vertical section in the frame of i machine having at the lower end of said section a roller and at the extreme outer end of its horizonal section a fiattened portion engaging the roller on said lever, a main shaft, a cross shaft journalled in suitable bearings in the standards of the machine and operated by said main shaft. a cam mounted on said cross shaft and engaging the rol'er of sald crank lever and raising the forked arm under said knife upwardly thereto twice for every revolution of the said shaft, a grooved pulley on the main shaft. a pulley journalled in a bearing supported by a bracket from the machine and sultably operated from said grooved pulley on the main shaft and in turn driving the pulley on the spindle on which said knife is mounted, a feed mechanism delivering tobacco to a forming tube, and means for operating the various parts coincidentally, as and for the purpose specifled.
26. In a device of the class described, in combination a frame, a roll of cigarette paper journalled on a pin projecting from the frame, a bridge extending across said frame, a pair of upright brackets supported thereon, a table supported by sald brackets, a roller journalled in a bracknt rigidly secured at the end of said table over which said paper passes and along the under side of the table. vertical bearings supported by said bridge and vertical rods sliding in said bearings, and carrying at their upper ens a type plate having type mounted thereon and at the lower and having a pivotally secured link, an operating lever pivotally jolned to said link, said operating lever having a journnl orifice centrally arranged therein, a curved offset portion forming the other half of said lever. a shaft extending through said journal orifice from side to side of the frame, a main shaft, a cross shaft driven thereby, an eccentric mounted on sald cross shaft and having its strap pivotally sccured to the end of said curved portion of the lever. and operating the printing mechanism one for every revolution of said shaft, a plurality of rollers suitably arranged in the path of said paper to the forming tube, and means for frawing said paper through said forming tube, as and for the purpose specified.
27. In a device of the class described, in combination a frame. a forming tube supported thereby having a belt travelling therethrough, a roll of paper journalled on a pin projecting from the frame. a bridge extending across said frame, a pair of brackets supported on said bridge and having upwardly extending lugs, a table having a central oponing and secured to said brackets immediately beneath said upwardly extending lugs. a roller journalled in brackets secured to the end of sald table, rollers journalled in said brackets immediately at the forward and rear edges of said opening in the table, a roller journalled on a pin adjustably arranged in said lugs, said paper extending over and around sald rollers and along and under the table, vertical bearings supported on sald bridge, a pair of rods vertically sliding in said vertical bearings and carrying at the top end a type plate having sultable type mounted thereon and intermediate of the distance between sald type plate and said bearings, a projecting pin and a pivoted link at the lower end. a lever at one end pivotally secured to said link and at the other ind pivntally secured to an eccentric rod and in the center thereof having a journal orifice, a shaft extending through sald journal orifice and secured to the frame. a main shaft. a shaft journalled in suitable bearings extending across the machine and driven by sald main shaft, an eccentric mounted on said shaft and connected to said lever as aforcsaid. rank levers pivoted at their angles in brackets from said bridge having one of their sections slotted, and ink rollers journalled from the other sections, ink wells sccured to th. nd of sald tyne plate by suitable inclined pieces forming a path for said rollers from said type plate to said ink wells, a shaft extending across said machine secured to its midstandards, a sleeve encircling said shaft, a pendant arm ploted to said sleeve and having a roller at its lower ent
if an adjustable arm extending from said sleeve over which said paper passes on to the belt in said forming tube, and means for operating said machine. as and for the purpose specified.
28. In a device of the class described in combination a irame, a forming tube supported thercby, a roll of paper journalled on a pin projecting from the frame, a table suitably supported within sald frame, and along which said paper travels, means for printing said paper as it passes along said table, a plate having a plurality ot bearings supported at the further end of sald table, a roller journalled in ome of sald bearings over wilh sald piper passes, a bronze well supported on said bearing plate, and in which said roller turns, a rotary brush journalled in one of said bearings and brushing said paper as it passes theerealong, a main shaft. a shaft extending across the machine and oriven by said main shaft, pulleys respectively on the shafts of said roller and said rotary brush, pulleys on said cross shaft operatively connected to said pulleys on the rotary brush shaft and rollor shaft, an idle roller between said rotary brush and said roller suitably journalled on a pin projecting from said plate and around which said plate passes, a plurality of rollers suitably journalled and suitably supported in the path of said paper to sald forming tube, and means for driving the various parts of the machine coincidentally, as and for the purpose specified.
29. In a cigarette machine in combination with the frame supported on suitable standards, a hopper box supported on a suitable frame above the aforesaid and to one end thereof, a plurality of adjustable bearings supported in proximity to said box, a plurality of rollers suitably journalled in said bearings, a belt carrier extending around two of sald rollers and travelling in an inclined upward direction and having picks projecting from the surface thereof inclined forwardly in the direction of travel of said carrier, a belt extending around two other of the rollers and angularly arranged to the aforesaid carrier having picks projecting from its suriace inclined backwardly in the direction of travel, said belt at one end thereof being in proximity to the delivery end of said carrier and having its opposing face to sald carrler moving in an opposite direction thereto, a romb secured to the frame of said box and having teeth abutting said carrier between the picks, a sprocket wheel secured to the shaft of a roller of said carrier, a sprocket wheel secured to the shaft of a roller of said belt and a chain extending around said snrockets and around a sprocket wheel on the main shaft of the machine communicating the motion of said shaft to said rollers, a roller adjustably journalled in two of said bearings and having picks from the periphery thereof meshinog with the picks on the said carrier at one end and gathering the tobacco therefrom and delivering said tobacco into a hopper immediately therebeneath, said hopper having an upwardly extending portion hooding sald rollerand from which the cobacco is delivered to the forming parts of the machine, as and for the purpose specified.
30. In a cigarette machine in combination with the feed mechanism, a frame supporting a table and having circular larts at one end thereol and suitable standards and crosspleces supporting bearings, throughout the machine, a shaft journalled in bearings in the crosspieces extending between said circular parts, a wheel mounted on said shaft and turning theerwith between said circular parts of the frame, and having an arc-shaped perlphery to its rim and on each side of said rim having a ring mounted in which annular inner surfaces correspond to the surface of sald arc-shaped rim, said ring forming a channel guideway therebetween, a plurality of spacing rollers suitably fournalled and regulating the width of said annular channel in the wheel and retaining said rim on said wheel, a pressure wheel secured in suitably supported bearings to the front of said guide wheel and in rotation extending into said channel and pressing on the tobacco received from the feed mechanism into said channel guideway as the sald tobacco passes therealong on to the able and forming mechanism, and means for operating said shaft of said guide wheel coincidentally with the operation of the various parts of the machine, as,and for the purpose specifled.
31. In a cigarette machine in combination with the frame and a roll of cigarette paper journalled on a suitable pin projecting from sald frame, a table supported on a pair of brackets from a bridge extending across the frame of the machine, a guide roller journalled from a suitable bracket rigidly supported at one end of said table and over which the length of the paper from said roll passes along on the lower surface of said tabe, said table having an opening in the middle thereof and a plurality of rollers journalled in upwardly extending portions from the bracket under and over which said paper passes, a reciprocating type plate havins: suitable type mounted thereon and stamping said paper at intervals as it passes along said table, said type plate being supported on rods reciprocating in vertical bearings, said rods having at the lower end thereof, a crossplece and the link pivotally joined thereto, an operating lever pivotally
joind to said link, said operating lever having a central jour nal orifice mounted on a shaft extending across the machine ind at its outer end having pivotal connection to an eccentric strap rod, said eccentric strap rod encircling an eccenlic on a rotating shaft extending across the machine, means nperated by sald reciprocating rods for inking said type, a roller. journalled at the extreme of a pendant arm, and engaging said paper subsequent to its passage along the table, a gulde roller over which sald paper passes on to a ribhon belt travelling through the forming tube, said ribbon ielt extending around a plurality of rollers and a grooved nperating pulley mounted on a rotating shaft and along through the forming tube into which it carries the paper receiving a string of tobacco from a suitable feed mechanism and therewith passing into the forming tube to be suitably finished at the end of said tube, as and for the purpose specifled.
32. In a cigarette machine in combination with the forming tube having a length of paper passing therethrough and means for transporting said paper along the tube, a cylinder containing paste arranged at right angles to said forming tube and supported on said machine frame and having an opening in the head thereof adjacent to said forming tube and a vertical dovetailed groove in the said head, an adjusts.hle plate sliding in said groove and having a cylindrical projection in front of said opening forming the mouth of sald cylinder. a semf-circular member having a lug therefrom scured over said cylindrical projection. said lug having a passage therethrough leading into the channel groove forming the wall of sald semi-circular member, a ratchet wheel having its hub journalled in suitable bearings in the opposite head of the cylinder and a cover capping said head and turning between said cylinder head and said cover, a pendant arm from said hub extending through a slot in said cover and having a pawl plvotally secured to the end thereof and spring-held to sald ratchet wheel, a threaded spindle sccured to a piston head in said cylinder and extending through the correspondingly threaded hub of said ratchet wheel and having at the outer end a crank handle, a reciprocating rod rivotally secured to said pendant arm and during the operation of the machine constantly moving said pawl from tooth to tooth and thus rotating sald ratchet wheel. said recinrorating rod being secured to a moving part of the mechanism. a dise mounted on a suitably fournalled rotating spindle and turning in the said semi-circular member and gathering naste therefrom and applying paste to sald paper passing along the forming tube. and means for rotating said spindle. as and for the purnose specifled.
33. In a cigarette machine the combination with the formIng tube and a table supported by a suitable frame and a string of clearette formed by sald tubr. a table slidably arranged on the frame at the end of the aforesaid table. a link pivotally sccured to the inner end of sald table at one end and at the other to a vertirally arranged lever centrally pivoted intermediately of the height of the machine and at its lower end n!yoted to the onter member of a toegle joint. the inner member of sald toggle joint belng pivotally secured to the frame of the marhine. an ecrentric mounted on a rotating shaft in said marhine and having its rod plvotally connected to one of sa!d toggle joint member intermediate of its length, said eccentric at each revolution of said shaft causing said table to slide twice for every revolution of said shaft. a rotarv knife mounted on a spindle journalled in a bracket extending over said table. sald bearing members being vertically adjustable to raise ant lower said knife, a bracket secured to the top of sald table having a ploted forked arm extending therefrom, the prongs of sald fork be'ng one to cach side of sald knife, a funnel-shaped tube extending inwarldy from a prong of said fork to receive the string of cigarette from sald forming tube and a tube extending outwardly from the other prong and receiving the string of cigarette and thus bringing the space between said prongs with said cigarette, a pin pivotally secured to said forkel arm and extending through the table and having an encir-- ling spring exerting a downward spring pull on said arm, a wivoted lever extending across sald machine under said table and having a roller at the end thereof and an adjustable screw centrally arranged therein engaging the head of said pin under said table, a crank lever suitably pivoted on the frame of the machine having a flattened portion at the end of its horizontal section engaging the roller on sald lever and at the lower end of its vertical section having a roller attached thereto and engaged by a cam mounted on a rotating shaft in said marhinc. said ram engaging said roller rwice for cvery revolution of sald shaft and causing th. aljusting screw in the aforesaid lever to engage sald pin twise for every revolution of said shaft and consequently moving the said forked arm upwardly and bringing the strilg of clzarcte in contact with the rotating knife, as and for tho purpose specified.
34. In a cigarette machine in combination with the feed mechanism and forming tube, a rotating wheel having a flat
rim, mounted on each side of said rim, said ring having vertically flaring inner surfaces and secured on said whecl by set screws arranged at intervals and forming a central channel therebetween, said wheel being mounted on a rotating shaft journalled in sultable bearings in the frame of the machine and bringing said channel at one point therein immediately beneath the delivery point of said feed mechanism and at another point in alignment with the receiving end of said forming fube, and means for rotating said shaft as and onr the purpose epecified.
35. In a cigarette machine in combination with the frame supporting a table and having sultable standards and crosspicces. a main shaft extending longitudinally with the frame and journalled in a pair of brackets rigidly secured to the two end stindards of said frame and having mounted thereon a suitable driving pulley, and at one end a grooved pulley. intermediate of its length a friction disc and a grooved pulley towards the other end, a shaft arranged at right angles to the aforesaid shaft and jou rnalled in suitable bearings on the standards and having a friction wheel at one end engaged by said friction disc and at the other end a pinion anc intermediate of its length and between said standards a pluri lity of eccentries, pulleys and a cam, a shaft journalled in bearings in vertical alignment with the bearings of the last-named shaft and having a gear wheel at one end thereof operatively connected by an intermediate gear adjustably ju urnalled with the aforesald pinion, said upper shaft having between said standards a plurality of pulleys mounted thereon and at its other end a bevel gear. a shaft arranged longitudinally on the machine in bearings supported in rigic brackets in the side of the machine and above the jearings of the main shaft, said upper longitudinal shaft having a pinion at one end co-acting with the said bevel gear and a pinion at the other end co-acting with a bevel gear mour ted at the end of a cross shaft journalled in bearings in the standards at the feed end of the machine. and turniny the rotating guide wheel, sald longitudinal shaft having a sprocket wheel at the end thereof connected with and operating the feed mechanism, said shafts being rotated as shown through the connection of said driving pulley with a suitable power and in turn rotating the pulleys, eccentrics, cams and other pirts connected to the feed mechanism, and all the various other parts necessary to form and finish the cigarette, as and or the purpose specifled.

\section*{No. 100,930. Process of Dliminating Odour of Fish 011.}

Procédé pour éliminer les odeurs d'huile de poisson.


Alexandre de Hexiptinne, 56 ruc de la Vallee, Ghent, Belgium, 11th Se; tember, 1906; 6 years. Filed, 28th June, 1905. Recelpt No. 126,438.

Claim.-Whe herwin described process of eliminating the odour of fish ofl, which consists in subjecting a layer of oil to the act on of a silent electrical discharge in a confined almosphere of hylrogen.

No. 100,!31. Gasholder. (iniomitic.
William Gadd, 64 Barton Arcade, Manchester, England, 11th Septenber, 1906; 6 years. Filed loth January, 1906. Receipt No. 131,741.
C'laim.-In gasholders supported by spiral guides the combination therewith of vertical guides and a movable ring
formation arranged around the circle together with the necessary guide and grip rollers connected therewith for the

purpose of giving a vertical rise and fall to this class of gasholders in manner as hercin set forth.

No. 100,932. Method of Forming Epring Clipa. Méthode de former des trnailles a ressort.


Joshua Browning Hale, Providence, Rhode Island, U.S.A.,
11th September, 1906; 6 years. Filed 18th June, 1906. Receipt No. 136,997.
Claim.-1. The method of forming spring wire clips which consists in winding wire into an approximately circular spring coil and simultaneously bending each turn of the coil to form a projection extending beyond the circumferential plane of the body of the coil, and periodically severing a turn of the coll, whereby the uncoiling action of the severed portion of the coil will cause a separation of the said projections.
2. The method of forming spring wire clip; which consist in winding wire upon a rotating arbour to form an approximately circular spring coil, and simultaneously bending each turn of the coll to form an angular portion projecting beyond the circumferential plane of the body of the coil, and periodically severing a turn of the coil. whereby the uncoiling action of the severed part will cause a separation of said angular portions.
3. The method of forming spring clips which consists in winding wire into an approximately circular spring col and providing each turn of said coil with an irregular portion projecting beyond the circumferential plane of the body of the coil, and severing a turn of said coil at periodical intervals, whereby the uncoiling action of the severed parts will cause a separation of the angular portions of said severed part.
4. The method of forming spring clips which consists in winding a wire upon a rotating arbour provided with a longitudinal anvil or rib to form an approximately circular spring coll, the turns of which are provided with an angular portion projecting beyond the circumferential plane of the body of the coil, and finally severing a turn of said coil at periodical intervals, whereby the uncolling action of the severed part will cause a separation of the angular portions of sald severed part.
5. The method of forming spring clips which consists in winding wire into an approximately circular spring coil and providing each turn of said coil with an ear or projection extending beyond the circumferential plane of the body of said coil. and severing a turn of said coll at periodical intervals, whereby the uncoiling action of the severed part will cause a separation of the ears or projections of sald severed part.
6. The method of forming spring wire clips which consists in winding wire into a spring coil, simultaneously bending each turn to form an angular portion offset from the body portion of the strand, and periodically severing a turn of said coll at a point opposite said angular portions, whereby the uncolling action of the severed part will cause a separation of the angular portion of sald severed part.
7. The method of forming spring wire clips which consists in winding wire unon a rotating arbour to form a spring coil, bending each turn of the coll to form an angular member offset from the body of the coll, and periodically severing a turn of said coil at a point opposite sald angular members, whereby the uncoiling action of the severed part will cause a separation of the angular members of said severed part.
8. The method of forming spring wire clips which consists in winding wire into a spring coil, simultaneously bending each turn to form a plurality of aligned angular members offset from the body of the coil, and finally severing every other turn of the coil at a point opposite said angular members, whereby the uncoiling action of the severed part will cause a separation of the angular members of said severed part.
9. The method of forming spring clips which consists in winding wire into a spring coil, sinultaneously bending each turn to form a plurality of aligned angular members offset from the body of said coil and pressing in or straightening a portion of each turn of the coil, and finally severing every other turn of the coil, whereby the uncolling action of the severed part will cause a separation of the angular members of sald severed part.
10. The method of forming spring clips which consists in winding wire into a spring coil and bending the turns thereof to form a longitudinal rib made up of a plurality of aligned cars or projections offset from the body of the said coll, and severing a turn of said coil at periodical intervals, whercby the uncoiling action of the severed part will cause a scparation of the ears or projections of the severed part.

\section*{No. 100,933. Detergent. Procédé d nettoyage.}

Herbert Jackson, 10D Powis Terrace, Bayswater, London,
England, 11th September, 1906; 6 years. Filed 3rd April, 1906. Recelpt No. 134,567 .

Claim.-1. As a detergent, water containing not more than 2 per cent of ammonium oleate free from excessive ammonia.
2. As a detergent, a solution containing not more than 2 per cent of ammonia oleate made by adding olefc acid to water and then introducing ammonia in quantity only sufficient to dissolve the oleic acid.

No. 100,934. Machine for Attaching Fabric to Bozes.
Machinc pour attacher les tissus aux boites.


William Kahle, Boston, Massachusetts, U.S.A., 11th September, 1906; 6 years. Filed 2nd May, 1906. Receipt No. 135,467.
Claim.-1. In a machine for attaching fabric to boxes, a fabric holder comprising in its construction a plate provided with a recess in its upper face, a sheet of elastic material extending across said recess, and an elastic pad located beneath said sheet with an aperture therein of smaller area tnan sald recess, whereby the edges of said aperture project over said recess.
2. In a machine for attaching fabric to boxes. a fabric holder comprising in its construction a plate provided with a recess in its upper face, a sheet of elastic material extending across said recess, an elastic pad located beneath said sheet with an aperture therein of smaller area than said recess, whereby the edges of said aperture project over
said recess, and an elastic cushion in the bottom of said recess.
3. In a machine for attaching fabric to boxes, a fabric holder comprising in its construction a plate provided with a recess in its upper face, a sheet of elastic material extending across said recess, an elastic pad located beneath said sheet with an aperture therein of smaller area than said recess, whereby the edges of said aperture project over said recess, and a plurallty of spring actuated clamp fingers adapted to hold a piece of fabric against said sheet of elastic material.
4. In a machine for attaching fabric to boxes, a fabrid holder comprising in its construction a plate provided with a recess in its upper face, a sheet of elastic material extending across said recess, an elastic pad located beneath said sheet with an aperture therein of smaller area than said recess whereby the edges of said aperture projects over said recess.a plurality of spring actuated clamp figures adapted to hold a piece of fabric against said sheet of elastic material, and means to move said fingers out of contact with said fabric.
5. In a machine for attaching fabric to boxes, a fabric holder comprising in its construction a plate provided with a recess in its upper face, a sheet of elastic material extending across said recess, an elastic pad located beneath said sheet with an aperture therein of smaller area than said recess, whereby the edges of sald aperture project over said recess, a support for sald fabric holder, a plurally of spring actuated fingers pivoted to said plate adapted to hold the fabric against sald elastic sheet, and means to simultaneously rock said fingers out of contact with sald fabric.
6. In a machine for attaching fabric to boxes, a fabric holder comprising in its construction a plate provided with a recess in its upper face, a sheet of elastic material extending across said recess, an elastic pad located beneath said shect with an aperture therein of smaller area than said recess, whereby the edges of said aperture project over said recess, a support for said holder, a plurality of fingers pivoted to sald plate, a spring actuated stud engaging each of said fingers resnectively, and a slide adapted to engage sald studs anl simultaneosly move said fingers out of contact with said Iabric.
7. In a machine for attaching fabric to boxes. a fabric holder comprising in its construction a plate provided with a recess in its upper face, a sheet of elastic material extending across said recess, an elastic pad located beneath said sheet with an aperture therein of smaller area than said recess whereby the edges of said aperture project over said recess. a support to which said bolder is detachably fastened. and an clastic cushion in the bottom of said recess.
s. In a machine for attaching fabric to boxes, a fabric holder comprising in its construction a plate provided with a recess in one face thereof, a sheet of elastic material fast to said plate and extending across said recess, and an elastic pad with an aperture therein fast between said plate and -lastic sheet, the edges of said aperture projecting over said rucess.
9. In a machine for attaching fabric to boxes, a fabric holder comprising in its construction a plate provided with a recess in one face thereof, a sheet of elastic material fast to said plate and extending across said recess, an elastic pad with an aperture therein fast between said plate and elastic shert, the edges of said aperture projecting over said recess. and an elastic cushion detachably fastened to said plate at the bottom of said recess.
10. In a machine for attaching fabric to boxes. a fabric liolder providod with a recess in one face thereof, an elastic folding pad fast to said holder and extending across said recess. means to hold a piece of fabric against said folding liad, mechanism adapted to apply adhesive material to said labric. and a reciprocatory holder for a box in alignment with said fabric holder recess, whereby said fabric may be attached to said box and folded over the edges thereof.
11. In a machine for attaching fabric to boxes, a reciprocatory box holder comprising in its construction a holder for the base or top of said box, and a holder for a flange adapted io be fastened to said top, one of said holders movable toward and away from the other.
12. In a machine for attaching fabric to boxes, a reciprocatory box holder comprising in its construction a holder for the base or top of said box, a holder for a flange adapted to be fastoned to said top, one of said holders movable toward and away from the other, and a spring adapted to move sald holders apart
13. In a machine for attaching pabric to boxes, a fabric holder provided with a recess in one face thereof, an elastic folding pad fast to said holder and extending across said recess, means to hold a piece of fabric against said folding pad, a receptacle for adhesive material, i gluing pad, and mechanism to move said gluing pad from said receptacle into contact with said eabric.
14. In a machine for attaching fabric to boxes, a fabric loliler liroviled with a recess in one face thereof an elastic
folding pad fast to said holder and extending across said recess, means to hold a piece of fabric against said folding pad, a receptacle for adhesive material, a gluing pad, mechanism to move said gluing pad from said receptacle into contact with said fabric and vice versa, and means to impart a rotary motion to said gluing pad when the same is being moved as aforesaid.
15. In a machine for attaching fabric to boxes, a fabric holder provided with a recess in one face thereof, an elastic folding pad fast to said holder and extending across sald recess, means to hold a piece of fubric against said folding pad, a receptacle for adhesive material, a gluing pad, mechanism to move said gluing pad from sald receptacle into contact with said fabric, and a reciprocatory holder for a box in allgnment with said fabric holder recess, whereby said fabric may be attached to said box and folded over the edges thereof.
16. In a machine for attaching fabric to boxes, a yieldingly supported fabric holder provided with a recess in one face thereof, an elastic folding pad fast to sald holder and extend ing across said recess, means to hold a piece of fabric against said tolding pad, and means to move said holding means to release sald fabric.
17. In a machine for attaching fabric to boxes, a yleldingly supported fabric holder provided with a recess in one face thereof, an elastic folding pad fast to said holder and extending across sald recess, means to hold a piece of fabric against sald folding pad, and means operated by the movement of said yieldingly supported holder to release said fabric
18. In a machine for attaching fabric to boxes, a fabric holder consisting of a plate provided with a recess in one face thereof, and an elastic pad extending across said recess and having its edges fast to sald plate outside and adjacent to said recess, said pad having a flange on its lower face.
19. In a machine for attaching fabric to boxes, a fabric holder consisting of a plate provided with a recess in one face thereof and a pad formed of elastic sheet material fast to said plate and extending across said recess.
20. In a machine for ataching fabric to boxes, a fabric holder consisting of a plate provided with a recess in one face thereof and a sheet rubber pad fast to said plate and extending across said recess.
21. In a machine for attaching fabric to boxes, a fabric holder consisting of a plate provided with a recess in one face thereof and a pad formed of elastic sheet material extending across said recess, said pad having a flange upon its lower face.

\section*{No. 100,935. Pneumatic Cushion for Vehioles.} Coussinet pneumatique pour rofhicules.


Juchereau de St. Denis Le Moine, Ottawa, Ontario, Canada, 11th September, 1906 ; 6 years. Filed 20 th January, 1906. Receipt No. 132,088.
Claim.-A pneumatic cushioning device comprising an inner member supported from the axle having two annular grooves on the periphery thereof, an outer member secured to the vehicle body having two similar annular grooves on the inside thereof and an annular pneumatic cushion extending between the two members and provided with outwardly extending ribs which engage the sald grooves, as and for the purpose specifled.

\section*{No. 100,936. Mannfacture of Glue. Fabrication de colle forte.}

Christian Wilhelm Luther, 27 Grosse Pernantche Strasse. Reval, Ehstland, Russia, 11th September, 1906; 6 years. Filed 6th October, 1905. Recelpt No. 129,003.
Claim.-Manufacture of a glue suitable for the glueing of hyroscopic porous organic materials in particular wood
consisting in the combination of an albumen soluble in water, a polyvalent base, preferably caustic lime and water, such glue being then stored for a length of time untll it attains a gelatinous condition while stopping short of the maximum consistency so as to obtain a glue the cementing property of which can be calculated and is dependent upon temperature degree of concentration and age, substantially as described.

No. 100,937. Governor. Gouverneur.


The Canadian General Electric Company, Limited. Toronto. Ontario, Canada, assignee of Charles H. Worsey. Lynn, Massachusetts, U.S.A., 11th September, 1906 ; 6 years. Filed 24th March, 1906. Receipt No. 134,225.
Claim.-1. In a governing mechanism, the combination of vaives controlling the passage of fluids, a cam for each valve, a toothed disc for moving the cams which is common thereto, a constantly vibrating lever, means for transmitting motion from the vibrating lever to the toothed disc, a device responsive to load conditions for controlling the action of said means, as specifled.
2. In a governing mechanism, the combination of a piurality of valves controlling the passage of fluid, a cam for opening and closing each of the valves, a toothed disc common to the cams and valves, a shaft common to the disc and cams, a lever fastened to the shaft for rocking it, dogs carried by the lever which are arranged to move the disc in one direction or the other in response to load changes, a lever loosely mounted on the shaft, a shield plate pivotally supported thereon, a speed responsive device, and a connection between the speed responsive device and the shield glate, as specified.
3. In a sDeed governing mechanism, the combination of a valve controlling the passage of fluid, a cam for opening and closing the valve, a toothed disc for operating the cam, a vibrating member, dogs carried thercon, a shield plate moving in response to load charges, and a second toothed disc which co-onerates with the shield plate to control the dogs, the teeth on the disc being of different pitch, as specihed.
4. In a governing mechanism, the combination of a valve for controlling the passage of fluid, a toothed disc for opening and closing the valve, a member which is constantly vibrating, dogs carried by said member and arranged to engage the teeth on the disc, a pivoted shield plate responsive to changes in load for controlling the action of the dogs on the toothed disc, a support therefor, and means movable with th.. disc for resetting the pivoted plate after movable with the valve is mod. as specifled.
5. In a governing mechanism, the combination of a valve for controlling the passage of flutd, a toothed disc for opening and closing the valve, a member which is constantly vibrating, oppositely acting dogs carried by the said mem-
ber, one being arranged to move the disc in one direction step-by-step and the other to move it in the opposite direction step-by-step, a device responsive to speed changes for controlling the action of both dogs, and a toothed means that engages with and restores both dogs to a normal position after the valve has been moved, as specified.
6. In a governing mechanism, the combination of a valve for controlling the passage of fluid, a toothed disc for opening and closing the valve, a vibrating member, oppositely acting dogs carried by said member, a shield plate controlling the action of the dogs which is adapted to be moved a predetermined number of degrees for a predetermIned change in speed, and a means provided with teeth that restores the shield plate to its normal position after the valve is moved, the teeth on said means being separated by a greater angular distance than the teeth on the disc to compensate for the movement of the shicld plate due to a change in speed, as specified.
7. In a governing mechanism, the combination of valves arranged to control the passage of fluid, a toothed means for opening and closing the valves successively, a vibrating member, oppositely actirts dogs carried by said member and arranged to engage the teeth of the said member and move it step-by-step, a pivotally supported shield plate for controlling the action of the dogs, a shaft governor, and a connection between the shaft governor and the shield plate which rocks the shield plate about its pivot, as specified.
8. In a governing mechanism, the combination of a plurality of valves for controlling the passage of motive fluid. an actuator for each valve, a shaft common to said actuators, the actuators being arranged to open and close the valves in predetermined order, a toothed means mounted on the shaft for moving it step-by-step in one direction or the other to meet the load conditions, a source of power, means for transmitting motion from said source to the toothed means, and a device responsive to changes in speed for controlling the action of the dogs, as specifled.
9. In a guverning machine, the combination of a plurality of valves controlling the passage of motive fluid, an actuator for each of the valves, a shaft common to the actuators, a toothed disc mounted rigidly on a shaft for moving all of the actuators, a vibrating lever ireely moving about the axis of the shaft, dogs carried by the lever which \(a r e\) arranged to engage the teeth on the disc and move it in one direction or the other as the load changes, a second lever also movable about the axis of the shaft, a shield plate carried by the second lever for controlling the action of the dogs in response to changes in speed, and a means for restoring the shield plate to its normal position after one or more of the valves have moved. as specified.
10. In a governing mechanism the combination of a valve controlling the passage of motive fluid, a vibrating member, means for connecting the vibrating member to the valve under the control of a speed governor, a shut-off valve. a means for releasing the shut-off valve which is moved by the vibrating member, and a speed responsive device, as specifled.
11. In a governing mechanism the combination of a plurality of admission valves, a means for operating each of the valves, a toothed dise common to said means, a vibrating member, dogs carried by the vibrating member adapted to engage with and actuate the disc, a shut-off valve, a device for actuating it, a means controlling said device which is actuated by the toothed disc and a speed responsive device which is common to the admission and the shut-off valves, as specified.
12. In a governing mechanism the combination of an admission valve, a toother disc for opening and closing the valve, a member which has a constant to-and-fro motion for moving the disc. a shield plate for controlling the action of said means on the valve, a speed responsive device for controlling the action of the shield plate, and a second toothed disc which is smaller in diameter than the first for restoring the shield plate to a neutral position after the valve has been moved in response to a change in speed, as specified.
13. 'In a governing mechanism the combination of a plurality of valves regulating the passage of fluid through a turbine, a device which has a constant to-and-fro movement, a toothed means acted upon by the said device which is common to and actuates the valve, and mechanism responding to load changes for connecting the device and the toothed means in a manner to actuate the latter step-by-step, as: specified.
14. In a governing mechanism the combination of a valve, a device which has a constant to-and-fro movement. dogs carried thereby, a toothed means for opening and closing the valve. a pivoted shield plate controlling the dogs, a speed responslve device, and a connection between the speed responsive device and the shield plate that positively tllts the plate on its pivot to permit the dogs to operate, as speclified.
\$0. 100,938. Governor for Turbines.
Gouicrneur de turbincs.


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of William L. R. Emmet, Schenectady, New York, U.S.A., 11th September, 1906 ; 6 years. Filed 22nd May, 1906. Recelpt No. 136,143.
Claim.-1. In a governing mechanism the combination of a valve, a crosshead which is constantly reciprocated in a given path for opening and closing the valve, a means movIng in a plane at an angle to the direction of motion of the crosshead for controlling the action thereof on the valve, and a device responsive to load changes for shifting sald means.
2. In a governing mechanism the combination of a valve, a crosshead which is reciprosated in a given path, a dog carrled by the crosshead for opening and closing the valve, a means moving in a plane at right angles to the direction of motion of the crosshead for moving the dog in a manner to cause it to operate the valve, and a load responsive device for shifting the said means, as and for the purpose specified.
3. In a governing mechanism the combnation of a valve, a means which is reciprocated in a given path, a double acting pivoted dog, carried by the means for operating the valve, a device for snapping the dog first into one of its positions and then the other, and a means responsive to load variations for controlling the action of the dog, as and for the purpose specified.
4. In a governing mechanism the combination of a valve, a means which is reciprocated in a given path, a doubleacting pivoted dog carried by the means for operating the valve, a spring working over a dead center for snapping the dog, first into one of its positions and then the other, and a speed responsive device for tilting the dog in one direction or the other as the load conditions change, as and for the purpose specified.
5. In a governing mechanism the combination of a valve, as actuator, a double ended pivoted dog carried by the actuator adapted to engage the valve stem and move it, a slide for causing one end or the other of the dog to engage the stem, and a speed responsive device for moving the sllde, as and for the purpose specified.
6. In a governing mechanism the combination of a valve having a stem, a crosshead through which the stem freely passes, a means for reciprocating the crossheads without moving the valve, a dog carried by the crosshead which is adapted to engage with and move the valve, and pins moving in response to speed changes for causing the dog to actuate the valve, as and for the purpose specifed.
7. In a governing mechanism the combination of a valve having a stem, a crosshead, a guide therefor, a rock shaft, a connection between the rock shaft and the crosshead for transmitting motion, a valve stem, and a means carried by the crosshead and acting in response to load changes for ofening and closing the valve, as and for the purpose specified.
8. In a governing mechanism the combination of a valve having a stem, a crosshead, a guide therefor, a means for transmitting motion from the crosshead to the valve, a slide uoving at an angle to the path of movement of the crossbead, a gulde therefor, a device carried by the slide for controlling the said means, and a speed responsive device connected to and moving the slide, as and for the purpose, specified.
9. In a governing mechanism the combination of a valve, means for opening and closing the valve, a device for controlling the action of the sald means in response to load
changes and a support for the said device which is normally In motion to prevent the friction of repose, as and for the purpose specified.
10. In a governing mechanism the combination of a valve, a means for opening and closing the valve, a device for controlling the action of the sald means in response to load changes. a guide for said devices having parallel surfaces and means for keeping the guide in action to prevent the friction of repose, as and for the purpose specified
11. In a governing mechanism the combination of a valve, a means for controlling the action of the said means in response to load changes, a pair of connected rock shafts which form a guide for the said device and a driving means for rocking the shafts, as and for the purpose specified.
12. In a governing mechanism the combination of a valve, a means for opening and closing it, a device governing the action of said means, a speed governor connected to the device and a means for taking up the play of the parts, as and for the purpose specifled.
13. In a governing mechanism the combination of a valve, means for opening and closing it, a device governing the action of said means, a speed governor connected to the device and a spring for taking up the play in the connection between the governor and said device, as and for the purpose specified.
14. In a governing mechanism the combination of a plurality of valves, a crosshead which is common thereto, means carried by the crosshead for actuating the valves, a slide arranged to move to and fro at right angles to the plane of movement of the crosshead in response to load changes and pins or projections on the slide for controlling the action of said means, as and for the purpose specified.
15. In a governing mechanism the combination of a plurality of valves, a crosshead which is common thereto, means carried by the crosshead for actuating the valves, a slide arranged to move to and fro at right angles to the plane of movement of the crosshead in response to load changes and pins or projections on the slide arranged in sets to cause the said means to open and close the valves successively, as and for the purpose specifled.
16. In a governing mechanism the combination of a plurality of valves, a crosshead, a rock shaft, cranks and rods driven by the shaft and connected to opposite ends of the crosshead for actuating the valves and a speed responsive device for controlling the action of the dogs, as and for the purpose specifled.
17. In a governing mechanism the combination of a plurality of valves, a crosshead, a rock shaft, cranks or rods driven by the shaft and connected to opposite ends of the crosshead for reciprocating it, dogs carried by the crosshead for actuating the valves. a slide arranged to move at right angles to the plane of movement of the crosshead, means on the slide for controlling the dogs and a speed res ponsive device connected to and moving the slide, as and for the purpose specified.
18. In a governing mechanism the combination of a valve, a two part stem therefor, a coupling between the parts of the stem, a reciprocating crosshead, a means carried by the crosshead which acts through one part of the stem to open and close the valve and a speed responsive device controling the action of said means, as and for the purpose specified.
19. In a governing mechanism the combination of a casing, a plurality of valves, a removable crosshead located in the casing, and dogs mounted on and removable with the crosshead for actuating the valves, as and for the purpose specined,
20. In a governing mechanism the combination of a casing, a plurality of valves, a double acting dog for actuating each of the valves, a spring for causing each dog to snap from one postion to another and a removable crosshead located in the casing to which the dogs and springs are attached and removable therewith.
21. In a governing mechanism the combination of a casing. a plurality of valves, actuators therefor, a crosshead for moving the actuators, a receptacle or tray in the crosshead for supplying lubricant to the actuators, as and for the purpose specfied.
22. In a governing mechanism the combination of a crosshead, a plurality of valves, actuators therefor carried by the crosshead, a sllde arranged to move to and fro, and a four point support for the slide, as and for the purpose specified.
23. In a governing mechanism the combination of weights moving in response to speed changes, an opposing spring, an exclosing barrel to which one end of the spring is attached. a shaft recessed to receive barrel, and means for confining the barrel in place, as and for the purpose specified.
24. In a governing mechanism the combination of weights moving in response to speed changes, knife edge pivots therefor, an opposing spring, an enclosing barrel for the spring and means for securing the barrel in place that also acts as a support for the pivots, as and for the purpose specifled.

No. 100,939. Governor for Turbines. Gouverneur de turbines.


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Oscar Junggren, Schenectady, New York, U.S.A., 11th September, 1906; 6 years. Filed 27th February, 1906. Receipt No. 133,366
Claim.-1. In a governing mechanism the combination of a valve which serves both as a regulating and a shut-off valve, a mechanism for moving the valve in a manner to regulate the passage of fluid, a device to load changes for controlling the action of sald mechanism , and means for suddealy actuating the valve under predetermined conditions, as specified.
2. In a governing mechanism the combination of a valve which serves both as a regulating and a shut-off valve, a source of relay power for moving the valve for regulating purposes, a speed responsive device controlling the action of said course on the valve, and a means for suddenly actuating the valve under predetermined conditions, as specified.
3. In a governing mechanism the combination of a valve, a motor for automatically adjusting it to vary the passage of fluid to the apparatus being governed, and a second motor which under predetermined conditions suddenly closes the valve, as specified.
4. In a governing mechanism the combination of a valve, a motor for automatically moving the valve in a manner to vary the passage of fluid to the apparatus under control, a lock for connecting the motor and valve, and a second motor which releases the lock and closes the valve under predetermined conditions, as specified.
5. In a governing mechanism the combination of a valve capable of assuming intermediate positions, a motor for actuating it that is also capable of assuming intermediate fositions, a source of power for the motor, a second motor for operating the valve under predetermined conditions which has two positions only corresponding to the open and closed positions of the valve, and means connecting the second motor and the valve in such manner that the motor moves a full stroke each time it is operated irrespective of the position of the valve, as specified.
6. In a governing mechanism the combination of a valve capable of assuming intermediate positions, a motor directly connected thereto for varying the passage of fluid, a second motor acting on the valve through a lost motion connection, and means responding to the speed changes for disconnecting the first motor from the valve and allowing the second motor to close it, as specified.
7. In a governing mechanism the combination of a valve, a motor for adjusting it to vary the passage of fluid to the apparatus being governed, a load responsive device for moving the valve in a step-by-step manner both in opening and closing, and a second motor acting independently of the first for suddenly closing the valve, as specified.
8. In a governing mechanism the combination of a valve, a motor for adjusting it to vary the passage of fluid to the apparatus being governed, a load responsive device for movtog the valve in a step-by-step manner both in opening and closing, a second motor acting independently of the first for suddenly closing the valve and a speed responsive devise which controls the second motor, as specifed.
9. In a governing mechanism the combination of a valve, 8 motor for adjusting the valve to vary the passage of fluid to the apparatus being governed, a speed responsive device for regulating the motor, a follow-up device to prevent over travel of the motor, a second motor acting independently of the first for suddenly closing the valve, and a means for disconnecting the first motor from the valve and permitting the second motor to act thereon, as specified.
10. In a governing mechanism the combination of a pivotally supported valve, a reciprocating motor, a means for transforming the rectilinear movement of the motor into an oscillating movement of the valve, a second motor for auddenly closing the valve irrespective of the position of the first motor and a speed responsive device for controlling the action of the second motor, as specified.
11. In a governing mechanism the combination of a valve. a fluid actuated motor capable of assuming intermediate positions for moving the valve, a pilot valve responding to load changes for controlling the motor and a weight for suddenly closing the valve in response to predetermined con, ditions, as specified.
12. In a governing mechanism the combination of a valve, a fluid actuated motor capable of assuming intermediate positions for moving the valve, a pilot valve responding to load changes for controlling the motor, a follow-up device for preventing over travel of the motor, a weight for suddenly closing the valve, and means responiding to abnormal conditions for releasing the weight and permitting it to fall and close the valve, as specified.
13. In a governing mechanism the combination of a valve, a motor, a source of relay power therefor, an actuator for the valve connected to and moved by the motor, a means normally connecting the actuator and the valve, a second motor acting independently of the first through a lost motion for closing the valve, the said motor being arranged to first preak the connection between the actuator and the valve, and a device for releasing the second motor and permitting it to break the connection and close the valve, as specified.
14. In a governing mechanism the combination of a valve, a spindle therefor, an actuator loosely mounted on the valve spindle, a device rigidly connected to the valve spinide. a lock carried by the device for rigidly connecting the actuator and the valve spindle, a motor for moving the actuator and through it the valve and a means for controlling the movement of the valve, as specified.
15. In a governing mechanism the combination of a valve, a spindle therefor, an actuator loosely mounted on the valve spindle, a device rigidly connected to the valve spindle, a lock carried by the device for rigidly connecting the actuator and the valve spindle, a motor for moving the actuator and through it the valve, a means for controlling the movement of the valve and a second motor which releases the lock and actuates the valve, as specified.
16. In a governing mechanism the combination of a valve, a motor, a locking device for connecting the movable element of the motor and the valve, a weight, a pivotally supported arm therefor, a latch for holding the arm in a raiged position, and a means for releasing the arm and permitting the weight to fall and release the lock and move the valve, as specified.
17. In a governing mechanism the combination of a valve. a motor capable of assuming intermediate positions for moving the valve, a follow-up device for preventing overtravel of the motor, a second motor having two positions, a latch for restraining the second motor, a speed responsive device for starting and stopping the first motor and asecond speed responsive device for tripping the latch and permitting the second motor to operate and disconnect the first motor from and shut the valve, as spectited.
18. In a governing mechanism the combination of a throttle valve supported by a spindle, a motor for moving the valve to and fro to throttle the admission of fluid to the apparatus being governed 28 the load changes, an actuator loosely mounted on the valve spindle, a clevis secured to the valve spindle, a lock carried by the clevis which normaliy connects the motor and the actuator, an arm loosely mounted on the spindle and acting to release the lock and close the valve by a hammer blow, a weight for moving the arm. and a speed responsive device for releasing the weight and permitting it to suddenly close the valve, as spectfed.
19. In a governing mechanism for turbines the combination of a throttle valve, a motor for automatically adjumting the position of the valve in response to changes in load, a second motor for closing the valve under abnormal conditions, and one or more valves for varying the number of fluid discharging devices in service, as specifted.
20. In a governing mechanism the combination of a throttle valve, a motor for shutting it suddenly in response th abnormal conditions, a fluid actuated motor for moving the valve to throttle the admission of fluid to the apparatus being governed, a pilot valve responding to speed changes for starting and stopping the motor, a crosshead connected
to the movable element of the motor. a speed responsive device, a lever connected to the said device and the pilot valve, and a lever and connecting rod between the firstmentioned lever and the crosshead for restoring the pilot valve to its neutral position when the movable element of the motor has moved an amount corresponding to the movement of the speed responsive device and stopping the motor, as specified.
21. In a governing mechanism the combination of a valve a motor for automatically moving it to and fro to regu'ate the admission of fluid to the apparatus being governed, a second motor for suddenly closing the valve, a device for restraining the second motor, and a manually actuated means for releasing the said device and permitting the second motor to operate, as specified.

\section*{No. 100,940. Governor for Turbines.}

Gouvernetur de turbines.


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Oscar Junggren, Schenectady. New York, U.S.A., 11th September. \(1906 ; 6\) years. Filed 15 th June, 1906. Receipt No. 136.920.
Claim.-1. A turbine through which the flow of motive fluid is from the high to the low pressure end, in combination with a valve for regulating the admission of motive fluid and a governor controlled member whose orbit varies with load changes and also moves the valve too and fro to regulate the passage of motive fluid, as and for the purpose specified.
2. An elastic fluld turbine comprising a casing and relatively rotatable elements in combination with a valve for regulating the passage of motive fluld through said elements, a speed responsive device, a member rotating with said device for moving the valve too and fro whose orbit varies in size with load changes to vary the travel of the valve, as and for the purpose specifled.
3. An elastic fluld turbine having wheel buckets and a fluid idmitting device in combination with a valve that regulates the passage of motive fluid to the device and is interposed between it and the source of supply, a speed governor, a member carried by and rotating with the governor whose orbit changes in size with the load and a connection that transmits the rotary motion of said member into too and fro movement of the valve, as and for the purpose specified.
4. An elastic fluid turbine having a wheel bucket and intermediate fluid admitting devices in combination with a valve having a constant too and fro movement varying in amplitude with the load, that is common to the devices to regulate the passage of motive fluid to the devices and is interposed between them and the source of fluid supply, a governor responding to changes in load on the turbine, a member carried by and rotating with the governor weight whose orbit enlarges and diminishes as the load changes and a connection for transmitting the rotary motion of said member into a too and fro motion of the valve and also changes the amplitude of its movement with changes in size of the orbit of the said member, as and for the purpose specified.
5. An elastic fluid turbine having wheel buckets and a fluid admitting device in combination with a valve for regulating the passage of fluid to the device that has a too and fro movement, a fiy wheel driven by the turbine, a weight pivotally mounted on the fly wheel, the wheel and weight changing their relative positions with changes in speed. a member mounted on and moving with the weight whose orbit enlarges and diminishes as the relative positions of the weight and fly wheel change, and a mechanical connection uniting the valve and said member so that the rotary movement of the latter is transformed into a too and fro movement of the valve whose amplitude of stroke varies with changes in the orbit of the said member, as and for the purpose specified.
6. A turbine through which the flow of elastic fluid is constantly from the high to low pressure end, comprising wheel buckets and fluid discharging devices in combination with a valve which moves too and fro to expose a port connected to one of said devices under load conditions and to expose another port under different load conditions, a governor carrying a member which rotates therewith and whose orbit varies with changes in load, and a connection between the member and the valve for moving the latter, as and for the purpose specified.
7. A turbine through which the flow of motive fluid is constantaly from the high to low pressure end, comprising wheel buckets and a fluid discharging device in combination with ports which admit fluid to the device, a valve that opens first one port and then another, a governor responsive to speed changes, a member carried by the governor which rolates therewith and has its orbit changed with changes in load and a connection uniting the said member and valve so that the latter will be moved too and fro to open and close the ports, the extent of said movement being determined by the variations in the size of the orbit of said member, as and for the purpose speclficd.
8. A turbine through which the flow of motive fluid is constantly from the high to the low pressure end, comprising wheel buckets and a fluid discharging device in combination with ports arranged in sets that admit motive fluid to the different devices, one set recelving fluld for light load conditions and another for heavier load conditions, a speed responsive device, a member moving with said device whose orbit varies with the load for moving the valve in a manner to cover and uncover one set of ports for light load conditions and cover and uncover all the ports for heavier load conditions, as and for the purose specifled.
9. A turbine through which the flow of motive fluid is constantly from the high to the low pressure end, comprising wheel buckets, devices discharging motive fluid against the buckets and passages conveying fluid to the devices in combination with a valve arranged to cover and uncover ports communicating with passages. a rotary means for imparting a too and fro movement to the valve. a weight for varying the orbit of said means in accordance "ith load changes and a spring opposing the movements of th? veight, as and for the purpose specified.
10. A turbine comprising wheel bickots, a casing therefor and fluid discharging devices in combination with a valve which is constantly moved too and fro with a given travel for a given load to admit motive fluid to one or more of said devices and is moved in a similar manner but with a greater travel for an increased load, a speed responsive device, a member mounted thereon and rotating therewith whose orbit changes with changes in speed and a mechanical connection for directly transforming and transmitting the orbltal movement of the said member into a too and fro movement of the valve, as and for the purpose specifled.
11. A turbine comprising wheel buckets, a casing therefor and fluid discharging devices, a plurality of ports connecting vith the devices. a valve arranged to move too and fro over the ports, the parts of the valve and the ports having a progressive overlap to successively cut the said devices into and out of service, a speed responsive device, a member carried thereby whose orbit changes in size with changes in load on the turbine and a mechanical connection secured to said member that vibrates the valve and changes its travel in accordance with changes in size of the orbit of said member, as and for the purpose specified.
12. In combination a turbine with a governing mechanism therefor comprising a speed responsive device, a member carried thereby whose orbit enlarges and diminishes with changes in load. a valve for controlling the admission of fluid to the turbine which is driectly vibrated by the said member, the extent of said vibrations varying with variations in size of the orbit of said member, and a reservoir interposed between the valve and the turbine to decrease the pulsatory effects of the motive fluid, as and for the purpose specified.
13. In combination a turbine with a governing mechanism therefor comprising a speed responsive device, a secondary shaft for the governor, gearing between the main and secondary shaft to reduce the speed of the latter, a member carried by the speed responsive device whose orblt enlarges with an increase in load and diminishes with a decrease in load, a controlling valve and a connection between the said member and the valve for moving the latter tuo and fro and changing its travel in accordance with changes in size of the orbit of said member, as and for the purpose specifled.
14. A turblne in combination with ports through which the motive fluid passes, independent fluid discharging devices communicating with the ports. a valve balanced as to fluid pressures having portions of varying widths arranged to cover and uncover the ports to successively cut the discharging devices into and out of service and a governor controlled member whose orbit changes in size with load
changes for moving the valve too and fro and also change the extent of its travel, as and for the purpose specifled.
15. A turbine in combination with means for regulating the passage of motive fluld therethrough, a governor acting by centrifugal force and inertia, a member rotating with the governor whose orbit changes in size with the changes in load and a device connecting the said means and the member for transforming the rotary movement of the latter into the too and fro movement of the former.

No. 100,941. Bmergency Governor. Gouverncur.


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Frederick Samuelson, 11th Septem: ber, 1906 ; 6 years. Filed 29th June, 1906. Receipt No. 137,390.
Claim.-1. In an emergency governor of the character described the combination of a rotating shaft, a single centrifugally acting weight positively driven by the shaft and arranged to move bodily, and a regulating mechanism operated by said weight, as and for the purpose specified.
2. In an emergency governor of the character described the combination of a rotating shaft, a centrifugally acting welght which surrounds the shaft and is positively driven thereby, means for opposing the action of the weight, and a mechanIsm normally out of engagement with the weight and operated by it for shutting off the supply power to or from the machine, as and for the purpose specified.
3. In a governor the combination of a rotating shaft, a centrlifugally acting weight, means carried by the shaft on which the weight is slidably mounted to move in a plane transverse to the axis of rotation, means for opposing the action of the weight, and a mechanlsm operated by the weight, as and for the purpose specified.
4. In a governor the combination of a rotating shaft, a centrifugally acting weight which surrounds the shaft, means for supporting the weight on the shaft and permitting it to move in a direction at right angles to he latter, means for orposing the action of the weight, and a mechanism operated by the weight, as and for the purpose specifled.
5. In a governor the combination of a rotating shaft, a centrifugally acting weight which surrounds the shaft, radially extending supporting means on the shaft for the element and on which the latter is free to move, means for opposing the action of the welght, and a mechanism operated by the weight, as and for the purpose specified.
6. In a governor the combination of a rotating shaft, an annular centrifugally acting member surrounding the shaft, radially extending and diametrically opposite projections on the shaft which support the said member, means for op: posing the action of the member, and a regulating mechanism operated by the member, as and for the purpose speciried.
7. In a governor the combination of a rotating shaft, a centrifugally acting member on the shaft, diametrically disposed projections on the shaft for supporting the member, means arranged on one of the projections and disposed within the periphery of the member for opposing the centrifugal action of the latter, and means actuated by the sald member, as and for the purpose specified.
8. In a governor the combination of a rotating shaft, an unequally weighted ring, projections on the shaft which movably support the ring, an abutment arranged on one of the projections which is disposed within the periphery of the ring, a spring on the said projection between the abutment and the ring which opposes the centrifugal action of the latter, and a means adapted to be actuated by the ring which engages the periphery thereof, as and for the purpose specified.
9. In an governing mechanism of the character described the combination of a shaft, a radially moving weight driven
by the shaft, a guide which directs the radial movement of the weight, a means opposing the movements of the weight, and a controller actuated by the weight, as and for the purpose specified.

No. 100,942. Ribbon Device for Typewriters. Appareil de ruban pour clavigraphes.


The Underwood Typewriter Company, New York City, New York, assignee of Carl August Joeressen, Washington, Distriot of Columbia, both in U.S.A., 11th September, 1906; 6 years. Filed 2nd May, 1906. Recelpt No. 135.472.
Claim.-1. In a sight typewriting machine, a ribbon guide, means to interpose the ribbon between the type and the platen, actuating means for the interposing means, sald actuating means being movable to engage the interposing means at different points to vary the throw thereof and means independent of the operation of the machine, determining the position of the actuating means, and causing the ribbon to be moved to a different printing position relatively to the platen.
2. The combination with a ribbon vibrating lever having upon its opposite sides studs at unequal distances from the fulcrum of the lever, of an actuator mounted on a pivot and having slots to engage sald studs, and shiftable upon said pivot to bring either stud into use at will.
3. In combination with a ribbon guide, a suitably fulcrumed lever having connection with said ribbon guide, an arm engaging said lever to oscillate it, and a reciprocating part of the machine carrying said arm, said lever having pins at different distances from its fulcrum and said arm being movably transversely to the plane of the lever's movement and having slots through which it is engaged with the respective pins at will.
4. In a sight writing typewriter having a platen shifting to bring it into printing relation with upper case characters and having a ribbon interposing means which shifts with the platen to maintain its relation and normal operation during upper case printing, means actuating the ribbon interposing means, and means changing the throw imparted by such actuating means independently of other functions of the machine and without changing the normal position to which the ribbon is returned and maintaining the same control of said actuating means over the ribbon interposing means for both positions of the platen.
5. In a sight writing typewriter having a shifting platen and a ribbon interposing means shifting with the platen, and actuating means having a plurality of engagements with the interposing means adapted to be brought into effect at will and each permitting movement of the interposing means relatively to the actuating means during the platen shift.
6. In a sight writing typewriter the combination of a platen shifting from its normal position to receive characters on a different portion of the type bar, a ribbon interposing means movable to and from the printing point and shifting with the platen in order to maintain its normal relation thereto and comprising a suitably fulcrumed lever and an actuating arm movable into engagement with the lever at different distances from its fulcrum whereby it changes the throw imparted to the lever, but permitting independent movement of the lever during the platen shift.
7. In a sight writing typewriter the combination of a shifting platen, a ribbon interposing means shifting with the platen and maintaining its normal relation thereto at different positions of the platen, and comprising a lever through which varying throws may be imparted to the ribbon and an arm through which movement is imparted to the Interposing lever, adapted to engage either of the pins on the lever at will, such engagement being through the medium of a slot extending in the direction in which the lever moves in the shifting of the platen, so as to maintain the throw
varying relation of the parts during either position of the platen.
8. In a sight writing typewriter the combination of a ribbon guide, a pivoted lever by which the ribbon gutde is moved, a means for imparting movement to said lever having a changeable point of connection therewith, and means for changing said point of connection consisting of a longitudinally movable rod engageing the lever moving means.
9. In a sight writing typewriter the combination of a ribbon guide, means through which the ribbon guide is moved, an arm actuating said means carried by a part having in the operation of the machine a tall plece or extension on said arm, and a longitudinally movable rod engaging said extension.
10. In a sight writing typewriter the combination of a ribbon guide, a means for imparting a throw thereto to bring the ribbon over the prfiting point, a means for varying said throw to change the portion of the ribbon brought over the printing point, means for shifting the direction of the ribbon feed, and a connection between the ribbon feed shifting means and the throw varying means whereby one of said parts may be set through the other.
11. In a sight writing typewriter the combination of a ribbon guide, an arm having connection with the ribbon gu!de for moving it mounted on a moving part of the machine and having a movable bearing thereon whereby the amplitude of the movement imparted to the ribbon guide is changed, a ribbon shifting means by which the feed of the ribbon is changed and a connection between the ribbon shifting means and sald arm, whereby the throw of the ribbon is changed through the act of shifting the ribbon feed.
12. In a sight writing typewriter the combination of a ribbon guide, a means for imparting a throw thereto to bring the ribbon over the printing point. a means for varying said throw to change the portion of the ribbon brought over the printing point, means for shifting the direction of the ribbon feed and releasable connection between the ribbon feed, shifting means and the throw varying means, whereby one of said parts may be set through the other.
13. In a sight writing typewriter the combination of a ribbon guide, a pivotally mounted arm having connection with the ribbon guide for imparting a throw thereto and movable on its pivot to vary said connection and amplify or diminish the throw of the ribbon, a longitudinally movable rod engaging said arm. a ribbon feed shifting means and an arm extending from the ribbon feed shifting means and engaging the longitudinally movable rod. for the purposes set forth.
14. In a sight writing typewriter the combination of a ribbon guide, a means imparting a throw to said ribbon guide shiftable 10 vary its connection therewith and to amp ify or diminish the throw thereof, a longitudinally movable rod having a flange by which it engages said means to shift it and a ribbon feed changing mechanism having an arm extunding therefrom into engagement with said flange whereby the rod is moved simultaneously with the shifting of the ribbon feed.
15. In a sight writing typewriter the combination of a rlbbon guide, a pivotally mounted arm having connection with the ribbon guide for imparting a throw thereto and movable on its pivot to vary said connection and amplify or diminish the throw of the ribbon, a longitudinally movable rod engaging said arm, a ribbon feed shifting means and an arm extending from the ribbon feed shifting means and engaging the longitudinally movable rod for the purposes set forth. said rod being rotatable and disengaging its connection with the ribbon feed shifting means by said rotation.
16. In a sight writing typewriter the combination of a ribbon guide, a means imparting a throw to said rlbbon guide shiftable to vary its connection therewith and to amplify or diminish the throw thereof, a longitudinally movable rod having a flange by which it engages said means to shift it, and a ribbon feed changing mechanism having an arm extending therefrom into engagement with said flange whereby the rod is moved simultaneously with the shifting of the ribbon ferd. sald flange having recess therein adapted to be brought into registry with the arm of the ribbon feed changing mechanism to render said arm ineffective as to the longitudinally shiftable rod.
17. In a typewriting machine the combination of key levers, a ribbon vibrator, means operable by the key levers and normally connected with said vibrator for operating it, and means also operable by the key levers but normally disconnected from said vibrator. said last-mentioned means being also adapted to operate the vibrator when connected therewith.
18. In a typewriting machine the combination of key levars, a ribbon vibrator, actuating means operable by the key levers and normally in operative engagement with said vibrator, other actuating meatus also operable by the key
levers and normally out of engagement with said vibrator and switch mechanism for connecting the last-mentioned means with the ribbon vibrator and for disconnecting the first-mentioned means therefrom.
19. In a typewriting machine the combination of a ribbon vibrator. printing keys, means operable thereby to throw said vibrator a given distance from a normal position, and other means also operable by the printing keys and adapted to be connected to said vibrator for throwing it a different dislance from sald position.
20. In a typewriting machine the combination of a ribbon vibrator, a lever having a fixed fulcrum for actuating the same, a vibrating means operative upon sald lever at a predetermined distance from its fixed fulcrum, a second vibrative means operative upon said lever at a different predetermined distance from its fixed fulcrum, and means for shifting said operative means alternately to and out of engagement with said lever.
21. In a visible writing machine the combination of a ribbon, a ribbon winding mechanism, means for reversing th, ribbon winding mechanism, means for holding the rlbbov normally from the printing point, means for moving the ribbon automatically to cover the printing point, and means for altering the extent of said automatic movement. said last-named means being operated by the ribbon reversing means.
22. In a visible writing machine the combination of a pair of ribbon spools arranged one at either side of the printing point, winding means for said spools, means for reversing sald winding means, a ribbon carrier arranged between the spools and normally away from the printing point, means for throwing the carrier upward, one or another of a plurality of predetermined distances to cover the printing point during printing operation, and means for changing automatically from one to another of sald predetermined distances the throw of said carrier.
23. In a visible writing machine the combination of a series of printing keys, a ribbon, a ribbon winding mechanism, means for reversing said ribbon winding mechanism, means operated by the printing keys for moving the ribbon to and from the printing point, and means operatively controlled by said reversing means for altering the to and fro movement of the ribbon.
24. In a visible writing machine the combination of a ribbon carrier, means for moving sald carrier to and from the printing point, a ribbon winding mechanism, means for reversing said ribbon winding mechanism and a switching member operable by sald reversing means to alter the movement of said carrier moving means.
25. In a visible writing machine the combination of a rib bon carrier, a lever adapted to move said carrier to and fro.n the printing point, ribbon winding mechanism. means for reversing said ribbon winding mechanism, and means for simultaneously altering the throw of said lever only when said reversing means is operated.
26. In a visible writing machine the combination of a ribbon, a ribbon winding mechanism, means for reversing the ribbon winding mechanism, means for holding the \(r\),woon normally away from the printing point. means for moving the ribbon automatically to cover the printing point, means cperated by the ribbon reversing means for altering the extent of said automatic movement, and means for rondering said altering means inoperative.
27. In a visible writing machine the combination of a series of printing keys, a universal bar operated by sald printing keys, a ribbon, a ribbon winding mechanism, means for reversing said ribbon winding mechanism, means actuated by said universal bar for moving the ribbon to and from the printing point, means connected with said ribbon winding mechanlsm, and with said reversing means and operable by the latter for altering said to and fro movement of the ribbon, and means for rendering said altering means inoperative.
28. In a typewriting machine the combination of a ribbon vibrator, a single lever for operating said vibrator, a single means operative upon said lever at ode or another of a plurality of predetermined distances from its fulcrum, means for automatically causing said single means to operate on said lever at one or another of said predetermined distances. and means for rendering said automatic means inoperative.
29. In a typewriting machine the combination of printing instrumentalities, a ribbon, means for feeding said ribbon longitudinally a ribbon vibrator, means for throwing said vibrator one or another of a plurality of predetermined distances so as to cause the types to follow one or another of a number of predetermined parallel paths longitudinally of said ribbon, means for automatically changing the throw of said vibrator directly from one to another of said predetermined distances, and means for rendering sald automatic mrans inoperative.

\section*{No. 100,943. Core Drill. forêt d noyau.}


The Keystone Driller Company, Beaver Falls, assignee of John Morris Smith. Reynoldsville, and R. M. Downie and F. W. Ranson. of Beaver Falls, all in Pennsylvania U.S.A., 11th September, \(1906 ; 6\) years. Filed 20th August, 1906. Receipt No. 138,871.
Claim.-1. The combination with a tubular reciprocatory drill stem having a percussion cutter at its lower end, of a tubular core holder located within the stem and having a free longitudinal movement in the same, the lower portion of said tubular core holder being movable freely through the percussion cutter, and a spring engaging the holder and urging the same through said percussion cutter.
2. The combination with a tubular reciprocatory drill stem having a completely closed upper end and an open lower end, of a percussion cutter head surrounding said lower end, a tubular core holder located within the stem and having a free longitudinal movement therein, and a spring engaging the holder and urging the same through the said cutter head.
3. The combination with an imperforate stem tube, of an attaching head completely closing the upper end thereof, a percussion drill head sleeve secured to the lower end of the tube a freely movable core barrel longitudinally slidable in the stem tube and movable through the sleeve, and a colled spring interposed between and bearing against the attaching head and barrel to urge the latter outwardly through the drill head sleeve.
4. The combination with a tubular drill stem, of a longitudinally movable swivel therein, said swivel comprising relatively rotatable members, a core holder carried by one member, and a spring associated with the other member to urge the holder over a core.
5. The combination with a tubular drill stem, of a longitudinally movable core barrel located therein, and a spring having a swivelled bearing upon the core barrel.
6. The combination with a tubular drill stem, of a longi tudinally movable swivel therein comprising relatively rotatable upper and lower members, a tubular core barrel de pending from the lower member, and a coiled spring extending above the swivel and bearing downwardly thereupon.
7. The combination with a tubular drill stem, of a longitudinally movable core barrel located thereln, a cap. carried by the upper end of the barrel and constituting a swivel member, another member including a spindle journalled in the cap, and a coiled spring bearing upon said other member.
8. The combination with a tubular drill stem, of a core holder movable therein, a weight having a swivel connection with the core holder, and a spring associated with the welght.
9. The combination with a tubular reciprocatory drill stem carrying a percussion cutter at its lower end, of a core barrel longitudinally slidable in the stem, a weight having a swivel connection with the upper end of the barrel. and a spring surrounding the weight and bearing against the swivel connection.
10. The combination with a drill stem, of a core barrel longitudinally movable therein and having a can at its upper end, a weight located above the barrel and having a stem journalled in the cap, and a spring coiled about the weight and urging the core barrel downwardly.
11. The combination with a tubular drill stem, of an attaching head secured to the upper end thereof and closing the same, a percussion drill head secured to the lower end of the stem and having an opening therethrough, a tubular core barrel slidably mounted in the stem and movable through the opening. a cap secured to the upper end of the barrel, a weight swivelled on the cap and located between the barrel and attaching head, said weight being adapted to engage with said attaching head, and a spring surrounding the weight and bearing against the attaching head, said spring urging the core barrel downwardly.
12. The combination with a stem, of a core holder movably associated therewith, means for effecting the downward movement of the holder, said means having a swivel connection with the holder, and anti-friction rollers located contiguous to said swivel connection.
13. The combination with a tubular stem, of a core holder longitudinally movable therein, a weight for moving the holder downwardly in the stem, said weight having a swivel conection with the holder and anti-friction rollers carried by said swivel connection.
14. The combination with a stem, of a core nolder movably assoclated therewith, a welght having a swivel connection with the upper end of the core holder, a carrier mounted on the swivel connection and rollers journalled on the carrier and operating against the stem.
15. The combination with a stem, of a core holder movably associated therewith, a weight having a swivel connection with the upper end of the core holder, a carrier mounted on the swivel connection, rollers journalled on the carrier and operating against the stem and a ball bearing interposed between the carrier and holder.
16. The combination with a tubular drill stem, of an at taching head secured to the upper end thereof, a percussion cutter head sleeve secured to the lower end of the stem, a tubular core barrel slidably mounted in the stem and arlanged to move through the cutter head. a cap carried by the upper end of the barrel, a weight located within the barrel and having a spindle journalled in the cap, a carriage collar mounted on the spindle and having recessed seats, rollers journalled in the seats and bearing against the drill stem and a spring surrounding the weight and bearing against the carrier collar.
17. The combination with a drill stem and core holder, of a cutter carried by the lower end of the stem and including a series of rollers having sharpened peripheral edges.
18. The combination with a drill stem and a core holder, of a sleeve carried by the lower and of the stem and having a series of slots, cutting rollers located in the slots, journal means for said rollers mounted on the sleeve and a keeper secured to the sleeve and having ears that extend between the rollers and over the journal means.
19. The combination with a drill stem and a core holder of a sleeve carried by the lower end of the stem and having a series of slots, cutting rollers located in the slots, a ring axle for said rollers located at the end of the sleeve and a keeper secured to the sleeve and having ears that extend between the rollers and over the axle to retain the latter in place.
20. The combination with a drill stem and core holder, of a cutter comprising a sleeve secured to the lower end of the stem, said sleeve having an annular seat and slots intersectIng the same, rollers located in the slots, a ring axle for the rollers located in the seat and a keeper extending over the axle.
21. The combination with a tubular stem, of a core barrel longitudinally movable therein, means detachably associated with the core barrel for effecting the feeding movement thereof over a core and a device for holding the moving means against rotation during the detachment of the barrel therefrom, said device being carried by the stem and said means being movable into and out of engagement therewith.
22. The combination with a tubular stem, of a cutter head carried by the lower end thereof, a lug disposed inside the stem adjacent to the cutter head, a core barrel slidably mounted within the stem, a cap screwed upon the upper end of said barrel, said cap having a socket that receives the lug. and means for urging the barnel outwardly to bring the seat of the cap to a position to receive the lug.

\section*{No. 100,944. Machine for Forming Metallic Stays for Garments.}

Machine pour faire des renforts métalliques pour rêtements.
The Spirella Company, assignee of Francis William Mal:et, both of Meadowville, Pennsylvania, U.S.A., 11th September, 1906 ; 6 years. Filed 20th June, 1906. Receipt No. 137,075.
Claim.-1. In combination with the alterately oscillating wire carrying bars, vertical shafts at opposite sides of said bars and adjustable in their distances from the same, wire bending fingers attached to said shafts and mechanisms 1 m parting alternate oscillatory motion to the shafts, as set forth.
2. In combination with the alternately oscillating wiro carrying bars, pivotally supported eccentrics at opposite sides of said bars, means for locking said eccentrics adjustably in position, shafts pivoted in the eccentrics, wire bending fingers attached to said shafts and mechanism imparting alternate oscillatory motion to the shafts, as set forth.
3. In combination with the pivotally supported wire carrying bars, wire bending fingers disposed at opposite sides of
sald bars, and means imparting alternate oscillatory motion to sald fingers, a rotary horizontal shaft disposed at right

angles to the wire carrying bars, grooved cams attached to said shafts and reversed in their contours, arms pivoted to the said bars and engaging said cams to impart alternate oscillating motion to said bars, as set forth.
4. In combination with the alternately osclllating wire carrying bars, vertical shafts at opposite sides of said bars, wire bending fingers attached to said shafts, a rotary horizontal shaft disposed at right angles to the aforesaid bars, reversely disposed grooved cams attached to said horizontal shafts, arms attached to the vertical shafts and rods connected to said arms and receiving reciprocating motion from the grooved cams, as set forth.
5. In combination with the pivotally supported wire carrying bars, vertical shafts at opposite sides of said bars, wire bending fingers attached to said shafts, a rotary horizontal shaft disposed at right angles to the wire carrying bars, two sets of grooved cams attached to sald horizontal shafts, the contours of the cams of each set being reverse to each other, arms connected to the wire carrying bars and receiving reciprocating motion from one set of sald cams, arms attached to the vertical shafts, and rods connected to said arms and receiving reciprocating motion from the other set of dams, as set forth and shown.
6. In combination with the alternately oscillating wire carrying bars, vertical shafts at opposite sides of sald bars and provided with laterally projecting arms and wire bending fingers attached to said shafts, a rotary horizontal shaft disposed at right angles to the aforesaid bars, grooved cams of reversed contours attached to said horizontal shafts and rods transmitting motion from said cams to the arms of the vertical shafts, and each of said rods composed of two end sections provided with sockets and intermediate sections having right and left threaded ends screwed adjustably into the aforesaid sockets to adjust the length of the rod, as set forth.
7. The combination with the wire carrying bars and alternately oscillating wire bending fingers, of a wire guide leading to said bars and pivoted to swing laterally within limits of the sweeps of said fingers, as set forth.
8. In combination with the wire carrying bars and alternately oscillating wire bending fingers, a wire guide leading to said bars and supported yicldingly to the thrust of the wire, tonsioning plates disposed at opposite sides of the path of the wire to said guide, and means for adjustably wressing sald plates into contact with the wire, as set forth.
9. The combination with the wire carrying bars and wire bending fingers, of an anvil located beyond said bars and in line therewith to recelve the bent wirc. a hammer over sald anvil, and mechanisms actuating said hammer to successlvely strike the said bent wire in transit on the anvil.
10. The combination with the wire carrying bars and wire bending fingers, of an anvil located beyond said bars and in range therewith to receive the bent wire, a guide leading said wire to the anvil, a hammer over said anvil, and mechanisms actuating said hammer to successively strike the wire in transit on the anvil.
11. The combination with the wire carrying bars and wire bending fingers of an anvil located beyond said bars and provided with a longitudinal wire receiving groove in its top and with a depression in said groove, a hammer over said depression and mechanismz actuating said hammer to successively strike the wire in transit, as set forth.
12. The combination with the wire carrying bars and wire bending fingers of an anvil located beyond said bars and provided with a longitudinal groove in its top, push bars corcing the bent wire into said groove, mechanisms actuating sald push bars, a hammer over the groove of the anvil and mechanisms actuating said hammer.
13. The combination with the wire carrying bars and wire bending fingers of an anvil located beyond said bars and provided with a longitudinal groove in its top, a block formed with a guide groove leading the bent wire to the groove of the anvil, levers pivoted to said block, wire pushing dogs pivoted to said levers and riding in the guide groove of the block, springs depressing said dogs, mechanisms imparting osciliatory motion to said levers, a hammer over the groove of the anvil and mechanisms actuating said hammer.
14. The combination with the wire carrying bars and wire bending fingers of an anvil located beyond the said bars and in range therewith, a hammer over said anvil, a spring depressing the hammer and a rotary cam lifting the hammer, as set forth.
15. The combination with the wire carrying bars and wire bending fingers, of an anvil located beyond said bars and in range therewith, a hammer over the anvil and pivoted beyond the same, a post between the anvil and the pivot of the hammer and provided with a vertical guide slot receiving the hammer through it, a horizontal shaft extending through said slot under the hammer and journalled in the post, a hammer lifting cam wheel attached to said shaft within the slot of the post. a spring supported in the post and bearing on the top of the hammer, a screw connected to the post and depressing on the top of the spring, and mechanisms transmitting rotary motion to the aforesaid shafts, as set forth.
16. The combination with the pivoted wire carrying bars and wire bending fingers of an anvil located beyond said bars and in range therewith, a hammer over said anvil and attached to successively strike the bent wire in transit, a block interposed between the anvil and aforesaid bars provided with a guide groove leading to the anvil, wire pushing levers pivoted to the interposed block, a rotary horizontal shaft disposed at right angles to the wire carrying bars. cams of reverse contours mounted on said shafts and imparting oscillatory motion to said bars and to the wire pushing levers.
17. The combination with the pivoted wire carrying bars and wire bending fingers, of an anvil located beyond said bars and in range therewith, a hammer over said anvil and pivoted beyond the same, a post between the anvil and the pivot of the hammer and provided with a vertical guide slot receiving hammer through it, a horizontal shaft extending through the sald slot and journalled in the post, a hammer lifting cam wheel attached to said shaft, a block interposed between the anvil and the wire carrying bars and provided with a guide groove leading to the anvil, wire pushing levers pivoted to the interposed block, a rotary horizontal shaft disposed at right angles to the wire carrying bars, cams of reverse contour mounted on said shaft and imparting oscillatory motion to said bars and to the wire pushing levers, and a train of gears transmitting motion from said shaft to the shaft of the hammer lifting cam wheel, as set forth and shown.
18. In combination with the wire carrying bars, wire bending fingers, wire band straightening hammer, the driving shaft, mechanisms transmitting motion from sald shaft to the aforesald parts, a reel mounted on mandrels, a wheol fastened to one of said mandrels, and provided with means for imparting rotary motion to the reel, a ratchet wheel mounted loosely on said mandrel, a friction disc interposed between said wheels and a lever actuated by the oscillations of the hammer and imparting rotary motion to the aforesaid to the path transversed by said fingers.
19. In combination with the alternately oscillating wirs carrying bars provided with upwardly projecting pins on their front end, the wire bending fingers movable across the ends of said bars and provided with wire engaging notches lower than the top of the bar in ralsed position to bend the wire partly down on the top edge if the bar, as and for the purpose set forth
20. In combination with the wire carrying bars and oscil!. atory wire bending fingers, a laterally yielding wire feed
gulde leading the wire to the path traversed by the aforesaid fingers.
21. In combination with the wire carrying bars and oscillatory wire bending fingers, a laterally ylelding wire feed gulde supported adjustably in elevation and leading the wire to the path transversed by said flugers.
22. In combination with the wire carrying bars and oscillatory wire bending fingers, a post supported adjustably in elevation and a wire feed guide pivotally supported on said post.
23. In combination with the wire carrying bars and wire bending fingers, a post supported adjustably in elevation, a wire feeding guide pivotally supported on said post, a sleeve embracing the post and provided with a screwthreaded perforation in its side, an arm screwed into said perforation and engaging the post, a post secured to the free end of the arm and wire tensioning plates attached to the latter post, as set forth.
24. In comblnation with the reel, a roller parallel with the said reel and provided with right and left grooves in its periphery, a ring surrounding sald roller and movable toward and from the same, tongues in opposite side of the interior of the ring and inclined corresponding to the aforesaid grooved, means for shifting the ring toward and from the roller at opposite end thereof, a guide on the aforesaid ring carrying the wire band toward the reel, and means for transmitting motion to the aforesaid roller.
25. In combination with the reel, a roller parallel with said reel and provided with right and left grooves in its periphery, a ring surrounding said roller and movable toward and from the same, tongues in opposite sides of the interior of said ring and inclined corresponding to the aforesaid grooves, a lug in each of the grooves and disposed a! opposite ends of the roller to throw the ring alternately toward and from the roller, a track parallel with the roller, a stem extending from the ring and disposed to engage the: track alternately at opposite sides, a gulde on the ring carrying the wire band toward the reel, and means for transmitting motion from the reel to the roller, as set. forth.

No. 100,945. Governor for Pumping Engines. Gouverneur pour machines d'épuisement.


Charles Palmer McMullen and William Elmel Nye, both of Wareham, Massachusetts, assignee of Charles Palmer McMullen, Brooklyn, New York, all in the U.S.As, 11th September, 1906; 6 years. Filed 4th April, 1906. Receipts No. 133,682 and 134,614.
Note-This patent is a re-issue of No. 97,032 , bearing date the sixteenth day of January, 1906.

Claim.-1. A governor for pumping engings comprising a cylinder, a trap connected with one end thereof and in operative connection with the water pipe leading from the pump, and means for connecting sald piston with the throttle valve of the engine, said piston being operated in one direction by the water in said pipe, and means for operating said piston if. the opposite direction and for holding the throttle valve normally open, substantially as shown and described.
2. A governor for pumping engines comprising a cylinder, a trap connected with one end thereof and with the water fipe leading from the pumping engine, a piston mounted Within said cylinder and operated in one direction by the water in the pipe leading from the pump, means for connecting said piston with the throttle valve of the pumping engine, devices for moving said piston in the opposite direction and to normally hold the throttle valve open, and means for supplying oll to said trap. substantially as shown and described.

No. 100,946. Apparatus for Purifying Liquids. Appareil pour purifter les liquides.


Emile Gobll, Paris, France, 11th September, 1906; 6 years. Filed 16th January, 1906. Recelpt No. 131,926.
Claim.-Ce que je revendique comme mon invention et desire prot ger par la présente demande de brevet, c'est, un appareil d'epuration de tous liquides ou fluides, caractérisé par des éléments epurateurs constitués par des coquilles, disques, rondelles ou autres, empiles et serres l'un contre i'autre, de facon que le liquide ou le fluide traité s'épure par son passage entre eux, soit de l'exterieur a l'interieur, soit, au contraire, de l'interieur a l'exterieur, ces elements laissant, en outre, repasser le llquide ou le fluide epure en sens inverse pour le nettoyage de l'apparell, après qu'ils ont éte desserrés, ou en les faisant écarter automatiquement, apres desserrage au moyen de ressorts interposes entre eux, les piles d'éléments assemblés sur tubes, tiges ou fonds perfores étant placées dans des réservoirs munis de dispositifs variables suivant leur destination et avec lesquels fls sont combines.

No. 100,947. Feed Mechanism for Magasinen, Etc. Appareil d'alimentation pour magasins.

D. P. Montagne and Charles Owens, assignees of Alexander Lyle, all of Chattanooga, Tennessee, U.S.A., 11th September, 1906 ; 6 years. Flled 13th July, 1906. Receipt No. 137,786.
Claim.-1. In an apparatus of the class described, means for holding the magazines or other articles set up on edge and means for engaging the two opposite lateral edges of the said magazines or other articles and feeding the same from the holding means, substantially as described.
2. In combination in a machine of the class described, means for holding the magazines or other articles set up on

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edge and means for entering between the leaves at the opposite side edges of the said magazine or other article to remove it from the holding means, substantially as described.
3. In combination a holder for the magazines or other articles to hold them set up on edge, and feed means for the said articles comprising feed fingers, rotary carrying means therefor and means for automatically advancing and retracting the said feed fingers in relation to the carrying means, and substantially transverse to the paths travelled by them, substantially as described.
4. In combination a holder for the magazines or other articles and feed means for the said articles consisting of carrying means, feed fingers carried thereby and means for advancing the feed fingers substantlally at right angles to the paths they travel to enter between the folds or leaves of the article and from opposite ends thercol when the said feed fingers arrive at a certain point in relation to the said article. substantially as described.
5. In combination holding means, carrying means having turning movement and feed fingers carried thereby and having advancing and retracting movement in relation to the said carrying means to grasp the articles to be fed, substantially as described.
' oombination in apparatus of the class described, a holder for the articles to be fed, carrying means having: turning movement and provided with guide flanges for the articles, feed fingers on the said carrying means having movement in a direction transversely of the flanges to engage the articles at opposite ends, substantially as described.
7. In combination in apparatus of the class described, means for holding the articles set up on edge, carrying means. and feed fingers carried thereby to engage the articles, said feed fingers having advancing and retracting movement in relation to the carrying means to engage the articles, substantially as described.
8. In combination in an apparatus of the class described, means for holding the articles set up on edge, feed fingers to engage the said articles and carrying means for the said feed fingers having turning movement and on which the sald feed fingers have movement, substantially as described.
9. In combination in apparatus of the class described, means for holding the articles set up on edge, feed fingers, turning carrying means for the sald feed fingers adapted to lift the articles from the holding means, said feed fingers having movement in relation to the said carrying means. substantially as described.
10. In comblnation in apparatus of the class described, means for holding the articles set up on edge, feed fingers, carrying means therefor rotating in one direction and means comprising a cam for controlling the position of the feed ficgers on the said carrying means, substantially as described.
11. In combination in apparatus of the class described means for holding the articles, feed fingers, carriers rotating constantly in one direction on which the said feed fingers are supported and means for advancing and retracting the feed fingers, substantially as described.
12. In combination holding means for the articles, feed fingers, carriers therefor rotating only in one direction and adjustable cam means for controlling the position of the feed fingers on the carriers in relation to the article to be fcd, substantially as described.
13. In combination holding means for the articles, carrier means having turning movement. feed fingers on the carrier means, arms carrying said feed fingers adjustable radially of the carrying means, and car means for operating the arms stbstantlally as described.
14. In combination, holding means for the articles, feed fingers, carrier means therefor, means for advancing and retracting the feed fingers and means for adjusting them radially of the carrier means, substantially as described.
15. In combination the holding means having the ledge or stop against which the articles are held set up on edge, feed fingers for engaging the two opposite lateral edges of the article to be fed and carrying means for the feed fingers, said feed fingers being adapted to lift the articles over, the sald ledge or stop, substantially as described.
16. In combination in apparatus of the class described, holding means for the articles, a ledge or stop against which the articles bear when set up on edge, automatic follower means for pressing the upper parts of the artcles forwardly and feed fingers with carrier means for engaging the opposite lateral edges of the articles, substantially as desscribed.
17. In combination the ledge or stop, endless bands or rhains for prossing the articles against the stop, follower merans for pressing forwardly the upper parts of the article, and means engaging the opposite ends of the article for lifting them over the ledge or stop and feeding the same freward. substantially as described.
18. In combination the ledge or stop, endless bands or chains for pressing the articles against the stop. follower muans for pressing forwardly the upper parts of the articles, and means engaging the opposite ends of the articles for lifting them over the ledge or stop and feeding the same forward, said follower means consisting of the rolls having gears associated therewith and rack bars with which the gears engage, substantially as described.
19. In combination holding means for the articles, fecd fingers to engage the opposite side edges of the articles, carrying means therefor arranged to turn, said carrying means being associated with a cylindrical or partly cylindrical surface or surfaces upon which the articles rest when drawn from the holding means. substantially as described.
20. In combination means for supporting the magazines or articles set up on edge, rotary means associated with a cylindrical or partly cylindrical surface or surfaces to receive the articles, feed fingers carried by the rotary means, and means for advancing and retracting the feed fingers in line parallel with the axis of rotation, said feed fingers withdrawing the articles from the holder onto the cylindrical surface, substantially as described.

No. 100,948. Match Making Machinery.
Machine d faire des allumetles.


Ferral Carlton Dininny, New York City, New York, assignee of Almon Beeman Calkins, Franklin, New Jersey, both in the U.S.A., 11th September. 1906; 6 years. Filed 6th September, 1901. Recelpt No. 90.104.
Claim.-1. In matchmaking machinery the combination with veneer card cutting mechanism, of a feed trough for the feed trough to said cutting mechanism, a feed plate rototably mounted upon a a \(h\) of the sald feed racks, but secured against relative endwise movement thereon and operating we.ans for the said feed racks.
2. In matchmaking machinery the combination with veneer card cutting mechanism, of a feed trough ror the vencer cards, two feed racks for feeding the cards in said feed toough to said cutting mechanism, a feed plate rotatably mounted upon each of the sald feed racks but secured against relative endwise movement thereon, and means for independently operating either of the said feed racks.
3. In matchmaking machinery the combination with veneer card cutting mechanism, of a feed trough for the veneer cards, a stationary gulde rod on either side of the feed trough, two feed racks each having a lug which surrounds and loosely engages one each of the sald guide ords, two pusher or feed plates, each rotatably mounted on the lug of cne each of the said feed racks, feed pawls on the said racks. and means for disengaging either or both of the said feed pawls irom their respective feed racks.
4. In matchmaking machinery the combination with veneer card cutting mechanism, of a feed trough for the veneer cards, a stationary guide rod 30 on elther side of the feed trough, two feed racks 32 , each having a lug 33 in loose engagement with sald guide rods. two pusher or feed plates 34 rotatably mounted upon the lugs 33, a transverse rock shaft 38, feed pawls 36 carried thereby and tripper shafts for disengaging cither or both of the said feed pawls 36 from thelr respective racks.
5. In matchmaking machinery the combination with veneer card cutting mechanism, of a feed trough for the veneer cards, two feed racks arranged one each on elther side of the feed trough, a transverse rock shaft having feed pawls adapted to engage the said fced racks, tripper shafts having a connection with the said feed pawls whereby upon the operation of the said shafts either or both of the said pawls may be disengaged from their respective racks.
6. In matchmaking machinery the combination with veneer card cutting mechanism, of a feed trough for the vencer cards, two fced racks arranged one each on elther side of the
feed trough, a rock shaft having feed pawls adapted to engage the said feed racks, two rotatably mounted tripper shafts 44, each having an operating handle and each having a pin 46 in engagement with staples 48 upon the feed pawls.
i. In matchmaking machinery the combination with veneer card cutting mechanism, of a feed trough for the vencer cards, duplicate feeding means for feeding the cards in said feed trough to said cutting mechanism, a leed plate rotatably mounted with respect to each of said feeding means, but secured against relatively endwise movement thereon and independent operating means for each of the said duplicate feeding means.
8. In matchmaking machinery the combination with rotary cutters, of receivers for receiving the splints thereform, adapted to convey the same to carrier frames for the splints, plungers for expelling the splints from the receivers and forcing them into the frames after the recelvers have been moved in the direction, and means for giving a step by step feeding means for feeding veneer cards to the cutting mechanism, comprising a feed trough and two independently operated feed plates, each rotatably mounted to swing out of the path of the cards in the trough, substantially as specifled.
9. In matchmaking machinery the combination with rotary cutters, a feed plunger for feeding veneer cards thereto, and means for reciprocating the feed plunger, of receivers for receiving the splints into which the veneer cards are separated by the cutters and for conveying the same to carrier frames, and means for intermittently reciprocating the receivers once for every reciprocation of the said feed plunger, together with duplicate feeding means for feeding veneer cards to said feed plunger, comprising a feed trough and two independently operated feed plates, each rotatably mounted to swing out of the path of the cards in the trough, substantially as specified.
10. In matchmaking machinery the combination with rotary cutters, a feed plunger for feeding veneer cards thereto, and means for reciprocating the feed plunger, of receivers for receiving the splints into which the veneer cards are separated by the cutters and for conveying the same to carrier frames, and a cam for intermittently reciprocating the receivers once for every reciprocation of the said feed plunger, together with duplicate feeding means for feeding veneer cards to said feed plunger, comprising a feed trough and two independently operated feed plates each rotatably mounted to swing out of the path of the cards in the trough, substantially as specified.

No. 100,949. Machine for Making Wire Fences. Machine d faire des clôtures de al de fer.


Maud H. Smart, assignee of Jonathan Harris, both of Cleveland, Ohio, U.S.A., 11th September, 1906; 6 years. Filed 12th May, 1905. Receipt No. 125,128.
Claim.-1. In a machine for making wire fence, the combination with yielding and statlonary upper dies, and vertically reciprocating lower dies, of a staple feeding trough
adjacent to the lower dies, a staple carrying blade pivoted to the outer end of the said trough, staples thereon, a spring detent in the trough at the upper end and means for lowering said blade, and for threafter releasing said detent to permit one staple to fall into the lower die, substantially as described.
2. The combination with lower dies, and a rigid inclined trough adjacent thereto, of a staple storage blade pivoted to the upper end of the trough, a spring detent arranged to resist the passage of staples in the trough, and means for controlling the movements of the detent to intercept the staples and to release the remaining staple when the blade is lowered, substantially as described.
3. In a device for the purpose described, in combination, a vertically reciprocating lower die, comprising a longitudinally and doubly grooved portion and adjacent vertical wedge-shaped portion, and upper dies comprising a vertically ylelding primary recessed portion, and a stationary bending die provided with a transversely and doubly grooved portion, substantially as and for the purpose described.
4. In a device for the purpose described, in combination, an upper die comprising a vertically yielding portion provided with a single recess in its lower face and a fixed portion provided with a transversely and doubly grooved lower face, of a lower vertically reciprocating die provided with a doubly grooved upper surface underneath the yielding upper die, and with a wedge-shaped portion underneath the fixed upper die, an inclined trough leading to the lower grooved die, wires intersecting over the grooved portion of the lower die, a staple feeding and storing device, a releasable detent for the staples, and means for lowering the staple storing device, previous to releasing the said detent, substantially as described.
5. In means for attaching staples to intersecting fence wires, the combination with the intersecting wires, of upper and lower dies, adjacent to the intersecting points thereof, and a device for feeding staples, one at a time, to said dies, comprising an inclined trough, a staple storage blade pivoted to the outer end of said trough, a spring detent in the upper end of the trough adapted to retain the lower staple, means for releasing said detent, and means for lowering the storage blade with the staples thereon, previous to releasing said detent whereby one staple only will be delivered at a time to the dies, substantially as described.
6. The combination with the lower dies of a staple attaching device for wire fencing, of a trough leading to said dies. a staple storage blade pivoted to the upper end thereof, a spring detent at the upper end of said trough, adapted to retain a staple discharged into said trough from said blade, means for operating said detent, consisting of a rotatable cam adjacent thereto, and means for lowering said blade to prevent the staples thereon from passing into said trough when the detent is released, and for elevating the blade to provide another staple for the trough, substantially as described.
7. In a machine for the purpose described, an upper die, one portion of which is yielding and the other portion fixed, a vertically reciprocating lower die, a transverse bar in which said lower bar is fixed, a main shaft and cam thereon engaging said transverse bar, and a staple feed device comprising a trough communicating with the lower die, at its lower end, a staple storage blade pivoted to said trough, and discharging therein, a detent in the upper end of the trough adapted to retain a staple from the said blade, means for withdrawing said detent to release sald staple and for replacing the same, means for lowering said blade to prevent the discharge of the staples thereon until said detent is replaced, and cams upon said main shaft, and mechanism controlled thereby for operating said blade and detent, substantially as described.
8. In a device for the purpose described, the combination with a vertically reciprocating lower die, and operating main shaft, and cam therefor, of a staple feed device. consisting of an inclined trough and staple storage blade pivotted thereto, a rock bar adapted to raise and lower said trough, a shaft and cam thereon adapted to control the movement of said detent, and cams upon said main shaft, and intermediate mechanism adapted to control the movements of said rock bar, and detent controlling cam, substantially as described.

\section*{No. 100,950. Pipe Joint. Joint de tuyau.}

Arthur L. Greenlaw, Malden and Wesley W. Blair, Boston, both in Massachusetts, U.S.A., 11th September, 1906: 6 years. Filed 4th May, 1906. Receipt No. 135,550.
Claim.-1. In a flexible pipe joint the combination of a casing, pipe members each provided with a flaring end extending within sald casing, a head secured to either end of said casing provided with a seat for one of said flaring ends, and means located within said ends for forcing each of sald flaring ends to 1 ts seat.
2. In a flexible pipe joint the combination of a casing, pipe members each provided with a flaring end extending within

said casing, a head secured to either end of sald casing provided with a seat for one of said flaring ends, a tubular connector interposed between said flaring ends, and means for forcing each of sald flaring ends to its seat.
3. In a flexible pipe joint the combination of a casing. pipe members each provided with a flaring end extending within sald casing, a head secured to either end of sald casing provided with a seat for each of said flaring ends, a tubular connector interposed between sald flaring ends, means for forcing each of said flaring ends to its seat, and means for adjusting said heads longitudinally of said casing.
4. In a flexible pipe joint the combination of a casing, plpe members each provided with a flaring end extending within said casing, a head secured to either end of sald casing provided with a seat for one of said flaring ends, a tubular connector interposed between said flaring ends, means for forcing each of said flaring ends to its seat, means for adjusting said heads longitudinally of said casing, and means for locking said heads in adjusted position.
5. In a flexible plpe joint the combination of a casing, pipe members each provided with a ball-shaped end located partially within said casing, a head secured to elther end of sald casing provided with a seat for a ball-shaped end. a divided tubular connector interposed between said bal'shaped ends, and means for forcing the outer enis of said divided connector against the Interior face of said ballshaped ends.
6. In a flexible pipe foint the combination of a casing. pipe members each provided with a ball-shaped end located partlally within said casing, a head secured to either end of said casing provided with a seat for a ball-shaped end, a divided tubular connector interposed between said ballshaped ends, means for forcing the outer ends of said divided connector against the interior face of said bell-shaped ends, and means for adjusting the heads longitudinaily of said casing.
7. In a flexible pipe joint the combination of a casing, plpe members each provided with ball-shaped end located partlally within said casing, a head secured to elther end of sald casing provided with a seat for a ball-shaped end, a telescopic connector interposed between sald bell-shaped ends, and means for forcing the ends of said telescopic connector against the interlor surface of sald ends.
8. In a flexlble plpe joint the combination of a casing, pipe members each provided with a ball-shaped end located partially within said casing, a head secured to either end of sald casing provided with a seat for a ball-shaped end, a telescopic connector end of which is provided with a flaring mouth and an annular seat fitting the interior face of sald ball-shaped ends, and means for forcing the ends of said telescopic against the interior surface of said ends.
9. In a flexible pipe joint the combination of a casing. pipe members each provided with a ball-shaped end located partially within said casing, a head secured to either end of said casing provided with a seat for a ball-shaped end, two tubular members telescopically connected together each provided with a flaring end having a seat against the interior face of said ball-shaped ends, and means for forcing said members apart to insure the proper seating of said ends.
10. In a flexible pipe joint the combination of a casing. pipe members each provided with ball-shaped end located partlally within said casing, a head secured to either end of said casing provided with a seat for a ball-shaped end, two tubular members telescopically connected together each provided with an annular flange and a spring interposed between said flanges.
11. In a flexible plpe joint the combination of a casing. pipe members each provided with a ball-shaped end located partlally within sald casing, a head secured to elther end of said casing provided with a seat for a ball-shaped end. and a packing ring held by said head to protect sald seat.
12. In a flexible pipe foint the combination of a casing, a pipe member provided with a ball-shaped end located partlally within said casing, a head secured to an end of said casing provided with a seat for said ball-shaped end, and a packing ring held by said head contacting with said ballshaped end outside of sald seat.

No. 100,951. Water Cleaning Device.

\section*{Apparetl de nettoyage d'eau.}


The United Injector Company, New York City, New York, assignee of William R. Park, of Taunton, Massachusetts. both in the U.S.A., 11th September, 1906; 6 years. Filed 22nd May, 1906. Receipt No. 136,158.
Claim.-1. In a device of the character described a vessel having a perforated top and central annulus with a dependink skirt thereon, a re-entrant outlet with its mouth under the skirt, a valve sliding in the annulus to control the outlet, and means extending from the valve to operate the same.
2. The combination of a trap vessel having an apertured top and re-entrant outlet, of a valve for the outlet sliding in a bearing in the vessel top and adapted to be inserted in the said bearing from the outside of the vessel.
3. The combination with a trap vessel having an apertured top and re-entrant outlet, of a valve for the outlet sliding in a bearing in the vessel top and adapted to be inserted in the said bearing from the outside of the vessel, a strainer dome over the valve having space therein to accommodate the valve when lifted, and valve operating means extending through the strainer-dome.

\section*{No. 100,952. Feed Water Filter.}

\section*{Filtre d'eau d'alimentation.}

Henry E. Ferchen and Alexander Easler, assignee of onehalf of the interest, both of Vancouver, British Columbla, Canada, 11th September. 1906 ; 6 years. Flled 4th June, 1906. Reccipt No. 136,539.
Claim.-1. As a filter for the removal of grease and ofl from feed water, an elongated open trough having at the end in which the water is delivered a receiving compartment with a borizontal removable perforated distributing plate and at the outer end an overflow wall that will retain the trough practically full of water, a passage from the receiving compartment to the trough in the level of the bottom, a partition adjacent over which the water may flow, a partition at the other end adjacent to the overfiow having an under passage, and a series of removable gauze screens throughout the length of the trough.
2. As a filter for the removal of oil or grease from feed water, an open trough surrounding a rectangular downward aperture, one of the end walls of which aperture is lower than the other walls of the trough to form an overflow into the central aperture, a partition produced from one of the sides of the aserture terminating the trough beyond the overflow, a receiving compartment across the end of the trough adjacent to such termination, a passage in the level of the bottom from the receiving compartment to the beginning of the trough, an overflow partition across the trough adjacent to such entering passage, an underfiow partition across the box adjacent to the outlet overflow and a series of removable gauze screens across the trough.
3. As a fllter for the removal of oll or grease from feed water, the receiving recentacle 7 having the perforated screen 4, the passage 13 communicating with the open trough 7 surrounding the downward aperture 10 , the overflow parti-
tion 16 adjacent to the inlet passage, the overflow partition 11 adjacent to the outlet 10 , the underflow partition 8 ad-

jacent to the overflow 11 and the removable gauze screens 17.

No. 100,953. System of Ventilating Railway Cars. Système de centilation de chars de chemins de fer.


George Henry Layng, Toronto, Ontario, Canada, 11th September, 1906 ; 6 years. Filed 13th March, 1906. Receipt No. 133.862.
Claim.-1. In a car the combination with the roof thereof, false ceiling within said car provided with apertures or holes to permit air from the body of the car to pass into the space between said false ceiling and said roof, and means whereby a current of fresh air is passed from the outside of the car into and out of said space, of a conduit or pipe longitudinally placed within the body of the car and below said false ceiling and in proximity to the apertures or holes therein, whereby fresh air passes from the outside of the car through a plurality of apertures or holes formed in the upper side of said conduit or pipe so as to direct said fresh air upward towards said apertures or holes in said false ceiling, so as to carry the foul air from the car body into said space and thereout through the means before mentioned for permitting the passage of air into and out of said space.
2. In a car the combination with the roof thereof, a false ceiling within said car provided with apertures or holes to permit air from the body of the car to pass into the space between said false ceiling and said roof, and means whereby a current of fresh air is passed from the outside of the car into and out of said space, of a conduit or pipe longitudinally placed within the body of the car and below said false celling and in proximity to the apertures or holes therein, whereby fresh air passes from the outside of the car through a plurality of apertures or holes formed in the upper side of said conduit or pipe so as to direct said fresh air upward towards said apertures or holes in said false ceiling, so as tc carry the foul air from the car body into said space and thereout through the means before mentioned for permitting the passage of air into and out of said space, and means for controlling the passage of air through said conduit or pipe
3. In a car the combination with the roof thereof, a false ceiling within said car provided with apertures or holes to permit air from the body of the car to pass into the space between said false ceiling and said roof, means for control ling the opening and closing of said apertures or holes, and means whereby a current of fresh air is passed from the outside of the car into and out of said space, of a conduit or pipe longitudinally placed within the body of the car and below said false ceiling and in proximity to the apertures or holes therein, whereby fresh air passes from the outside of the car through a plurality of apertures or holes formed in the upperside of said conduit or pipe so as to direct said fresh air upward towards said apertures or holes in said false ceiling, so as to carry the foul air from the car body into said spase and thereout through the means before mentioned for permitting the passage of air into and out of said space, and means for controlling the passage of air through said conduit or pipe.
4. In a car the combination with the roof thereof, a false ceiling within said car provided with apertures or holes to permit air from the body of the car to pass into the space between said false ceiling and said roof, a plurality of slats positioned so as to open and close said apertures or holes apertures or holes therein, whereby fresh air passes from the outside of the car into and out of said space, of a conduit or pipe longitudinally placed within the body of the car and below said false ceiling and in proximity to the apertures or holes therein, whereby fresh air passs from the outside of the car through a plurality of apertures or holes formed in the upper side of said conduit or pipe so as to direct said fresh air upward towards said apertures or holes in said false ceiling, so as to carry the foul air from the car body into said space and thereout through the means before-mentioned for permitting the passage of air into and out of said space, and means for controlling the passage of air through said conduit or pipe.

No. 100,954. Clothes Pin. Epingle à linge.


Joseph Gideon Cartier, Winnipeg, Manitoba, Canada, 11th September, 1906; 6 years. Filed 28th March, 1906. Receipt No. 134,370.
Claim.-1. A clothes pin comprising a single loop through which the clothes line is designed to extend and one resilient short arm terminating in a suitable grip to straddle the wire and one long arm terminating in a suitable grip designed tf straddle the wire, as and for the purpose specified.
2. A clothes pin comprising a single wire loop througb which the clothes line is designed to extend and one resilent short arm terminating in a coil designed to straddle the wire and one long arm designed to straddle the wire, as and for the purpose specified.

No. 100,955. Cigarette Making Machine. Machine d faire des cigarettes.


Napoleon Du Brul, Cincinnati, Ohio, U.S.A., 11th September, 1906; 6 years. Filed 26th April, 1905. Rece!pt No 124,618.
Claim.-1. In a tobacco feeding mechanism for cigarette machines, an apron upon which the tobacco is dellvered and a compresing roller beneath which the tobacco is fed by the belt, said compressing roller having its periphery spirally grooved.
2. In a tobacco feeding mechanism for cigarette machines the combination of the apron upon which the tobacco is delivered, an auxillary compression roll, a main compression roller and a swinging frame pivoted upon the axis of the main compression roller, the outer end of which supports the auxiliary compresison roller in aljustable relation to the feeding apron.
3. In a tobacco feeding mechanism for cigarette machines the combination of the apron upon which the tobacco is delivered, the main compressing roller beneath which the tobacco is passed, and the auxiliary compressing roller adjustably mounted by a frame swinging about the axis of the main compressing roller, said rolls being both spirally grooved.
4. In a tobacco feeding mechanism for cigarette machines the combination of the apron upon which the tobacco is delivered, the main compression roll, the swinging frome pivotolly mounted upon the axis thereof, the auxiliary compression roll mounted in the outer swinging end of the said frame and a screw for regulating the height of the auxiliary compression roll above the feeding apron.
5. In a cigarette machine the combination with means for feeding and compressing the tobacco, of tobacco carding means, comprising the short toothed picker roll and the relatively long toothed stripper roll slightly meshing therewith, means for forming the tobacco into a rope, means for wrapping the tobacco rope in a paper wrapper, and means for cutting into lengths the cigarette rod thus formed.
6. In a cigarette machine the combination with means for fceding and compressing the tobacco, of the short tooth picker roll, the guiding roller co-operating therewith, the ielatively long toothed stripper roll slightly intermeshing with the picker roll. means for forming the tobacco into a continuous rod, means for feeding the wrapper to the continuous cigarette rod, means for pasting sald wrapper, means for encasing the cigarette rod therein, and means for cutting into lengths the cigarette rod thus formed.
7. In a cigarette machine the combination with the tobacco feeding means, the compressing means, the carding means, the rope forming means, the wrapping means, and the means for cutting into lengths of the continuous cigarette rod thus formed, of exhaust mechanism for drawing off dust from the tobaceo.
8. In a cigarette machine the combination with the tobacco feeding means, the compressing moans, the carding means, the rope forming means, the wrapping means and the means for cutting into lengths of the continuous cigarette rod thus formed, of a stripper roll by means of which the tobacco

Is discharged from the carding mechanism and an exhaust for drawing off dust from the tobacco.
9. In a cigarette machine the combination with the tobacco fecding means, the compressing means, the carding means, the rope forming means, the wrapping means and the means for cutting into lengths of the continuous cigarette rod thus formed, a a stripper roll lying parallel to the rope forming mechanism and a dust exhausting means drawing transversely to the rope and axis of the stripper roll.
10. In a clgarette machine a rope forming mechanism comprising an endless belt, the pulley between which the belt is stretched, the supporting rollers over which the belt runs at intermediate points, and the pairs of lateral rollera located at intervals and shaping the belt into the desired fcrm.
11. In a rope forming mechanism for cigarette machines the combination of the endless belt, the adjustable side members, the paired shaping rollers mounted on the side members, and an adjustable connection between the side members by which their distance apart may be determined at will.
12. In a rope former for cigarette machines, the combination of the belt, the adjustable side members, the seriea of pairs of belt forming rollers mounted upon the side members, each side member carrying one roller of each pair, means for determining the distance between the side members, and the supporting rollers, each mounted on a side member.
13. A rope former for cigarette machines comprising an endless belt, the paired forming rollers, and the relatively adjustable side members supporting the forming rollers.
14. A rope former for cigarette machines comprising the pivoted side members, the adjusting screw connecting them, the paired forming rollers, and the endless belt.
15. The combination of the relatively adjustable side members, the paired forming rollers mounted thereon, the endless belt running between the forming rollers, the condensing wheel, and the adjusting screw drawing the side inembers together and pressing the belt, through means of the forming rollers, against the condensing wheel.
16. In a wrapper attachment for clgarette machines, the tape or paper guide comprising the deflecting part and the guide swinging therefrom and supported by the tape or paper passing therethrough.
17. In a paper attachment for cigarette machines, the deflecting part carrying the hinging guide, and having adjusting screws for shifting it laterally.
18. In a wrapper mechanism, having a paper feed and a tape, an adjustable guide for the paper having a curved portion over which the paper is deflected before passing upon the tape.
19. In a wrapper applying mechanism for cigarette machines the combination of the paper supply, the tape, and independently adjustable deflecting and guiding means for said paper and tape respectively.
20. In a wrapper attachment for cigarette machines, the combination of the tape deflecting roller, the guide hinging therefrom, the guide through which the paper passes having a curved part over which the paper is deflected before reaching the tape and the set screws for adjusting the guide laterally.
21. In a cigarette machine, the combination with an endless tape, a driving wheel to propel the same, forming devices to form the cigarette rod upon the tape, adjustable flanged guides fitted to the edges of tape and wrapper, the one guiding the tape to a deflecting roller, the other guiding the paper over a stationary ironing and smoothing deflecting end, pins on which the guldes are adapted to swing and set screws to vary the relation of the guides to each other and the forming tube.
22. In a cigarette machine, the combination of a main drive shaft, a tape, a tape driven wheel driven from the main drive shaft, and a pair of independent paper drive rolls having driving connections imparting to them the same surface speed as that imparted to the tape drive wheel.
23. In a paper cigarette machine, having a main drive shaft and a tape drive wheel connected directly therewith, independent paper drive rolls also geared directly to the main shaft and driven thereby at the same peripheral speed as the tape drive wheel.
24. In a paper cigarette machine, the combination of the main shaft, the tape having its driving means directly connected with the main shaft, a pair of independent paper Urive rolls also directly connected with the main shaft, and driven thereby at the same surface speed as the tape driving means, a cutter also driven from the main drive shaft and interchangeable gearing between the main drive shaft and the cutter whereby the length of the cigarettes to be produced may be changed at will.
25 . In a cigarette machine, a pair of crimping or knurling rolls located in position to knurl or crimp the pasting edge of the wrapper.
26. In a cigarette machine in which the wrapper is pasted, means crimping or knurling the pasted edge of the paper before it reaches the paster.
2i. In a cigarette machine in which a paper wrapper is pasted to secure it around the fller, a pair of paper drive rolls having crimping or knurling surfaces in line with the pasting edge of the paper as it passes between the rolls. 28. In combination with a paper cigarette machine, a printing roll and its platen, and independent paper drive rolls for the wrapper paper, driven from the same source of power as the printing roll and having the same surface speed as the printing roll.
29. In combination with a paper cigarette machine, drive rolls for the wrapper paper, the printing roll with its platen, and a gear connecting said gear and drive rolls and causing them to travel with the same surface speed, and in definite relation to the operation of the cigarette machine.
30. In combination with a paper cigarette machine, a plurality of printing rolls, a pair of paper drive rolls for the wrapper paper rotating in definite relation to the operation of the cigarette machine and a gear connecting all of said printing and drive roll and causing them to rotate with the same surface speed.
31. In combination with a paper cigarette machine. print Ing rolls, Inking rolls for said printing rolls, a bronzing roll driven from said inking rolls, paper drive rolls for the wrapper paper and a gear connecting the paper drive rolls and printing rolls and causing them to run with equal surface speed.
32. In combination with a paper cigarette machine, first and second printing rolls, inking rolls for said printing rolls, a pair of paper driving rolls for the wrapper paper and a gear common to all of said rolls and driving the printing and paper drive rolls at equal surface speed.
33. In combination with a paper cigarette machine, the feed rolls for the wrapper paper, the printing roll, a gear causing said rolls to travel at equal surface speed, the cigarette cutter, the shaft rotating in definite relation to the cutting operation and a gear connecting sald shaft to the printing roll.
34. In combination with the wrapping mechanism of a paper cigarette machine, a printing attachment co-operating with the same, additional printing mechanism constructed to be aplied to the machine, an Idler gear to connect one printing means with the other, a drive shaft and a gear connecting said drive shaft to the printing roll.
35. In combination with the wrapping mechanism of a paper cigarette machine having a printing attachment, an additional removable printing means, constructed to be brougth into driving relation to the printing mechanism, a drive shaft, and a drive gear for connecting said shaft to the printing attachment, said gear having an adjustable connection with the shaft, permitting the driven parts to be adjusted relatively to the shaft.
36. In a cigarette machine the combination of the cutter, wrapper driving mechanism, a printing attachment, a shaft connecting the cutter operating parts with the mechanism of the printing attachment, a sleeve turning on said shaft, a gear for driving the printing and wraper driving mechanisms, supported on said sleeve, a hand grip also on said sleeve, and means carried by the hand grip whereby the sleeve may be rigidly secured to the shaft.
37. In a cigarette machine the combination of the cutter, a shaft in operating connection therewith, a gear detachably secured to said shaft, a compound gear supported in turning relation with the said shaft detachably secured gear, an idler intermeshing with said compound gear, by means of which the wrapper driving and printing mechanisms are simultaneously and co-relatively driven and a second gear on the supporting shaft of said compound gear, by means of which additional printing attachments may be driven.
38. In a continuous cigarette machine having a printer to print upon the wrapper before it is delivered to the wrapping mechanism, the combination with the tape and driving wheel to propel the same, of a printing roll with type to print the impressions and a pair of driving rolls for the wrapper paper adapted to crimp and feed the paper between their opposed faces, and means connecting the tape driving wheel, the printing roll and the driving rolls, so as to feed the paper in unison with the tape.
39. In a continuous cigarette machine the combination with tape and means for driving same, of a pair of driving rolls for the wrapper, provided with intermeshing grooves and ridges adapted to crimp the wrapper between their opposed faces.
40. In a continuous cigarette machine having a printer to print upon the wrapper before it is delivered to the tape, the combination with the tape and a driving wheel to propel the same, of a printing roll with type to print the impressions and a palr of crimping rolls provided with intermeshing grooves and ridges adapted to press and stretch the paper betwen their opposed faces, and means connecting the tape
driving wheel, the printing roll and the crimping rolls, so as to feed the wrapper in unison with the tape.
41. In a continuous cigarette machine the combination with the tape and means for driving the same, means for supplying the wrapper and feeding the tobacco thereto, means for forming the cigarette rod and a cutter for cutting of the cigarettes, of a printer having a printing roll to print upon the wrapper, a pair of non-inking drive rolls for paper, and a master gear connecting the printing roll and feed roll to rotate them at the same surface speed.
42. In a continuous cigarette machine the combination with the tape and means for propelling the same means for supplying the wrapper paper and feeding the tobacco thereto, means for forming the cigarette rod and a cutter for cutting off the cigarettes, of a printer having a printing roll to print upon the wrapper, a pair of crimping, drive rolls for paper and mechanism connecting the cutter to the printing and drive rolls to rotate them in unison.
43. In a continuous cigarette machine the combination with the tape and means for propelling the same, means for supplying the wrapper paper and feeding the tobacco thereto, means for forming the cigarette rod and cutter for cutting off the cigarettes, of a printer having a printing roll to print upon the wrapper, a pair of driving rolls for paper mechanism lonnecting the cutter to the printing and drive rolls to rotate them in unison, gearing connecting the cut-off knife with the tape driving wheel, and a change wheel in such gearing to vary the lengths of the cigarettes.
44. In a continuous clgarette machine the combination with the tape and means for propelling the same, means for supplying the wrapper paper and feeding the tobacco thereto, means for forming the cigarette rod and a cutter for cutting off the cigarettes, of a printer having a printing roll to print upon the wrapper, a pair of driving rolls for paper, mechanism connecting the cutter to the grinting and drive rolls to rotate them in unison, gearing connecting the cut-off knife with the tape driving wheel, a change wheel in such gearing to vary the length of cigarettes, a drive shaft in such mechanism, a printer drive gear releasably secured to said shaft by a set screw, permitting a rotary adjustment of such printing rolls and drive rolls, to vary the relation of the printer to the cutter, or to wholly detach the printer from the cutter, when required.
45. In a cutter for cigarette machines the combination of the knives mounted to oscillate across the path of the cigarette rod, the slide upon which the knives are mounted and a cam having connections for simultaneously oscillating the knives and reciprocating the sllde.
46. In a cutter for cigarette machines the combination of the sllde, the pivoted irame, the knives mounted in the frame, and the cam for oscillating the frame and reciprocating the slide, said frame being formed of two parts relatively adjustable about the center of oscillation in order to adjnst the knives tof ward the path of the cigarette rod.
47. In a cigarette machine the combination of the reciprocating slide, the oscillating frame formed in two parts, each having a bearing at the center of oscillation and a slot and screw connection between said parts whereby they may be adjusted relatively to bring the cutting edge of the knives into proper relation to the path of the cigarette rod.
48. In a cutter for cigarette machines the combination of the oscillating frame carrying the knives, the slide upon which the frame is mounted to oscillate, shoes secured to the ends of the slide and having sliding bearings upon the machine and the caps secured to the machine over the shoes and holding the latter in place.
49. In a cutter for cigarette machines the combination of the slide shoe formed with a turned body, the oscillating knife frame having a bearing on the turned body of the slide, a shoe secured to the end of the turned body and conflining the oscillating frame, the caps fitted over the shoes and holding them upon their bearings, the cam lever depending from the oscillating frame, the roller stud depending from he slide, and a cam engaging the cam lever and roller stud for oscillating the knife frame and reciprocating the slide.
60. In a cutter for cigarette machines the combination with the oscillating knife lever, the rotary knives mounted thereon and having a pulley for rotating them, a pulley journalled on the center of oscillation of the knife frame, and a bolt passing from an external source of driving power over said pulleys and rotating the knives.
51. In a cigarette machine the combination with the feedIng and carding means, the rope forming means, the mechanism for wrapping the continuous rope fller and the cigarette cutting means, of a means for crimping, corrugating, ribbing or otherwise roughening one of the overlapped pasting edges of the wrapper paper, prior to applying paste thereto.
52. In a cigarette machine the combination with the feeding and carding means, the rope forming means, the mechanism for wrapping the continuous rope fller and the cigarette cutting means, of means for roughening the paste recelving portion near but not extending to one edge of the wrapper paper, means for applying paste to said roughened edge, and
means for pressing the pasted roughened edge into position io adhere to the opposite edge of the paper.
53. In a cigarette machine the combination with the feeding and carding means. the rope forming means, the mechanism for wrapping the continuous rope filler and the cigarette cutting means, of means for roughening the paste receiving portion near but not extending to one edge of the wrapper paper so as to leave a flat smooth pasting portion, means for applying paste to said roughened edge, and means for pressing the pasted roughened edge into position to adhere to the opposite edge of the paper.
54. In a cigarette machine the combination with the feeding and carding means, the rope forming means, the mechanism for wrapping the continuous rope fller and the cigarette cutting means, of means for feeding the paper by a pair of rolls having corresponding portion of their peripheries formed to crimp, corrugate, rib or otherwise roughen the edge of the paper, means for passing the paper in position to receive paste upon said edge, and means for pressing said edge in overlapped relation to the opposite edge of the paper.
55. In a cigarette machine, a dryer movable on the machine to and from the folding tube and adapted to dry the pasted seam of the clgarette rod passing therethrough.
56. In a cigarette machine, a heater trunnioned on the machine and removable therefrom and adapted to be moved into or out of the heating relation with the pasted seam of the continuous cigarette.
57. In a cigarette machine, a heater movable on the machine to or from heating relation with the folding tube, the said heater embodying an overhanging portion formed with a chamber through which the products of combustion pass to increase the drying effect as the continuous rod passed through the cigarette tube.
58. A dryer for cigarette machines, comprising a hollow body adapted to conform to the folding tube of a clgarette machine and constructed with a base chamber for fuel having an upwardly discharging burner opening, a combustion chamber into which said burner opening discharges, having inlets for air to support combustion, a baffle plate extending transversely of said combuston chamber to deflect the burning gases toward the wall which contacts with the folding tube, and an extension to the combustion chamber extending a part of the length of the dryer and overhanging the fold ing tube.

\section*{No. 100,956. Controller for Distributing Meohanism for Fluids in Cities.}

Mécanisme de distribution des ruides dans les villes.


Frank J. Foveaux, Alameda, Callfornla, U.S.A., 11th September, 1906 ; 6 years. Filed 27th June, 1906. Receipt No. 137,337 .
Claim.-1 In an apparatus of the character described the combination of a cylindrical valve casing having ways, a stem arranged axially of the casing, arms secured upon said stem, a yoke-shaped valve gate having sector-shaped holes in the arms of said yoke, said holes surrounding the valve stem and the arms secured thereto, the middle portion of the yoke being cylindrical in form to move in contact with the cylindrical wall of the casing, the face of the gate having an opening therein, a relief valve in said opening. means operated by the movement of the stem for withdrawing sald relief valve, the arms on the stem in their further movement being adapted to come into contact with the arms of the yoke-shaped gate to actuate the same, substantlally as described.
2. In an apparatus of the character described the combination of a cylindrical casing having ways for connecting with main pipes, a stem arranged axially in said casing, arms secured to said stem to rock therewith, a yoke-shaped valve gate the arms of which have holes surrounding the
valve stem, the arms on the stem moving loosely in sald holes, the face of the gate having an opening, a rellef valve in said opening having a flange and guide stem, said guide stem being sultably guided in the gate, a lever to which said stem is loosely pivoted. an arm extending from the stem from a link connecting sald lever and arm, a coiled spring around the relief valve stem pressing it outward and a coiled spring for pressing the gate outward, substantially as described.
No. 100,957. Eat. Chapear.


Charles Johnstone-Hall, 92 Bexley Road, Northumberland Heath, Belvedere, England, 11th September, 1906; 6 years. Filed 19th March, 1906. Recelpt No. 134,007.
Claim.-1. In combination with a hat, a hook pivotally connected thereto and adapted to project outward and to lie within the hat.
2. In a hat suspending device, a plate, a hook pivotally connected to the plate, and means for attaching the plate to a hat.
3. In a hat suspending device, a plate, a hook pivotally connected to the plate, means for attaching the plate to a hat, and means for limiting the movement of the hook.
4. In a hat suspending device, a plate provided with a plurality of slots, a hook pivotally connected to the plate, and means for attaching the plate to a hat.
5. In a hat suspending device, a plate, a hook pivotally connected to the plate and provided with a stamped strengthening rib.
6. In a hat suspending device, a plate, a hook pivotally connected to the plate and attaching members disposed through the plate.
7. In a hat suspending device, a plate, a hook plvotally connected to the plate and provided with an arched portion, and attaching screws disposed through the plate over one of which sald arched portion of the hook is adapted to pass.
8. In a hat suspending device, a plate, an eyelet disposed through the plate and a hook carried by the eyelet.
9. In a hat suspending device an attaching member, a hook pivoted to the attaching member, means for securing the attaching member, and means for limiting the movement of the hook.
10. In a hat suspending device an attaching member, a hook pivoted to the attaching member, means for securing the attaching member to a hat and a projecting member carried by the attaching member in the path of movement of the hook.

\section*{No. 100,958. Money Paying Machine.}

Machine a payer l'argont.
Edward Ludvigsen, Copenhagen, Denmark, 11th September, 1906; 6 years. Flled 30th October, 1905. Recelpt No. 129,657.
Claim.-An apparatus for paying in an out by the use of which contagion by money can be prevented in such a manner that the shop assistant or cashier is not obliged to touch the coins or notes comprising combination the transporting device for the bank notes consisting of a band moved below an opening of the casing of the till, two rollers revolubly mounted in the casing having each one end of the band fixed to it, means for revolving the one roller in one direction and the other roller in opposite direction to wind up the band with the band notes upon the one roller and to unwind the same in opposite direction in such a manner that the notes fall out from the band. a push engageing with an inclsion of one of the rollers for locking the same in position, tubes for the reception of coins of assorted value, slides closing the bottom of said tubes, a bottom plate of the tube having an opening for the coln and a guide plate for the slide having an opening through which the
coin falls out, a counter plate for the reception of the coin to be paid out, a locking device consisting of a bar securing

Fig. 1.


Fig.2.

the stopper of the note rollers in locking position and the slides of the coin tubes, an angular lever hinged with one end to said bar, a support plate hinged to the frame, a spring for swinging round said support plate and cams connected with the pivots of the support plate and engaging with the other end of the angular lever, a hook of the support gripping behind a fixed noose of the casing, a sllding carriage mounted in said support plate adapted to be moved forward in said support, a feeding device for a paper strip mounted in said carriage, a toothed disc at the end of the main roller of said feeding device and a rack fixed on the support plates outside said carriage for automatically revolving the roller when the carriage is moved forward in its support, substantially as described and shown and for the purpose set forth.

No. 100,959. Coiled Wire Fabric Making Machine. Machine ì faire les tissus de tll roulé.


Wilber J. Pine, Oshkosh, Wisconsin, U.S.A., 11th September 1906; 6 years. Filed 11th December, 1905. Receipt No. 130,912.
Claim.-1. In a coiled wire fabric machine, the combination with the coiling devices, of a pair of feed rolls for feeding the wire thereto, one of said rolls comprising a shaft and a removable collar or ring mounted thereon and rotatable iberewith.
2. In a coiled wire fab:ic machine, the combination with the coilling devices, of a pair of feed rolls for feeding the wire thereto. one of said rolls comprising a shaft and a plurality of collars or rings mounted thereon parallel to each other and rotatable therewith.
3. In a colled wire fabric machine, the combination with the coiling devices, of a pair of feed rolls for feeding the wire thereto, one of said rolls comprising a shaft, a disc mounted on and driven by the shaft. and a ring or collar surrounding the disc and constituting the wire feeding surface of such roll.
4. In a coiled wire fabric machine, the combination with the coiling devices, of a pair of feed rolls for feeding the wire thereto, the pressure surface of one of the rolls having a ylelding connection with its driving shaft and the wire \(f \in e d i n g\) surface of the other roll comprising a removable ring or collar positively driven by its shaft.
5. In a coiled wire fabric machine, the combination with the colling devices, of a pair of feed rolls for feeding the wire thereto, the pressure surface of one of the rolls being in the form of a ring or collar having a yielding operating connection with its shaft, and a ring or collar removably mounted on the other feed roll.
6. In a coiled wire fabric machine, the combination with colling devices, of a pair of feed rolls for feeding the wire thercto, and means for intermittently moving the wire feeding surface of one roll towards that of the other with a yielding pressurc.
7. In a coiled wire fabric machine. the combination with coiling devices, of a pair of feed rolls for feeding the wire thereto, and means for intermittently moving the wire feeding surface of one roll towards that of the other with a yielding pressure, adjustable in degree.
8. In a coiled wire fabric machine. the combination with colling devices, of a pair of continuously operating feed rolls ficr feeding the wire thereto, and having shafts having a fixed working relation, and means for moving the wire feeding surfaces of one roll towards that of the other with a yielding pressure.
9. In a coiled wire fabric machine. the combination with coiling devices, of a pair of feed rolls for feeding the wire thereto, the pressure surface of one of the rolls being arranged to be moved eccentric of its shaft to a feeding position. and intermittently operated means for so moving the pressure surface.
10. In a coiled wire fabric machine. the combination with coiling devices, of a pair of feed rolls for feeding the wire thereto, the pressure surface nf one of the rolls belng arranged to be moved eccentric of its shaft to a feeding position, and intermittently actuated means for so moving the pressure surface for an intermittent feed of the wirc, sald fued rolls being continuously running.
11. In a colled wire rabric machine. the combination with coiling devices, of a pair of feed rolls for feeding the wire thereto, the pressure surface of one of the rolls being arranged to be moved eccentric of its shaft to a leeding position, and spring pressed mechanism for intermittently exerting pressure on such surface and moving the same eccentric of its shaft for feeding the wire.
12. In a coiled wire fabric machine, the comblnation with coiling devices, of a pair of feed rolls for feeding the wire thereto, the pressure surface of one of the rolls being arranged to be moved eccentric of its shaft to a feeding position, and comprising a ring or collar encircling its shaft and baving a spring driving connection therewith, and an intermittently operated roller arranged to bear against the ring or collar and move it in its eccentric feeding position.
13. In a coiled wire fabric machine. the combination with coiling devices, of a pair of feed rolls for feeding the wire thereto, the pressure surface of one of the rolls being arranged to be moved eccentric of its shaft to a feeding position. and comprising a ring or collar encircling its shaft and having a spring driving connection therewith and an intermittently operated spring pressed roller arranged to bear against the ring or collar and move it in its eccentric feeding position.
14. In a coiled wire fabric machine, the combination with coiling devices, of a pair of feed rolls for feeding the wire thereto, the pressure surface of one of the rolls being arranged to be moved eccentric of its shaft to a feeding position, and comprising a ring or collar encircling its shaft and having a spring driving connection therewlth, a pair of rollers arranged to bear against the ring or collar, a movable spring pressed frame or cradle for such rollers, and means for intermittently reciprocating the frame to cause its rollers to intermittently move the ring to eccentric feeding position.
15. In a coiled wire fabric machine, the combination with a plurality of coiling devices, of a pair of continually running feed rolls for feeding the wire thereto, one of the rolls having a plurality of pressure surfaces with a ylelding driving connection with the shaft of their roll, a corresponding plurality of pressure rollers co-operating with the pressure surfaces to move the latter eccentric of their shaft for wire fceding, means for so moving the rollers, and means for regulating the pressure capable of being exerted by such rollers independently.
16. In a colled wire fabric machine, the combination with a plurallty of coiling devices, of a pair of contlnually running feed rolls for feeding the wire thereto, one of the rolls having a plurality of pressure surfaces with a yielding driving connection with the shaft of their roll, a corresponding plurality of pressure rollers co-operating with the pressure
surfaces to move the latter eccentric of their shaft for wire fceding, means for so moving the rollers, and means for rendering any one of the rollers inactive at the will of the operator.
17. In a coiled wire fabric machine, the combination with a plurality of colling devices, of a pair of continually runriing feed rolls for feeding the wire thereto, one of the rolls having a plurality of pressure surfaces with a pielding driving connection with the shaft of their roll, a corresponding plurality of pressure rollers co-operating with the pressure surfaces to move the latter eccentric of their shaft for wire feeding, an operating connection, springs interposed between said connection and the rollers for transmitting motion, and means interrupting such transmitting connection at the will of the operator.
18. In a coiled wire fabric machine, the combination with a plurality of coiling devices, of a pair of continually running feed rolls for feeding the wire thereto, one of the rolls having a plurality of pressure surfaces with a yielding driving connection with the shaft of their roll, a corresponding plurality of pressure rollers co-operating with the pressure surfaces to move the latter eccentric of their shaft for wire feeding, an operating connection, springs intcrposed between said connection and the rollers for transmitting motion, and a series of independently operated keys for taking the thrust on said springs and relleving the rollers of pressure.
19. In a coiled wire fabric machine, the combination with the colling devices, of a pair of feed rolls for feeding the wire thereto, means for intermittently exerting a yielding pressure against one of the rolls, said rolls having a plurality of wire feeding surfaces to accomodate a plurality of coiling devices, and a series of independently operable keys for preventing the action of such yielding pressure in respect to any one or all of the sets of colling devices.
20. In a coiled wire fabric machine, the combination with the coiling devices, of a pair of feed rolls for feeding the wire thereto, one of the rolls having a ylelding pressure surface movable to a position eccentric of its shaft, a pressure roller arranged to bear against such surface, to move it to said position, a movable frame for said roller, a reciprocating bar having a bore partway of its length, a spring arranged within said bore, and a plunger or pin sliding in the bore and outwardly pressed by said spring, said plunger exerting pressure against said frame when the bar is operated.
21. In a coiled wire fabric machine, the combination with the coiling devices, of feed rolls for feeding the wire thereto, the pressure surface of one of the rolls consisting of a pair of rings or collars yieldingly connected with their driving shaft, pressure applying rollers for the pressure rings a corresponding pair of frames or cradles in which the rollers are mounted, a fulcrum bar on which the frames are pivoted, a reciprocating bar, and a spring connnection between the latter bar and the fulcrum bar.
22. In a coiled wire fabric machine, the combination with the coilling devices, of feed folls for feeding the wire thereto, the pressure surface of one of the rolls consisting of a pair of rings or collars yieldingly connected with their driving shaft, pressure applying rollers for the pressure rings, a corresponding pair of frames or cradles in which the rollers are mounted, means for moving the frames with a yielding pressure adjustable with respect to the individual frames.
23. In a colled wire fabric machine, the combination with the coiling devices, of feed rolls for feeding the wire thereto, the pressure surface of one of the rolls consisting of a pair of rings or collars yieldingly connected with their driving shaft, pressure applying rollers for the pressure rings, a corresponding pair of irames or cradles in which the rollers are mounted, a sliding bar having a cam roller, yielding operating connections between such bar and the frames or cradles, and an operating bar having a cam ar ranged to co-operate with the cam roller and thereby actuate its sliding bar.
24. In a coiled wire fabric machine, the combination with the coiling devices, of feed rolls for feeding the wire thereto, the pressure surface of one of the rolls consisting of a pair of rings or collars yieldingly connected with their driving shaft, pressure applying rollers for the pressure rings, a corresponding pair of frames or cradles in which the rolters are mounted, a sliding bar, ylelding operating connections retween such bar and the frames or cradles, an operating bar, and a cam mounted thereon to operate the sliding bar and adjustable to time the movement of the latter.
25. In a colled wire fabric machine, the combination of an oscillating head, the colling devices and cut-off mechanism mounted thereon, and cut-off mechanism adjustable in respect to the colling device.

2f. In a rolled wire fabric machine, the combination with the coiling device, of an oscillating head on which said coll-
ing device is mounted and a knife also mounted in said
head for cutting off the wire, sald knife being adjustable in position relatively to the coiling device.
27. In a colled wire fabric machine, the combination with the coiling device, of a movable trigger or arm arranged to engage and position the coll during the cording operation, and means for adjusting the position of such arm.
28. In a coiled wire gabrio machine, the combination with the coiling device, of a movable trigger or arm arranged to engage and position the coil during the cording operation, cut-off mechanism for cutting the wires after being coiled, and means for adjusting the arm to operate closer to or further away from the cut-oc mechanism.
29. In a coiled wire fabric machine, the combination with the colling device, of a movable trigger or arm arranged to engage and position the coil during the cording operation, and cut-off mechanism for cutting the wires after being coiled and adjusted in respect to the coiling device, said arm being also adjustable in respect thereto.
30. In a colled wire fabric machine, the combination with the colled device, of a movable trigger or arm arranged to engage and position the coll during the cording operation, and cut-off mechanism for cutting the wires after being coiled, said cut-oc mechanism and said arm being indepently adjustable with respect to the colled device and in respect to each other.
31. In a coiled wire fabric machine, the combination with the coiled device, of a movable positioning or retaining finger arranged to hold the coll after belng colled and to also move the rearward end thereof slightly away from the colling device.
32. In a coiled wire fabric machine, the combination with the coiling device and cut-off mechanism, of a movable retaining finger arranged to engage the coll in the cording operation, and a trigger or arm arranged to engage and move an end of the coll towards the cut-off mechanism in the cording operation, said cut-off mechanism, finger and arm being independently adjustably adjustable in respect to each other and to the colling device.
33. In a coiled wire fabric machine, the combination with the coller, of a tensioner therefor comprising a cylinder mounted in advance of the coller and having a spiral to cooperate with that of said coller, and means for rotarily adjusting the cylinder comprising a gear operatively connected with the cylinder, and a pinion engaging said gear.
34. In a colled wire fabrid machine, the combination with the wire colling and weaving devices, of electrical means for holding the wire or coil last run while the weaving device is acting upon preceding colls.
35. In a coiled wire fabric machine, the combination with the wire colling and weaving devices, of an electro-magnet for attracting and clamping the wire or coll last run while the weaving device is acting upon preceding colls.
36. In a coiled wire fabric machine, the combination with the wire coiling and weaving devices, of an electro-magne for attracing and clamping the wire or coll last run while the weaving device is acting upon the preceding colls, and automatic means for alternately energizing and de-energizing the electro-magnet.
37. In a coiled wire fabric machine, the combination with a wire coilling device, of a weaving device comprising a channel in which the wires as colled are run, and electrical means for retaining the wire last run in the channel.
38. In a coiled wire fabric machine, the combination with a wire coiling device, of a weaving device comprising a channel in which the wires as coiled are run, and an electromagnet arranged in the channel to attract and thereby clamp the wire last run in the channel.
39. In a colled wire fabric machine, the combination with a wire coiling device, of a weaving device comprising a channel in which the wires as colled are run, and an electromagnet forming the bottom of the channel and adapted, when energized, to attract and retain the wire last run in the channel.
40. In a colled wire fabric machine. the combination with a wire coiling device, of a weaving device comprising a channel in which the wires as colled are run, and which consists of parallel strips in allgnment with the colling device, and an electro-magnet arranged between such strips and extending substantlally throughout thelr length to attract and thereby clamp the coll or wire last run in the channel.
41. In a coiled wire fabric machine, the combination with a wire coiling device, of a weaving device comprising a channel in which the wires as colled are run, an electromagnet arranged in the channel to attract and thereby clamp the last wire run in the channel, and automatic means for energizing and de-energizing said magnet.
42. In a colled wire fabric machine, the combination with a wire coillng device, of a weaving device comprising a channel in which the wires as colled are run, parrallel plates of non-magnetic material lining the opposite longitudinal walls of the channel, and an electro-magnet arranged in the channel between said plates to attractoand clamp the wire last run in the channel.
43. In a coiled wire fabric machine, the combination with a wire colling device, of a weaving device comprising a channel in which the wires as colled are run, means for holding the last wire run in the ohannel, and shutters alternately movable partially across the channel from opposite sides thereof to engage the wire fabric in the weaving operation.
44. In a colled wire fabric machine the combination with a wire colling device, of a weaving device comprising a channel in which the wires as coiled are run, one side of sald channel being movable vertically, means for holding the last wire run in the channel, and shutters mounted on both sides of the channel and movable partially across the channel from opposite sides thereof to engage and feed the wire fabric.
45. In a coiled wire fabric machine, the combination with a wire colling device, of a weaving device comprising a channel in which the wires as colled are run, one slde of said channel being fixed and the other movable verticaliy, means carried by both sides of said channel for co-operating with the fabric in the weaving operation, and mechanism for actuating said means.
46. In a coiled wire fabric machine, the combination with a wire coiling device, of a weaving device comprising a channel in which the wires as colled are run, one side of sald channel being fixed and the other movable vertically, an electro-magnet secured to the fixed side of the channel and adapted, when energized, to clamp the wire last run in the channel.
47. In a coiled wire fabric machine, the combination with a wire colling device, of a weaving device comprising a channel in which the wires as colled are run, one side of said channel being fixed and the other movable vertically, an electro-magnet secured to the fixed side of the channel with a pole forming the bottom of such channel, and shutters movable on the walls or sides of the channel to co-operate with the fabric in the weaving operation.
48. In a coiled wire fabric machine, the combination with a wire collng device, of a weaving device comprising a channel in which the wires as colled are run, and shutters mounted on both sides of the channel and movable partially across the channel, one side of sald channel being fixed and the other movable bodily vertically together with its shutter.
49. In a colled wire fabric machine, the combination with a wire coiling device, of a weaving device comprising a channel in which the wires as colled are run, and shutters alternately movable partially across the channel to engage the wire fabric and comprising plates or strips arranged to slide upon the opposite walls of said channel and extending substantlally throughout the length thereof.
50. In a colled wire fabric machine, the combination with a wire colling device, of a weaving device comprising a channel in which the wlres as colled are run, shutters alternately movable partially across the channel to engage the wire fabric, bars arranged to slide in the walls of the channel and operatively connected with the shutters, and means for actuating said bars.
51. In a colled wire fabric machine, the combination with a wire colling device, of a weaving device comprising a channel in which the wires as colled are run, shutters alternately movable partially across the channel to engage the wire fabric, bars arranged to slide in the walls of the channel and having a slot and pin connection with the shutters, and means for actuating said bars.
52. In a colled wire fabric machine, the combination with a wire colling device, of a weaving device comprising a channel in which the wires as coiled are run, shutters alternately movable partially across the channel to engage the wire fabric, bars arranged to slide in the walls of the channel and operatively connected with the shutters, means for actuating sald bars, and an abutment plate arranged above one of the shutters
53. In a colled wire fabric machine, the combination with a wire colling device, of a weaving device comprising a channel in which the wires as colled are run, said channel being formed of one fixed member and a parallel but movable member, and means for moving said last-named member in the weaving operation.
54. In a colled wire fabric machine, the combination with a wire coiling device, of a weaving device comprising a channel in which the wires as colled are run, said channel being formed of one fixed side and a parallel but movable side, and means arranged near the opposite ends of the movable side for operating the same.
55. In a colled wire fabric machine, the combination with a wire colling device, of a weaving device comprising parallel side members forming a weaving channel between them, and means for adjusting the width of such channel for different diameters of coils.
56. In a coiled wire fabric machine, the combination with a wire colling device, of a weaving device comprising parallel side members forming a weaving channel between them, one of the members being adjustable to adjust the width of such channel for different diameters of colls.
57. In a colled wire fabric machine, the combination with a wire colling device, of a weaving device comprising parallel side members forming a weaving channel betwen them, both of the members being adjustable to adjust the width of such channel for different diameters of colls.
58. In a colled wire fabric machine, the combination with a wire colling device, of a weaving device comprising two parallel bars or strips, forming a channel between them, one of which is movable and the other stationary, a series of yokes arranged at intervals along the length of the strips to receive both of them but secured to the stationary strip only, means for adjusting the relative position of the movable strip in the yoke, and means for adjusting the yokes and stationary strip, whereby the width of the channel may be adjusted for different diameters of coils.
59. In a colled wire fabric machine, the combination with the coiling device, of a weaving device comprising two parallel longitudinal strips forming a weaving channel between them, one of the strips being stationary and the other movable in the weaving operation, a laterally adjustable frame supporting the stationary strip.
60. In a coiled wire fabric machine, the combination with the coiling device, of a weaving device comprising two parallel longitudinal strips forming a weaving channel between them, one of the strips being stationary and the other movable in the weaving operation, and a laterally adjustable frame supporting the stationary strip, and means for correspondingly adjusting the movable strip.
61. In a colled wire fabric machine, the combination with the coilling device, of a weaving device comprising two parallel longitudinal strips forming a weaving channel between them, one of the strips being stationary, and the other movable in the weaving operation, and a serles of yokes arranged along the length of the strips and secured to the stationary strip but only receiving the movable strip, a laterally adjustable frame supporting the stationary strip, and removable fllets arranged between an inner side of the yokes and the outer side of the movable strip.
62. In a coiled wire fabric machine, the combination with the colling device, of a weaving device comprising two parallel longitudinal strips forming a weaving channel between them, one of the strips being stationary, and the other movable in the weaving operation, and a serles of yokes arranged along the length of the strips and secured to the stationary strip but only receiving the movable strip, laterally adjustable frames or plates supporting opposite ends of the stationary strips, and removable fillets arranged in the yokes for adjusting the relative position of the movable strips thereon.
63. In a coiled wire fabric machine, the combination with the coiling device, of a weaving device comprising a channel in which the wires as colled are run, shutters movable partially across the channel to co-operate with the fabric, and yielding operating connections co-operating with the shutters and arranged to yield when the cords are presented to the shutters.
64. In a coiled wire fabric machine, the combination with the colling device, of a weaving device comprising a channel in which the wires as coiled are run, shutters movable partially across the channel to co-operate with the fabric. operating connections for said shutters to move them in respect to the channel and automatic means for determining the degree of such movement accordingly as the regular weave or cords are presented to the shutters.
65. In a coiled wire fabric machine, the combination with the coiling device, of a weaving device comprising a channel in which the wires as colled are run, shutters movable partally across the channel to co-operate with the fabric, a driving shaft. and operating connections between such shaft and the shutters and adapted to yield after a predetermined thrust is imparted to the shutters.
66. In a coiled wire fabric machine, the combination with the colling device, of a weaving device comprising a channel in which the wires as coiled are run, shutters movable partially across the channel to co-operate with the fabric, a driving shaft, and operating connections between such shaft and the shutters and having interposed springs adapted to yield after a predetermined thrust is imparted to the shutters.
67. In a coiled wire fabric machine, the combination with a wire coilling device, of a weaving device comprising two parallel bars or strips, forming a channel between them, one of which is movable and the other stationary, a series of yokes arranged at intervals along the length of the strips to receive both of them but secured to the stationary strip only, a plate arranged upon the inner side of the stationary strip to form thereat a removable wear plate, said plate being of non-magnetic material, blocks connected with the そokes, and an electro-magnet supported by such blocks.
68. In a colled wire fabric machine, the combination with colling and weaving devices, of a pattern device comprising a movable member having a step-by-step movement, and
means co-operating therewith and controlling the movements of the weaving device.
69. In a colled wire fabric machine, the combination with colling and weaving devices, of a pattern device comprising a movable member having a step-by-step movement, and having a series of depressions spaced according to the particular plan or pattern of fabric as regards the place of insertion of the cords, and means co-operating with said dopressinne .... arranged to control the movements of the weaving device.
70. In a coiled wire fabric machine, the combination with coiling and weaving devices, of mechanism for operating the weaving device, and a pattern device determining the pattern or place of insertion of cords in the fabric and cooperating with the weaving device
71. In a coiled wire fabric machine. the combination with colling and weaving devices, of mechanism for operating the weaving device, and a pattern devire determining the pattern or place of insertion of cords in the fabric and arranged to stop the weaving device at intervals.
72. In a colled wire fabric machine, the combination with coiling and weaving devices, of mechanism for oprating the weaving device, and a pattern device comprising a mo able member provided with a series of projections and depres. sions, and means co-operating therewith and controlling the movements of the weaving device
73. In a colled wire fabric machine, the combination w th coiling and weaving devices. of mechanis'n for oncrating the weaving device, and a pattern device comprising a longitudinally movable member provided on one edge with a series of projections and depressions and means co-operating therewith and controlling the movements of the weaving device.
74. In a colled wire fabric morhinn the rombination with colling and weaving devices, of a pattern device determining the pattern or place of insertion of cords in the fabric. such pattern device comprising an endless hand continuously operated in the operation of the machine and having means for causing the stopping of the weaving devices for the insertion of cords.
75. In a colled wire fabric machine, the combination with coiling and weaving devices, of a pattern device dotermining the nattern or place of insertion of cords in the fabric. and mechanism for operating the weaving devices. such pattern device comprisiug an endless band continuously onerated in the operation ofthe machine, and an arm controlled by the band and. when permitted by the latter, arranged to stop said onerating mechanism.
76. In a colled wire fabric machinc, the combination with coiling and weaving devices, of a nattern device determining the pattern or place of insertion of cords in the fabric. and mechanism for onerating the weaving deviers, such nattorn device comprising an endless band continuously onerated in the operation of the machine, and an arm normally hold with a yielding pressure towards a position to interfore with and ston the weaving devices, but restrained thercby until the time for the insertion of a cord.
77. In a colled wire fabric machine, the combination with coiling and weaving devices, of a pattern device dotermining the nattern or place of Insertion of cords in the fabric. and mechanism for operating the weaving devices. such pattern device comprising an, endleas band continuously onerated in the operation of the machine, and provided with a series of notches soaced at predotermined distances anart accordine to the desired type of fabric to be produced. and an arm cognerating with such notches and arraneed to stop the wearing device when a notch is presented thereto.
78. In a colled wire fabric machine. the combination with coiling and weaving devices, of a pattern device determining the nattern or place of insertion of cords in the pabric. and mechanism for onerating the weaving devices. such pattern device comprising an endless band continuouslv operated in the oneration of the machine, and nrovided on one edge with a series of notches spaced according to the dealred type of pabric in he nroduced. said band having a step-bv-step movement and an arm co-onerating with such notches and controlling the oneration of the weaving device. sald arm being arranoed to dron into any notch presented and thereby stop the weaving device.
79. In a colled wire fabric machine. the combination with coilling and weaving devices, of a pattern device determining ......t+arn or place of insertion of cords in the fabrlc. and mechanism for onerating the weaving devices such nattern device comprising an endiesg band continuously operated in the oneration of the machine and nrovided on one edge with a scries of notches smaced acrordine to the desired trpe of Pabric to he prondiced and provided or the other eden with panth corresnonding to the number of weaves in the fahric. a ninion onerated hy the machine and encagine said tenth to tonen the hand with a sten-bv-sten movement. and an arm controlling the operatinn of the weaving device and itself rontrolled by the notches of the band.
80. In a colled wire fabric machine, the combination with coiling and weaving devices, of a pattern device determining the pattern or place of insertion of cords in the fabric, and mechanism for operating the weaving devices, such pattern device comprising an endless band continuously operated in the operation of the machine, and provided on one edge with a series of notches spaced according to the desired type of fabric to be produced and provided on the other edge with teeth corresponding to the number of weaves in the fabric, a pinion engaging said teeth, a pin wheel operated by the machine, and an arm controlling the operation of the weaving device and itself controlled by the notches of the band.
81. In a coiled wire fabric machinc, the combination with coiling and weaving devices, of a pattern device determining the pattern or place of insertion of cords in the fabric, such pattern device comprising an endless band continuously operated in the operation of the machine, a train of mechanism for operating the weaving device and including a ratchet and pawl, and means under the control of the band for swinging the pawl to an inactive position when a cord is being run.
82. In a colled wire fabric machine, the combination with oiling and weaving devices, of a pattern device determining the pattern or place of insertion of cords in the fabric, such pattern device comprising an endless band continuously operated in the operation of the machine, a train of mechanism for operating the weaving device and including a ratchet and pawl, and means under the control of the band for swing ing the pawl to an inactive position when a cord is being run. sich means comprising a slide having an arm which when the slide is stopped interferes with and swings the pawl to inactive position, and an arm governed by the band and arranged to stop sald slide when a cord is to be run, as determined by the band.
83. In a colled wire fabric machine, the combination with coiling and weaving devices, of a pattern device determining the pattern or place of insertion of cords in the fabric, such pattern device comprising an endless band continuously operated in the operation of the machine, a train of mechanism for operating the weaving device and including a ratchet and pawl, and means under the control of the band for swinging the pawl to an inactive position when a cord is being run, such means comprising a slide spring pressed downwardly and having an arm which when the slide is held suspended interferes with and swings the pawl to inactive position, a cam for raising the slide against its spring presstire, said band having on one edge a series of notches spaced according to a predetermined pattern as regards cords in the fabric, and a spring pressed arm having a tooth pressed against said edge of the band and adapted to drop into any one of the notches presented to thereby cause such arm to nove to a position to interfere with the sllde and hold it suspended.
84. In a coiled wire fabric machine, the combination with coiling and weaving devices, of a pattern device determining the pattern or place of insertion of cords in the fabric, such pattern device comprising an endless band continuously operated in the operation of the machine, a train of mechanism for operating the weaving device and including a ratchet and pawl, and means under the control of the band for swinging the pawl to an inactive position when a cord is being ran. such means comprising a slide having an arm which when the slide is stopped and held suspended interferes with and swings the pawl to inactive position, and a device under the control of the band for holiling the slide suspended when a cord is to be run, as determined by the band, a second slide, a trigger or arm operatively connected therewith to co-operate with the wire after leaving the coiling device, and a connection between sald slides whereby the second sllde may be held suspended, together with the first slide.
85. In a coiled wire fabric machine, the combination with coiling and weaving devices, of a reciprocating head on which the coiling device is supported.
86. In a colled wire fabric machine, the combination with colling and weaving devices, of a head supporting the coiling device and arranged to reciprocate toward and away from the weaving device.
87. In a colled wire fabric machine, the combination with coiling and weaving devices, of a head supporting the coiling device and arranged to be moved intermittently and to be reciprocated toward and away from the weaving device.
ss. In a colled wire fabric machine. the combluation with coiled and weaving devices, and with wire feeding mechanism for feeding the wire to the colling device, of a head carrying said coiling device and wire feeding mechanism and arranged to reciprocate toward and away from the weaving device.
89. In a coiled wire fabric machine the combination with coiling and weaving devices, and with feed rolls for feeding the wire to the colling device, of a head carrying sald feed rolls and colling device and arranged to be intermittently reciprocated toward and away from the weaving device.
90. In a colled wire fabric machine, the combination of a colling device, a weaving device, cut-off mechanism, and a reciprocating head on which the colling device and cut-off mechanism are mounted.
91. In a coiled wire fabric machine, the combination of a colling device, a weaving device, cut-off mechanism, feed rolls for feeding the wire to the colling device, and a reciprocating head on which the coiling device, cut-off mechanism and feed rolls are mounted.
92. In a coiled wire fabric machine, the combination with coiling and weaving devices, of a reciprocating head on which the coiling device is supported and actuating mechanism for such head comprising a driving shaft, a rolling key operatively connected with the head and co-operating with the shaft, and means for controlling the position of such key.
93. In a coiled wire fabric machine, the combination with colling and weaving devices, of a reciprocating head on which the colling device is supported and actuating mechanism for such head comprising a driving shaft, a disc arranged on such shaft and operatively connected with the head, a rolling key co-operating with the shaft, and means for intermittently rolling said key to establish engagement between the disc and shaft to reciprocate the head, comprising an intermittently operated tripper adapted to be interposed in the path of the key to so rock or roll the same.
94. In a coiled wire fabric machine, the combination with the main frame. of an oscillating head therein, a coiling device, feed rolls for feeding the wire to the colling device, and cut-off mechanism, sald colling device, feed rolls and cut-off mechanism being mounted on the oscillating head, and such mechanism being adjustable with respect to the coiling device.
95. In a coiled wire fabric machine, the combination with the main frame, of an oscillating head therein, a colling device, feed rolls for feeding the wire to the colling device, and cut-off mechanism, said colling device, feed rolls and cut-off mechanism being mounted on the oscillating head, a movable trigger or arm arranged to co-operate with the forward portion of the coll in the cording operation and also mounted on the oscillating head, said trigger being adjustable towards and awry from the coiling device.
96. In a coiled wire fabric machine, the combination with the main frame. of an oscillating head therein, coiling device, feed rolls for feeding the wire to the coiling device, and cut-ofir mechanism, safd coiling device, feed rolls and cut-off mechanism being mounted on the oscillating head, a movable trigger or arm arranged to co-operate with the forward portion of the coil in the cording operation and also mounted on the osclllating head, a movable finger arranged rearwardly of the trigger to stretch the coil and position the cords and likewise mounted on the oscillating head, said finger being adjustable towards and away from the colling device.
97. In a coiled wire fabric machine, the combination with the main frame, of an oscillating head carrying the colling device, a housing on such head, a trigger frame mounted in the housing and having an independent movement, a trigger mounted in the trigger frame and arranged to co-operate with the forward end of the coil, and means for oscillating the head and moving the trigger irame.
18. In a colled wire fabric machine, the combination with the main frame, of an osclllating head carrying the coiling device, a housing on such head, a trigger frame mounted in the housing and having an independent movement, a trigger frame, operating connections between the sllde and operate with the forwand end of the coil, a slide in the trigger frame, operatin connections between the slide and the trigger, and means for oscillating the head.
99. In a coiled wire fabric machine the combination with the coiling device, and the weaving channel, of a rotatable roll arranged above the channel and adapted to elevate the completed fabric therefrom, and a friction device connection for the roll.
100. In a colled wire fabric machine, the combination with the coiling device, and the weaving channel, of a rotatable roll arranged above the channel and adapted to elevate the completed fabric therefrom, and a friction drive connection for the roll, such iriction being adjustable in degree.
101. In a colled wire fabric machinc. the combination with the colled device, and the weaving channel, of a rotatable roll arranged above the channel and adapted to elevate the completed fabric therefrom, sald roll having a spiral prorided with a flange, a drive wheel fitting over the spindle. and a spring for pressing the drive wheel against the flange with a yielding pressure.
102. In a colled wire fabric machine, the combination with 2 plurality of colling devices. of weaving mechanism comprising channels in which the wires as coiled are run. separate sets of shutters movable partially across the channels tu co-operate with the colls, and operating connections for the shutters. the connections for one set of shutters of the different channels being seperately yielding.
103. In a colled wire fabric machine the combination with a plurality of colled devices, of weaving mechanism comprising channels in which the wires as coiled are run, separate sets of shutters movable partially across the channels to co-operate with the colls, and separate operating arms for the different sets of shutters, actuating or driving me- hanism for said arms, separable vielding connections betweeen the shutters of one set and their operating arm, and a yielding connection between the other arm and said driving niechanism.
104. In a colled wire fabric machine, the combination with the colling and weaving devices, and with the feed rolls, of mechanism for actuating said devices and rolls, a clutch device co-operating with such mechanism, and electrically controlled mechanism actuated by the running wires when entangled and arranged to co-operate with the clutch.
105. In a colled wire fabric machine, the combination with the coilling and weaving devices, and with the feed rolls, of mechanism for actuating sald devices and rolls, a clutch device co-operating with such mechanism, and electrically controlled mechanism actuated by the running wires when enlangled and arranged to co-operate with the clutch and comprising electrodes arranged adjacent the running wires and in an electrical circuit, and an electro-magnet in said circuit and controlling the clutch device.
106. In a coiled wire fabric machine, the combination with the colling and weaving devices, and with the feed rolls, of mechanism for actuating said devices and rolls, a clutch device co-operating with such mechanism, and electrically controlled mechanism actuated by the running wires when entangled and arranged to co-operate with the clutch and comprising flexible electrodes arranged adjacent the running wires and in an electrical circuit, and an electro-magnet in said circuit co-operating with the clutch device.
107. In a coiled wire fabric machine, the combination with the colling and weaving devices, and with the feed rolls, of mechanism for actuating said devices and rolls, a clutch device co-operating with such mechanism. and electrically controlled mechanism actuated by the running wires when en langled and arranged to co-operate with the clutch and comprising electrodes arranged adjacent the running wires and in an electrical circult, a shafting lever connected with the clutch, a notched rod on said lever, an armature adapted to engage said notch, an electro-magnet interposed in said circuit and adapted to co-operate with the armature, and a :ircuit breaker operated by said rod.
108. A coiled wire fabric machine, comprising a plurality of gangs of coiling and weaving devices for producing a plurality of fabrics, and feed rolls adapted to leed the wires into the machine, one of which rolls has a series of pressure surfaces subjected to independent tension.
109. A coiled wire fabric machine, comprlsing a plurality of gangs of coiling and weaving devices for producing a plurality of fabrics, and feed rolls adapted to feed the wires into the machine, one of which rolls has a series of pressure rings for the wires subjected to independent tension.
110. n a colled wire fabric machine the cambination with coiling and weaving devices, and with power or driving mechanism for the machine, or means co-operating with the wire before its entrance to the machine for automatically stopping said mechanism when the strain on the wire exceeds a predetermined amount.
111. In a coiled wire fabric machine, the combination with coiling and weaving devices, and with power or driving mechanism for the machine, of electrically controlled means co-operating with said mechanism, and a circuit closer controlling the electrical circuit of said means and arranged to co-operate with the wire before its entrance to the machine.
112. In a coiled wire fabric machine, the combination therewith of the wire reels, and means interposed between the machine and the reels for catching a knot or the like in the wire and automatically stopping the machine when a wire thus becomes caught and for supplying sufficient wire to complete the coll of the particular wire caught or knotted.
113. In a coiled wire fabrlc machine the combination therewith of the wire reels, a pulley or sheave over which the wire runs from the reel to the machine and which is suspended with a yielding pressure, said pressure being overcome when a wire is caught or knotted, and an electrical device actuated by the falling sheave for stopping the machine.
114. In a colled wire fabric machine, the combination therewith of the wire reels, a pulley or sheave over which the wire runs from the reel to the machine and which is suspended with a yiclding pressure, said pressure being overcome when . wire is caught or knotted, means for predetermining the amount of such pressure, and an electrical device actuatoi by the falling sheave for stopping the machine
115. In a colled wire fabric machine, the combination therewith of the wire reels, a pulley or sheave over which the wire runs from the reel to the machine and which is suspended with a yielding pressure, said pressure being overcome when a wire is caught or knotted, an upright arm
near whose upper end the sheave is so held and on which it is arranged to slide when falling, and an electrical device actuated by the falling sheave for stopping the machine.
116. In a coiled wire fabric machine, the combination therewith of the wire recls, a pulley or sheave over which the wire runs from the reel to the machine and which is stispended with a yielding pressure, said pressure being overcome when a wire is caught or knotted, an upright arm having a longitudinal slot arranged to receive the spindle of the sheave, a spring pressed arm having an inclined portion engaging said spindle to hold the sheave in elevated position in the slot with a yielding pressure, and an electreal device actuated by the falling sheave for stopping the machine.
117. In a coiled wire fabric machine, the combination therewith of the wire reels, a pulley or sheave over which the wire runs from the reel to the machine and which is suspended with a yielding pressure, said pressure being overcome when a wire is caught or knotted, an upright arm having a longitudinal slot arranged to receive the sp'ndle of the sheave, a spring pressed arm arranged to engage the spindle to hold the sheave in elevated position in the slot with a yielding pressure, an electrical device actuated by the falling sheave for stopping the machine, a support having a bracket on which the slotted arm is mounted. and another sheave mounted on said bracket and over which the wire passes on its way to the machine.
118. In a colled wire fabric machine, the combination with the coiling and weaving devices, of a trimmer arranged in the path of the rearward edge of the fabric as delivered from the machine and adapted to trim said edges.
119. In a coiled wire fabric machine, the combination with the coiling and weaving devices, of a reciprocating knife arranged in the path of the rearward edge of the fabric as delivered from the machine and adapted to trim sald edges.
120. In a coiled wire fabric machine, the combination with the colling and weaving devices, of a fixed plate having a slot receiving the rearward edge of the fabric as dellvered from the machine, and a reciprocating knife movable across such slot to trim such edge of the fabric.
121. In a coiled wire fabric machine, the combination with gangs of coiling and weaving devices adapted to simultaneously produce a plurality of fabrics, of a trimmer arranged in the path of the rearward edge of all the fabrics and adapted to simultaneously trim the same.
122. In a coiled wire fabric machine, the combination with the coiling and weaving devices, of means for crushing one end of the fabric to prevent displacement of the coils.
123. In a coiled wire fabric machine, the combination with the colling and weaving devices, of a trimming device for trimming one edge of the fabric, and means for crushing such edge of the fabric.
124. In a coiled wire fabric machine, the combination with the coiling and weaving devices, of a channel or guide in which the fabric passes, and a movable member adapted to crush an edge of the fabric against such guide.
125. In a colled wire fabric machine, the combination with the coiling and weaving devices, of a channel or guide in which the fabric passes, a reciprocating knife for trimming an edge of the fabric, and a movable member operatively connected with the knife and arranged to crush the fabric against such guide.
126. A colled wire fabric machine, comprising a plurality of coiling devices for producing the coils, of a plurality of separate and complete fabrics, each coiling device being separate and independent and arranged to produce all of the coils of its particular fabric, a corresponding plurality of weaving devices separate and independent of each other and co-operating with said colling devices, and mechanism common to all of said colling and weaving devices for operating them.
127. A colled wire fabric machine, comprising a plurality of gangs of coiling and weaving devices for producing a plurality of fabrics, and feed rolls adapted to feed the wires into the machine, one of which rolls has a series of independent pressure surfaces.
128. A coiled wire fabric machine, comprising a plurality of gangs, of coiling and weaving devices for producing a plurality of fabrics, and feed rolls adapted to feed the wires into the machine, one of which rolls has a series of independently adjustable pressure surfaces.
129. A coiled wire fabric machine, comprising a plurality of gangs of coiling and weaving devices for producing a plurality of fabrics, and feed rolls adapted to feed the wires into the machine, one of which rolis has a series of separate pressure rings for the wires.

1:30. A coiled wire fabric machine comprising a plurality of gangs of coiling and weaving devices for groducng a plurality of fabrics, and feed rolls adapted to feed the wires into the machine, one of which rolls has a series of independently adjustable rings forming pressure surfaces for the wir's.
131. A colled wile fabric machine, comprising a plurality of colling devices for producing the colls. of a plurality of separate and ocn plete fabrics, each coiling device being separate and independent and arranged to produce all of the coils of it; particular fabric, a corresponding plurality of weaving devices comprising separate and independent channels arranzed in :.dvance of and co-operating with the coiling devices and a so comprising shutters working from opposite sides of the channels, and mechanism common to said coiling and weavirg devices for operating them.

\section*{No. 100,960. Hose and Pipe Couplins. Joint de boyave et tuyaue.}


Jonas Pehrson, Willow Brook. Saskatchewan, Canada, 11th September, 1903; 6 years. Filed 18th May, 1906. Receipt No. 136.041.
Claim.-A hose and pipe coupling comprising two members provided with ends adapted to abut on one another, one on said members having a series of arms provided with cam surfaces, the other member being provided with webs spaced from one another and one of them having apertures through which said arms are inserted, a locking ring loosely mounted between said webs and into which said arms are thrust, said ring being provided with a series of lugs at intervals provided with cam surfaces to engage the corresponding surfaces on said arms and draw said members together, and a eetaining collar on one of sald webs, substantially as described.

No. 100,961. Filter. Filtre.


John Mills, Toronto, Ontario, Canada, 11th September, 1906 ; 6 years. Filed 5th May, 1906. Recelpt No. 135,606.
Claim.-1. A filtering machine comprising a rotary filter, squeezing rolls opposed thereto, and means for causing the revolution of the rotary fllter.
2. A filtering machine comprising a rotary filter, squeezing rolls opposed thereto, means for causing the revolution of the rotary filter, and means for causing the revolution of the squeezing rolls.
3. A filtering machine comprising a rotary filter, squeezing rolls opposed thereto, means for causing the revolution of the rotary filter and means for adjusting the squeezing rolls ielatively to the rotary filter.
4. A filtering machine comprising a rotary filter, squeezing rolls opposed thercto, means for adjusting the squeezing iolls relatively to the rotary filter, means for causing the revolution of the rotary filter, and means for causing the revolution of the squeezing rolls.
5. A filtering machine comprising a rotary filter composea of a number of removable filter sections, means for securely
holding the filter sections in their fixed positions, squeezing rolls opposed to the rotary filter and means for causing the revolution of the rotary filter.
6. A filtering machine comprising a rotary filter composed of a number of removable filter sections, means for securely holding the filter sections in their fixed positions, squeezing rolls opposed to the rotary fller, means for adjusting the squeezing rolls relatively thereto, means for causing the revolution of the rotary filter and means for causing the revolution of the squeezing rolls.
7. A filtering machine comprising a shaft, a rotary plate revoluble around said shaft, an annular spur wheel concentric with the rotary plate and separated therefrom by an intervening space, a perforated filter bed connected to the rotary plate and to the annular spur wheel to bridge the intervening space between them, squeezing rolls opposed to the filter bed and means for causing the revolution of the spur wheel, filter bed and rotary plate
8. A filtering machine comprising a vertical shaft, an horizontally disposed plate revoluble around said shaft a filter bed supported by said plate, squeezing rolls opposed to the filter bed. means for causing the revolution of the filter bed. and means for causing the revolution of the squeezing rolls.
9. A filtering machine comprising a vertical shaft, an horizontally disposed plate revoluble around said shaft a filter bed supported by said plate, squeezing rolls opposed to the alter bed, means for causing the revolution of the filter bed, means for causing the revolution of the squeezing rolls, and means for adjusting the squeezing rolls to the filter bed.
10. A filtering machine comprising a rotary filter, squeezing rolls opposed thereto. means for causing the revolution of the filter, sides enclosing the squeczing rolls and means for adjusting the sides to the filter.
11. A filtering machine comprising a stationary shaft, a rotary plate revoluble around said shaft, means on said shaft for maintaining the rotary plate in a fixed horizontal plane, an annular spur wheel encircling the rotary plate and separated therefrom by an intervening space, a perforated fiter bed connected to the annular spur wheel and rotary plate and bridging said space, a filter plate supported upon the filter bed, idlers supporting the annular spur wheel, means for causing the revolution of the spur wheel, filter bed and rotary plate, squeezing rolls opposed to the filter bed and means for causing the revolution of the squeezing rolls.
12. A filtering machine comprising a stationary shaft a rotary plate revoluble around said shaft, means on said shaft for maintalning the rotary plate in a fixed horizontal plane an annular spur wheel encircling said rotary plate and separated therefrom by an intervening space, a perforated filter bed connected to the annular spur wheel and rotary plate and bridging said space, a filter plate supported upon the filter bed composed of a number of removable filter plate sections, means for removably holding the filter plate sections in their fixed positions upon the filter bed, idlers supporting the annular spur wheel, means for causing the rorolution of the spur wheel, filter bed and rotary plate, squeezing rolls opposed to the filter bed and means for causing the revolution of the squeezing rolls.
13. A flltering machine comprising a stationary shaft, a rotary plate revoluble around said shaft, means on said shaft for maintaining the rotary plate in a fixed horizontal plane. an annular spur wheel encircling said rotary plate and separ ated therefrom by an intervening space, a perforated filter bed connected to the annular spur wheel and rotary plate and bridging said space, a filter plate supported upon the filter bed, idlers supporting the annular spur wheel, means for causing the revolution of the spur wheel, filter bed and rotary plate, squeezing rolls opposed to the filter bed, means for causing the revolution of the squeezing rolls, and means for adjusting the squeezing rolls to the filter bed.
14. A fltering machine comprising a stationary shaft, a rotary plate revoluble around said shaft, means on said shaft for maintaining the rotary plate in a fixed horizontal plane an annular spur wheel encircling said rotary plate and separated therefrom by an intervening syace, a perforated filter bed connected to the annular spur wheel and rotary plate and bridging said space, a filter plate supported upon the filter bed, composed of a number of removable filter plate sections, means for removably holding the filter plate sections in their fixed positions upon the filter bed, idlers supporting the annular spur wheel, means for causing the revolution of the spur wheel, filter bed and rotary plate squeezing rolls opposed to the filter bed, means for causing the revolution of the squeezing rolls, and means for adjusting the squeezing rolls to the filter bed.
15. A filtering machine comprising a stationary shaft, a collar vertically adjustable upon the shaft, a rotary plate \(r \in\) voluble around said shaft and supported by sald collar, an annular spur wheel encircling the rotary plate and separated therefrom by an intervening space, idlers to support the annular spur wheel, an annular drain connected to the rotary plate and to the spur wheel and protruding through the space intervening between them, a flter bed bridging the Interven-

Ing space above the drain, a filter plate supported by the filter bed composed of a number of removable filter plato sections, a clamping means for each filter plate section to removably hold it in its fixed position, squeezing rolls opposed to the filter surface of the filter plate, adjustable bearings for the shafts of the squeezing rolls whereby they can be adjusted to the filter surface, tension springs engaging the bearings of the squeezing rolls to hold them in their adjusted position, a crown wheel carried by the rotary plate, bevel wheels mounted upon the shafts of the squeezing rolls meshing with the crown wheel, and tub sides enclosing the squeezing rolls adjustable to the fllter bed.
16. A filtering machine comprising a stationary shaft, a collar vertically adjustable upon the shaft, a rotary plate revoluble around said shaft and supported by said collar, an annular spur wheel encircling the rotary plate and separated therefrom by an intervening space, Idlers to support the anbular spur wheel, an annular drain connected to the rotary Flate and to the spur wheel and protruding through the space intervening between them, a filter bed bridging the intervening space above the drain, a filter plate supported by the filter bed composed of a number of removable filter plate sections, a clamping means for each fllter plate section to \(r \in m o v a b l y\) hold it in its fixed position, squeezing rolls opposed to the filter surface of the filter plate. adjustable bearings for the shafts of the squeezing rolls whereby they can be adjusted to the filter surface, tension springs engaging the bearings of the squeezing rolls to hold them in their adjusted position, a crown wheel carried by the rotary plate. \(b \in v e l\) wheels mounted upon the shafts of the squeezing rolls meshing with the crown wheel. tub sides enclosing the squeezing rolls adjustable to the filter bed. and a trough located below the drain.

\section*{No. 100,962. Filter Wash Trough.} Auge d laver pour nitres.


FIG. 2


Frederick Bernard Leopold, Evanston, Illinois, U.S.A., 11th September, 1906; 6-ears. Filed 29th June, 1906. Receipt No. 137,418.
Claim.-1. A wash trough for fllters having bulging or protruding walls forming inclined faces and a contracted mouth. 2. A wash trough for filters having a projecting top portion extending outwardly from the mouth of said trough whereby the water before entering said trough travels in a horizontal or substantially horizontal course.
3. A wash trough for filters having an inclined top portion extending from the mouth of said trough whereby the water before entering said trough travels in a horizontal or substantially horizontal course.
4. A wash trough for filters having outwardly projecting top portions extending from the mouth of sald trough at both s!des thereof whereby the water before entering said trough travels in a horizontal or substantially horizontal course.
5. A wash trough for filters having inclined top portions oxtending from the mouth of said trough at both sides thereof, whereby the water before entering said trough travels in a horizontal or substantlally horizontal course.
6. A wash trough for flters having upwardly and outwardly inclined faces extending from the bottom of gaid trough to a
point and inwardly and upwardly inclined faces extending from said point to the mouth of said trough.
7. A wash trough for filters having an opening in the botiom thereof leading back into the filter.
8. A wash trough for filters comprising metal plates connected together with a slight intervening space between their lower edges.
No. 100.963. Electrically Operated Safety Valve. Soupape de suireté actionnéz par l'électricité.


Adolph W. Jenczewsky, Chicago. Illinols, U.S.A.. 11th September. 1906 ; 6 years. Filed 25 th May, 1906. Receipt No. 136,216 .
Claim.-1. The combination with a supply pipe which enters a building through the outer wall thereof. of a safety valve aiplied to the supply pipe inside of the said wall of the puilding. said valve embracing a valve closure which has a tenflency to assume its closed position, means for holding the chosure in its open position, and electrically actuated means for relnasing the closure embracing an electric circuit and a switeh in said circuit located outside of the building.
2. The combination with a supply pipe which enters a building through one of the walls thereof, of a safety valve applied to the supply pipe inside of the said wall of the tuilding. said valve embracing a valve closure which has a tendency to assume its closed position, means for holding the closure in its open position, electrically operated means for releasing the closure, and a valve casing which surrounds and forms a permanently closed enclosure for the said electrically operated releasing means.
3. A safety valve for supply pipes comprising a valve casing. a valve closure in said casing which has a tendency to assume its closed position. means for holding the valve closure in its open position embracing a supporting member which is destructible by heat, and an electric clrcuit adapted to generate heat for effecting the destruction of said supporting member, and the release of the closure.
4. A safety valve for supply pipes comprising a valve casing, a movable valve closure in said casing which has a tendency to assume its closed position, and means for holding caid valve closure in its open position including a wire within the casing which is insulated from the casing and forms part of an electric circuit.

\section*{No. 100,964. Valve. Soирири}

Henry Rustad, Lindsay, Ontario. Canada, 11th September. 1906 ; 6 years. Filed 13 th June, 1906. Receipt No. 136. S37.
Claim.-1. In a valve in combination a body portion having a suitable seat. a bonnet covering in said body portion and having a recess from its lower end and a central cylindrical orifice into sald recess, a spindle having a threaded portion intermediate of its length and extending through said orlfice into proximity with said seat, a spring held non-rotating nut slidably arranged in said recess correspondingly threaded and co-acting with said spindle, and a valve at the lower cad of said spindle and engaging said seat, as and for the purpose specifled.
2. In a valve in combination a body portion having a suitable seat, a bonnet covering said body portion and having a recess from its lower end and a central cylindrical orifice into said recess, a spindle having a threaded portion intermediate of its length and extending through said orifice into proximity with said seat, a non-rotating nut slidably arranged in said recess correspondingly threaded and co-acting with said spindle, a helical spring esconsed in the central cyllndrical orifice in said bonnet and resting against said nut, and a valve at the lower end of said spindle and engaging said seat, as and for the purpose specifled.
3. In a valve in combination, a body portion having a suitable seat, a bonnet covering in said body portion and having

a recess from its lower end and a central cylindrical orifice itito said recess and projections from the wall of said recess, a spindle having a threaded portion intermediate of its length and extending through said orifice into proximity with said seat, a non-rotating nut slidably arranged in sald recess and correspondingly threaded and co-acting with said spindle and having slots in the periphery thereof registering with the projections from the walls of said recess, a heilical spring esconsed in said cylindrical orifice and resting against said nut, and a valve at the lower end of said spindle and engage ing said seat, as and for the purpose specified.
4. In a valve in comblnation, a body portion having a suitable seat, a bonnet covering in said body nortion and having 3 recess from its lower end and a central cylindrical orifice into said recess and projections from the wall of said recess. a spindle having a threaded portion intermediate of it:s length and an enlarged lower end and extending through said orifice into proximity with said seat, a non-rotating nut slidably arranged in said recess correspondingly threaded and co-acting with said spindle and having slots in the periphery thereof registering with the projections from the walls of said recess, a valve surorunding the enlarged lower end of said recess, a valve surrounding the enlarged lower end of ing said valve on sald spindle, as and for the purpose specified.
5. In a valve in combination a body portion having a sultable seat, a bonnet coyering in said body portion and having a recess from its lower end and a central cylindrical orifice into said recess and projections from the wall of sald recess. a spindle having a threaded portion intermediate its length and an enlarged lower end and lateral projections therefrom and extending through said orifice into proximity with said seat, a non-rotating nut slidably arranged in said recess correspondingly threaded and co-acting with said spindle and having slots in the periphery thereof registering with the projections from the walls of said recess, a valve at the lower end of said spindle and engaging sald seat having a recess from its upper side and threaded on the interior and a central cylindrical recess below said threaded recess to receive the enlarged end of sald spindle and recess from said central recess to recelve the projections from sald spindle. and nut surrounding said spindle having a threaded portion of said valve and securing it to said spindle, as and for the purpose specified.
6. In a valve in combination a body portion having a suitable seat, a bonnet covering in said body portion and having a cylindrical recess from its lower end reduced for a portion of its length and forming a shoulder and projectlons from the walls thereof below said shoulder and a central cylindrical orifice into said recess and the outer periphery threaded at the upper end, a spindle having a threaded portion intermediate of its length and an enlarged lower end and lateral projections therefrom and extending through said orifice into proximity with said seat, a cylindrical nut slidably arranged in said recess correspondingly threaded and co-acting with said spindle and having slots in the periphery thereof registering with the projections from the walls of said recess, a valve at the lower end of said spindle and engaging said seat having a recess from its upper side and threaded on the interior and a central cylindrical recess below sald threaded recess to receive the enlarged end of said spindle and forming a shoulder and recesses from said central recess to receive the projections from sald spindle, and a nut surrounding said spindle having a threaded portion to engage the threaded portion of sald valve and abutting sald shoulder. as and for the purpose specified.

No. 100,865. Tobacco Pipe. Pipe d tabac.


Charles Lindberg, Duluth, Minnesota, U.S.A., 11th September, 1906; 6 years. Filed 30th April, 1906. Receipt No. \(135,406\).
Claim.-The herein described tobacco plpe having the bowl provided with the short stem having the draft bore and the enlarged counterbore, the draft tube, of reduced diameter connected with the draft bore and extending through the counterbore, the hollow drain cap or plug communicating with the inner end of the counterbore and depending from the short stem, the main stem fitted in the counterbore and into which the draft tube extends, and the mouthpiece fitted and having the reduced inner portion in the outer end of the main stem, the mouthplece being spaced from the draft tube. substantiaily as specified.

No. 100,966. Tobacco Pipe. Pipe d tabao.


Bertram Odegard, Chicago, Illinois, U.S.A., 11th September, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,648.
claim.-1. A pipe comprising a bowl and a removable stem, said stem comprising a sleeve and a core removably arranged in said sleeve, said core having a spiral groove in its surface and provided at its outer end with an extension having a diminished diameter and surrounded by an annular chamber communicating with said spiral groove, said extension having on its outer end a portion fitting the opening in the outer end of the sleeve, said portion having therein a perforation communicating with the annular chamber.
2. A pipe consisting of a bowl and a stem removably fitting said bowl, said stem comprising a core having spiral grooves in its surface, a cord arranged in one or more of said grooves, a sleeve surrounding said core and holding said cord in its grooves, sald sleeve being removable from said core.
3. A pipe comprising a bowl. a stem consisting of a core and a sleeve and a wiper arranged on said core, substantially as shown and described.

\section*{No. 100,967. Tobacco Pipe. Pipe d tabac.}

Muscoe L. Spotswood and Turner Ashby Weller, Birmingham, Virginia, U.S.A., 11th September. 1906 ; 6 years. Filed 10th May, 1906. Recelpt No. 135,762.
Claim.-1. A tobacco plpe attachment consisting of a perforated plate and a spring cllp formed from sheet metal, the inner clip member being flat and the outer member having oppositely inclined portions, as and for the purpose described.
2. A new article of manufacture, a tobacco plpe attachment, the same comprising a perforated plate and a spring clip formed of a sheet metal blank, the clip members being flat and adapted to lie close against the inner and outer walls of the pipe bowl, the outer member being longer than the inger member and composed of oppositely inclined parts, substantially as speciffed.
\(9-17\)
3. An attachment for the bowl of tobacco plpes, the same comprising a plate, a deflector arranged below the plate and

spaced therefrom, and connecting means between the plate and deflector
4. An attachment for the bowl of tobacco pipes, the same comprising a plate, a deflector of approximately concavor cenvex form arranged below the plate and spaced therefrom, the hollow side facing away from the plate, and connecting means between the plate and deflector.
5. In a tobacco pipe, the combination of a trap in the lower portion of the bowl, a tube leading through said trap and extended upward therefrom, and a deflector located above the trap and recelving the upper end of said tube.
6. In a tobacco pipe, the combination of a perforated plate aranged within the lower portion of the bowl, a deflector 10cated below said perforated plate, a trap arranged below said deflector, and a tube opening through the trap and having its upper end projected into the deflector.
7. An attachment to be fitted in the longitudinal portion of the bowl of a tobacco plpe, the same comprising a plate, and a deflector of concavo-convex form spaced from the plate and baving central connection therewith, the hollow side of the deflector facing away from the sald plate.
8. An atachment to be fitted in the longltudinal portion of the bowl of a tobacco plpe, the same comprising a plate, a trap spaced from the plate, a deflector of approximately con-cavo-convex form arranged in the space formed between the said plate and trap, and having its hollow side facing the trap and its lower edge spaced therefrom, and connecting. means between the several parts forming a support to admit of manipulating the attachment.
9. An attachment for tobacco pipes comprising a bar adapted to form a scraper, and a perforated plate, deflector and trap supported by said bar and adapted to be placed in position or removed from the bowl of the plipe thereby.
10. An attachment for tobacco pipes comprising a cap, a bar projected therefrom, and a perforated plate, deflector and trap supported by means of said bar.
11. An attachment for tobacco pipes comprising a cap adapted to be fitted to the upper end of the bowl of a pipe and adapted to be turned thereon, a bar connected with said cap and adapted to form a scraper for cleaning the inner s!de of the bowl, and a perforated plate, deflector and trap supported by means of said bar.
12. An attachment for tobacco plpes comprising a support, and a trap connected with said support and movable therewith to be placed within or to be removed from the bowl, said trap being movable with reference to the support to admit of its being readily cleaned.
13. An attachment for tobacco pipes comprising a support, and a trap having hinged or pivotal connection with the support and provided with a catch to normally hold the same in a given position.
14. An attachment for tobacco pipes comprising a cap rotatable upon the end of the bowl, a support connected with said cap and comprising a spring arm and a bar, the latter coming close to the inner side of the bowl to form a scraper and the spring arm being deflected between its ends to span the bulge of the bowl and grip the side thereof at a point between the bulge and base, and a perforated plate, deflector and trap attached to said support.
15. An attacbment for tobacco pipes comprising an annular cap, bars and spring arms connected therewith, and a perforated plate, deflector and trap connecting the lower ends of the bars, the trap being provided with a centrally disposed tube having its lower end in communication with the passage of the stem of the pipe and having its upper end extended Into the space of the deflector.

No. 100,988. Gyroscope. Gyrophore.


Hermann Aschutz-Kaemfe, Kiel, Prussla, Germany, 11th September, 1906; 6 years. Filed 9th June, 1906. Receipt No. 136,737.
Claim.-1. In a gyroscope the provision of means to bring about a precession thereof corresponding at any point of the surface of the earth to the velocity and direction of the rotation of the earth, consisting in providing on one side of the axis of rotation a weight which has the tendency to turn the gyroscope about the horizontal axis perpendicular to the axis of rotation-the axis of elevation-the action of the sald weight being brought in accordance with the desired latitude by suitable choosing its size and position, substantially as described.
2. A gyroscope characterized by the arrangement of a weight acting on its axis of rotation the said weight being movable transversely of the axis of elevation along a scale the divisions of which correspond to the different degrees of latitude and indicate the positions into which the welght has to be moved for producing a precession corresponding to the desired latitude, substantially as described.
3. A gyroscope characterized by the arrangement of the weight in such manner, that the leverage with which it acts on the axis of rotation is automatically modified in accordance with the elevation of the axis of rotation, in such manner that the speed of precession always remalins the same, substantially as described.
4. In a gyroscope the provision of means to automatically return its axis of rotation to normal position, when the position of said axis has been varied to a given extent.
5. In a gyroscope the provision of means whereby when the position of the axis of rotation has been altered to a given extent, the circuit of an electro-magnetic device is inlluenced in such manner that a torque or turning movement is exerted on the gyroscope with reference to the axis perpendicular both to the axis of rotation and to the axis about which the incorrect turning has taken place, axis of elevation, in such manner that owing to the reaction the axis of rotation is moved in accordance with the laws of gyroscopic action in the opposite direction to that in which it was wrongly moved, substantially as described.
6. In a gyroscope the provision of two electric circuit closing devices secured to the frame carrying the axle of rotation of the gyroscope, one of the said circuit closing devices. when the axis of rotation \(s\) wings out in one of two directions to a glven extent closing the circuit of an electro-magnetic device in such manner that the latter exerts a torque on the third axis perpendicular to the axis of rotation and to the axis of elevation, the said torque producing a movement of the axis of rotation to return the same to normal position, substantially as described.
i. In a gyroscope the combination with an electro-magnetic dtvice, of circuit closing devices secured to the frame of the axle of rotation so that after an incorrect movement of the said axle to a given amount has taken place, the circult is maintained closed until movement of the axis of rotation, produced by the electro-magnetic device, has reached the same amount as that of the previous incorrect movement, whereupon the circuit is broken.
8. In a gyroscope having electro-magnetic means to automatically control the position of its axis of rotation the provision of contacts to close an electric ciruit, one contact being movable by the movement of the axis to close the circuit, and the other being moved after the circuit is closed, substantially as and for the purpose described.
9. In a gyroscope having circuit closing devices to control the apparatus for correcting the position of its axis of rotation, the provision of a contact. in the form of a mercury cup arranged on the armature of an electro-magnetic device which. whin the circuit is closed by the contact of the mercury surfacr with a second contact in the form of a metal pili. is raised to such an extent that the contact pin dips into the mercury to the same extent to which the axis of rotation
disscended in order to bring about the contact, substantially as described.
10. In a gyroscope a device for automatically returning its axis of rotation to normal position comprising an electromagnet armature provided with a pawl, which when the circuit is closed, is first brought into engagement with a ratchet wheel mounted on the third axle perpendicular to the axis of rotation and to the axis of elevation, and afterwards operated to turn the ratchet wheel to give a desired torque to said axle, substantially as described.
11. In a gyroscope a device to automatically return its axis of rotation to normal position the provision of a pawl rotatably mounted on a slide block movable in guides, which slide block forms the armature for an electro-magnet which is switched in when the circuit is closed by a change of position of the said axis from normal and is raised when the said electro-magnet is excited, whereby on the one hand the pawl is brought into engagement with the ratchet wheel, and on the other hand, the circuit of another electro-magnet is excited, which exercises a lateral pull in one or in the other direction on the pawl, substantially as and for the purpose described.

No. 100,969. Air Gun. Fusil d vent.


Axel Linus Blomëu, Sundbyberg, Sweden, 11th September. 1906; 6 years. Filed 9th June, 1906. Receipt No. 136.732. claim.-1. The combination with an air gun having an air reservoir, an air pump and a valve acted upon by a trigger device and adapted to close and open a passage between the reservoir and the barrel, of a body yieldingly connected to the valve and adapted to engage the pawl which as usual is released by the trigger, so that a tension is established between the valve and said body, when the latter engages the pawl, said tension being adapted to press the valve against its seat, for the purpose set forth.
2. The combination with an alr gun having an air reservoir, an air pump, and a valve acted upon by a trigger device and adapted to close and open a passage between the reservoir and the barrel, of a sleeve passed on the rear end of the valve stem, a spring inserted between the valve stem and the bottom of the sleeve, and a screw fastened in the stem and passing through a hole in the bottom of the sleeve, so that the backward movement of the sleeve relatively to the stem is stopped by the head of the screw. substantially as get forth.
3. The combination with an air gun, having an air reservoir, an air pump, and a valve controlling the communication between the reservoir and the barrel, of a sleeve passed on the valve stem, a spring adapted to move the sleeve rearwards on the stem, a stop connected to the stem and adapted to limit the backward movement of the sleeve on the stem. another spring adapted to open the valve by pressing on the front edge of the sleeve, a shoulder on the sleeve, adapted to engage a pawl engaged by the trigger, and a cap screwed on the rear end of the sleeve and leaving a space between its bottom and the sald stop so as not to interfere with the movement of the sleeve relatively to the stem, substantially as set forth.

No. 100,87O. Animal Trap. Piçc.


John Jefferson Crowson, Pecan Cap, Texas, U.S.A., 11th September, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,718.
Claim.-1. A trap of the character described having means to suspend the same above the ground, and means simulcaneously operated with the springing of the trap to elevate the latter, substantially as described.
2. A trap of the character described, comprising a supportng frame, spring actuated gripping jaws pivoted to said frame, a trigger to hold sald jaw in an open or set position, a slidably mounted supporting rod connected to said trap, means to pull said rod upwardly and thereby elevate said trap, and means adapted to be released by the spring of the trap jaws, to hold said rod and trap in a lowered position, substantially as described.
3. A trap of the character described comprising a supporting frame, spring actuated gripping jaws pivotally mounted on said frame, a trigger to hold said jaws in an open or set postion, a supporting post, a gulde arm projecting from said post, a supporting rod slidably mounted in said arm, said rod being connected at its lower end to said trap, an elevating connection to the upper end of sald rod, a lever pivotally mounted on said arm, means formed on said lever to hold said rod and the trap in a lowered position, and means connected to the jaws of the trap whereby when the same are sprung said lever is actuated to release said rod and permit said spring to elevate the trap.
4. A trap of the character feecribed comprising a supporting frame, spring actuated gripping jaws pivotally mounted on said frame, a trigger to hold said jaws in an open or set position, a supporting rost, a guide arm projecting from said rod being connected at its lower end to said strap, an elevating spring connected to the upper end of said rod, a lever pivotally mounted on said arm, a laterally projecting roller pivotally mounted on said rod, a hook formed on said rod and strap in a lower position, a rod or cord connected to the upper end of said lever, and to one of the jaws of said strap whereby when the latter is sprung, said lever will be actuated to disengage the hook thereon from the roller on sald rod, thereby permitting said spring to elevate the trap, substantially as described.

No. 100,97 1. Trap. Piede.


James P. Sandefur, Stamford, Texas, U.S.A., 11th September, 1906; 6 years. Filed 11th June, 1906. Receipt No. 136,780. Claim.-1. The combination with the uprights and the top bar, of the base bar provided with upwardly projecting
spikes, the central spike bar, the springs on the uprights adapted to depress the latter spike bar, the hinge jointed bait bar, and operative means between the bait bar and central spike bar to latch the latter in raised position when its joint is straightened, but to release the said spike bar when the hinge joint of the bait bar is broken.
2. The combination with the uprights and the top bar, of the base bar provided with upwardly projecting spikes, the central spike bar, the springs on the uprights adapted to depress the latter spike bar, the hinged jointed bait bar, the latch pins pivoted in said bifurcations, the trip standards having latch engaging fingers, to which standards the ends of the bait bars is pivoted, the said flingers engaging the latches on one side of their plvot and the central spike bar resting upon them on the other side of their pivots, the said standards being each provided with a hinge joint, and the angular guiding standard.

No. 100,972. Firearm. Arned feu.


Juhn D. Russ, F. F. McIntosh and A. J. Lyons, each an assignee of a third interest, all of Spencer, West Virginia, U.S.A., 11th September, 1906; 6 years. Filed 29th May, 1906. Receipt No. 136,359.
Claim.-1. In a single trigger mechanism the combination with the hammer sears, of a receptacle member having two operative positions for sear release, and an automatic detent distinct from the sears and arranged to retain sald reciprocable member in first operative position and to be moved out of engagement therewith by the sear releasing movement thereof.
2. In a single trigger mechanism the combination with the hammer sears, of a reciprocable member having two operative positions for sear release, an automatic detent distinct from the sears for rotating said member in first operative position, and means for actuating said member to simutaneously disengage said detent and to bring about first sear release.
3. In, a single trigger mechanism, the combination with the hammer sears, of a reciprocable member having two operative positions for sear release, an automatic dotent distinct from the sears and arranged to retain sald member in first operative position and to be moved out of engagement with said member by the sear releasing movement thereof, setting means for moving the member in one direction into first operative position, and means for moving the member in the opposite direction upon disengagement of the detent.
4. In a single trigger mechanism, mechanism vertically movable to bring about release of the sears successively, comprising a horizontally reciprocable slide and a horizontally pivoted detent overlying the slide, said detent having an engaging tip arranged to engage detainingly with the slide and said slide being constructed on vertical movement to engage liftingly with the detent between pivot and tip.
5. In a single trigger mechanism the combination of a longitudinally movable member having two operative positions for sear release, means for moving the member from first to second operative position, a detent for retaining the member in first operative position, means for disengaging the detent and actuating the member to bring about release of the sears succcessively, and means for timing such disengagement of the detent.
6. In a single trigger mechanism, mechanism vertically movable to bring about sear release successively, comprising a horizontally reciprocable slide and a horizontally pivoted dent overlying sald slide, said detent having an engaging tip arranged to engage detainingly with the slide and a depending adjustable nin disposed intermedlate the pivot and tip, and said slide having a detent disengaging reglon arranged on vertical movement of the slide to contact liftingly with the pin.
7. In a single trigger mechanism the combination of a longitudinally movable slide capable of pivotal movement about a horizontal axis, a horizonta'ly pivoted detent overlying the slide and having an engaging tip and actuating means for elevating the slide to bring about sear-release, the slide being provided with a shoulder engaged by the tip of the detent and with a detent disengaging region located farther from the horizontal axis than sald shoulder and arranged on vertical movement of the slide to contact liftingly with the detent between pivot and tip.
8. In a single trigger mechanism a longitudinally movable member having two operative positions for sear release. an automatic detent arranged to retain said member In firsi operative position, and means carried by the detent for detaining the slide between operative positions.
3. In a single trigger mechanism a longitudinally and vertically movable member having two operative positions for sear release, means for urging the members from first to second operative positions, means for elevating the member to bring about sear release, and an automatic detent for retaining the member In first operative position and also for preventing the member assuming second operative posi tion while elevated for first sear release.
10. In a single trigger mechanism the combination of a longitudinally and vertically movable slide having two operative positions for sear release, a horizontally pivoted detent overlying said slide and having an engaging tip arranged automatically to engage and detain the slide at first operative positions, actuating means arranged to elevate the sllde to bring about sear release, and slide being provided with a detent disengaging region arranged to contact liftingly with the detent between pivot and tip during elevation at first operative positions, and a stop depending from the detent and arranged to arrest the slide in advance of second releasing operative position during such elevation.
11. In a single trigger mechanism the combination of a longitudinally movable slide raisable for sear release, means for urging the slide longitudinally from one operative position to another, and an automatic horizontally pivoted detent overlying and co-operating with the sllde and having a depending adjustable pin and a depending stop in rear of said pin, sald pin being engaged by the slide during elevation to release the slide and said stop being arranged to temporarily arrest the slide between operative positions.
12. In a single trigger mechanism the comblnation of a reciprocable member movable in one direction into first operative position and in the opposite direction into second operative position, actuating means for moving said member at operative positions to bring about sear release. and an adjustable stop arranged to temporarily arrest the member between first and second operative positions.
13. In a single trigger mechanism the combination with the hammer sears, of a sear releasing member normally in ruleasing positions with reference to one of sald sears, a releasing member for the other sear unconnected with the other releasing member, setting means for positioning the latter member in advance of releasing position with reference to the corresponding sear, and single means for successively actuating the members to release the sears.
14. In a single trigger mechanism, the combination with second sear releasing member unconnected with said initial nomber setting means for moving sald second releasing memver to a point in advance of releasing positinn, and single means for actuating said releasing members successively to effect sear release.
16. In a single trigger mechanism, the combination with the hammer sears, of an Initial sear releasing member arranged to occupy releasing position with reference to one of the sears, a second sear releasing member unconnected with said inltial member, and setting means for disposing said second member In advance of releasing position, said second member being arranged, after release of the first sear by the inttial member, to occupy releasing position with reference tr, the second sear.
16. In a single trigger mechanism. the combination with the hammer sears, of an initial releasing member arranged to occupy releasing position with reference to one of the sears, a second releasing member constructed and arranged to actuate said initial member in firing action, and setting means for disposing said second member in advance of releasing position where operable to actuate the initial releasing member to effect release of the first sear, the second releasing member then moving to assume releasing position with reference to the second sear.
17. In a single trigger mechanism, the combination with the hammer sears, of an initial releasing member for the first sear, and a second releasing member for the second sear arranged to actuate sald inltial member in firing action.
18. In a single trigger mechanism the combination with the hammer sears, of an initial releasing member for the first sear, a second releasing member for the second sear arranged to engage operatively said initial releasing mem-
ber in firing action, and a single finger trigger plece arranged to, actuate said second releasing member.
19. In a single trigger mechanism the combination with the hammer sears. of an initial releasing member for thr first sear. and a second releasing member but arranged to actuate said member in firing action.
20. In a single trigger mechanism the combination with the hammer sears, an initial releasing member for the first sear and a second releasing member for the second sear arranged to actuate the initial releasing member, of setting means for positioning said second releasing member in advance of releasing position, and manual actuating means whereby said second releasing member is released to move toward releasing position and simultaneously actuates the initial releasing member to effect release of the first sear, said means being then operable to actuate said second releasing member to effect release of the second sear
21. In a single trigger mechanism the combination with the hammer sears, of an initial releasing member for the first sear, a releasing member for the second sear, and setting means for positioning sald second releasing member in advance of releasing position, sald initial member being arranged to serve as a detent to retain temporarily the second releasing member in such advanced position. and of means for actuating said releasing members to effect sear release successively.
22. In a single trigger mechanism the combination with the hammer sears, of an initial releasing member for the first sear, a slide movable to effect release of the second sear, setting means for moving said slide longitudinally in advance of releasing position, said initial releasing member being arranged to serve as a detent to temporarily retain sald slide in such advance position, and of actuating means for causing said member and slide to effect sear release successively.
23. In a single trigger mechanism the comblnation with the hammer sears ralsable to release the hammers, of a vertically movable initial releasing member arranged to underlic one of said sears. a second longitudinally slidable releasing member underlying said initlal member, setting means for moving said second member longitudinally in advance of releasing position beneath the other sear though still beneath the initial releasing member, and manual actuating means arranged to bring about sear releasing elevation of sald second releasing member, rlevation of sald second member while advanced operating to raise the initial member into releasing engagement with its sear, the second releasing member then moving to take up releasing position with reference to its sear.
24. In a single trigger mechanism the combination with the hammer sears ralsable to release the hammers, of a horizontally pivoted initial releasing member arranged to underlfe one of said sears. a second longitudinally slldable releasing member underlying said initial member at one alde of its pivot, setting means for moving sald second member longitudinally in advance of releasing position beneath the other sear though still beneath the initial releasing member. and manual actuating means arranged to bring about sear releasing elevation of sald second releasing member, elevation of sald member while advanced operating to raise the initial member into releasing engagement with its sear, the second releasing member then moving to take up releasing position with reference to its sear.
25. In a single trigger mechanism the combination with the hanmer sears, of an initial releasing member for the first sear, and a releasing member for the sicond sear. said inttial member being arranged to serve as a detent to retain the other releasing member in advance of releasing position prior to the release of the first sear.
26. In a single trigger mechanism the combination with the hammer sears, of an inltial relcasing momber for the first sear, a releasing member for the second sear, setting means for positioning said second member in advarce of releasing position, sald initial member being arranged to serve as a detent for temporarlly retaining said second member in such advanced position, and of actuating means for simultancously removing said initial releasing member from retaning engagement and causing it to effect sear release. said means being afterwards operable to actuate the reinaining releasing momber to effect sear release.
27. In a single trigger mechanism, the combination with the hammer sears, of an initial releasing member for the first sear, a member for releasing the second sear, setting means for positioning said second member in advance of releasing position, said inltial releasing member being arranged to be actuated by the second member and to serve as a detent for temporarily retaining sald member in advanced position. and of means arranged to actuate sald second releasing member to disengage the initial relcasing member and simultaneously to cause said initial member to effect sear release, sald means being afterwards operable tc calise the second releasing member being afterwards
uperable to cause the second releasing member to effect release of the second sear.
28. In a single trigger mechanism in combination with the hammer sears of an initial releasing member for the first sear, a releasing member for the second sear, and setting meang for positioning said second releasing member in advance of releasing positon. said init!al releasing member heing arranged to serve as a detent to reiain temporarily the second releasing member in such aúvanced position and again to arrest said member before reaching releasing positinn.
29. In a single trigger mechanism the combination with the bammer sears, of an initial releasing member arranged to occupy releasing position with reference to the first sear and a longitudinally movable releasing member for the second sear arranged to have a setting movement in one langitudinal direction to a point in advance of releasing position and a return movement to releasing position, both of sald members being raisable to effect initial sear release, ard said initial releasing member serving as a detent to retain temporarily the second releasing member in such advanced position and again, during elevation of the second releasing member for initial sear release, to arrest such member before reaching release position.
30. In a single trigger mechanism, the combination with the hammer sears, of a longitudinally reciprocable slide for releasing one of the sears having a setting movement in one longitudinal direction to a point in advance of releasng position and a return movement into releasing position, and being provided on its upper surface wth a recess, of an Initial releasing member arranged, while sald slide is advanced to occupy releasing position with reference to the other sear. and overlying said slide and serving as a detent to retain the same in advanced position, of means for elevating the releasing members at releasing positions to bring about sear release, elevation at initial releasing position freeing the slide to take up movement toward second releasing position. and of a stop depending from the initial releasing member and arranged, during elevation of the slide for initial release, to arrest the slide before reaching releasing position, said stop during elevation of the slide at second releasing position being received in the recess in said slide.
31. In a single trigger mechanism, the combination with the hammer sears, of a selective releasing member movable to effect release of either of the sears as desired, and a second indenendently mounted releasing member arranged to actuate the selective member in firing action and movable to release the other sear after the operation of the selective member.
32. In a single trigger mechanism, the combination with the bammer sears, of a selective releasing member movable at will to occupy releasing position with reference to either of the sears, and a second independently mounted releasing member arranged to actuate said selective member in firing action and movable, after release of the first sear by the selective member, to nccupy releasing position with reference to the other sear
33. In a single trigger mechanism. the combination with the hammer sears. of a seloctive releasing member movable at will to occuny releasing position with reference to either of the sears, a second releasing member movable after release of the first sear by said selective member to occupy releasing position beneath both of the sears, and of means for preventing said second member assuming releasing position in event of failure of the selective member to release ejther sear.
34. In a single trigger mechanism. the combination with the hammer sears, of a selective releasing member located between the sears and transversely shiftable at will to occupy releasing position with reference to either sear, but incapable in mid-position of occupying releasing position with reference to ether sear, and a second releasing member overable only after the release of the first sear to release the remaining sear.
35. In a single trigger mechanism, the combination with the hammer sears, of a selective releasing member movable \(t 0\) effect release of elther of the sears as desired, and a second releasing member movable to release the other scar after the operation of the selective mmber, said selective member serving as a detent for retaining the second releas ing member in advance of releasing position until after the release of the first sear by said selective member.
36. In a single trigger mechanism, the combination with the hammer sears, of a transversely shiftable selective releasing member movable to effect release of either of the sears as desired. and a longitudinally movable independently mounted member arranged to actuate said selective member in firing action and having releasing means for effecting release of the other sear after the operation of the selective nember.
37. In a single trigger mechanism, the combination with the hammer series, of a transversely shiftable selective re-
leasing member movable to effect release of either of the sears as desired, and a longitudinally movable member arranged to actuate said selective member in firing action and having means for effecting release of the other scar after the operation of the selective member, said selective member being movable transversely without partaking of the longitudinal travel of said longitudinally movable member.
38. In a single trigger mechanism, the combination with the hammer sears, of a transversely swinging selective member movable to effect release of either of the sears as desired, and a longitudinally movable member arranged to actuate said selective member in firing action and movable to effect release of the other sear after the operation of the selective member.
39. In a single trigger mechanism, the combination with the hammer sears located at either side of the lock chamber and raisable to release the hammers, of a selective releasing member mounted intermediate the sears on vertical and horizontal axes so as to be capable of raising either of the sears as desired, and a second releasing member arranged to actuate said selective member in firing action and capable of raising the other sear after the operation of the selective member
40. In a single trigger mechanism, the combination with the hammer sears located at either side of the lock chamber and raisable to release the hammers, of a trigger plate, a post intermediate the sears mounted on said plate on \(n\) vertical axls, a selective releasing member carried by said post to swing laterally therewith beneath either sear a desired and mounted on a horizontal axis to bring about the elevation of the sears, and a second releasing member capable of raising the other sear after the operation of the selective member.
41. In a single trigger mechanism the combination with the hammer sears located at either side of the lock chamber and raisable to release the hammers, of a selective releasing member mounted intermediate the sears and laterally shiftable to occupy releasing position beneath either of the sears. and a sllde positioned below sald selective member and having a transverse releasing region arranged to underlio both of the sears at once, said slide being longitudinally movable, after release of one of the sears by the selective memher, to carry said releasing region to such point beneath the both of the sears as to be in position to raise either of the sears not raised by the selective member.
42. In a single trigger mechanism the combination of a releasing slide movable longitudinally between two operative positions and having a detaining shoulder, means for urging the side from the first to second operatlve position and detent overlying the slide and arranged to engage with said shoulder at first position, the region of the slide in advance of said shoulder being downward inclined or curved to prevent the detent when released from opposing the movement rif the slide to second position.
43. In a single trigger mechanism the combination of a longitudinally moved releasing slide having a detaining shoulder and a downwardly inclined or curved region in advance of said shoulder, means for urging the sllde longitudi nally and a pivoted detent overlying the slide and arranged to engage said shoulder to retain the slide in opposition to said urging means, the engaging tip of the detent being extended downward to co-operate with the downward inclined or curved region of the slide.
44. In a single trigger mechanism the combination of a longitudinally movable releasing slide and an intermediately pivoted setting lever connected at one end with sald slide and adapted to be engaged at the other end by a moving part.
45. In a single trigger mechanism the combination with the hammer sears disposed longitudinally and raisable to release the hammers, of a releasing member longitudinally movable in one direction to a point in advance of releasing position and having a return movement into releasing position and being provided on its upper surface with a transverse releasing region of such length as to underile both of the sears at once and with a transverse shoulder in rear of said region having its walls extended upward at the center of a selective releasing member mounted intermediate the sears and laterably shiftable to occupy releasing position beneath either of them but incapable in mid position of underlying either of them, said selective member serving as a detent to engage with the shoulder on the longitudinally movable member to hold the latter in advanced position and of means for elevating said longitudinally movable member at such advanced position to cause the selective member to release one of the sears, such elevation also removing the selective member from engagement with said shoulder but being Incapable of raising the selective member free of the shoulder when said member occupies mid position in rear o the extension of the shoulder.
46. In a single trigger mechanism the combination with the hammers and the hammer sears pivoted above the hammers and raisable to release the hammers, with a selective releasing member movable to release either of the hammers
as desired, a second releasing member movable to release the other hammer after the operation of the selective member and manual means for actuating said members, of bevelled lugs disposed upon the sears to engage with the backs of the hammers during firing whereby each hammer when down maintains its sear sufficiently elevated to escape further engagement with the corresponding releasing member.

No. 100,973. Pile Fabric Loom. Métior.


Nazar Costikyan, assignee of James Karmi Delkranian, all of New York City, New York, U.S.A., 11th September, 1906; 6 years. Filed 12th June, 1906. Receipt No. 136,823.
Claim.-1. A loom for interweaving a pile thread with a pair of ground warp threads, comprising means for passing the pile thread twice between the ground warp threads of a pair, and means for crossing and uncrossing the ground warp threads alternately relative to the movement of the pile thread.
2. A loom for interweaving a pile thread with a pair of ground warp threads, comprising means for alternatively crossing and uncrossing the ground warp threads, means for passing the pile thread twice between the ground warp threads, that is once while the ground warp threads are in crossed condition, and a second time while the ground warp threads are in an uncrossed condition.
3. A loom for interweaving a plle thread with a pair of ground warp threads, comprising means for alternately crossing and uncrossing a pair of ground warp threads, and means for passing a pile thread between the ground warp threads after the crossing is made and passing one end of the pile thread between the ground warp threads after they are uncrossed.
4. A loom for interweaving a pile thread with a pair of ground warp threads, comprising means for alternately crossing and uncrossing a pair of ground warp threads, means for passing a pile thread between the ground warp threads after the crossing is made and passing one end of the pile thread between the ground warp threads after they are uncrossed, means for shlfting the ground warp threads to form an open shed, and means for passing a weft thread through the open shed.
5. A loom for interweaving a pile thread with a pair of ground warp threads, comprising means for alternately crossing and uncrossing a pair of ground warp threads, and a pile thread carrier for passing a pile thread between the ground warp threads after the \(y\) are crossed and for passing one end of the pile thread between the ground warp thread after they are uncrossed.
6. A loom for interweaving a pile thread with a pair of ground warp threads, comprising means for alternately crossing and uncrossing a pair of ground warp threads, a pile thread carrier for passing a pile thread between the ground warp threads after they are crossed and for passing che end of the pile thread between the ground warp threads after they are uncrossed, heddles for operating the ground warp threads to form open sheds, and a shuttle mechanism for passing weft threads through the open sheds.
7. A loom for interweaving a pile thread with a pair of ground warp threads, comprising means for alternately crossing and uncrossing a pair of ground warp threads, a pile thread carrier for passing a plle thread between the ground warp threads after they are crossed and for passing one end of the plle thread between the ground warp threads after they are uncrossed, and a knife for cutting the piletbread adjacent to the said carrier.
8. A loom for interweaving a pile thread with a pair of ground warp threads comprising a lay and heddles, a shogging device for alternately crossing and uncrossing the said ground warp threads, and a tuft yarn tube carrying the pile thread and adapted to pass between the ground warp threads when the ground warp threads are crossed and again when the ground warp threads are uncrossed.
9. A loom for producing an oriental weave having Persian knots comprising heddles for operating the ground warp threads in pairs, an intermittently reciprocating lay having dents adapted to pass between the ground warp threads of a pair of ground warp threads, a set of tuft yarn tubes for carrying the plle threads and adapted to pass between the ground warp threads of the pairs of ground warp threads. a shogging device for alternately crossing and uncrossing the ground warp threads during the formation of each row of knots, and means for actuating the tuft yarn tubes twice for the formation of each row of knots.
10. A loom for producing an oriental weave having Persian knots comprising heddles for operating the ground warp threads in pairs, an intermittently reciprocating lay having dents adapted to pass between the ground warp threads of a pair of ground warp threads, a set of tuft yarn tubes for carrying the pile threads and adapted to pass between the ground warp threads of the pairs of ground warp threads. a shogging device for alternately crossing and uncrossing the ground warp threads during the formation of each row of knots, and means for actuating the tuft yarn tubes twice for the formation of each row of knots and alternately with the said shogging device.
11. A loom for producing an orlental weave having Persian knots comprising heddles for operating the ground warp threads in pairs, an intermittently reciprocating lay having dents adapted to pass betwoen the ground warp threads of a pair of ground warp threads, a set of tuft yarn tubes for carrying the pile threads and adapted to pass between the ground warp threads of the pairs of ground warp threads. a shogging device for alternately crossing and uncrossine the ground warp threads during the formation of each row nf knots, means for actuating the tuft yarn tubes twice for the formation of each row of knots and alternately with the said shogging device, and a cutting device for cutting the pile threads adjacent to the tuft yarn tubes and while the latter are at rest at the end of the last half stroke.
12. A loom for producing an orlental weave having Persian knots cumprising a tuft varn tube, means for imparting two full strokes to the tuft yarn tube to move the latter twice between the ground warp threads of a pair of gronnd warp threads during the formation of the knots. a shogginlevice for intermittently crossing and uncrossing the ground warp threads of a pair of ground warp threads and alternately relative to the movement of the tuft varn tube and curing the formation of the knot, and a cutting device for cutting the pile thread adjacent to the tuft yarn tube and at the time the tuft yarn tube is at the end of its last half stroke.
13. A loom for producing an oriental weave having Persian knots comprising a tuft yarn tube, means for imparting two full strokes to the tuft yarn tube to move the latter twice between the ground warp threads of a pair of ground warp threads during the formation of the knots, a shogging device for intermittently crossing and uncrossing the ground warp threads of a pair of ground warp threads and alternately relative to the movement of the tuft varn tube and during the formation of the knot. a cutting device for cutting the plle thread adjacent to the tuft yarn tube and at the time the tuft yarn tube is at the ond of its last half stroke, heddles for operating the pair of ground warp threads, a shuttle mechanism for passing the weft through the open shed and a lav for beating in thr weft and knots.
14. A loom for producing an oriental weave having Persian knots comprising a tuft yarn tube. means for imparting two full strokes to the tuft yarn tube to move the latter twice between the ground warp threads of a pair of ground warp threads during the formation of the knots, a shogg!ng device for intermittently crossing and uncrossing the ground warn threads of a palr of ground warp threads and alternately relative to the movement of the tuft yarn tube and during the formation of the knot, a cutting device for cutting the pile thread adjacent to the tuft varn tube and at th. time the tuft yarn tube is at the end of its last half strokn. heddles for operating the pair of ground warp threads. a shuttle mechanism for passing the weft through the open shed and a lay for beating in the weft and knots, the lay
having a detent adapted to pass between the ground warp threads.
15. A loom for producing an oriental weave having Persian knots comprising a tuft yarn tube, means for imparting two full strokes to the tuft yarn tube to move the latter twice between the ground warp threads of a pair of ground warp threads during the formation of the knots, a shogging device for intermittently crossing and uncrossing the ground warp threads of a pair of ground warp threads and alternately relative to the movement of the tuft yarn tube and during the formation of the knot, a cutting devlce for cutling the pile thread adjacent to the tuft yarn tube and at the time the tuft yarn tube is at the end of its last half stroke, heddles for operating the pair of ground warp threads, a shuttle mechanism for passing the weft through the open a dent adapted to pass between the ground warp threads, and means for intermittently reciprocating the said lay.

No. 100,974. Stop Motion for Looms.
Mouvement d'arret pour motiors.


The Coldwell-Gildard Company, Fall River, Massachusetts, U.S.A., 11th September, 1906 ; 6 years. Filed 11th June, 1906. Receipts Nos. 136,419 and 136,762 .

Note.-This patent is a re-issue of Patent No. 95,964 bearing date the 7th day of November, 1905.
Claim,-1. The combination with a loom and a stop motion therefor comprising a series of drop bars supported upon the warp threads of the loom, of an elastic guard strip supported above and out of contact with the drop bars and the warp threads of the loom and designed to prevent an accidental throwing off of said drop bars from said warp threads and capable of being stretched to one side to give access to the drop bars.
2. The combination with a loom and a stop motion therefor comprising a series of drop bars supported on the warp threads of the loom, of an elastic guard strip removably supported above and out of contact with the drop bars and designed to prevent an accidental throwing off of sald drop tars from the warp threads.
3. The combination with a loom comprising brackets arranged for the support of its lease rods and above and between the latter provided with lugs, of a stop motion for the loom comprising a series of drop bars supported by the warp ihreads thereof between the lease rods and a guard strip arranged above and out of contact with the drop bars and terminating in eyes engaging said lugs of the brackets.
4. In an electrically operated stop motion for looms and in combination with an electrical circuit rod or bar and drop bars loosely embracing the same, a contact bar, also in circuit and having an inclined contact surface free at its lower edges arranged in the path of and adapted to deflect said drop bars.
5. In an electrically operated stop motion for looms and in combination with a pair of electrical circuit bars and drop bars loosely embracing the same, a hollow triangular contact bar having its oppositely inclined contact surfaces arranged in the path of and adapted to deflect the drop bars, and also in circult.
6. The combination with a loom frame the main brackets supported thereby and provided with the lugs forming the broken triangular sockets, one of which the latter has a perforation, a wire conducting tube leading to the same and to the bottom of the loom, triangular insulating plugs one of which is hollow, seated in the sockets, a triangular contact bar receiving the inner ends of the plugs, a source of electrlcal supply located at the foot of the loom or below the same, a circuit wire leading from the same up through the tube and terminating in the triangular contact bar in an electrical contact, of a pair if leased rod brackets, circuit bars below the same and supported by the main brackets, lease rods
carried by the lease rod brackets, a series of drop bars embracing the circuit bars and adapted to be supported out of conitact with the contact bar by the warp threads passing about the lease rods, a knock-off mechanism, a magnet for operating the same and an electrical connection between the source of electrical supply and the said magnet.
7. The combination in a loom, a stop motion therefor, comprising a series of drop bars supported upon the warp threads if the loom and an elastic guard strip supported above the drop bars and adapted to limit the upward movement of the drop bars.
8. The combination in a loom, of means for disposing the warp threads thereof into opposite declining intersecting banks. a stop motion embodied in the loom and comprising epposite series of drop bars supported by the several threads composing gaid banks. and a yielding means located between the intersecting banks of warp threads and the thread disposing means for limiting the upward movement of sald bars and capable of being drawn aside to expose said bars.
9. The combination in a loom, of means for disposing the warp threads thereof into opposite declining intersecting banks, a stop motion embodied in the loom and comprising opposite series of drop bars supported by the several threads cemprising sald banks, and a yielding means common to both series of drop bars located between the intersecting banks of threads and the thread disposing means for limiting the vertical movement of said drop bars and capable of being drawn aside to expose said drop bars.
10. The combination in a loom, means for disposing the warp threads thereof into opposite intersecting banks, a stop motion embodied in the loom and comprising opposite series of drop bars supported by the several threads composing the said banks and an elastic strip located between sald dividing means and above the said drop bars whereby the drop bars of both series are limited in their upward movement.
11. The combination in a loom, of means for supporting the warp threads thereof, a stop motion embodied in the loom and comprising a series of drop bars supported by the several warp threads and a flexible strip secured at lts opposite ends located above and adapted to limit the upward movement of the drop bars and adapted to be drawn aside in order to give address to sald drop bars and permit of their removal from and replacement on the threads.
12. The combinationin a loom, of means for disposing the warp threads thereof into opposite declining intersecting banks, a stop motion embodied in the loom and comprising opposite series of drop bars supported by the several threads composing said banks and a flexible guard common to both series of drop bars secured at its opposite ends and located between the intersecting banks of threads and adapted to be drawn aside from sald drop bars to give access to sald drop bars and permit of their removal from and replacement on the threads.
13. In warp stop mechanism for looms the combination of a series of drop bars supported upon the warp threads and a guard strip attached at each end to the loom rrame and located above the series of drop bars and across their line of movement transversely of the warp threads, which guard strid strip is adapted normally to prevent the drop bars from being thrown from the warp threads and aiso to be readily moved to one side of the line of drop bars without detaching the end connections of the guard strip from the frame.
14. In warp stop mechanism for looms the combination of a series of drop bars supported upon the warp threads and a guard strip attached at each end to the loom frame in a position to normally cover the upper ends of the series of drop bars and prevent their accidental displacement from the warp threads, which guard strip is adapted to be readily moved from its normal position without disturbing its attachment to the loom frame and to be automatically returned to such position.
15. In warp stop mechanism for looms the combination of one or more seres of drop bars supported upon the warp threads and a cover for the upper ends of the drop bars nornually located above and in proximity to them and attached at each end to the loom frame, which cover is adapted to be thrown to one side to give access to the drop bars and to be returned. to its normal position without removal from its connections with the loom frame.

No. 100,975. Condenser and Purifier for Water. Condenseur et épurateur pour l'eau.
William McIntryre, and Odus Graham Young, assignee of a half interest, both of Kansas City. Missouri, U.S.A., 11 th September, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,846 and 138,798.
Claim.-1. The combination with a plurality of condensing chambers disposed one above the other and connected by pipes for the passage of steam, the upper chamber having an inlet to receive the exhaust steam and the lower chamber
having an outlet for water and air, of a plurality of settling basins mounted one upon each of said chambers and en-

circiing said steam pipes, the upper basins having overflow pipes discharging respectively into the next lower basins, the lowest basin having an overflow pipe discharging into the outlet of the lower chamber.
2. In a combined condenser and water purifier. the combination with a plurality of condensing chambers disposed one above the other and connected respectively by stcam pipes, the upper chamber having an inlet to receive the exhaust steam and the lower chamber having an outlet for ail and water, of a series of settling basins mounted one on each chamber. a series of overflow pipes connected one to each basin, the lowest overflow pipe discharging into the outlet \(0^{\circ}\) the lower chamber and the other overflow pipes discharging aach into the next lower basin. and means for diffusing the steam entering the upper chamber.
3. In a combined condenser and water purifier, the combination with a plurality of condensing chambers disposed one above the other, adjacent chambers being connected by steam pipes, the upper chamber having an inlet for the steam to be condensed, and the lower chamber having an outlet for air and water, of a screen disposed transversely in the upper chamber, a plurality of settling basins mounted one on each chamber, and a series of overflow pipes connected respectively with said basins and the upper overflow pipes discharging respectively into the basins next below, the lowest overfiow discharging into the outlet of the lower chamber.
4. In a combined condenser and water purifier, the comblation with a plurality of condensing chambers disposed one above the other, the upper chamber having an inlet for receiving the exhaust steam, and the lower chamber having an outlet for water and air, of a plurality of sets of vertical radially disposed pipes connecting respectively the different chambers, a plurality of settling basins mounted one on each chamber, and a plurality of overflow pipes connected respectively one to each basin, the upper overflow pipes discharging each into the next lower basin, and the lowest overHow pipe discharging into the outlet of the lower chamber
5. A combined condenser and water purifier comprising a series of condensing chambers disposed one above the other. steam pipes connecting said chambers, the upper chamber having an inlet for receiving the exhaust steam, the low chamber having an ontlet for air and water, one or more upwardly extending draft pipes connected at their lower ends to the lower chamber, a plurality of basins mounte! one on each chamber, means in the upper chamber for diffusing the steam, overflow pipes connected one to each basin, the upper overflow pipes discharging each into the next lower basin, the lower overflow pipe discharging into the outlet for the lower chamber, means for supplying water to the upper basin, and means by which the basins may be drained respectively of water contained therein.
6. A combined condenser and water purifier comprising a series of condensing chambers connected in series one above the other by steam pipes, the upper chamber having an inlet for steam, the lower chamber having an outlet for air and water, one or more screens disposed transversely and horizontally in the upper chamber, a plurality of settling basins mounted one on each chamber, overflow pipes connected one to each basin, the upper overflow pipes discharging each into the next lower basin, the lower overflow pipe discharging into the outlet of the lower chamber, means for supplying water to the upper basin, means respectively for draining the several basins, and upwardly extending draft pipes connected at their lower ends to the lower chamber.
7. A combined condenser and water purifier comprising a plurality of condensing chambers disposed one above the other, the upper chamber having an inlet for exhaust steam, the lower chamber having an outlet for water and air,
steam pipen connecting respectively the different chambers, a plurallty of settling basins mounted one on each chamber, means by which water may be supplied to the upper basin, overfiow pipes connected to said basins respectively, the upper overflow pipes discharging into the next lower basins respectively, the lower overfiow pipe discharging into the outlet of the lower chamber, and a flaring steam pipe connected at its larger end to the inlet of the upper chamber.
8. A combined condenser and water purifier comprising a plurality of condensing chambers disposed one above the other, the upper chamber having an inlet for exhaust steam. the lower chamber having an outlet, an outlet pipe connected to said outlet and having two outlets one disposed above the other for the passage of water and air respectively, a plurality of steam pipes connecting respectively the said chambers, a plurality of basins mounted one on each chamber, a plurality of overflow pipes connected one to cach basin, the upper overflow pipes discharging each into the next lower basin, the lower overflow plpe discharsing into said outlet pipe, means for supplying water to the upper basin, and an upwardly extending air draft pipe connected at its lower end to the lower chamber.
9. A combired condenser and water purifier comprising a plurality of condenser chambers disposed one above the other and upper chamber having an inlet for exhauststeam, the lower chamber having an outlet for water and air, a plurality of steam pipes connecting respectively the chambers, a horizontal transverse screen in the upper chamber an air draft pipe connected at its lower end to the lower chamber and extending upwardly therefrom, a plurality of settling basins mounted one on each chambers, a plurality of overflow pipes connected one to each basin, the upper overflow pipes discharging into the basins next below respectively, the lower overflow pipe discharging into the outlet of the lower chamber, means for supplying water to the upper basin, means by which the basins may be respectively dralned, and a flaring pipe connected at its larger end to the inlet of the upprr chamber and adapted to receive in it. smaller end the exhaust steam.

No. 100,976. Window. Fenétre.


Oliver Murray Edwards, Syracuse, New York, assignee of Edward Frank Chaffee, Brooklyn, New York, both in U. S.A., 11th September, \(1906 ; 6\) years. Filed 7th June, 1906. Receipt No. 136,622.
claim.-1. In a window the combination substantially as sct forth. of a trame adapted to receive and hold a sash, a sash movable in the frame holding means, a support for the sash and means connecting such support with the holding means whereby the sash is supported through the holding means and its weight aids in moving it transversely in the frame to hold the sash therein.
2. In a window the combination substantially as set forth, of a frame adapted to recelve and hold a sash, a sash motable in the frame, holding means a portion of which is movable relatively to the sash, a support for the sash and means connecting such support with the movable portion of the holding means.
3. In a window the combination substantially as set forth, of a frame adapted to receive and hold a sash, a sash movable in the frame, holding means, a support for the gash, means connecting the support with the holding means, and releasing means connecting with the holding means whereby the sash is supported and held stationary in its frame and is released to permit it to move therein to open and close the window.
4. In a window the combination substantially as set forth, of a irame adapted to receive and support a sash, a sash, movable in the frame, a support for the sash, and means arranged between the support and sash and provided with a movable part adapted to move the sash transversely in the frame to bold it therein.
5. In a window the combination substantialy as set forth, of a frame adapted to receive and support a sash, a sash movable in the frame, a support for the sash, a sash movable in the frame, a support for the sash, and holding means, a portion of which is movable relatively to another portion, connecting with both the support and the sash, whereby the sash is supported in the frame and its weight aids in holding it therein.
6. In a window the combination substantially as set forth, of a frame adapted to receive and support a sash, a sash movable in the frame, a support for the sash consisting of sash balancing means supported on the frame, and means arranged between the sash and support and provided with a movable part adapted to move the sash transversely in the frame to hold it therein.
7. In a window the combination substantially as set forth, of a frame adapted to receive and support a sash, a sash movable in the frame, a support for the sash consisting of a spring roller mounted on the frame, and means arranged between the sash and roller and provided with a movable part adapted to move the sash transversely in the frame to hold it therein.
8. In a window the combination substantially as set forth, of a frame adapted to receive and support a sash, a sash movable in the frame, a support for the sash consisting of sash balancing means supported on the frame, and sash holding means, a portion of which is movable relatively to another portion, one of which portions is attached to the balancing means and the other is upon the sash, whereby the sash is supported in the frame and its welght aids in holding it therein.
9. In a window the combination substantially as set forth, of a frame adapted to recelve and support a sash, a sash movable in the frame, a support for the sash supported on the frame, and sash holding means, a portion of which is movable and in the form of a wedge, which portion is attached to the support for the sash and is engageable with the sash, whereby the sash is supported in the frame and its weight aids in holding it therein.
10. In a window the combination substantially as set forth, of a frame adapted to receive, hold and support a sash, a sash movable in the frame, holding means arranged in coacting relations with the sash and frame and adapted to move one relatively to the other, a support for the sash, and means connected with the support and holding means and normally acting thereon to support and hold the sash is the frame.
11. In a window the combination substantially as set forth, of a frame adapted to recelve, hold and support a sash, a sash movable in the frame, holding means, a portion of which is movable and is adapted to move the sash and frame, one relatively to the other, a support for the sash, and means connected to such movable portion and the support and normally acting thereon to support and hold the sash in the frame.
12. In a window, the combination substantially as set lorth, of a frame adpated to receive and support a sash, a sash movable in the frame, holding means, a portion of Which is movable and is arranged in co-acting relations with the sash and trame, and sash supporting means connected with the sash through such movable portion and normally acting thereon to support the sash and hold it in the frame.
13. In a window the combination substantially as set forth, of a frame adapted to receive and hold a sash, a sash movable in the frame, holding means, a portion of which is movable and engageable with the sash and frame, the sash holding means connected with the sash only through such movable portion to balance and hold it in the frame.
14. In a window the combination substantialiy as set forth, of a frame adapted to roceive and support a sash, a sash movable in the frame, holding means arranged at each edge portion of the sash, a portion of which is movable relatively to another portion, and sash balancing means connected with such movable portion at each edge portion of the sash and thereby adapted to balance and hold it in the frame.
15. In a window the combination substantially as set forth, of a frame adapted to receive and support a sash, a sash movable in the frame, holding means, a portion of which is movable relatively to another portion, a spring roller, and connecting means arranged between the roller and such movable portion, normally holding the sash in the frame.
16. In a window the combination substantially as set forth, of a frame adapted to receive and support a sash, a sash movable in the frame, holding means arranged at each edge portion of the sash, a portion of which is movable relatively to another portion, and sash balancing means connected with such portions and acting thereon to support the sash in the frame.
17. In a window the combination substantially as set forth, of a frame adapted to receive and support a sash, a sash
movable in the frame, a plurality of holding means arranged at one edge portion of the sash, each of which has a por tion movable relatively to the sash, and sash balancing means connecting with such portions and acting thereon to support the sash in the frame.
18. In a window the combination substantially as set forth, of a frame adapted to receive and support a sash, a sash movable in the frame, holding means provided with co-acting wedge faces, one of which is formed on a part movable relatively to the other, and sash supporting means connected with such movable part and normally acting there cn to support and hold the sash in the frame.
19. In a window the combination substantially as set forth, of a frame adapted to receive and hold a sash, a sash movable in the frame, a plurallty of wedging members arrangec at each edge portion of the sash, co-acting members engageable with the other members, sash balancing means connectable with such members, and means connecting each plurality of members together and with the balancing means, whereby the sash is supported and held in the frame by such balancing means.
20. In a window the combination substantially as set forth. of a frame adapted to recelve and hold a sash, a sash movable in the frame, a piurality of wedging members attached to the sash at each edge portion thereof, a bar provided with similar members which are arranged in co-acting relations thereto, and sash balancing means connected with such bars, whereby the sash is supported and held in the frame by the balancing means.
21. In a window the combination substantially as set forth, of a irame adapted to receive and support a sash, a sash movable in the frame, holding means, a portion of which is movable relatively to another portion, a spring roller, fiexitle material connecting with the ro'ler and adapted to wind thereon, and means connecting such flexible material with the movable portion of the holding means whereby the sash is held in the frame.
22. In a window the combination substantially as set forth. of a frame adapted to receive and support a sash, a sash movable in the frame, holding means, a portion of which is movable relatively to another portion, a spring roller, flexible material connecting with the roller and a bar, a bar connecting with such movable portion whereby the spring roller is connected with the holding means and the sash is held in the frame.
23. In a window the combination substantailly as set forth. of a frame adapted to receive and support a sash, a sash movable in the frame, holding means arranged at each edge portion of the sash, a portion of which is movable relatively to another portion, means connecting such movable porti-ns together, a bar centrally connected to such means, a spring roller and means connecting such bar with the roller whereby the movable portions of the holding means are moved relatively to the sash to hold it in the frame.
24. In a window the combination substantially as set forth. of a frame adapted to receive and support a sash, a sash movable in the frame, holding means, a portion of which is movable, sash balancing means connected with such movable portion and normally acting thereon to hold the sash in the frame, and operating means engageable with such movable portion to move it relatively to another portion whereby the action of the balancing means on the holding means is overcome and the sash is released and movable in the frame.
25. In a window the combination substantially as set forth, of a frame adapted to receive and support a sash, a sash movable in the frame, holding means, a support for the sash, means connecting such support with the holding means and operating means adapted to engage with a portion of the holding means to move such portion re'atively to the sash to release and permit it to move in the frame.
26. In a window the combination substantially as set forth, of a frame adapted to recelve and hold a sash, a sash movable in the frame, holding means arranged at each edge portion of the sash with a portion thereof movable relatively to another portion, sash balancing means connecting with and normally acting on such movable portions, and operatIng means at each edge portion of the sash and adapted to operate each of such movable portions separateiy one from the other whereby the sash is permitted to move in the frame.
27. In a window the combination substantially as set forth, of a frame adapted to recelve and hold a sash, a sash movable in the frame, holding means arranged at one edge portions of the sash, a portion of which is movable relatively to another portion and is adapted to engage with a locking detent, a locking detent and operating means adapted to engage with and operate both the movable portion of the holding means and locking detent. whereby the sash is released from the holding means and is unlocked by the movement of the operating means.
28. In a window the combination substantially as set forth, of a frame adapted to receive and hold a sash, a sash movable in the frame, holding means arranged at one edge portion of the sash, a portion of which is movable relatively to another portion and is adapted to engage with and operate a locking detent, a locking detent movably mounted on the frame and engageable with the sash, and operating means mounted on the sash whereby the movable portion if the holding means and locking detent are operated by the movement of the operating means.
29. In a window the combinaton substantially as set forth, of a frame adapted to receive and hold a sash, a sash movable in the framp, holding means a portion of which is connected with the sash and is adapted to engage with a portion of the frame, a support for the sash and means for connecting such support with the portion of the holding means connected with the sash.
30. In a window the combination substantially as set forth. of a frame adapted to receive and hold a sash, a sash movable in the frame, holding means having a lever pivotally connected to the sash and movable therewith, and a support for the sash connected to such lever. of the holding means and adapted to move a portion thereof into engagement with the window frame.
31. In a window the combination substantially as set forth, of a frame adapted to receive and hold a sash, a sash movable in the frame, holding means having a wedge surface arranged on an elbow lever pivotally connected to the sash near one of its ends, and a support for the sash connected to the lever of the holding means between its pivotal connection to the sash and such wedge surface.
32. In a window the combination substantlally as set forth, of a frame adapted to receive and hold a sash, a sash movable in the frame, holding means a portion of which is connected with the sash and is adapted to engage with a portion of the frame, another portion connected with the firstmentioned portion and adapted to he moved thereby, a support for the sash and means whereby the sash is supported and held in the frame.
33. In a window the combination substantially as set forth, of a frame adapted to recelve and hold a sash, a sash movable in the frame, holding means having a portion pivotally connected to the sash and engageable with the window frame, a support for the sash connected to such pivoted portion, and wedging surfaces arranged between the sash and frame, one of which is moved into wedging position by the movement of such pivoted portion.
34. In a window the combination substantially as set forth, of a frame adapted to receive and hold a sash, a sash movable in the irame, holding means a portion of which is engageable with the sash and is adapted to move relative thereto a support for the sash, and means for connecting such support with the part of the holding means engageable with the sash, whereby the support is connected to the holding means to both support and tightly hold it in the window.
35. In a window the combination substantially as set forth, of a frame adapted to receive and hold a sash, a sash movable in the frame, holding means having a portion arranged near each edge portion of the sash engageable with it, and the frame and another portion pivotally connected to the sash and adapted to move the first-mentioned portions relatively to the sash a support for the sash, and means connecting such support with the portion of the holding means pivotally connected to the sash.
36. In a window the combination substantially as set forth, of a frame adapted to receive and hold a sash, a sash movable in the frame, holding means having a portion arranged hear each edge portion of the sash engageable with it, and the frame and other portions pivotally connected to the sash adjacent to the first-mentioned portions and adapted to move them relatively to the sash, a support for the sash, and means connecting such support with those portions of the holding means pivotally connected to the sash.
37. In a window the combination substantially as set forth, of a sash having at its vertical portions wedge surfaces, holding means at such portions having movable wedge surface's and sash supporting means connecting with the holding means connecting with the holding means and adapted to to the sash to hold it in the window.
38. In a window the combination substantially as set forth, of a sash having at its vertical portions wedge surfaces holding means at such portions having a plurality of movable wedge surfaces connected together and sash supporting means connecting with the holding means and adapted to move such connected surfaces relatively to the sash to hold it in the window.
39. In a window the combination substantially as set forth, of a sash having at one end of its vertical portions a wedge surface, holding means at such porton having a wedge surtace, sash supporting means connecting with the holding means and adapted to move the wedge surface of the holding means relatively to the sash in one direction, and means
adapted to engage with the holding means and move such wedge surface in the opposite direction.
40. In a window the combination substantially as set forth. of a sash having at its vertical portions wedge surfaces. holding means at such portions having wedge surfaces and yielding sash supporting means connecting with the holding means and adapted to move thelr wedge surfaces relatively to the sash to hold it in the window.
41. In a window the combination substantially as set forth. of a sash having at its vertical portions wedge surfaces. holding means at such portions having wedge surfaces, sash supporting means connecting with the holding means and adapted to move their wedge surfaces relatively to the sash 10 hold it in the window, a locking detent automatically movable into locking position, and operating means adapted to operate a portion of the holding means and thereby move the detent out of locking position to permit of the sash being moved to open the window.
42. In a window the combination substantially as set forth. of a sash having its vertical portions wedge surfaces. cooperating wedge surfaces at such portions, equalizing means. portions of which connect with such co-operating wedge surfaces and other portions connect with the sash supporting means and sash supporting means connected wth the equalizing means and adapted to move such co-operating wedge surfaces relatively to the sash to hold it in the window.
43. In a window the combination substantially as set forth, of a sash having at its vertical portions wedge surfaces, cooperating wedge surfaces at such portions connectable to one of a pair of equalizing bars, a pair of equalizing bars connected together midway of their length and connecting with such co-operating means and sash supporting means, and sash supporting means connected to one pair of equalizing bars and adapted to move such co-operating wedge surfaces relatively to the sash to hold it in the window.

No. 100,977. Method of Lining Converters. Méthode de garnir les convertisseurs.


Henry Lewis Charles and Fritz Augustus Helnze, assignee of a half interest, both of Butte, Montana, U.S.A., 11 th
September, 1906; 6 years. Filed 11th July, 1906. Receipt No. 137,689.
Claim.-1. The within described method of drying and hardening basic or sillcious lining of converters or refining furnaces prior to their use in oxidation by using the heat derived from the introduction of molten material within the converter or refining furnace while the basic or silicious linings is still in a damp and unhardened condition.
2. The within described method of drying and hardening the basic or silicious lining of converters or refining furnaces prior to their use in oxidation by using the heat derived from the introduction of molten material within the converter or refining furnace while the basic or sllicious lining is still in a damp and unhardened condition to form a shell over the inner surfaces of the lining.
3. The within described method of drying and hardening the basic or silicious lining of converters or refining furnaces by introducing molten slog or matte within the converter or refining furnace while the basic or sillcious lining is still in a damp and unhardened condition.
4. The within described method of drying and hardening the basic or silicious lining of converters or refining furnaces by introducing molten slag or matte within the converter or refining furnace while the basic or silicious lining is still in a damp and unhardened condition to form a slag or matte shell over the inner surface of the lining material.
5. The within described method of lining converters or refining furnaces consisting if first tamping the lining material around the inner core, then removing the core, and while the lining material is still damp and unhardened introducing molten material within the converter or refining furnace in suffieient quantitles to completely dry and harden the lining material.
6. The within described method of lining converters or refining furnaces consisting of first tamping the lining material around an inner core, then removing the core, and while the lining material is still damp and unhardened introducing molten slag or matte within the converter or refining furrace in sufflicient quantitles to completely ary and harden the lining material.
7. The within described method of lining converters or refining furnaces, consisting of first tamping the lining material around an inner core then removing the core and forming a slag or matte shell over the inner surface of the lining by the introduction of molten slag or matte.
8. The within described method of lining converters or refining furnaces, consisting of first, tamping the lining material around an inner core, then removing the core and par tially drying the lining by forming a shell over the inner surface of the lining by the introduction of molten material, then removing the molten material and completing the drying of the lining by the introduction of one or more additional ladles of molten material.

No. 100,978. Steam Pump. Pompe a vapeur.


The Canadian Westinghouse Company, Hamilton, Ontario Canada, assignee of Alexander England, Wilkinsburg. Pennsylvanla, U.S.A., 11th September, 1906; 6 years. Filed 19th April, 1906. Receipt No. 135,055.
Claim.-1. In a compound pumping engine, the combination with a high pressure engine cylinder and piston, and a low, pressure engine cylinder and piston, of an initial compression pump cylinder and a final com ression pump cylinder, the piston of the initial compression pump cylinder being directly connected to the high pressure engine piston.
2. In a compound pumping engine, the combination with high and low pressure engine cylinders having pistons therein, of an initial compression pump cylinder having a piston directly connected to the high pressure steam diston, a smaller final compression pump cylinder having a piston connected to the low pressure steam piston, and a valve mechanism operated by the movement of the high pressure steam piston for effecting the admission and exhaust of steam to and from the engine cylinders.
3. In a compound pumping engine, the combination with a high pressure engine cylinder and low pressure pump cylinder in line therewith, and a low pressure engine cylinder and a high pressure pump cylinder, of a cylinder head having a valve seat with ports leading to the opposite ends of
said engine cylinders, a steam actuated slide valve for controlling said ports, and means governed by the movement of the high pressure steam piston for controlling the movement of said slide valve.
4. In a compound engine, the combination with vertical high and low pressure engine cylinders, of an integral head for said cylinders having a valve seat with ports leading to the opposite ends of said cylinders, a steam actuated slide valve controlling said ports, and means in line with and governed by the movement of the high pressure steam piston for controlling the movement of the slide valve.
5. In a compound pumping engine, the combination with a high pressure engine cylinder, and a low pressure engine cylinder, of a cylinder head having a valve seat with ports leading to the opposite ends of said cylinders, a steam actuated slide valve for controlling said ports, an auxiliary reversing valve for controlling the movement of the distribution slide valve, and a reversing valve rod extending through the cylinder head in line with the engine piston rod.
6. In a compound pumping engine, the combination with high and low pressure engine cylinders of initial and final compression pump cylinders, the high pressure steam piston being directly connected to the piston of the initial compression pump cylinder, a steam actuated distribution valve for the engine cylinders, and means governed by the movement of the high pressure steam piston for controlling the movement of the said distribution valve.
7. In a compound pumping engine, the combination with high and low pressure engine cylinders of initial and final compression pump cylinders, the high pressure steam piston being directly connected to the piston of the initial compression pump cylinder, a steam actuated distribution valve for the engine cylinders, and an auxiliary reversing valve actuated by the movement of the high pressure steam piston for controlling the movement of the main distribution valve.

No. 100,979. Scafiold Support. Support d'échafaud.


Moulton and Evans, Minneapolis, Minnesota, assignee of Marquis F. Seeley. Chicago. Illinois U.S.A., 11 th September, 1906; 6 years. Filed 8th January, 1906. Re ceipt No. 131,693.
Claim.-1. A metal hanger for scaffolds consisting of a shank provided at its opposite ends with integral lateral arms, said arms extending from the body of the hanger in right angled relation to each other, and the lower arm being provided at its end with means for securing the hanger to one of the members of the scaffold.
2. A metal hanger for scaffolds consisting of a shank provided at its opposite ends with integral lateral arms, said arms extending from the body of the hanger in right angled relation to each other and the upper arm being provided with a downwardly extending prong.
3. A metal hanger for scaffolds consisting of a shank provided at its opposite ends with integral lateral arms, said arms extending from the body of the hanger in right angled relation to each other, and the hanger being provided at its upper part with a handle.
4. A metal hanger for scaffolds consisting of a shank provided at its opposite ends with integral lateral arms, said arms extending from the body of the hanger in right angled relation to each other, and the hanger being provided at its upper part with a loosely connected ring forming a handle.
5. The combination with a scaffold member provided with a hole extending therethrough parallel with the wall on which the scaffold is hung, of a metal hanger embracing a shank having at its uper and lower ends lateral rigid arms, said arms extending from the body or shank at right angles to each other and the lower arm being adapted to engage the hole in the scaffold member. and the upper arm to engage a hole in the said wall.

No. 100,880. Steam Turbine. T'urbive d vapeur.


The Allis-Chalmers Company, assignee of Charles Frederick Barth, all of Milwaukee, Wisconsin, U.S.A., 11th September. 1906; 6 years. Flled 1st March, 1906. Receipt No. 133,427.
Claim.-1. A securing strip having an edge at an intermediate flow portion.
2. A metallic securing strip having a force applying face. and a metal flow edge near the force applying face.
3. A metaliic securing strip having a bevelled side and a pair of parallel engaging sides.
4. A turbine blade ring securing strip having a bevelled side and a palr of parallel engaging sides.
5. A member having a groove, a strip entering said groove and leaving a parallel side space in the groove, and a securing strip having a bevelled side in the parallel side space.
6. A member having a groove provided with a recess, a rigid strip entering the groove and leaving a parallel sided space, and a close slip fit securing strip in said parallel sided space and adjacent said recess.
7. A member having a groove with a perpendicular side, a strip entering said groove leaving a parallel sided space, and a securing strip non-rectangular in cross section in said space.
8. A member having a groove with a perpendicular side, a strip entering said groove and leaving a parallel sided space, whereby the strip may be readily forced into locking portions whereby the strip may be readily forced into locking position in said space.
9. A member having a groove provided with a locking recess, a strip having a perpendicular side entering said groove and leaving a parallel sided space adjacent said recess, and a malleable securing strip in sald space.
10. A member having an endless groove, a rigid strip entering said groove and leaving a parallel sided space, and a securing strip having a bevelled portion whereby the strip may be readily forced Into locking position in sald space.
11. A rotary member having a peripherial groove provided with a recess, a strip entering said groove and leaving a parallel sided space, and a malleable securing strip having a bevel terminating near the recess whereby the strip may be forced more readily into locking position in said space.
12. A rotor having a groove provided with a recess, a blade holding ring entering said groove and leaving a parallel sided space, and a securing strip having a bevel terminating near the recess, said strip having a close slip fit in said space.
13. A rotor having a peripherial groove provided with a rontinuous recess in a side wall, a blade holding ring entering sald groove and leaving a parallel sided space, and a malleable securing strip having four obtuses angles whereby the strip may be forced more readily into locking position in said space.
14. A rotor having a peripherial groove formed with \(\Omega\) tapering side and a perpindicular side, there being a recess in the perpendicular side, a blade holding ring fitting agalnst the tapering side, and a soft metal securing strip having an edge at the recess in the perpendicular side of the groove.
15. A rotor having a groove with a radial side and a recess, a blade holding ring in said groove, and securing means adjacent said recess for sald ring.
16. A rotor having a groove with a radial side and a lockIng recess, blades mounted in said groove. and means adjacent said recess to rigidly secure the blades.

No. 100,981. Locomotive Engine.
Machine de locomotive.

F. A. Pierce, J. E. Oswald and J. Y. Travers, each an assignce of a fourth interest, all of Wheelling, West Virgina, U.S.A., 11th September, 1906; 6 years. Flled 3rd May, 1906. Receipt No. 135,492.

Claim.-1. As an improvement in englnes the combination with a pair of cylinders, a distributing valve for each cylinder, and an exhaust lead that is common to both distribhting valves, of an auxiliary valve having an exhaust port that communicates with the stack and is adapted under one adjustment to connect the exhaust lead from the two cylinders with the stack, an air reservoir having a lead that connects with the supplemental exhaust valve, the said exhaust valve having a port adapted under a predetermined adjustment to connect the cylinder exhaust with the reservoir, and relief valves connected with the feed lead to the distributing valves for charging the cylinders with air when the exhaust through the supplemental valve to the stack is cut off and the exhaust from the said valve to the air reservoir is open, for the purfose specified.
2. In a locomotive engine the combination with high and low pressure cylinders, of a distributing valve therefor on one side of the locomotive. and corresponding parts on the opposite side of the locomotive, of a receiver space common to both sets of cylinders and their distributing valves, and an air reservoir, of an auxiliary exhausting valve that communicates and co-operates with the two distributing valves at the opposite sides and with the recelver space, said supplemental exhausting valve including a port adapted to be brought into communication with the air reservoir, means operable from the engine cab for shifting said auxillary valve with relation to the distrlbuting valves, sald valves having provisions in virtue of which the several cylinders may be operated under compound action or under high pressure in all the cylinders, or as air compressors, as set forth.
3. In a locomotive engine the combination with a pair of cylinders, and a separate distributing valve co-operatively toined with each cylinder, of an exhaust receiver in communication with the distributing valves and an air reservoir, of an auxliary valve mechanism having inlet and exhaust ports that communicate with the reservoir and with the distributing valve, and having a port that communicates with the air reservoir. said valve having provisions in virtue of which when under one adjustment, the feeds and the exhausts ar. controlled to feed a working agent pressure into the cylinder and under another adjustment to convert both cylinders into air compressors, and means for shifting the auxlliary valves.
4. The combination with high and low pressure cylinders, a distributing valve co-operatively joined with each set of high and low pressure cylinders, a receiver in communication with the distributing valves, of an auxiliary valve mechanism having inlet and outlet ports that communirate with said distributing valves, and having provisions in virtue of which when the auxiliary valve is under one adjustment, it controls the feeds and exhausts to effect \(a\) compound action of the two sets of cylinders, under another adjustment to work all the cylinders under high pressure and under a third adjusiment to convert the several cylinders
into air compressors, and means for shifting the auxiliary valve.
5. In a locomotive engine, the combination with an air reservolr, a pair of pressure cylinders, a separate distributing valve for each of the pressure cylinders, an exhaust receiver common to both cylinders and their co-operative distributing valves, of a supplemental exhausting valve in communication with the stack and with the exhaust receiver, the said supplemental valve including a supplemental exhaust port adapted when the valve is adjusted to cut off the stack exhaust from the recelver to connect the said receiver with the air reservoir, as set forth.
6. In a locomotive engine, the combination with a pair of high pressure cylinders and a pair of low pressure cylinders one for each high pressure cylinder, a distributing valve for each set of high and low pressure cylinders, a receiver common to both sets of cylinders, and their co-operating distributing valves, of a supplemental valve exhausting mechanism incommunication with the stack and with the two distributing valves, the said supplemental valve mechanism including a supplemental exhaust port adapted when the valve is adjusted to cut off the stack exhaust to exhaust to the air reservoir, as set forth.
7. The combination with two sets of high and low pressure cylinders and their controlling valves, and a receiver common to both the distributing valves and having connection with the stack, and an air receiver, of a supplemental exhaust valve located in the said stack connection, and having ports and feeds that connect with the high pressure cylinder distributing valves, and provided with a supplemental port adapted to connect with the air reservoir for the brake and signal mechanism, said supplemental valve having provisions in virtue of which when under one adjustment. a high pressure action is effected in all the cylinders, and under another adjustment of the valves the cylinders are worked compound, automatically actuated rellef valves in the several feeds of the distributing valves, and means operable from the engine cab for simultaneously shifting the relief valves and the supplemental exhaust valve, as set forth.
8. The combination with the high and low pressure cylinders, a distributing valve therefor at one side of the locomotive, corresponding parts on the other side of the locomotive, a receiver common to both sets of cylinders and valves, an air reservoir, of a supplemental valve mechanism having provisions in virtue of which when the supplemental valve is under one adjustment the fluid will be conducted from the receiver against the low pressure side from the distributing valve, and under another adjustment, the pressure of the receiver will be conducted to the air reservoir, said supplemental valve having ports adapted to communicate with ports in the distributing valves, relief valves connected with the live steam feeds to the distributing valves and other relief valves in the leads that join the supplemental valve with the distributing valves, as set forth.
9. The combination with two sets of high and low pressure cylinders and their pistons, of a distributing valve for each pair of cylinders, an exhaust receiver betwenn the distributing valves and in communication therewith, an air reservoir, said distributing valves having similar arrangement of ports at diametrically opposite sides, connections between said distributing valves and their respective cylinder at their respective sides, a supplemental exhaust valve in communication with each distributing valve and with the reservoir and with the air reservoir, and in communication with the stack, said supplemental valve also having a live steam inlet and having provisions in virtue of which under one adjustment of the supplemental valve, the pressure is led from the receiver to the low pressure side of the distri. buting valves, and under adjustment of the supplemental valve into the low pressure side of the distributing valves, and under a third adjustment to cut off the stack and lead the fluid pressure from the receiver into the air reservoir, and means for shifting the supplemental valve as set forth.
10. The combination with the high and low pressure cylinders, and a distributing valve therefor at one side of the locomotive, corresponding parts on the other side of the locomotive, the said distributing valve having a like arrangement of high and low pressure ports at diametrically opposite sides thereof, the shiftable member of said distributing valve having grooves for connecting adjacent ports of the valve, and a receiver into which the said distributing valves discharge, of a supplemental exhausting valve in communication with the recelver, the stack. and with the distributing valves at the opposite sides of the locomotive. the rald supplemental valve having its ports which include a live steam inlet arranged, when under one adjustment to admit live steam through the said supplemental valves to the low pressure side of the two distributing valves, and under another adjustment to feed the fluid nressure from the recoiver against the low pressure side of the valves, as set forth.
11. The combination with the high and low pressure cylinders, and a distributing valve therefor mounted on one side oi the locomotive, and similar cylinders and a valve therefor on the opposite side of the locomotive, a rellef valve in ferch feed pipe for the distributing valve, a receiver space common to both of the aforesaid distributing valves, and air reservoir, of a supplemental exhausting valve for connecting said reservoir with the receiver, the said supplemental valv. having passages through the receiver exhausts to the stack and passages for connecting the receiver with the reservoir and another passage for connecting the low pressure side of the distributing valve, a relief valve in each lead from the sipplemental valve to the distributing valve, and means for shifting the said supplemental valve from the engine cab While the train is in motion, as set forth.
12. The combination with two sets of high and low pressure cylinders, a distributing valve co-operatively jo!ned with each set of high and low pressure cylinders, of a recelver in communication with the distributing valves, an auxiliary exheust valve mechanism, also in communication with the reservoir and baving inlet and exhaust ports in communication with the several distributing valves, sald auxiliary mechanism having provisions in virtue of which when under one adjustment the working agent is fed to the cylinders to operate the engine compound, under another adjustment to feed the working pressure and under a third adjustment to convert the several cylinders into air compressors, and means for shifting sald auxiliary valve.
13. The combination with two pairs of cylinders, a distributing valve for each pair of cylinders, each distributing valve being co-operatively joined with each cyllnder of its respective pair, an exhaust receiver in communication with cach distributing valve, an auxiliary and said distributing valves having provisions in virtue of which when the auxiliary valve is under one adjustment the working agent is fed into the cylinders to operate the same compound, and when the auxiliary valve is under another adjustment to convert the cylinder into air compressors, and when the auxiliary valve is under a third adjustment to feed working agent to the cylinders to operate them under high pressure. and means for shifting said auxlliary valve.

No. 100,982. Dlectric Clock. Horloge électrique.


The Kutnow Brothers, assignees of Timothy Bernard Powers, all of New York City, New York, U.S.A., 11th September, 1:06; 6 years. Filed 22nd June, 1906. Receipt No. 137,183.
Claim.-1. In an electric clock, the combination of a clock train, a balance wheel to the clock train, an electro-magnet mounted with the balance wheel, a stationary armature and circult connections and contacts whereby the magnet is momentarily energized as its pole approaches the armature.
2. In an electric clock, the combination of a clock train, a balance wheel, means for transmitting motion from the balarce wheel to the clock train, an electro-magnet mounted with the balance wheel, a stationary armature, a contact pin carried by the balance wheel, a contact spring located in the path of movement of the pin and circuit connections.
3. In an electric clock, the combination of a clock train, a balance wheel, means for transmitting motion from the balance wheel to the clock train, an electro-magnet mounted with the balance wheel, a stationary armature, a contact pin carried by the balance wheel and insulated on one side, a contact spring having a broad L-shaped head located in proximity in the path of movement of the pin whereby the pin passes on one side of said head in one direction and on the other side of said head in the other direction, and circuit connections.
4. In an electric clock, the combination of a clock train, a split compensating balance wheel, an electro-magnet mounted with the balance wheel. a stationary armature, a contact pin carried by the balance wheel, a contact spring located in proximity to the path of the pin, transmission devices having a portion located in proximity to the spring to be actuated thereby and circult connections.
b. In an electric clock, the combination of a clock train, a balance wheel, an electro-magnet mounted with the balance wheel, a stationary armature, a contact pin carried by the balance wheel, a contact spring located in proximity to the path of the pin, a lever mounted in proximity to the contact spring to be actuated thereby, means whereby the movement of the lever is made to actuate the clock train, and circuit connections.
6. In an electric clock, the combination of a clock train, a balance wheel mounted upon a horizontal axis, means for transmitting motion from the balance wheel to the clock train, an electro-magnet mounted with the balance wheel, a stationary armature beneath the balance wheel and circuit connections, and circuits whereby the magnet is momentarily energized as its pole approaches the armature.
T. In an electric clock, the combination of a clock train, a spilt compensating balance wheel mounted upon a horizontal axis and having roller journal bearings and end thrust bearings, means for transmitting motion from the balance wheel to the clock train, an electro-magnet mounted with the balance wheel, a stationary armature and circuit connections.
8. In an electric clock, the combination of a clock train, a balance wheel mounted upon a horizontal axis, roller journal bearings for the balance wheel, glass sheets closing the cuter ends of said bearings, the shaft of the balance wheel having pivot bearings against said glass sheets through which the roller bearings are visible, means for transmitting motion from the balance wheel to the clock train, an electromagnet mounted with the balance wheel, a stationary armature and circuit connections.

No. 100,983. Winding Indicator for Clock. Indicateur de montage d'horloge.


Theodore J. Arneson, Westbrook, Minnesota, U.S.A., 11th September, 1906; 6 years. Filed 29th June, 1906. Receipt No. 137,394.
Claim.-1. The combination with a clock having an actuating spring arranged for expansion as the clock runs down, of an alarm mechanism, and means for holding said mechanism against operation, said holding means consisting of a revoluble shaft, an arm carried by the shaft and lying in position for engagement and movement by the spring when the latter expands to move the shaft, a notched disc mounted upon the shaft, a pivoted arm having a finger resting upon the periphery of the disc, said shaft being arranged for movement by the spring to bring the notch of the disc into position for passage of the finger therethrough, means for holding the shaft yleldingly against movement by the spring, and connections betue \(n\) the second arm and the alarm mechanism, said connections being arranged to hold the alarm mechanism against movement when the finger is engaged with the periphery of the disc.
2. The combination with a clock, of an alarm mechanism therefor, an arm pivoted for vertical movement, means for holding the arm against movement in one direction, said means being arranged for movement into and out of operative position, means arranged for actuation by the clock for moving the arm holding means out of operative position when the clock has run down, and means connected with the arm and with the alarm mechanism to hold said mechanism against operation when the arm holding means is in operatlue postion.

No. 100,984. Bottle. Bouteille.


De Witt Clinton Breed, Lockport, New York, U.S.A., 11th September, 1906; 6 years. Filed 13th December, 1905. Receipt No. 130,968.
Claim.-1. A bottle provided with means for separating the liquid from the foam when discharging the contents of the bottle.
2. A bottle provided with a valvular means for separating liquid from foam when discharging the liquid from the bottle. 3. A bottle provided with a loam separating means.
4. A bottle provided with a plurality of neck portions, and a foam separating means in each of the neck portions.
5. A bottle provided with a plurality of neck portions, and a valvular member mounted in each of sald neck portions and constituting a means for separating the liquid from the foam when the liquid is discharged from the bottle.
6. A bottle comprising a neck portion and a valvular mewber mounted therein and constituting a means for separating liquid from foam when discharging liquid from the bottle.
7. A bottle comprising a neck portion, a valvular member mounted therein and constituting a means for separating liquid from foam when discharging the liquid from the bottle, and a resilient member extending in said neck portion for retaining the valvular member in position.
8. A bottle comprising a neck portion, a valvular member mounted therein and constituting a means for separating liquid from foam when discharging the liquid from the bottle. a resilient member extending in said neck portion for retaining the valvular member in position, and a packing surrounding said valvular member near the top thercol.
9. A bottle provided with a plurality of neck portions, and a valvular member of less diameter than the neck portion suitably suspended therein and constituting a means for separating liquid from foam when discharging liquid from the bottle
10. A bottle comprising a plurality of neck portions, a valvular member mounted in each of sald neck portions and constituting a means for separating foam from liquid when discharging liquid from the bottle, and resilient members for suspending said valvular members within the neck portions.
11. A bottle comprising a plurality of neck portions, a valular member mounted in each of said neck portions and constituting a means for separating foam from liquid when discharging liquid from the bottle, resilient members for suspending said valvular members within the neck portions, and a packing suitably surrounding each of sald valvular members.
12. In a bottle the combination with a neck portion, of a valvular member mounted therein and constituting means for separating foam from liquid, said member consisting of a tube closed at its bottom and provided with liquid inlets. and a valve for closing that portion of the tube below the outlet.
13. A bottle comprising a plurality of neck portions, a valvular member mounted in each of said neck portions and constituting a means for separating foam from liquid, and a closure for each of sald valvular members.
14. A bottle comprising a plurality of neck portions, a valvular member arranged in each of said neck portions and constituting a means for separating foam from liquid, resilient devices for suspending the valvular members in said neck portions, and a closure for each of the valvular members.
15. A bottle comprising a plurality of neck portions, a valvular member arranged in each of said neek portions and constituting a means for separating foam from liquid, resilient devices for suspending the valvular members in said neck portions, a closure for each of the valvular members and a packing interposed between the valvular members and the inner face of the neck portions.
16. A bottle provided with a plurality of neck portions and means for connecting the neck portions together at the top thereof. thereby forming a handle for the bottle.
17. A bottle provided with a plurality of neck portions. means for connecting the neck portions logether, thereby
forming a handle for the bottle, and a foam separating means in each of the neck portions.
18. A bottle provided with a plurality of neck portions and means for connecting them together, thereby forming a handle for the bottle.
19. A bottle provided with a foam separating means, a neck portion in which is mounted said means, and a handle for the bottle.

No. 100,985. Coment Block Making Machine. Machine à faire des blocs de ciment.


Thomas D. Brock and Clarence W. P. Brock, co-inventors, Waterford. Ontario, Canada, 11th September, 1906; 6 years. Filed 10th April, 1905. Receipt No. 124,124.
Claim.-1. In a cement block machine the combination with a bed provided with crossbars, of set screws extending through screw-threaded sockets in said crossbars, a vertically adjustable frame supported on said set screws, rollers mounted on said frame, and a pallet resting on said rollers.
2. In a cement block machine a bed provided with crossbars, set screws extending through screw-threaded sockets in said crossbars, a vertically adjustable frame supported on said set screws, rollers mounted on said frame, and a pallet resting on sald rollers, in combination with a stationary upright, and a base secured to said bed, a swinging frame pivotally secured to said base and a mould box the sides of which are secured one to said upright and the other to said swinging frame, and the ends of which rest on said pallet, and means clamping said ends between said sides.
3. In a cement block machine, a bed, a pallet supported by and a base and stationary upright secured to said bed and a swinging frame pivotally secured to said base, in combination with a mould box to the sides of which straps are secured in which a geries of bolt holes are formed, to adapt said sides to be adjustably secured one to said stationary upright and the other to said swinging frame, and the ends of which mould box rest on said pallet, and means for clamping said ends between said sides.
4. In a cement block machine, a bed, a base and stationary upright secured thereto, a pallet supported by said bed end a swinging frame pivotally secured to said base, in combination with a mould box, the sides of which are secured, one to said stationary upright aud the other to said swinging frame, and the ends of sald mould box formed with a plurality of openings, and resting on said pallet, a plurality of cores supported in said openings in the en is of said mould box, and means for operating said swinging frame to clamp sald ends in position between the sides of sald mould box.
5. In a cement block machine the combination with a bed a base secured thereto. a pallet supported by sald bed, and a stationary upright secured to said bed adjacent to said pallet, of a swinging frame pivotally secured to said base, a mould box the sides of which are secured one to said upright and the other to said swinging frame and the ends of which rest on said pallet, and are clamped and rigidly held in position between the sides of the mould box secured to sald upright and to said swinging frame, and means for operating said swinging irame.
6. In a cement block machine the combination with a bed, a pallet supported by and a stationary upright secured to said bed, of a base secured to said bed in two opposite sides of which a series of bolt holes are formed, a swinging frame adapted to be pivotally secured to sald base by a bolt extending through any of sald series of holes in said base, a mould box the sides of which are secured one to said stationary upright and the other to said swinging frame, and the ends of which rest on said pallet, and are clamped and rigidis beld in position between the side secured to said station-
ary upright and said swinging frame, and means for operating said swinging frame.
7. In a cement block machine, a bed, a base secured thereto, a pallet supported by sald bed, a stationary upright secured to said bed. a swinging frame pivotally secured to said base, and a mould box the sides of which are secured one to said stationary upright and the other to said swinging frame, and the ends of which rest on said pallet, in combination with hand levers secured to said swnging frame, inclined stationary uprights provided with elongated slots and secured to said bed, and bolts secured to said hand levers, and restitig in said elongated slots in sa!d stationary uprights.
8. In a cement block machine. a bed. a base secured thereto, a pallet supported by sald bed. a stationary upright secured to said bed, a swinging frame pivotally secured to said base, a mould box the sides of which are secured one to said stationary upright and the other to said swinging frame, and the ends of which rest on said pallet, hand levers secured to said swinging frame, and inclined stationary uprights provided with elongated slots secured to said bed, with which slotted uprights said bolts secured to sald hand levers engage, in combination with a platiorm the sides of which are pivotally secured to the aforesaid base, and connecting bars provided with elongated slots with which the pivot bolts secured to sald hand levers engage, to raise and lower said platform alternately as the swinging frame is adjusted backwards and forwards.
9. In a cement block machine, a bed, a base and stationary upright secured to said bed, guide bars secured at one end to said bed and at the other end to said base, a core head held in place by and vertically adjustable in said guide bars, cores secured to said core head, in combination with a hanger pivotally secured to said bed, a platform pivotally secured to said base. and a lever fulcrumed on said hanger, and conrected at one end to said core head and at the other end to said platform.

No. 100,986. Ore Concentrator.
Concentrateur de minerats.


Christoffer A. Christensen, Oretown, Oregon, U.S.A., 11th September, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,242 .
Claim.-1. In an ore concentrator, the combination with a supporting frame, of a table pivotally and slidably mounted thereon, riffles arranged on said table, and means whereby said riffles may be elevated at one end of the table, substantially as described.
2. In an ore concentrator, the combination with the supporting frame, of a table pivotally and slidably mounted thereon, longitudinally disposed riffles arranged on said table, means whereby the riffles may be elevated at one end of said table to form a gradual rise from one side to the other of the table, and means whereby said table is operated, substantially as described.
3. In an ore concentrator, the combination with a supporting frame, of a table pivotally and slidably mounted thereou, longitudinally disposed riffes arranged on said table, pivotally mounted elevating bars arranged beneath said riffles at one end of the table, adjusting screws adapted to elevate one end of said bars and the riffles thereon, and means to operate said table, substantially as described.
4. In an ore concentrator, the combination with a supporting frame, of a table pivotally and slidably mounted thereon, riffles arranged on sald table and extending longitudinally from one end to the other thereof, a transversely disposed pivot rod arranged near one end of the table frame, elevating bars pivotally mounted on their inner ends on sald bars, a bearing plate arranged across the under side of said end of the table, bands arranged on the ends of said elevated bars,
said bands having in their lower sides threaded apertures, and adjusting screws swivelled in said bearing plate and adapted to engage the threaded apertures in said bands, whereby when sald screws are turned in the proper direction, said bars and the riffles above the same will be elevated, substantially as described.
5. In a concentrator, the combination with a supporting frame, of a table slidably and plvotally mounted thereon, riffles arranged on said table, means to elevate one end of said riffles, a bumper arranged on said table to engage a bumper on said supporting frame, a table operating mechanism arranged on one end of sald supporting frame, and means connected to one side of the table whereby the latter is tilted, substantially as described.
6. In a concentrator, the combination with a supporting frame, of a table pivotally mounted thereon, riffles arranged on said table, means arranged in the framework of one end of the latter to elevate one end of said riffles. bumpers arranged on said supporting frame and table, means to operate said table and bring said bumpers into violent engagement, threaded elevating rods connected to one side of said table and a turnbuckle arranged on said rods whereby the same may be lengthened or shortened to tilt said table, substanthally as described.
7. In an ore separator the combination with a supporting frame having a centrally disposed supporting bar or beam, of open bearings arranged thereon, supporting shafts or bars arranged in said bearings, supporting lugs pivotally mounted on sald rods or shafts, a table arranged on said lug, riffles arranged on and extending longitudinally from one end to the other of sald table, means to elevate one end of said riffies in a gradual rise from one side of the table to the other, a yoke arranged on the outer end of one of said supporting bars or shafts, a drive shaft mounted on the forward end of said supporting frame, a cam arranged on said shaft to engage said yoke and move sald supporting rod and table in one direction, and a spring adapted to throw said table back in the opposite direction, substantially as described.
8. In an ore concentrator the combination with a supporting frame having open bearings arranged thereon, of supporting rods slidably mounted in said bearings, a table pivotally mounted on said rods, a yoke arranged on the outer end of said rod, a bearing roller journalled in said yoke, a guide rod slidably mounted in the outer end of said supporting frame, a coll spring arranged on said guide rod, means to adjust the tension of sald spring, a drive shaft journalled on the supporting frame, a cam arranged on sald shaft to cngage the bearing roller in sald yoke, whereby the table is moved in one direction against the tension of said spring, and means to regulate the stroke of said operating mechanism, substantially as described.
9. In an ore concentrator the combination with a supporting frame having open bearings arranged at each end thereof, supporting rods or shafts slidably mounted in sald bearings, a table pivotally mounted on said shaft, a yoke secured to the outer end of one of said operating shafts, a bearing roller journalled in sald yoke, a guide rod connected to the outer end of the latter, a drive shaft journalled on said supporting frame, a cam arranged on said shaft to engage the bearing roller in said yoke to move the table in one direction, a spring arranged on sald guide rod to throw said table back in the opposite direction, an adjusting nut to regulate the tension of said spring. an adjusting nut arranged on said supporting rod to limit the stroke of said shaft. bumpers arranged on said table and its supporting frame, threaded tilting rods arranged on one side of said table, and a turnbuckle arranged on said rods whereby said table may be tilted, substantially as described.
10. A concentrator table, riffles arranged on said table and extending longitudinally from one end thereof to the other. and means whereby said riffles are elevated at one end of the table to provide a gradual rise from one side of the latter to the other, substantially as described.

\section*{No. 100,987. Electric Drill. Foret électrique}

William O. Duntley, Chicago, Illinols, U.S.A., 11th September, 1906; 6 years. Filed 1st May, 1905. Receipt No. 124,746.
Claim.-1. An electric drill comprising a casing, an electric motor therein having an armature shaft, a tool spindle journalled in said casisg and arranged in axial alignment with the armature shaft, grasping handles on said casing, and means for operatively connecting the spindle and armature shaft.
2. An electric drill comprising a casing, an electric motor therein having an armature shaft, a tool spindle journalled in said casing and arranged in axial alignment with the armature shait, grasping handles on said casing, and a planetary gearing connection between the spindle and armature whaft.
3. An electric drill comprising a casing forming the feld frame of an electric machine, a rotatable armature within

said casing, a tool spindle journalled in such casing and arranged in axial alignment with the armature shaft, grasp ing handles on said casing, and means for operatively connecting the spindle and armature shaft.
4. An electric drill comprising a casing forming the field frame of an electric machine, a rotatable armature within said casing, end heads for the casing in which the armature shaft is journalled, a tool spindle journalled in such casing and arranged in axial alignment with the armature shaft, grasping handles on said casing, and means for operatiwely connecting the spindle and armature shaft.
5. An electric drill comprising a casing forming the field frame of an electric machine, a rotatable armature within said casing, end heads connected to the ends of the casing and having ball bearing journals to receive the armature shaft, a tool spindle journalled in such casing and arranged in axial alignment with the armature shaft, grasping handles on said casing. and means for operatively connecting the spindle and armature shaft.
6. An electric drill comprising a casing forming the fleld frame of an electric machine, a rotatable armature within said casing, end heads connected to the ends of the casing, the lower one of which has a thrust bearing to receive the lower end of the armature shaft, and the upper one of which has an adjustable bearing for the upper end of armature shaft, a tool spindle journalled in such casing and arranged in axial alignment with the armature shaft, a breast plate connected with the upper head, and means for operatively connecting the spindle and armature shaft.
i. An electric drill comprising a casing forming the field frame of an electric machine, a rotatable armature within said casing, end heads connected to the ends of the casing. the lower one of which has a thrust bearing to receive the lower end of the armature shaft and the upper one of which has a flanged opening, a bearing adjustable up and down in said flanged opening and adapted to recelve the upper end of such shaft, a breast plate fitting over such opening, and a tool spindle journalled in such casing and operatively connected with the armature shaft.
8. An electric drill comprising a casing forming the field frame of an electric machine. a rotatable armature within said casing, end heads connected to the ends of the casing. and having bearings for the armature shaft, a gear case secured to the lower end head and having an internal circular rock, a driving pinion on the lower end of the armature shaft, a gear case secured to the lower end head and having an internal circular rack, a driving pinion on the lower end of the armature shaft, a tool spindle, and the two pinions 14 carried thereby and meshing with the driving pinion and with the rack.
3. An electric drill comprising a casing, an electric motor therein having an armature shaft, a tool spindle journalled in said casing and operatively connected with the armature shaft, handles connected with the casing, and an electric switch governing the current to the motor and operatively connected with one of the handles.
10. An electric drill comprising a casing. an electric motor therein having an armature shaft, a tool spindle journalled is. sald casing and operatively connected with the armature shaft, handles connected with the casing and one of them being movable, and an electric switch governing the current to the motor and controlled by the movements of said movable handle.
11. An electric drill comprising a casing, an electric motor therein having an armature shaft, a tool spindle journalled in said casing and operatively connected with the armature shaft, handles 20,21 connected with the casing, a switch box 22 secured to the casing and to which the handle 21 is connected so as to have a rotary movement, and a switch arranged within said box to govern current to the motor and operatively connected with the handle 21.
12. An electric drill comprising a casing, an eleitric motor therein, a tool spindle driven by the motor, and an air cool-
ing device contaned within the casing and comprising a fan arranged at one end of and driven by such motor.
13. An electric drill comprising a casing, an electric motor therein, a tool spindle driven by the motor, and an air cooling device contained within the casing and comprising a fan arranged on the armature shaft and driven thereby.
14. An electric drill comprising a casing having openings for the entrance and exit of air, an electric motor in such casing, a tool spindle driven by the motor, and a fan comprising a collar 19 secured to the armature shaft of the motor and having blades \(19 a\) to cause a circulation of air through the said openings and casing.
15. An electric drill comprising a cylindrical casing having openings arranged at the ends for the entrance and exit of air, an electric motor in such casing. id tool spindle driven by the motor, and a fan operatively cuinecting with the motor and adapted to cause a circu'aticn of air through the said openings and casing.

No. 100,988. Flastic Fluid Turbine. Turbine à fluides élastiques.


James W. Ferguson, Sandusky, Ohio, U.S.A., 11th September, 1906; 6 years. Filed 2nd August, 1906. Receipt No. 138,363.
Claim.-1. In an elastic fluid turbine, the combination of radially and axially extending buckets open at their circumferential and side ends and arranged to receive fluid tangentially at their circumferential end and to discharge the fluid equally from the side ends in an axial direction, with buckets arranged to receive the fluid from the side ends of the first bucket to further abstract energy from the fluid.
2. In an elastic fluld turbine, the combination of buckets which recelve the motive fluid delivered in a tangential direction and are open at their circumferentlal and side ends, with successive rows of buckets constructed to form passages of uniform cross section and arranged to receive the motive lludaxially from the first-mentioned buckets, the cross section of the bucket of alternate rows being different from the cross section of the intermediate rows.
3. In an elastic fluid turbine, the combination of radial and axially extending buckets adapted to receive fluid discharged tangentially against them, intermediate buckets arranged at an angle to the first for receiving fluid flowing from the latter in axial directions, and rotary buckets aranged adjacent and at an angle to the intermediate buckets to receive the fluid discharged thereby, the cross section of the fluid passages of the intermediate buckets being uniform and less than the cross section of the passage between the said rotary buckets.
4. In an elastic fluid turbine, the combination of radially and axially extending buckets adapted to receive fluid discharged tangentially, rows of intermediate buckets forming passages of unlform cross section disposed at an angle to the pasages between the first buckets, and rotary buckets arranged in co-operative relation to the intermediate buckets which form passages of different uniform cross section and disposed at an angle to the first buckets different from the angle of the intermediate buckets.
5. In an elastic fluid turbine, the combination of radially and axially extending buckets rotatably mounted and adapted to receive fluid tangentially and deliver it axially, rows of Intermediate buckets forming passages of uniform cross section and disposed at an angle to the axis of rotation, and rows of rotating buckets forming passages of greater cross section than the aforesaid passages and disposed at a less angle to the axis of rotation.
6. In an elastic fluid turbine. the combination of a rotatable element, radially and axially extending buckets arranged thereon which are uncovered at their circumferential and side ends to deliver fluid axially therefrom, tangentially discherging nozzles angularly displaced around the element, and alternately arranged statlonary and rotary buckets forming

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axially extending passages, the passages between the stationary bucket being of less cross section than those of the rotary buckets and disposed at a greater angle to the axis of rotation than the passages of the rotary buckets.
7. In an elastic fluid turbine, the combination of a casing having annular grooves in its internal surface, rows of rotating buckets mounted thereon, rows of intermediate buckets, externally grooved arc-shaped members supporting the intermediate buckets and engaging the interior wall of the casing. and a key fitted in the grooves of said members and the casing for preventing relative axial displacement between the intermediate buckets and the casing.
8. In an elastic fluid turbine, the combination of a casing. rows of rotating buckets mounted therein, rows of intermediate buckets, annular members for supporting the intermediate buckets which are held circumferentially in engagement with the interior wall of the casing, registering keyways in the said members and casing, and keys in said ways for preventing relative axial displacement of the members and casing.
9. In an elastic fluid turbine, the combination of buckets having flat fluid impinging faces and arranged to receive the motive flulds dellivered in a tangential direction, the passages between the buckets being of substantially uniform cross section and open at their circumferential and side ends, with buckets having flat fluid impinging faces and arranged to receive the fluid delivered from the side ends of the first buckets.

\section*{No. 100,989. Track Laying Machine.}

Machine à poser les rails.


Taylor Milton Garver, Champaign, Illinois, U.S.A., 11th September, 1906; 6 years. Filed 16th August, 1906. Receipt No. 138,735 .
Claim.-1. A track laying apparatus comprising a car having a compressed air tank mounted upon it, truck adapted to run on the track forward of the car, means on the car for conducting rails and ties along the car and forward thereof past said truck, pneumatically operated track gauging appliances mounted on the truck, and a flexible pipe connection to said appliances from the compressed alr tank on the car.
2. A track laying apparatus comprising a car adapted to run on the track to be laid, a compressed air tank mounted on such car, a truck adapted to run on the track in advance of the car, pneumatically operated track gauging appliances ou the truck and a flexible pipe connection from the compressed air tank on the car to said pneumatic appliances, -neumatic operated tie lifters on the truck and flexible pinc connections thereto from the compressed air tank.
3. A track laying apparatus comprising a car adapted 10 run on the track laid, a compressed air tank mounted on such car, tie lifters suspended from the car in position for engaging the ties underlying the ralls on which the car stands, pneumatically operated means for actuating sait? tie lifters to uphold the ties against the under side of the rails, and pipe connections from the compressed air tank to said devices.
4. A track laying apparatus comprising a car adapted to run on the track to be lald, means mounted on the car extending longitudinally thereof and forward therefrom for conducting rails and ties to the road bed forward of the car. and a track gauging apparatus adapted to run on the track between the car and the delivery end of the rail and tie conductors.
5. A track laying apparatus comprising a car adapted to run on the track to be laid, rail and tle conductors extending alongside the car and projecting forward therefrom for delivery of rails and ties to the road bed in advance of the car. a truck adapted to run on the track between the forward end of the car and the delivery point of the rail and tie conductors, a compressed air tank mounted on the car, pneumatically operated track gauging devices mounted on the truck and flexible pipe conenctions from the tank to said devices.
6. A track laying apparatus comprising a car adapted to run on the track to be laid, rail and tie conductors extending alongside the car and projecting forward therefrom for delivery of rails and ties to the road bed in advance of the car, a truck adapted to run on the track between the fcrward end of the car and the delivery point of said rail and tie conductors, a compressed air tank mounted on the car, pneumatically operated track gauging devices and pneumatically operated tie lifters both mounted on the truck, and flexible pipe connections from the compressed air tank on the car to said devices on the truck.
7. A track laying apparatus comprising a car adapted to run on the track to be laid, rail and tie conductors extending alongside the car and projecting forward therefrom along the road bed for delivery rails and ties to the latter at a point in advance of the car, a truck adapted to run on the track between the forward end of the car and sald rail and tie delivery point, a compressed air tank mounted on the car, pneumatically operated tie lifters mounted on the car and connections for supplying them with compressed air from the tank, pneumatically operated track gauging devices and tle lifters mounted on the truck and flexible pipe connections to said devices from the compressed air tank.
8. A track laying apparatus comprising a truck adapted to run on the track to be laid, a gauging device having its frame carried by the truck and comprising two parallel inner gauge bars extending transversely with respect to the track between the front and rear wheels of the truck at the level of the heads of the rails for spacing the latter, two pairs of transversely reciprocating bars extending out over the ralls, between the truck wheels, one pair at each side, and having their ends hooked for engaging outside the rails, and pneumatically operated connections for actuating said ciamping bars to draw them inwardly for clamping the rails against the interior spacing bars.
9. A track laying apparatus comprising a truck adapted to be run on the track to be laid, a gauging device having its frame carried by the truck and comprising two parallel inner gauge bars extending transversely with respect to the track between the front and rear wheels of the truck at the level of the heads of the rails for spacing the latter, two pairs of transversely reciprocating bars extending out over the rails, one pair at each side, and having their ends hooked for engaging outside the rails between the truck wheels, a cylinder mounted on the truck having connection with a source of compressed air for operating the piston or pistons, such piston or pistons having connections therefrom for actuating the reciprocating bars.
10. A track laying apparatus comprising a truck adapted to run on the track to be laid, a frame suspended from such truck between the rails, interior spacing bars mounted on such frame at the level of the heads of the rails between the tread points of the front and rear wheels, exterior clamping bars mounted for reciprocation on such frame extending out over the rails between the front and rear wheels and hooked for engagement outside the rails, pneumatic tie lifters mounted on the truck having their means for engaging the tles extending down between the interior gauging bars, and pneumatically operated devices for actuating the clamping bars.
11. A track laying apparatus comprising a truck adapted to run on the track to be laid, a frame flexibly suspended from the truck between the wheels and below their axles, track gauging devices mounted on such frame and tie lifters mounted on the truck.
12. A track laying apparatus comprising a truck adapted to run on the track to be laid, having the axle bearings all rigidly framed together, such frame comprising an elevated transverse bar located in a vertical plane between the front and rear wheels of the truck and extending laterally beyond the track at both sides to overhang the road bed, tie lifters curried by the overhanging ends of such bar, and track fauging devices carried by the truck in position for operating on the track rails before and behind the transverse vertical plane of the tie lifters.
13. A track laying apparatus comprising a car having a compressed air tank mounted upon it, means adapted to run
on the track in advance of the car for gauging the rails, a plurality of pneumatically operated tie lifters mounted on the car, trolley hangers for the same, and trolley tracks upon which they are mounted to run longitudinally of the track. and flexible connections from the tie lifters to the compressed air tank.

\section*{No. 100,990. Machine for Bending Metal Tubes.}

Machine d plicr les tubes en métal.


Wlliam Kennedy, West Drayton, Middlesex England, 11th September, 1906; 6 years. Filed 3rd October, 1905. Recelpt No. 128,922.
Claim.-1. In apparatus for bending metal tubes, rods or the like, the combination of a central screw-threaded plug having a fixed flange and a flange screwed thereon, a stop ou the fixed flange, a bracket mounted to revolve round the central plug, a stop on said bracket, and a screw lever consisting of a toothed wheel revolving with the bracket and a worm journalled in a fixed bracket and gearing with the sald toothed wheel, substantially as described.
2. In apparatus for bending metal tubes, rods or the like, the combination of a central screw-threaded plug having a flange screwed thereon, a bracket mounted to revolve round the central plug. a stop on said bracket, means for revolving said bracket upon the central plug, and means for temporarily coupling sald bracket with the screwed flange, substantially as and for the purpose set forth.

No. 100,991. Method of Treating Tin Ecrap.
Méthode de traitement des déchets de ferblanc.


Meredith Leitch, Elizabeth, New Jersey, U.S.A., 11th September, 1906: 6 years. Filed 5th July, 1906. Receipt No. 137,570.
Claim.-1. In the treatment of tin scrap for the recovery of tin by a de-tinning bath the improvement which consists in converting the filth adhering to sald scrap into a form not detrimental to the bath without removing the coating of tin and keeping the medium surrounding the scrap while beling thus treated inert relatively to the tin thereon.
2. In the treatment of tin scrap for the recovery of tin by a de-tinning bath the improvement which consists in volatizing the volatile portions of the filth and carbonizing the carhonaceous matter of the filth and meanwhile keeping the
medium through which the scrap is then passing de-oxidized and at an even temperature sufficiently high to carbonize the carbonaceous matters but not high enough to remove the coating of tin from the scrap.
3. In the treatment of tin scrap for the recovery of tin by a de-tinning bath the improvement which consists in volatilizing the volatile portions of the filth and carbonizing the carbonaceous matters of the filth in a de-oxidized atmosphere heated sufficiently to carbonize the carbonaceous matters but not to remove the tin coating from the scrap and Jarring said scrap so as to remove the carbonized matter therefrom.
4. In the process of treating tin scrap comprising old cans for the recovery of tin by a de-tinning bath the improvement which consists in volatilizing the volatile portions of the filth and carbonizing the carbonaceous matter of the filth in a heated de-oxidized atmosphere without removing the tin coating and subjecting the cans while in said heated atmosphere to mechanical blows and thereby disintegrating them.
5 . In the process of treating tin scrap consisting of old tin cans, the improvement which consists in subjecting the same to heat in a de-oxidized atmosphere and subjecting the cans thus heated to mechanical blows.
6. In the process of treating tin scrap consisting of old cans, the improvement which consists in subjecting the same te heat in a de-oxidized atmosphere and periodically striking the cans thus heated and thereby disintegrating them and impelling them in an onward direction.
7. In the process of treating tin-scrap consisting of old cans, the improvement which consists in subjecting the same to heat in a de-oxidized atmosphere and striking the cans thus heated with blows in an obliquely onward direction and impelling them onward by such blows.
8. In the process of treating tin scrap consisting of old cans, the Improvement which consists in subjecting the same to heat in a de-oxidized atmosphere and simultaneously subjecting them to centrifugal force and striking them with blows in an obliquely onward direction thereby causing them to-move onward and to become disintegrated.

No. 100,892. Cement Block. Bloc de ciment.


John Fretts Madden, London, Ontario, Canada, 11th September, 1906 ; 6 years. Filed 28th October, 1905. Receipt No. 129,639.
Claim.-1. A building block comprising iront and rear walls of concrete or the like connected by wooden blocks which extend into the front wall and through the rear wall.
2. A building block comprising front and rear wall of concrete or the like connected by wooden blocks about which the concrete is moulded, said blocks extending into the front wall and through the rear wall, and means to prevent the separation of sald blocks and walls.

\section*{No. 100,983. Vaponriser for Firnaces.}

\section*{Appareil d vaporiser pour fournaises.}

David L. O'Connor, Waynesboro, Virginia, U.S.A., 11th September, 1906; 6 years. Filed 24th July, 1906. Receipt No. 138,114 .
Claim.-1. A vapourizer for furnaces comprising a receptacle having ports therein, an apertured ring mounted upon the receptacle and adapted to simultaneously open or close the ports, a supply pipe opening into the receptacle, a float and means operated by the float for controlling the passage of liquid through the pipe.
2. A vapourizer for furnaces comprising a receptacle having ports therein, an apertured ring upon the receptacle
adapted to simultancously open or close the ports, a float within the receptacle, a guide therefor, a supply pipe

opening into the receptacle, and means operated by the float for controlling the passage of liquid through the pipe.
3. A vapourizer for furnaces comprising a receptacle having ports therein, means for simultaneously opening or closing the ports, a cover, a float within the receptacle, a stem thereon guided within the cover, a supply pipe, and means operated by the fioat for controlling the passage of liquid through the pipe.
4. A vapourizer for furnaces comprising a receptacle having a groove therein, sald groove provided with ports, an apertured ring movably mounted within the groove and adapted to open or close the ports, a cover upon the receptacle, a guide tube therein, a float and a stem extending from the float and slidably mounted within the tube.
5. A vapourizer for furnaces comprising a receptacle having a groove therein, said groove provided with ports, an apertured ring movably mounted within the groove and adapted to open or close the ports, a cover upon the receptacle, a guide tube therein, a float and a stem projecting from the float and slidably mounted within the tube, a supply pipe extending into the receptacle, and means operated by the stem and float for controlling the passage of liquid through the pipe.

No. 100,994. Building Block. Bloc de construction.


Nels J. Peterson, Omaha, Nebraska, U.S.A., 11th September. 1906; 6 years. Filed 21st April, 1906. Recelpt No. 135,128.
Claim.-1. A fller block for wall construction comprising a body portion having four converging sides which meet in two lines opposite each other and the center thereof, and said body portion belng provided with an aperture, substantially as set forth.
2. A fller block for wall construction composed of four inclined sides 5 which meen in points 6 and 8 opposite the enter of the block, the ends 7, the top and bottom faces b and the diamond shaped aperture, substantially as get forth.
3. A wall composed of building blocks A having converging sides 2 which meet in a line 3 , the filler blocks \(B\) having
a diamond shaped aperture \(f\). and the four inclined sides 5 which meet in lines 6 and 8 opposite each other and the center of said block, said last-mentioned blocks belng laid so that each block of a course above the lowermost course will seat upon the blocks next below.
4. A masonry wall consisting of a plurality of wall sections, one section at an angle to the other section, sald wall being composed of a plurality of angular blocks lald in courses and having three contiguous rows in each course. such rows belng separated to provide an air space on each side of the center row or flller blocks, the alr space of one course on each slde of the center row or fller blocks being arranged to cross the air space of the adjoining courses above and below to provide vertical communicating passages between the air spaces of the several courses and the center row of blocks having substantially quadrangular shaped apertures to provide vertical air passages which communicate with the aforesaid contiguous air spaces upon each side of the center row of blocks.

No. 100,995. Power Fammóor. Marteau mécanique.


Frank P. Polaski, Granite, Oklahoma, U.S.A., 11th September, 1906: 6 Jears. Filed 27th June, 1906. Receipt No. 137,341.
Olaim.-A power hammer comprising a framework having an anvil thereon, a hammer to co-operate therewith and carried by a fulcrumed beam, a flexible joint carried by one end of said beam, a screw-threaded shank projecting from said joint, a U-shaped member adjustably connected to said shank and an elliptical spring resting under or secured to a stationary part of the framework and passing between the sides of said U-shaped member, the lower portion of said spring being connected to the sides of the sald U-shaped member and adapted to restore the hammer to its normal position.

\section*{No. 100,996. Explosive. Explosif.}

Berthold Gustav Reschke. Hamburg, Germany. 11th September. 1906; 6 years. Filed 19th June, 1906. Receipt No. 137,058.
Claim.-In the manufacture of ammonium nitrate safety explosives the introduction of fennel with or without the addition of wood pulp, substantially in the proportions and for the purpose specified.

\section*{No. 100,997. Typewriter Mechanism.} Ḿcanisme de clavigraphe.
John Stephen Southerden. Brisbane, Queensland, Australla, 11th September, 1906; 6 years. Filed 20th April, 1906. Recelpt No. 135,100.
Claim.-1. In improvements in line spacers for typewriting machines the combination of a platen, a disc having a central boss attached to the end of aplaten. a grip ended clutch with tail pieces fitting over boss of disc and the grip ends adapted to engage with the periphery of the disc, substantially as described.
2. In improvements in line spacers for typewriting machines the combination of a platen, a disc having a central boss attached to the end of said platen, a iriction clutch member having a tail piece, a lever with eccentric end pivotally connected to said tall picce and adapted to engage with the periphery of the disc, substantially as described.
3. In improvements in line spacers for typewriting machines the combination of a platen, a disc having a central boss attached to the end of said platon, a friction clutch memer having a tall pere. a lever with ecoentric and pivotally connected to said tail pioce, a spring connected to said tail piece keepine the ecerntric end of lever in engagement with the disc, substantlally as described.
4. In improvements in line spacers for typewriting machines the combination of a platen, a disc having a central

boss attached to the end of said platen, a friction clutch member having a tail piece, a stop on type machine against which said tail piece abuts, an eccentric ended lever plvotally connected by an arm to the operating epacing lever of the machine, substantially as described.

No. 100,998. Typewriter Mechanism.
Lécanisme de clavigraphe.


John Stephen Southerden, Brisbane, Queensland, Australia, 11th September, 1906; 6 years. Filed 20th April, 1906. Recelpt No. 135,102.
Claim,-1. In improvements in line spacers for typewriting machines the combination of a platen, a circular plate necessed on face having a concentric groove for recelving gripping dogs and a central boss fitting round platen spindle, sald plate attached to end of platen, substantially as described.
2. In improvements in line spacers of typewriting machines the combination of a platen, a plate having a recessed face and a concrete groove, dogs adapted to grip said groove, a lever having a boss provided with notches for engaging said dogs and spiral springs attached to sald lever and dogs, substantially as described.
3. In improvements in line spacers for typewriting machines the combination of a platen, a plate having a recessed face and a concentric groove, dogs adapted to grip sald groove, a lever having a boss provided with notches for engaging said dogs, springs attached to said lever and dogs, a plate connected to said lever by helical spring and provided with radial arms having pins on ends of same for engaging with said dogs and a radial arm engaging with a stop on the machine, substantially as described.

No. 100,898. Typewriter Mechanism. Mécanisme de clavigraphe.


John Stephen Southerden, Brisbane, Queensland, Australia, 11th September, 1906;6 years. Filed 20th April, 1906. Receipt No. 135,101.
Claim.-1. In improvements in line spacers for typewriting machines the combination of a platen, a recess formed in the end of platen lined with a flanged ring, a disc having a boss formed integrally therewith fitting into the end of the platen. said boss having a tapered recess, a ball or roller travelling along the path of said recess and a spiral spring forcing the said ball or roller into grip with the flanged ring and the sald boss, substantially as described.
2. In improvements in line spacers for typewriting machines the combination of a platen, a recess formed in end of platen lined with a flanged ring, a disc having a boss formed integrally therewith, said boss having a tapered recess, a ball or roller, a spiral spring flxed in end of said recess. a stop on frame of machine, a releasing member working in a straight line or concentrically against the face of the disc, provided at one end with a pin set at right angles adapted to engage with the ball or roller and the free end engaging with the sald stop releasing ball or roller from gripping the platen, substantially as described.
3. In improvements in line spacers for typewriting machines the graduated dial \(M\) provided with a stop \(Q\) and pointer \(P\) in combination with lock nut \(N\) and handle NI adapted to lock the dial to frame of machine, substantially as described.
4. In improvements in line epacers for typewriting machines the combination of a graduated dial \(M\), lock nut \(N\) and operating lever \(L\) in combination with the toothed gearing K and KI , springs V and S , substantially as described.

\section*{No. 101,000. Rural Route Mail Deliverer. \\ Appareil de distribution de la malle rurale.}

Valentine F. Springer. Milford, Nebraska, U.S.A., 11th Septtember, 1906 ; 6 years. Filed 19th June, 1906. Receipt No. 137,069.
Claim.-In a device of the character described the combination with two superposed suspended wires, of a carriage, seid carriage being provided with brackets, a sheave supported within each bracket working upon the uppermost suspending wire, a gear secured to one of said sheaves, a drive gear secured to said carriage meshing with said first-
mentioned gear, a suitable motor actuating said gears, a sheave secured to said driving shaft adapted to come in en-

gagement from below with said lowermost suspended wire and a mail receptacle secured to sald carriage.

No. 101,001. Turbine Enginc. Machive turbine.


Alfred Tschinkel, New York City, New York, U.S.A. 2 11th September, \(1906 ; 6\) years. Flled 10th August, 1906. Recelpt No. 138,584.
Claim.-1. In a turbine engine, a stationary enclosing casing having inlets in one side and outlets in the other side and a line of transversely extending pockets in its interior circumference open at each end, and a rotatable wheel in said casing having a line of transversely extending pockets in its outer circumference open at each end and adapted to intersect the pockets in said casing, whereby the motive fluid simultaneously enters the pockets in the casing and the pockets in the wheel from one side in separate bodies, mixes therein when the pockets register and then exhausts from sald pockets on the other side of said casing. substantially as described.
2. In a turbine engine, a stationary enclosing casing having a line of transversely extending pockets in its interior circumference open at each end, a rotatable wheel having a line of transversely extending pockets in its outer circumference open at each end and adapted to Intersect the pockets in said casing, inlets in one side of the casing each having a passage communicating with the pockets in said casing, and a passage communicating with the passage in the wheel and outlets in the other side of the casing, whereby the motive fluid simultaneously enters the pockets in the casing and the pockets in the wheel from one side in separate bodies, mixes therein when the pockets register and then exhaust from said pockets on the other side of said casing, substantially as described.
3. In a turbine engine, a stationary enclosing casing having inlets in one side and outlets \(n\) the other side and a line of transversely extending curved pockets in its interior circumference open at each end and a rotatable wheel in said casing having a line of transversely extending curved pockets in its outer circumference open at both ends and adapted to intersect the pockets in said casing. whereby the motive fluid simultaneously enters the pockets in the casing and the pockets in the wheel from one side in separate bodies, mixes therein when the pockets register and then exhausts from said pockets on the other side of said casing, substantially as described.
4. In a turbine engine, a stationary enclosing casing having a line of curved pockets in its interior circumference, a rotatable wheel having a line of curved pockets in its outer circumference adapted to intersect the pockets in said casing, inlets in one side of the casing each having a passage communicating with the pockets in said casing and a passage communicating with the pockets in the wheel and outlets in
the other side of the casing. whereby the motive fluid simultaneously enters the pockets in the casing and the pockets in the wheel from one side in separate bodies, mixes therein when the pockets register and then exhausts from said pockets on the other side of said casing, substantially as described.
5. In a turbine engine, a stationary enclosing casing having Inlets in one side and outlets in the other side and a llne of transversely extending curved pockets open at each end and a rotatable wheel having a line transversely extending pockets in its outer circumference curved in the reverse direction to the pockets in the casing and adapted to intersect the pockets in said casng, whereby the motive fiuld simultaneously enters the pockets in the casing and the pockets in the wheel from one side in separate bodies, mixes therein when the pockets register and then exausts from said pockets on the other side of the casing, substantially as described.
6. In a turbine engine, a stationary enclosing casing having a line of transversely extending pockets in its interior circumference open at each end, a rotatable wheel having a line of transversely extending pockets in its outer circumference open at each end and adapted to intersect the pockets in said casing. inlets in one side of said casing, outlets in the other side of said casing, and a chamber in said casing to receive the exhaust from the pockets therein and the pockets in the wheel, whereby the motive fluid simultaneously enters the pockets in the casing and the pockets in the wheel from one side in separate bodies, mixes therein when the pockets register and then exhausts from said pockets on the other side of said casing, substantially as described
7. In a turbine engine, a stationary enclosing casing having a line of pockets in its interior circumference, a rotatable wheel having a line of pockets in its outer circumference adapted to intersect the pockets in said casing. inlets in one side of said casing, each havng a passage communicating with the pockets in said casing and a passage communicating with the pockets in the wheel, outlets in the other side of the casing and a chamber in said casing to receive the exhaust from the pockets therein and the pockets in the wheel. whereby the motive fluid simultaneously enters the pockets in the casing and the pockets in the wheel from one side in separate bodies, mixes thercin when the pockets register and then exhausts from said pockets on the other side of said casing, substantially as described.
8. In a turbine engine. a stationary enclosing casing having inlets in one side and outlets in the other side, a line of transversely extending graduated pockets in its interior circumference open at each end and a rotatable wheel having a line of transversely extending graduated pockets in its outer circumference open at each end and adapted to intersect the pockets in said casing, whereby the motive fluid simultaneously enters the pockets in the casing and the pockets in the wheel from one side in separate bodics mixes therein when the pockets register and then exhausta from said pockets on the other side of said casing, substantially as described.
9. In a turbine engine. a stationary enclosing casing having a graduated line of transversely extending pockets in its interior circumference onen at both ends, a rotatable wheel having a graduated transversely extending line of pockets in its outer circumference open at both onds and adapted to intersect the pockets in said casing. inlets in one side of said casing each having a passage communcating with the pockets in said casing and a passage communicating with the pockets in the wheel and outlets in the other side of the casing, whereby the motive fluid simultaneously enters the pockets in the casing and the pockets in the wheel from one side in separate bodies, mixes thereln when the pockets register and then exhausts from said pockets on the other side of said casing. substantially as described.
10. In a turbine engine, a stationary enclosing casing having inlets in one side and outlets in the other side and interior circumferential ribs forming a line of transversely extending graduated pockets open at each end and a rotatable wheel having exterior circumferential ribs forming a line of transversely extending graduated pockets open at cach end and adapted to intersect the pockets in said casing. whereby the motive fluid simultaneously enters the i. \(\cdot\) clists in the cas: \(n s\) auci the pockets in the wheel from irclats in the
\(r i d e\) in separate brics, mixes therein when the pockets rigister and ther e latst: from sald pockets on the other sid. of said casirg substantially as described.
11. In a turbine engine. a stationary casing having inlets in one side and outlets in the other side and interior circumferential ribs forming a lne of transversely extending pockets open at each end, a rotatable wheel having exterior circumferential ribs forming a line of transversely extendIng pockets open at each end adapted to intersect the pockets in sald casing, inlets in one side of the casing each having a passage communicatng wth the pockets in said casing and a passage communicating with the pockets in the
wheel and outlets in the other side of the casing, whereby the motive fluid simultaneously enters the pockets in the casing and the pockets in the wheel from one side in separate bodies, mixes therein when the pockets register and then exhausis from said pockets on the other side of said casing. substantialiv as described.

No. 101,002. Pegging Machine. Machine d cheviller.
Pegging Muchinc.


The United Shoe Machinery Company of Canada, Boston, Massachusetts, assignee of The Davey Pegging Machine Company, assignee of William Winslow Kelly, both of Portland. Maine, U.S.A., 11th September, 1906; 18 years. Filed 9th January, 1900. Receipt Nos. 76,042 and 78,057
Note.-This patent is a re-issue of Patents No. 54,643 , bearing date the 18th day of January, 1897.
Claim.-1. The combination of a awl and peg driving mechanism of pegging machine with a rotatable horn presenting an effective support for the material between the point penetrated by the awl and the axis of rotation of the horn, the axis of rotation of the horn being offset with relation to the line of feed of the awl, which awl operates outside the exterior surface of said support, substantially as described.
1a. The combination of the awl and peg driving mechanism of a pegging machine with a rotatable horn, the axis of which is offset with relation to the line of feed of the awl, and means for presenting an effective support for the material close to the point penetrated by the awl between the axis of rotation of the horn and the point of penetration of the awl, and an additional support beyond said point of penetration forming a bottomless working space for the awl between sald supports.
2. The combination of the peg driving mechanism of a pegging machine with a rotatable horn, the axis of rotation of which is offset with relation to the line of feed of the peg driving mechanism, and an anvil plece pivotally supported in the top of sald horn to support the material between the point penetrated by the awl and the axis of rotation of the horn, the awl operating on a tangent outside the periphery of said anvil plece, substantially as described.
3. The combination of the peg driving mechanism of a pegging machine with a rotatable horn, the axis of rotation of which is offset with relation to the line of feed of the peg driving mechanism, and an anvil piece pivotally supported In the tip of said horn to support the material between the point penetrated by the awl and the axis of rotation of the horn, the awl operating on a tangent outside the periphery of said anvil piece, and means for holding said anvil piece against rotation with the horn, substantially as described.
4. The combination of the rotatable horn with an anvil plece supported in the tip thereof and projecting laterally beyond said horn tip to afford a support for the material. and means for holding said anvil against rotation with the horn, substantially as described.
5. The combination of the peg driving mechanism comprising an awl and peg driver with a rotatable horn, the axis
of rotation of which is offset with relation to the sald awl and triver which operate outside the periphery of the tip of said horn, and an anvil plece supported in said horn tip and projecting over the periphery thereof toward the awl and driver, and means for holding said anvil plece against rotation with the horn, substantially as described.
6. The herein described anvil piece for the horn of a peg ging machine comprising a pivotal shank and an overhanging head or supporting portion having a lateral projection at one end thereof, substantially as described.
7. The combination of the rotatable horn with a sprocket wheel held against ratation in the axis of the horn, a second sprocket wheel having its bearing in the rotating horn, and a chain connecting said sprocket wheels, an anvil plece pivotally supported in the horn tip and connection between the same and said sprocket wheel and horn, substantially as and for the purpose described.
8. The combination with the rotatabde horn and means for yleldingly pressing it upward, of a treadle and means for yieldingly pressing it upward, and a loose or slotted connection between said treadle and horn, said horn being movable downward independently of said treadle, substantially as described.
9. The combination of a rotatable horn with an anvil plece supported in the tip thereof, gearing in said horn to prevent rotation of said anvil plece therewith and a shaft in the shank of said horn connected with said gearing, a fixed post below and in line with the said horn engaged with said shaft as described whereby the latter can move longitudinally but without rotary movement in said post, substantially as and for the purpose set forth.
10. The combination of a rotatable horn with a spring to press it upward and an anti-friction bearing for the end of said spring comprising a collar, a series of balls contained therein and bearing surfaces for said balls at each side of said collar, substantially as and for the purpose described.
11. The combination of the horn having a hollow or tubular shank and an anvil plece supported in the tip thereof, and gearing in said horn to prevent rotation of said anvil piece therewith, a post fixed below and entering the tubular shank of said horn, a shaft in said horn connected with the gearing therein and engaged with said post as described, a spring to elevate said horn and a treadle connected to a shaft in said horn and provided with a stop to limit the upward movement thereof, substantially as described.

No. 101,003. Letter Chute and Conveyer. Transport et chute de lettre.


Martin C. Schwab, Baltimore, Maryland, U.S.A., 18th September. 1906; 18 years. Filed 23rd April, 1906. Receipt No. 135,177
Claim.-1. The combination of a letter chute and a gravity conveyer.
2. The combination of a letter chute and a spiral gravity conveyer.
3. The combination of a vertical letter chute and a fravity conveyer adjacent thereto.
4. The combination of a letter chute and a multiple spiral gravity conveger.
5. The combination with an outer casing of an inner core, a spiral blade interposed between said casing and core, and a letter chute extending through said inner core.
6. The combination with an outer casing of an inner core and a spiral blade interposed between said casing and core, said casing having an observation opening and an intake oppning.
i. The combination of a gravity conveyer having an observation opening and an intake opening, and a letter chute extending through the interior of said conveyer.
8. The combination of a gravity conveyer and a letter chute of rectangular cross section extending longitudinally through the interior of said conveyer.
9. The combination of a multiple spiral gravity conveyer and a plurality of letter chutes extending longitudinally through the interior of said conveyer.
10. The combination with a gravity conveyer, of a letter chute and receiving boxes for sald conveyer and chute.
11. The combination with a multiple spiral gravity conveyer, of receiving means for each spiral, a letter chute and additional receiving means for said chute.
12. The combination with a multiple spiral gravity conveyor or a plurality of letter chutes extending longitudinally through the interior of said conveyer, and a box at the lower end of the conveyer and chutes provided with separate compartments for each of the spirals and chutes.
13. The combination with a conveyer of an inner letter chute, and means affording communication between the outer portion of the conveyer and said inner chute.
14. The combination with a conveyer of an inner chute, means affording communication between the outer portion of said conveyer and sald inner chute and observation openings adjacent said means.
15. The combination with a gravity conveyer of an inner chute having one of its walls composed of transparent material. and an auxiliary chute extending from the exterior of said conveyer to sald inner chute, said conveyer being provided with observation openings in alignment with the transparent wall of said inner chute.
16. The combination with a conveyer of an inner chute and an auxiliary chute extending from the exterior of said conveyer to said inner chute, sald conveyer and inner chute being provided with observation openings.
17. The combination with an outer casing of an inner chute. an interposed spiral blade and an inner chute, said casing and core being provided with openings in substantial alignment with each other.
18. The combination with an outer casing of an inner chute an interposed spiral blade, an inner chute and an auxiliary chute connecting an opening in said outer casing with an opening in said inner chute, said casing, core and inner chuto being provided with openings in substantial alignment with each other.
19. The combination with an outer casing of an inner core, an. interposed spiral blade, an inner letter chute and an auxiliary letter chute below said blade and connecting an opeaing in the outer casing with an opening in the inner chute through an opening in the inner core, said casing core and inner chute being privided with observation openings between said blade and sald auxillary chute.
20. The combination with a gravity conveyer of an inner chute and a plurality of auxiliary, chutes extending between the exterior of said conveyer and said inner chute, said conveyer and inner chute being provided with observation openings adjacent each of said auxiliary chutes.
21. The combination with a gravity conveyer of landing floors therefor, an inner chute auxiliary conveying means adjacent a landing and extending between, the exterior of said conveyer and said inner chute.
22. The combination with a gravity conveyer of landing floors therefor, a plurality of inner chutes and auxiliary conveying means extending from the exterior of said conveyer adjacent a floor landing to the said inner chutes, sai. conveyer and chutes being provided with observation openings.
23. The combination with a multiple spiral gravity conveyer, of landing floors therefor, an inner chute, and means affording communication between the exterior of said conveyer and said inner chute at a point adjacent a floor landing. said conveyer and chute being provided with openings in substantial alignment with each other.
24. The combination with an outer casing of an inner core, a plurality of spiral blades interposed between said casing and core to form conveying surfaces for packages, a plurality of letter chutes extending longitudinally through said inner core, means affording commurication between said outer casing at points adjacent a floor landing and the said letter chutes, said outer casing having intake openings and observation openings adjacent the spirais of the conveyer, and the letter chute being provided with additional observation openings for the letter chute and individual receiving means for the letter chutes and for the package convey ing spirals.

\section*{No. 101,004. Plate Printing Machine.}

\section*{Machine is imprimer des plaques.}

The Long-Arm System Company, assignee of Robert H. Kirk, both of Cleveland, Ohio. U.S.A.. 18th September, 1906 ; 6 years. Filed 28th May, 1906. Receipt No. 136,301.
Claim.-1. In a plate printing machine the combination with a frame, a bed roller journalled therein, and an im-
pression roller in the form of a cylinder mounted above said bied roller, of a plate carriage mounted to vibrate on said

frame between said rollers, and a card carrier also mounted to vibrate on sald frame, means for automatically moving said card carrier towards and coupling it with sald plate carirage and for uncoupling same and holding the card carrier in the initial position, and a friction drive independent of the pressure between said rollers for moving the plate carriage, and with it the card carrier, between sald rollers, substantially as described.
2. In a plate printing machine the combination with a frame, a bed roller journalled therein, and an impression roller in the form of a segment, of a cylinder mounted above sa!d bed roller, of a plate carriage mounted to vibrate on said frame between said rollers, and a card carrier also mounted to vibrate on said frame, means for automatically moving said card carrier towards and coupling it with said Fhate carriage and for uncoupling it with said plate carriage and for uncoupling same and holding the card carrier in the ir:tial position, and a friction drive independent of the pressure between said rollers for moving the plate carriage, and with it the card carrier between said rollers, and means for bolding the card normally at an angle on said card carrier and causing it to project above and clear of the plate, except when pressed between the rollers, substantially as described.
3. In a plate printing machine the combination with a frame, a bed roller journalled therein, and an impression roller in the form of a segment, of a cylinder mounted to vibrate on said frame between said rollers, and a card carrier also mounted to vibrate on sald frame, means for automatically moving said card carrier towards and coupling it with said plate carriage, and for uncoupling same and holding the card carrier in the initial position, and a eriction crive independent of the pressure between said rollers, for moving the plate carriage, and with it the card carrler between said rollers, and an inking roller automatically operaled by the motion of said plate carriage for inking the plate, 3ubstantlally as described.
4. In a plate printing machine the combination with a frame, a bed roller journalled therein, and an impression roller in the form of a segment of a cylinder mounted above said bed roller, of a plate carriage mounted to vibrate on said frame between said rollers," a card carrier with means for automatically moving same towards and coupling same t' said plate carriage, means for automatlally uncoupling said card carrier when it returns to the initlal position. automatic means for holding the card carrier in the inltial position untll released, a strap connected to the plate carriage, with a weight suspended therefrom, a stiff strip contected to said strap, and Intermittently acting friction roll'rs acting upon said strap and strip for imparting a frictional feed to said plate carriage independent of the pressure between the printing rollers, substantially as described.
i. In a plate printing machine the combination with a frame, a bed roller journalled therein and an impression roller in the form of a segment, of a cylinder mounted above
sald bed roller, of a plate carriage mounted to vibrate on said frame between said rollers, a card carrier with means for automatically moving same towards and coupling same to said plate carriage, means for automatically uncoupling said card carrier when it returns to the initial position. automatic means for holding the card carrier in the initial position until released, a strap connected to the plate carr:age with a weight suspended therefrom, a stiff strip con nected to said strap, and intermittently acting friction rollers acting upon said strap and strip for imparting a frictional feed to said plate carriage independent of the pressure between the printing rollers, and an ink roller automatically operated by the motion of said plate carriage for inking the plate, substantially as described.
6. In a plate printing machine the combination with a frame, a bed roller journalled therein and an impression roller in the form of a segment, of a cylinder mounted above said bed roller, of a plate carriage mounted to vibrate on said frame between said rollers, a card carrier with means for automatically uncoupling said card carrier when it returns to the initial position, automatic means for holding the card carrier in the initial position untll released, a strap connected to the plate carriage with a weight suspended therefrom, a stiff strip connected to said strap, and intermittently acting friction rollers acting upon said strap and strip for imparting a frictional feed to said plate carriage independent of the pressure between the printing rollers, and an ink roller automatically operated by the motion of said plate carriage for inking the plate, with means for holding the card normally at an angle on sald card carrier and causing it to project above and clear of the plate, except when pressed between the rollers, substantially as described.
7. In a plate printing machine the combination with a frame, a bed roller journalled therein, and an impression roller mounted above said bed roller, of a plate carriage mounted to vibrate on said frame between said rollers, a plate holder mounted on said garriage, a card carrier with means for holding the card at an angle above said carrier, means for coupling the plate carriage and card carrier together and a friction drive for moving said plate carriage independently of the pressure between the printing rollers, substantially as described.
8. In a plate printing machine the combination with a frame, a bed roller journalled therein, and an impression roller mounted above said bed roller, of a plate carriage mounted to vibrate on said frame between said rollers, a plate for holding the card at an angle above said carrier, means, for holding the card at an angle above said carirer, means, for coupling the plate carriage and card carrier together and a friction drive for moving said plate carriage independently of the pressure between the printing rollers, with an ink roller automatically operated by the motion of said plate carriage for inking the plate, substantially as described.
9. In a plate printing machine the combination wth a frame and printing rollers journalled in said frame, of a plate carriage mounted to vibrate on said frame between said printing rollers, and a card carrier provided with a series of resilient fingers for gripping the card and holding it at an angle in the card carrier, a rod journalled in said card carrier and having a flat face normally resting beneath said gripping fingers and allowing the same to grip the card but lifting said gripping fingers when said rod is rocked, substantially as described.
10. In a plate printing machine the combination with a frame and printing rollers journalled in said frame, of a plate carriage mounted to vibrate on said frame between said printing rollers and a card carrier provided with a of resilient fingers for gripping the card and holding it at an angle in the card carrier, a rod journalled in said card carrier and having a flat face normally resting beneath said gripping fingers and allowing the same to grip the card but lifting said gripping fingers when said rod is rocked, with a wrist lug secured to said rod for rocking the same, substantially as described.
11. A card holding and releasing device for use in machines of the character described, comprising a bar having an inclined face, a rod mounted to rock in said bar and flattened along one side thereof, a serics of resilient gripping fingers secured to said bar and engaging said flattened face of said red and normally tending to restore the same to the initial position and to grip the card beyond the edge of said rod. with means for rocking said rod and thereby releasing all of said fingers from engagement with the card, substantially as described.
12. In a plate printing machine the combination with a frame and printing rollers journalled therein, of a plate carrage mounted to vibrate on said frame between sald printing raller's and a card carrier also mounted to vibrate on said frame, with means for coupling said plate carriage and said card carrier together, a shaft for driving said printing rollers a drive wheel loosely mounted on said shaft, clutch mechan-

Ism for connecting said drive wheel and said shaft together when desired and automatic means for disconnecting said clutch mechanism before said shaft has performed a complete revolution, substantially as described.
13. In a plate printing machine the combination with a frame and printing rollers journalled therein, of a plate carriage mounted to vibrate on said frame between said printing rollers and a card carrier also mounted to vibrate on sald frame, with means for coupling said plate carriage and said card carrier together, a shaft for driving sald printing rollers, a drive wheel loosely mounted on said shaft, clutch mechanism for connecting said drive wheel and said shaft together when desired, a treadle and mechanism operated thereby for throwing said clutch mechanism into engagement when desired, and means independent of sald treadle for automatically throwing said clutch mechanism out of engagement, irrespective of the position of said treadle, before the said shaft completes a single revoluton, substantally as des crbed.
14. In a plate printing machine the combination with a frame and printing rollers journalled therein, of a plate carriage mounted to vibrate on said frame between said printing rollers and a card carrier also mounted to vibrate on said frame, with means for coupling sald plate carriage and said card carrier together, a shaft for driving said printing rollers, a friction drive operated by said shaft for moving sald plate carriage, a drive wheel loosely mounted on sald shaft, clutch mechanism for connecting said drive wheel and said shaft together when desired and automatic means for disconnecting said clutch mechanism before said shaft has performed a complete revolution, substantially as described.
15. In a plate printing machine the combination with a frame and printing rollers journalled therein, of a plate carriage mounted to vibrate on said frame between said printing rollers, and a card carrier also mounted to vibrate on said frame, with means for coupling together, a shaft for driving said printing rollers, a friction drive operated by said shaft for moving on said shaft, clutch mechanism for connecting said drive wheel and said shaft together when desired, a treadle and mechanism operated thereby for throwing said clutch mechanism into engagement when desired, and means independent of said treadle for automatically throwing said clutch mechanism out of engagement, irrespective of the position of said treadle, before said shaft completes a single revolution, substantially as described.
16. In a plate printing machine the combination with a frame and printing rollers journalled therein, of a plate carriage mounted to vibrate on said frame between said printing rollers and said plate carriage, a drive wheel loosely mounted on said shaft, clutch mechanism for connecting said drive wheel and said shaft together when desired, and automatic means for disconnecting sald clutch mechanism before said shaft has performed a complete revolution, substantially as described.
17. In a plate printing machine the combination with a frame and printing rollers journalled therein, of a plate carriage mounted to vibrate on said frame between said printing rollers, means for holding the card above said plate carriage, a shaft for driving said printing rollers and said plate carriage, a drive wheel loosely mounted on said shaft. clutch mechanism for connecting said drive wheel and said shaft together when desired, a treadle and mechanism operated thereby for throwing said clutch mechanism into engagement when desired, and means independent of said treadle for automatically throwing said clutch mechanism out of engagement, irrespective of the position of said treadle, before the said shaft completes a single revolution, substantlally as described.
18. In a plate printing machine the combination with a frame and printing rollers, means for holding the card above sald plate carriage, a shalt for driving said printing rollers, a friction drive operated by said shaft, for moving sajd' plate carriage, a drive wheel loosely mounted on said shaft, and clutch mechanism for connecting said drive wheel and said shaft together when desired, with automatic means for cisconnecting said clutch mechanism before said shaft has performed a complete revolution, substantially as described.
19. In a plate printing machine the combination with a frame and printing rollers journalled therein, of a plate carriage mounted to vibrate on said frame between sald printing rollers, means for holding the card at an angle above said plate carriage, a shaft for driving said printing rollers, a friction drive operated by said shaft for moving said plate carrlage, a drive wheel loosely mounted on said shaft, clutch mechanism for connecting said drive wheel and said shaft together when desired, a treadle and mechanism operated thereby for throwing said clutch mechanism into engagement when desired, and means independent of said treadle for automatically throwing said clutch mechanism out of engagement, irrespective of the position of said readle before said shaft completes a single revolution, subtantially as described.
20. In a plate printing machine the combination with a frame and printing rollers journalled therein, of a plate carriage mounted to vibrate on said frame between said printing rollers, and a card carrier with means for causing same to move towards said plate carriage when released, and means for coupling said plate carriage and said card carrier together, a shaft for driving said printing rollers, a drive wheel loosely mounted on said shaft, clutch mechanism for connecting said drive wheel and said shaft together when desired, a treadle and mechanism operated thereby for releasing said card carriage, and independent mechanlsm, also operated by said treadle, for throwing said clutch mechanism into engagement when desired, and means independent of said treadle for automatically throwing sald clutch mechanism out of engagement, irrespective of the position of said treadle before the said shaft completes a single revolution, substantially as described.
21. In a plate printing machine the combination with a frame and printing rollers journalled therein, of a plate carriage mounted to vibrate on sald frame between said printing rollers, means for holding the card above said plate carriage, a shaft for driving said printing rollers and said plate carriage, a drlve wheel loosely mounted on said shaft, clutch mechanism normally tending to couple said drive wheel and said shaft together, comprising a member fast to said wheel, and a shifting member splined to said shaft, and automatic means for moving said sliding clutch member out of engagement with the opposite member before said shaft has performed a complete revolution, substantially as described.
22. In a plate printing machine the combination with a frame and printing rollers fournalled therein, of a plata carriage mounted to vibrate on said frame between said p:inting rollers. means for holding the card above said plate carriage, a shaft for driving said printing rollers and said plate carriage, a drive wheel loosely mounted on said shaft c!utch mechanism normally tending to couple sald drive wheel and said shaft together comprising a member fast to said wheel, and a sliding member splined to said shaft, a treadle and mechanism controlled thereby for throwing said cliding clutch member into engagement when desired, and means independent of said treadle for automatically throwing said sliding clutch member out of engagement, irrespective of the position of said treadle, before the said shaft completes a single revolution, substantially as des cribed.
23. In a plate printing machine, the combination with a frame and printing rollers journalled therein, of a plate mounted to vibrate on said frame between said printing rollers, means for holding the card above said plate carriage, a shaft for driving said printing rollers, spring supported bearings for said shaft, a friction drive operated by said shaft for moving said plate carriage, a drive wheel loosely mounted on said shaft, and clutch mechanism for connecting said drive wheel and said shaft together when desired, with automatic means for disconnecting said clutch mechanism before said shaft has performed a complete revolution, substantially as described.
24. In a plate printing machine the comblnation with a frame and printing rollers journalled therein, of a plate carriage mounted to vibrate on said frame between said printing rollers, means for holding the card above said plate carriage, a shaft for driving said printing rollers, a friction drive operated by sald shaft for moving said plate carriage a drive wheel loosely mounted on said shaft, clutch mechanism normally tending to couple said drive wheel and said shaft together, comprising a member fast to said wheel, and a sliding member splined to said shaft, a treadle and mechanism controlled thereby for throwing sald sliding clutch into engagement when desired, and means independent of said treadle for automatically throwing said sliding clutch member out of engagement irrespective of the position of said treadle, before said shaft completes a single revolution, substantially as described.
25. In a plate printing machine the combination with a frame and printing rollers journalled therein, of a plate carriage mounted to vibrate on sald frame between sald printing rollers, means for holding the card above said plate carriage, a shaft for driving said printing rollers, spring supported bearings for said shaft, a friction drive operated by said shaft for moving said plate carriage, and an inkng roller automatically operated by the motion of the plate carriage, a drive wheel loosely mounted on said shaft and clutch mechanism for connecting sald drive wheel and sald shaft together when desired, with automatic means for disconnecting said clutch mechanism before said shaft has performed a complete revolution, substantially as described.
26. In a plate printing machine the combination with a frame and printing rollers journalled therein, of a plate carriage mounted to vibrate on said frame between sald rollers, means for holding the card sbove the plate carriage, a strap under tension connected to the plate carriage, with a stiff
strip connected to said strap and intermittently acting friction rollers acting upon said strap and strip for imparting : frictional feed to said plate carriage independent of the pressure between the printing rollers, substantially as desribed.
27. In a plate printing machine the combination with a frame and printing rollers journalled therein, of a plate carriage mounted to vibrate on said frame between said rollers. motas for holding the card above the plate carriage, a 6trap umder tension comerted to the plate carriage with a stiff strip conneeted to said strap and intermittently acting fricion rollw s acting upon said strap and strip for imparting a irictional fird to said plate carriage independent or the pressure between the printing rollers, with an ink roller automatically operated by the motion of said plate carriage tor inking the plate, substantially as described.
\(2 s\). In a plate printing machine the combination with a frame, a bed roller journalled therein and an impression rolled in the form of a segment, of a cylinder mounted above sald bed roller, of a plate carriage mounted to vibrate on said frame between said rollers, means for holding the card above said plate carriage. a strap connected to the plate carriage with a weight suspended therefrom. a stiff strap connectod to said strap and intermittently acting friction :ollers acting upon said strap and strip for imparting a frictional feed to said plate carriage independent of the pressure bitween the printing rollers, substantially as described.
29. In a plate printing machine the combination with a frame, a brd roller journalled therein and an impression roller in the form of a segment, of a cylinder mounted above said bed roller, of a plate carriage mounted to vibrate on said frame betwern said rollers, a strap connected to the plate carriage with a weight suspended therefrom, a stiff stip connected to said strap and intermittently acting friction rollers acting upon said strap and strip for imparting a frictional feed to said plate carriage independent of the f:ressure between the printing rollers, with means for holdme the card normally at an angle above and clear of the pate rexent when pressed between the rollers, substantially as described.
30. In a plate printing machine the combination with a frame, a bed roller journalled therein and an impression roller mounted above said bed roller, of a plate carriage mounted to vibrate on said frame between said rollers, a plate holdrer mounted on said carriage, a card carrier, with means for holding the card at an angle above said carrier, muans for coupling the plate carriage and card carrier togother, and means for moving said plate carriage independontly of the pressure betwen the printing rollers with the same lincar sperd as. has the periphery of the impression roller. substantially as deseribed.
31. In a plate printing machins the combination with a frame, a bed roller journalled therein and an impression roller mounted above said bed roller, of a plate carriage mounted to vibrate on said frame between said rollers, a plate holder mounted on said carriage, with means for holding the card at an angle above said carrier, means for coupiing the plate carriage and card carrier together, and means for moving said plate carriage independently of the pressure between the printing rollers with the same linear speed as has the periphery of the impression roller, with an ink roller atutomatically operated by the motion of said plate carriage tor inking the plate, substantially as described.
32. A card holding and releasing device for use in machines of the character described comprising a bar having an inclined face, a rod mounted to rock in said bar and flattened along one side theroof, a suries of resilient gripping fingers serured to said bar and engaging said flattened face of said rod and normally tending to restore the same to the initial position and to grip the card beyond the edge of said rod, with means for rocking said rod and thereby releasing all of said fingers from engagement with the card, and a sliding stop mounted on the card carrier and normally held by one or more of said gripping fingers, substantially as described.

3:. In a plate printing machine the comblnation with a frame and printing rollers fournalled in said frame, of a piate carriage mounted to vibrate on said frame between said printing rollers, and a card carrier provided with a bar :and a series of resilient fingers on said bar for gripping the rard and holding it on the card carrier, means for adjusting said bar, and means for simultaneously releasing all of said linzers when dosired, substantially as described.
:31. In a plate printing machine the combination with a irame and printing roller journalled in sald frame, of a Hite rarriage mounted to vibrate on said frame between aid printing rollers and a card carrier provided with a bar athd a suries of resilient fingers on said bar for gripping lhe card and holding it on the card carrier, means for adjusting said har. a rod journalled in sald card carrier and liaving a Hat face normally resting beneath said gripping fineres and allowing the same to grip the card but lifting sad gripping tingers when said od is rocked, substantlally as described.
35. In a plate printing machine the combination with a frame and printing rollers journalled in said frame, of a plate carriage mounted to vibrate on said frame between said printing rollers, and a card carrier provided with a bar and a series of resilient fingers mounted on said bar for gripping the card and holding it on the card carrier, a rod journalled in said carrier and having a flat face normally resting between said gripping fingers and allowing the same to grip the card but lifting said gripping fingers when said rod is rocked with a wrist lug secured to sald rod for rocklig the same, and a sliding stop mounted on said bar and diormally held in place by one or more of said gripping tingers, substantially as described.
36. A card holding and releasing device for use in machines of the character described comprising a bar having an inclined face, a rox mounted to rock in said bar and flattened along one side thereof, a series of resilient gripping fingers secured to said bar and engaging said flattened face of said rod and normally tending to restore the same to the initial position and to grip the card beyond the edge of said rod, with means for rocking said rod and thereby releasing all of said fingers from engagement with the card, a sliding stop mounted on said bar and normally held in places by one or more of said gripping fingers, substantially as described.
37. A card holding and releasing device for use in machines of the character described comprising a bar having an inclined face, a rod mounted to rock in said bar and flattened along one side thereof, a series of resilient gripping fingers secured to said bar and engaging said flattened face of said rod and normally tending to restore the same to the initial position and to grip the card beyond the edge of said rod, a wrist lug connected to said rod for rocking the same when desired and a sliding stop mounted on said bar and normally held in place by one or more of said gripping fingers, substantially as described.
38. In a plate printing machine the combination with a frame, a bed roller journalled therein, and an impression roller mounted above sald bed roller, of a plate carriage mounted to vibrate on said frame between sald rollers, and a card carrier also mounted to vibrate on sald frame, means for moving said card carrier towards and coupling it with said plate carriage and for uncoupling same, a detent for holding the card carried in the initial position, and mechanism for temporarily withdrawing said detent from engagement when desired, and for automatically restoring said detent to the initial position, substantially as described.
39. In a plate printing machine the combination with a frame, a bed roller journalled therein. and an impression roller also mounted in said frame, of a plate carriage mounted to vibrate on said frame between said rollers, and a card carrier also mounted to vibrate on said frame, means for moving said card carrier towards and coupling it with said plate carriage and for uncoupling same, means for holding the card carrier in the initial position, comprising a spring constrained detent. a rod controlled by the operation, and mechanism actuated by sald rod for first withdrawing said detent and then automatically restoring the same to the initial position during a single movement of said rod, substantially as described.
40. In a plate printing machine the combination with a frame, a bed roller journalled therein, and an impression roller also mounted in said frame, of a plate carriage mounted to vibrate on said frame between said rollers, and a card carrier also mounted to vibrate on said frame, means for moving said card carrier towards and coupling it with said plate carriage and for uncoupling same, means for holding the card carriers in the initial position, comprising a constrained detent, a treadle controlled by the operator, a rod pivoted to said treadle, and mechanism actuated by said mechanism actuated by said rod for first withdrawing said detent, and then automatically restoring the same to the initial position during a single downward movement of said treadle, substantially as described.
41. In an apparatus of the character described the combination with a card carrler, and automatic means for moving the same, of a detent normally holding said carrier in the initial position, a treadle controlled by the operator, a rod pivoted to said treadle, and mechanism actuated by said rod for first withdrawing said detent, and then automatically restoring the same to the initial position during a single downward movement of said treadle, substantially as described.

\section*{No. 101,005. Ironing Board. Planche ì repasser.}

Max Anthony Baetz and Philipp Kessler, assignee of a third interest, both of Ashbury Park, New Jersey, U.S.A., 18th September, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138.828.
Claim.--1. In a folding ironing board the combination with the top, of attaching devices secured to one end thereof, a
prop, bail-shaped hinges connected to one end of said prop and provided with spurs, means to slidably connect sald

hinges with said top, and clamping nuts to insert said spurs and adjustably connect said hinges to said top, substantially as described.
2. In a folding ironing board the combination with the top having inner and outer pairs of transversely disposed cleats secured to its underside, of inner and outer pairs of longitudinally disposed bars secured to sald cleats, attaching hooks secured to said inner bars, a prop, ball-shaped hinges slidably mounted on caid outer pair of bars, and means Whereby said hinges are rigidly connected to said bars to hold the same and the prop in their adjusted positions, substantially as described.
3. In a folding ironing board the combination with the top having inner and outer pairs of transversely disposed cleats secured to its underside, of inner and outer pairs of longitudinally disposed bars secured to said cleats, attaching hooks secure to said inner pair of bars, a prop, ballshaped hinges slidably mounted on said outer pair of bars to hingedly and slidably connect said prop with said bars, harbs or spurs formed on the inner sides of said bail-shaped hinges a thumb nut arranged on the pivot bolts of said hinges whoreby the sides of the latter may be clamped into eugagement with sald outer bars and said spurs forced into the same, substantially as described.

No. 101,006. Turning Lathe. Tour.


The Memphis Column Company, Memphis, Tennessee, assignce of Frederick Neudorff, Sheffield, Alabama, U.S.A., 18th September, 1906; 6 years. Filed 23rd August, 1906. Receipt No. 138,943.
Claim.-1. In a turning lathe, a base, a carriage mounted to travel thereon, a work holder upon said carriage, means for rotating the work by said holder during the trayel of
the carriage, a back frame extended upward from sald base and provlded with a laterally extending bracket, a rotating cutter head disposed in said bracket above said holder, means for automatically feeding said carriage toward and from said back frame, means for automatically reversing the direction of travel of said carriage.
2. In a turning lathe, a work holder, means for rotating the work therein, a rotating cutter head disposed in a hori zontal plane above the holder, means for automatically feeding the work holder transversely to its axis of rotation and bencath said head, means for reversing the direction of travel of said work holder, means for vertically adjusting said cutter head, a frame carrying a back knife and mounted to travel in a vertical plane parallel to said cutter head, and cut-off saws mounted upon the frame of the back knife at the opposite ends thereof.
3. In a turning lathe, a back knife frame mounted for reciprocation, supporting arms carried by said frame, a shaft rotatably mounted in said arms and provided with saws at the opposite ends thercof, and means for rotating said shaft.
4. In a turning lathe, a back knife frame mounted for reciprocation, supporting bearings carried by said frame, a shaft rotatably mounted in said arms and provided with saws at the opposite ends thereof, a driving pulley upon said shaft, idlers at opposite ends of sald pulley and carried by said frame, and a driving bolt carried by the machine frame and disposed between said idlers and driving pulley.
5. In a turning lathe. vertical standards, a back knife mounted to reciprocate therein, driving screws connected to said knife, a laterally disposed shaft extending between the screws, opposite cones carried by said shaft, an intermediate driving conc. means for shifting said driving cone. cut-off saws supported upon the knife frame, a driving belt for rotating said saws during the travel of said frame.
6. In a turning lathe, vertical standards, a back knife mounted to reciprocate therein, driving screws connected to said knife, a laterally disposed shaft extending between the screws, opposite cones carried by said shaft, an interinediate driving cone, a geared shaft extending from said driving cone, means for plvotally mounting said shaft. a pivoted lever connected at its upper end to said pivoted shaft, a crank pin connected to the lower end of said lever, a gear carried by the shaft of said crank pin, and means for operating said gear.
7. In a turning lathe, vertical standards, a back knife mounted to reciprocate therein, driving screws connected to said knife, a laterally disposed shaft extending between the screws, opposite cones carried by said shaft, an intermediate driving cone, a geared shaft extending from said driving cone, means for pivotally mounting said shaft. a pivoted lever connected at its upper end to said plyoted shaft. a crank pin connected to the lower end of said lever. a grar carried by the shaft of said crank pin, a reciprocating rack meshing with said gear, a controlling lever pivotally mounted upon the base of the machine, and connections extending from said controlling lever and rack to reciprocate the latter.
8. In a turning lathe, a base, a carriage mounted to travel thereon, a rotatable work holder mounted upon said carriage, a driving shaft extending from and movable with said carriage, oppositely disposed cones splined upon said shaft and supported against longitudinal movement therewith, an intermediate driving cone, a pivoted lever carrying said driving cone at one end, tappets carried by said driving shaft, and means extending from said lever and disposed in the path of said tappets to be actuated thereby.
9. In a turning lathe, a base, a carriage mounted to travel thereon, a work holder mounted upon said carriage, means for rotating said work holder, a standard carried by the base and provided with a nut mounted therein. a driving screw carried by said carriage, a driving shaft extending from said screw and provided with opposite cones thereon, an intermediate driving cone mounted upon a pivoted lever. a controlling lever mounted upon the base and provided with a rack bar connected therewith, a gear mounted upon the base and meshing with said bar and a crank pin carred by said gear to engage a slotted end of sald lever.
10. In a turning lathe, a base, a carriage mounted to travel thercon, a work holder mounted upon said carriage, means for rotating said work holder, a standard carried by the base and provided with a nut mountod therein. a driving screw carried by said carriage, a driving shaft extending from sald screw and provided with opposite cones thercon, an intermediate driving cone mounted upon a pivoted lever. a controlling lever mounted upon the base and provided with a rack bar connected therewith, a gear mounted upon the base and meshing with said rack bar, a crank pin carried by said gear to engage a slottod end of said lever, finger: carried by said driving shaft, a countershaft provided with co-operating fingers, a lever extending from said countershaft. and a bell crank lever pivotally connected to said countershaft lever and having its opposite end disposed in the path of tappets carried by said rack bar.
11. In a turning lathe, a stock provided with a driving gear thereon, a chuck spindle carried by said stock and longitudinally adjusted by said gear, a driving shaft having a pinion co-operating with sald gear, means for producing a travel of sa!d stock laterally of the spindle, opposite cones splined upon said shaft, and an intermediate driving cone.
12. In a turning lathe, a stock provided with a driving gear thereon, a chuck spindle carried by said stock and longitudinally adjusted by said gear, a driving shaft having a pinion co-operating with said gear, means for producing a travel ot sald stock laterally of the spindle. opposite cones splined upon said shaft, an intermediate driving cone, a plvoted lever carrying said driving cone at one end, a controlling lever mounted upon the base, and connections extending from said controlling lever to said pivoted lever for shifting the same.
13. In a turning lathe, a carriage, means for driving the same, a work holder mounted upon said carriage, means for adjusting the chuck of sald work holder, controlling levers mounted upon a common pivot and provided with connectlons to the carriage, driving and work holder chuck adjusting shafts respectively and means controlled by the carriage driving shaft for automatically reversing the travel thereof and shifting its controlling lever.
14. In a turning lathe, a carriage, means for driving the same, a work holder mounted upon said carriage, means for adjusting the chuck of sald work holder, controlling levers mounted upon a common pivot and provided with connections to the carriage driving and work holder chuck adjusting shafts respectively, means controlled by the carriage driving shaft for automatically reversing the travel thereof and shifting its controlling lever, a back knife, driving means for reciprocating the same, and a controlling lever for said driving means upon a common pivot with the beforementioned controlling levers.
15. In a turning lathe, a carriage, means for driving the same, a work holder mounted upon the carriage, means for adjusting the chuck for sald work holder, controlling levers mounted upon a common pivot and provided with connection to the carriage driving and work holder chuck adjusting shafts respectively, means controlled by the carriage driving shaft for automatically reversing the travel thereof and shifting its controlling lever, a back knlfe, driving means for reciprocating the same, a controlling lever for said drivIng means mounted upon a common pivot with the before mentioned controlling levers, cut-off saws supported upon the frame of said knife and means for continuously driving sald saws during the movement of the knife frame.
16. In a turning lathe, a carriage. means for driving the same, a work holder mounted upon said carriage, means for adjusting the chuck of said work holder, controlling levers mounted upon a common frame and provided with connections to the carriage driving and work holder chuck adjusting shafts respectively, means controlled by the carrlage driving shaft for automatically reversing the travel thereof and shifting its controlling lever, a back knife, driving means for reciprocating the same. a controlling lever for sald driving means mounted upon a common pivot with the before-mentioned controlling levers, cut-off saws supported upon the frame of the knife, means for continuously driving said saws during the movement of the knife frame, a rotatable cutter head, means for continuously driving the same, and means for vertically adjusting sald head while belng driven.
17. In a turning lathe, a carriage feed comprising a base, a carriage mounted to travel thereon, a feed nut mounted upon sald base, a driving screw carried by sald carriage, a driving shaft extended from and movable with said screw. driving devices mounted upon the base through which said shaft travels, and an intermediate driving member disposed between sald devices.
18. In a turning lathe, a carriage feed mechanism comprising a base, a carriage mounted to travel thereon, a feed nut mounted upon said base, a driving screw carried by said carriage, a driving shaft extended from and movable with said screw, driving devices mounted upon the base and through which sald shaft travels, an intermediate driving nember disposed between sald devices, means for shifting said driving member, and means carried by the driving shaft for actuating the shifting means.
19. In a turning lathe, a carriage feed mechanism comprising a base, a carrlage mounted to travel thercon, a feed nut mounted upon said base, a driving screw carried by sald carriage, a driving shaft extended from and movable with said screw. driving devices mounted upon the base and through which sald shaft travels, an intermediate driving member disposed betwern sald devices. means for shifting said driving member. fingers carried by the driving shaft and means extended from the driving members into the bath of said fingers to be actuated thereby.
20. In a turning lathe. a carriage feed mechanism comrerising a base, a carriage mounted to travel thereon, a feed
rut mounted upon said base, a driving screw carried by sald carriage, a driving shaft extended from and movable with said screw, driving devices mounted upon the base and through which said shaft travels, an intermediate driving member disposed between said device, a work holder mounted upon sald carriage and provided with means for adjusting its chuck, a driving shaft for sald work chuck morable with the carriage, and relatively fixed driving devices througt which the driving shaft of the work chuck travels in the movement of the carriage.
21. In a turning lathe, a carriage feed mechanism gompriaing a base, a carriage mounted to travel thereon, a feed nut mounted upon said base, a driving screw carried by said carriage, a driving shaft extended from and movable with sald screw. driving devices mounted upon the base and through which said shaft travels. an intermedate driving member disposed between said devices, a work holder mounted upon sald carriage and provided with means for adjusting its chuck. a driving shaft for said work chuck movable With the carriage. relatively fixed driving devices through which the shaft of the work chuck travels in the movement of the carriage, an operating lever disposed at one side of the carriage to control the driving means for the work chuck, and an operating lever disposed adjacent the work chuck lever for controlling the driving devices for the carriage.
22. In a turning lathe, a carriage feed mechanism comprising a base, a carriage mounted to travel thereon, a feed nut mounted upon said base, a driving screw carried by said carriage and having an extended shaft, opposite driven cones mounted upon the base and having a sliding connection upor said shaft.an intermediate driving cone. and means for automatically shifting said cone in the travel of said carriage.
23. In a turning lathe, a carriage foed mechanism comprisIng a base, a carriage mounted to travel thereon. a feed nut mounted upon said base, a driving screw carried by sald carriage and having an extended shaft, opposite driven cones mounted upon the base and having a sliding connection upon said shaft. an intermediate driving cone, a pivoted lever upon which said driving cone is mounted, a gear mounted upon the base. a crank pin carried by sald gear to engage the slotted end of said plvoted lever, and means for rotating said gear.
24. In a turning lathe, a carriage feed mechanism comprising a base, a carriage mounted to travel thereon, a feed nut mounted upon sald base, a driving screw carried by sald carriage and having an extonded shaft. opposite driven cones mounted upon the base and having a sliding connection with sald shaft. an intermedate driving cone. a pivoted lever upon which said driving cone is mounted. a gear mounted unon the hase, a crank pin carried by sald gear to engage the slotted end of sald plvoted lever, a controlling lever mounted unon the base, and a reciprocating rack bar carrifd by said lever and engaging said gear.
25. In a turning lathe. a carriage feed mechanism comprising a hase, \(\boldsymbol{r}\) carriage mounter to travel thereon, a feed nut nounted upon sald bise. a driving screw carried by sald carriage and having an extended shaft, opposite driven cones mounted upon the base and having a sliding connection upon sald shaft, an intermediate driving cone, a plvoted lever upon which said driving cone is mounted. a gear mounted upon the base. a crank pin carried by sald gear to engage the slotted end of said pivoted lever, a controlling lever mounted upon the base. a reciprocating crank bar carried by sald lever and engaging said gear, trappets carried by said rack bar. a bell crank lever co-operating with said tappets, and means carried by the shaft of the driving screw for oberating said bell crank lever.
26. In a turning lathe, a carriage feed mechanism comprising a base, a carriage mounted to travel thercon, a feed rut mounted upon sald base, a driving screw carried by said carrlage and having an extended shaft. onposite driven cones mounted upon the base and having a sliding connection upon said shaft. an intermediate driving cone. a pivoted lever upon which said driving cone is mounted, a gear mounted upon the base, a crank pin carried by sald gear to engage the slotted end of said shaft pivoted lever. a controlling lever mounted upon the base, a reciprocating rack bar carried by said lever and engaging sald gear, tappets carried ty sald rack bar, a bell crank lever co-operating with said tappets, fingers carried by sald driving shaft, co-operating fingers provided upon a counter shaft, and a lever connection from sald countershaft to the bell crank lever.
27. In a turning lathe, a carriage feed mechanism comprising a base provided with a feed nut, a carrlage mounted to travel upon said base, a driving screw mounted upon the carriage to co-operate with sald nut and provided with an extended shaft therefrom, shifting means mounted upon said shaft, driving devices slidably mounted upon sald shaft. controlling means for said devices, fingers carrled by the driving shaft, a countershaft provided with co-operating
fingers, a bell crank lever connected to said countershaft, and means carried by said lever to operate sald shifting means.
28. In a turning lathe, a carrlage feed mechanism comprisIng a base provided with a feed nut, a carriage mounted to travel on said base, a driving screw movable with sald carriage and provided with an extended shaft, fingers mounted upon said shaft at the opposite ends thereof, a relatively fixed countershaft provided with means at its opposite ends to engage the fingers of the screw shaft in the travel of the carriage, a driving mechanism for the screw shaft, and means controlled from the countershaft for shifting said driving mechanism.
29. In a turning lathe, a carriage feed mechanism comprising a base provided with a swivelled feed nut thereon, a carriage adapted to travel upon sald base, driving screw pivotally mounted in said carriage, a shaft carried by sald screw at the rear of the carriage, driving devices for sald shaft mounted upon the said base and having a sliding connection with said shaft, and means carried by said shaft for automatically shifting the driving devices to reverse the direction of rotaton of the shaft.
30. In a turning lathe, a carriage feed mechanism comprising a base provided with parallel ways, a carriage mounted upon said base and provided with ways upon its under face, roller bearings disposed between said base and carriage, cooperating rack bars carried by the base and carriage at cach side and an intermediate pinion disposed between said rack bars.
31. In a turning lathe, a carriage feed mechanism comprising a base, a carrlage mounted to travel thereon, a work chuck supported from sald carriage and provided with adjusing gear, a driving shaft having a pinion co-operating with said gear and movable with said carriage, opposite cones carried by the base and splined upon said shaft and an intermediate driven shaft.
32. In a turning lathe, a carriage feed mechanism compris ing a base, a carriage mounted to travel thereon, a work chuck supported from said carriage and provided with adjusting gear, a driving shaft having a pinion co-operating with said gear and movable with sald carriage, opposite cones carried by the base and splined upon sald shaft, an intermediate driven shaft. a pivoted lever carrying said driving cone at one end, a controlling lever mounted upon the base and connections from sald controlling lever to said pivoted lever for shifting the same.
33. In a turning lathe, a carriage ieed mechanism comprising a carriage, a driving shaft therefor, a work chuck movable with said carriage, an adjusting shaft for said work chuck, controlling levers mounted upon a common pivot and connections from the carriage and work chuck adjusting shafts, respectively to said levers.

No. 101,007. Rallway Tie. Dormant de chemin de fer.


John E. Walling Salt Lake City, Utah, and Clarence E. Rathbun, assignee of a half interest, Helena, Montana, U.S.A., 18th September, 1906 ; 6 years. Filed 22nd August. 1906. Receipt No. 138,912.
Claim.-1. In a rallroad tio comprising a body portion, a plate disposed upon the body portion, said plate having vertical openings therein, members engaged in the openings and members lying in pairs at opposite sides of the body portion and at opposite sides thereof, said members extending downwardly below the plate and having rail engaging lips at their upper ends adapted for engagement with a rail disposed between the members, said members having registering horizoatal passages in their downwardly extending portions and co-operating wedge members engaged in the passages, said members being disposed for operation to move the first-named members downwardly.
2. A railroad tie comprising a plate, a support for the plate, members engaged in the plate for vertcal movement and having co-operating lips adapted for engagement with a rail. said members having registering passages therein below the plate, upper and lower wedge members on
gaged in the passages, the lower wedge members having downwardly directed portions extending over the surfaces of the first-named members below their passages, the upper wedge members resting upon the lower and against the under face of the plate and being movable inwardly to move the first-named members downwardly and means for holding the upper wedge members at different points of their movement.
3. The combination with a rallroad tie, of a plate disposed thereupon and extending laterally beyond the sides thereof, said plate having vertical openings in the laterally extending portions, members slidably disposed in the openings and lying in pairs at opposite sides of the tie, the members of each pair having rail engaging lips directed toward each other, a rail disposed upon the plate between the members of each pair and with its base flange beneath the lips means for moving the members downwardly to hold the rail in position and a spike engaged in the plate and in the tic beneath the rall.
4. In a railroad tie the combination with a body portion of a plate disposed thereupon, a spike engaged in the plate and in the body portion, a rall disposed upon the plate above the spike, said plate, having vertical openings therein at opposite sides of the rail, rail engaging members slidably engaged in the openings for vertical movement, said members having allgning passages therein below the plate upper and lower wedge members disposed in the aligning passages therein below the plate, the upper and lower wedge members disposed in the aligning passages, the lower member having downwardly extending portions lying outwardly of the first-named members to hold the lower wedge member against longitudinal movement, the upper wedge member being operable to move the rail engaging members downwardly to clamp the rail in position.

No. 101,008. Railway. Chemin de fer.


Lewis Ginger, Colorado Springs, Colorado, U.S. A., 18th September, 1906 ; 6 years. Filed 27th August, 1906. Receipt No. 139,002.
Claim.-1. The combination of an inclined track, an elevator travelling thereon, a drum carried by the elevator, a cable wound upon the drum with one end anchored at the top of the track and the other end anchored at the bottom of the track, and means actuated by a motor car upon the truck for rotating the drum to raise and lower the track.
2. The combination of an inclined track, a truck running thereon, a drum mounted upon the truck, a cable wound upon the drum with its free end anchored at the top of the truck and its lower end anchored at the bottom of the track, a gear connected to the drum, a drive shaft mounted upon the truck, a gear upon the drive shaft and in mesh with the first-mentioned gear, and a drive wheel mounted upon the shaft and projecting above the top of the truck.
3. The combination of an inclined track, a truck running thereon, a track upon the top of the truck at substantially right angles to the first-mentioned track, and truck elevat ing means carried by the truck and including a drive wheel raising above the top of the track between the track rails thereon
4. The combination of an inclined track. a truck running thereon, a drum mounted upon an upright axis upon the truck. a cable wound upon the drum with one end anchored at the top of the track and the other end anchored at the bottom of the track, a substantially horizontal drivo shaft mounted upon the truck and operatively connected to the drum, and a drive whecl carried by the drive shaft and rising above the top of the truck.

\section*{No. 101,009. Machine for Making Barrels. Machine pour faire des barils.}


Charles John Alley, Farndon, New Zealand, 1Sth September 1906; 6 years. Filed 22nd August, 1906. Receipt No 138,929.
Claim.-1. In means for chiming, crozing and howelling barrels, a barrel supporting frame comprising a pair of heads supported upon parallel horizontal bars and capable of adjustment thereon and each having a roller mounted on a horizontal axis at the back end thereof, a pair of sliding blocks mounted on the bars, one on the outslde of each head and each having a roller mounted thereon and adapted to lie in the same horizontal plane as the roller upon the respective head, means whereby the sliding blocks may be moved outwards or inwards along the bars, and means for rotating a barrel supported upon the rollers, substantially as specified.
2. In means for chiming, crozing and howelling barrels, a barrel supporting frame comprising a pair of heads supported upon parallel horizontal bars and capable of adjust ment thercon and each having a roller mounted on a horizontal axis at the back end thereof, a pair of sliding blocks mounted on the bars, one on the outside of cach head and each having a roller mounted thereon and adapted to lie in the same horizontal plane as the roller upon the respective head. cutter carriers mounted on the morizontal bars, one on the out side of each sliding block and connected to the respective block, so as to be capable of movement therewith, means whereby the sliding blocks may be moved outwards or inwards along the bars. and means for rotating a barrel supported upon the rollers , substantially as herein specified.
3. In means for use in chiming, crozing and howelling barrels, a barrel supporting and rotating irame slidably mounted upon a pair of parallel bars, in combination with cutter carricrs mounted upon the bars, one upon each end of the frame, cach of which is formed with an upwardly extending meinber adapted to form a bearing for the cutter spindle and with a forwardly extending portion formed with a slot therein and eccentric sleeves mounted upon the front parallel bar and ntting within the slots in the respective cutter carriers, and means whereby such bar and the sleeves may be rotated, substantially as specified.
4. In means for use in chiming. crozing and howelling barrels, a barrel supporting and rotating frame, slidably mounted upon a palr of horizontal parallel bars and cutter carricrs mounted upon the bars, one at each end of the frame, and each formed with bearings for carrying the cutter spindle arranged to allow of longtudinal movement thereof. in combination with a bar secured to one end of the cutter spindle and formed with a backwardly extending member, a bar slldably mounted upon the barrel supporting frame, a cork secured thercon adapted to engage with the truss hoop upon the barrel in the machine and a fork upon the end of this bar adapted to engage with the backwardly extending member of the bar secured to the cutter spindle, substantially as specined.

\section*{No. 101,010. Barrel Making Machine.}

Machine it laire des barils.
Rinaldo L. Cummings. Paris, Mainr. I'S.A. 1Sth September, 1906: 6 ywars. Filed 21st August, 1!06. Recelpt No. 138.900.
('laim.-1. In a barrel making machine, a supporting frame. a stationary flexbble ring pisitioned at one end thereof, a nowable carriage, flexible divided assembling rings mounted on sadd carriage and adapted to be positioned relative to
said stationary ring so that the middle assembling ring is substantially concentric therewith, means for contracting the

stationary ring, means for contracting the assembling rings and means for reciprocating said carriage and assembling rings to and away from said stationary ring.
2. In a barrel making machine, a suitable frame, a staicnary flexible ring positioned at one end thereof, means for contracting and expanding said ring, a movable carriage. flexible divided assembling rings mounted on said carriage and provided with lugs at their adjacent ends. means for reciprocating said carriage and assembling rings to and away from said stationary ring, means for contracting the contral assembling ring independent of the outside rings and means for contracting the outside assembling rings.
3. In a barrel making machine, a suitable supporting frame. a statlonary flexible ring positioned at one end thereof, rotable cutter heads for finishing the ends of the shook positioned at the other end of the frame, a reciprocating carriage mounted in said frame, assembling rings mounted upon zaid carriage and means for reciprocating said carriage and rings from one end of said frame to the other, whereby the assembling rings and a barrel shook contained therein may be transferred from a position in which the central assembling ring is concentric with said stationary rings to a position wherein the ends of the shook are adjacent said cutter heads and means for trussing the ends of the shook.
4. In a barrel making machine, a supporting frame, a statlonary flexible ring positioned at one end thereof, a movable carriage, flexible divided assembling rings mounted on sald carriage, cutter heads positioned at the opposite end of the frame adapted to finish the ends of the shook and means for trussing the ends of the shook, sald trussing device being pivotally and slidably mounted upon said frame.
5. In a barrel making machine, a supporting frame, a stationary flexible ring positioned at one end thereof. a movable carriage, flexible divided assembling rings having lugs on the cnds thereof mounted on said carriage. cutter heads posi tioned at the opposite ends of the frame adapted to finish the ends of the shook and means for trussing the ends of the shook consisting of oppositely moving arms adapted to engage said lugs and a lever for operating sald arms, said. trussing device being pivotally and slidably mounted upon said frame.
6. In a barrel making machine, a supporting frame, a stationary flexible ring positioned at one end thereof, and provided with a toggle jointed section, a movable carriage flexible divided assembling rings mounted on said carriage. said carriage being adapted to be positioned relative to said stationary ring so that the middle assembling ring shall be concentric therewith and spaced apart therefrom a distance about equal to the thickness of the shook, whereby the shook can be inserted between said stationary ring and said cenlual assumbling ring.
7. In a barrel making machine, a suitable frame having positioning board at one end, a curved slot in said board, a contractile statlonary ring positioned near said board, a toggle section in said ring, a lever for operating said toggle projecting through said board, a reciprocating carriage mounted in said frame, assembling rings mounted on said carriage, the stationary ring and divided assembling rings boing positioned so as to give entrance to the staves between the said stationary ring and the middle assembling ring, means for locking the middle assembling ring upon the shook and means for contracting the stationary ring whereby the assembling rings and shook may be moved away from the stationary ring
8. In a barrel making machine, a suitable supporting frame means for assembling the shook, cutter bands mounted upon the end of the shaft for finishing the ends of the shook, means for transferring the assembled shook to said cutter head, and means for drawing the end of the shook into contact with said heads.
No. 101,011. Valve for Heating Systems.
Soupape pour systèmc de chauffage.


Albert Preston Broomell. York, Pennsylvania, U. S. A. 18th September. 1906; 6 years. Filed 21st August, 1906. Receipt No. 138.903.
Claim.-1. A valve comprising a casing provided with locking recesses, a rotary valve controlling the passage of fluid through the casing, a stem for the valve, a handle on the st'm having a portion to engage any one of said recesses, and a spiral spring between the handle and a part of the casing to hold the valve to its seat and also hold the handle in its locked posittons.
2. A valve comprising a casing provided with locking recesses and a horizontal valve seat or partition a rotary valve geating upwardly against the lqwer side of the said seat or partition, a stem extending upwardly through the casing from the valve, a handle pivoted to the upper end of the stem and having a depending lug to engage anyone of the sald recesses, and a spiral expansion spring on the stem between the inner end of the handle and a portion of the casing, and holding the handle locked and the valve seated.
3. A valve comprising a casing provided with a horizontal scat or partition beneath its inlet and outlet openings. a tube connecting the said seat or partition with the closed apper end of the casing, a shoulder being formed at the lower end of the tube, a rotary disc valve seating upwardly against the under side of the partition or seat, a stem extending down through the tube and secured to the valve, a lonse collar on the stem in the upper end of the tube, an expansion spring on the stem between the collar and shoulder. a horizontal handle pivoted to the upper end of the stem and engaged at its under side of its inner end by a spring pressed collar, the handle having a depending lug to engage the upper side of the valve casing and hold the handle ir its adjusted position.
4. A valve comprising a casing provided with a horizontal seat or partition between its inlet and outlet openings, said sfat having a curved slot. a tube connecting the partition with the closed upper end of the casing, a shoulder at the lower end of the tube, a valve stem extending down through the tube, a valve disc on the lower end of the stem, having a scries of apertures to register with said opening, a horizental handle having a slotted inner end in which the upper con of the stem is pivoted. a spiral spring on the stem within the tube, a collar on the stem in the upper end of the tube ard forced upward by sald spring against the handle. the int.er end of the handle having a projection engaging the collar and the handle having at the opposite side of its pivot a depending locking lug to engage the top of the casing and hold the handle in its adjusted position.
5. A vaive comprising a casing a rotary valve controlling the passage through the casing, a stem for the valve, a hatedle on the stem, means for locking the handle to the ca:ing, a spiral spring on the stem between the handle and a shoulder on the casing to hold the handle in its adjusted porition, and a packing around the stem between the shou!d \(r\) and siring and instantly compressed against the stem by sall spring.
6. A valve comprising a casing. a rotary upwardly seating valve controlling the passage through the casing, a stem for the valve, a pivoted handle on the upper end of the stem and adapted to engage the casing at its outer portion, an annular shoulder in the valve casing above the valvo seat, packing on the shoulder around the stem. a washer on the stem over the packing, and a spring expansion spring on the valve stem between the inner end of the handle and the said washer and acting to hold the outer end of the handle down to the casing, press the valve upwardly to its seat and compress said packing around the valve stem.
7. A valve comprising a casing, a rotary upwardly seating valve controlling the passage therethrough, said valve consisting of a metallic disc having an annular recess in its upper face and a non-metallic ring therein and profecting above the walls of the recess to prevent engagement of the metal valve disc with the seat. a stem extending up through the casing from the valve, a packing for the stem over the valve seat, a locking handle for the stem and a spring on the stem between the handle and packing, and serving to hold the valve to the soat, hold the packing around the stem and hold the handle in locking engagement with the casing.
8. A valve comprising a casing, an upwardly seating rotary valve therein having a semi-circular series of apertures to control the passage through the valve, a central opening in the valve having a flattened or guiding portion. a valve stem extending down through the casing and valve seat and shaped at its lower end to correspond with the central valve opening so that it may be placed properly thereon with resbect to the valve apertures, a spring holding the valve to its seat and a locking handle for the valve acted on by the spring to hold it in its adjusted position.
9. A valve comprising a casing, a rotary valve controlling the passage through the casing. a locking handle on the valve stem and a spiral spring on the stem seating the valve and throwing the handle into locking engagement with the casing.
10. A valve comprising a casing, a valve seat therein having a slot therethrough. a rotary valve seating upwardly against the seat and having a plurality of openings to suc cessively register with said slot. a stem extending down through the casing, means for predetermining the correct position of the valve on the stem with respect to the openings. a locking handle on the upper end of the stem and a spiral spring, holding the valve to its seat and the outer end of the handle in locking engagement with the casing.
11. A valve comprising a casing having a valive seat, and a series of interchangeable valve discs rach having a series of different sized apertures to enable a single size valve to be used with different sized radiators.

\section*{No. 101,012. Engineer's Brake Valve.}

Soupape de frein.
James Amers Hicks. Atlanta, Georgia, U.S.A.. 18th September. 1!106; 6 years. Filed 16th July, 1906. Receipt No. 137.853.

Claim.-1. An engineer's valve for fluid pressure brake systems comprising in combination ports and passages for effecting train brake service. ports and passages for effecting engine brake service, and means for securing engine brake application in advance and independently of train brake application.
2. An engineer's brake valve for fluid pressure brake system comprising in combination ports and passages for effecting train brake service, ports and passages for effecting engine brake service, normally movable means for securing engine brake application in advance and independently of train brake application, and means for automatically effecting engine brake application upon destruction of train line.
3. An engineer's valve for fluid pressure brake systems comprising in combination ports and passages for effecting train brake service, ports and passages for effecting engine brake service. manually movable means for securing engine brake application. and means normally held inactive by train line pressure for automatically effecting engine brake application upon destruction of train line.
4. An engineer's brake valve for fluid pressure braks systems, comprising in combination ports and passages for effecting train brake service, ports and passages for effect. ing engine brake service, a single manually movable element
to control pressure for both train and engine brakes, means wherely the engine brake application may be manually ef-

fected In advance and Independently of train brake application, and automatically means for securing engine brake application upon destruction of train line.
5. An engineer's brake valve for fluid pressure brake systems, comprising in combination ports and passages for effecting train brake service, ports and passages for effecting engine brake service and a single manually movable element to control pressure for both train and engine brake operable to effect engine brake application in advance and independently of train brake application.
6. An engineer's brake valve for fluid pressure brake systems, comprising in combination ports and passages for effecting train brake service; ports and passages for effecting engine brake service and a single manually movable ele. ment to control pressure for both train and engine brakes operable to effect engine brake application and effect engine brake release after train brake release.
T. An engineer's brake valve for fluid pressure brake systems, comprising in combination ports and passages for effecting train brake service, ports and passages for effecting engine brake service, a single manually movable element to control pressure for both train and engine brakes, means whereby the engine brake application may be manually effected in advance and Independently of train brake application, and means normally held inactive by train line pressure for automatically effecting engine application upon destruction of train line.
8. An engineer's brake valve for fluid pressure brake systems, comprising in combination ports and passages for eflecting train brake service, means for feeding main reservoir pressure to the engine brakes, a single manually movable element to control the engine feed and the train brake ports and passages and automatic means for securing engine trake application upon destruction of train line.
9. An engineer's brake valve for fluid pressure brake systems, comprising in combination ports and passages for effecting train brake service, means for feeding main reservoir pressure to the engine brakes, a single manually movable element to control the engine feed and the train brake ports and passages, and means normally held inactive by train line pressure for automatically effecting engine brake application upon destruction of train line.
10. An engineer's brake valve for fluid pressure brake systems, comprising in combination ports and passages for -ffecting train brake service, means for feeding main reservoir pressure to the engine brakes, a single manually movable element to control the engine feed and the train brake ports and passages, and means normally closing said second main reservoir feed.
11. An engineer's brake valve for fluld pressure brake systems, comprising in combination ports and passages for effecting train brake service, means for feeding main reservoir pressure to the engine brakes, a single manually movalle clement to control the engine feed and the train brake ports and passages, a second normally closed main resirvoir feed to the angine brakes, and means operable upon distrucfion of train line to open said second main reservoir.
12. An engineer's brake valve for tluid pressure brake systems, comprising in combination ports and passages for - flecting train brake service, means for feeding main reserwoir pressure to the engine brakes, a single mamually movaibe clement to control the engine feed and the train brake burts and passages, a second normally closed main reservoir fral to the rngine brakes, and means normally closed by train line pressure but operable upon destruction of train liue controlling said second feed.
13. An engineer's brake valve for fluid pressure brake systems, comprising in combination ports and passages for "ifecting train brake service, means for feeding main reservoir pressure to the engine brakes, a single manually movable element to control the engine feed and the train brake ports and passages, a second main reservoir feed to the engine brakes, and a pressure operated check brake normally under train line pressure closing said second feed.
14. An engineer's brake valve for tluid pressure brake systems, comprising in combination ports and passages for elfecting train brake service, means for feeding main reservoir pressure to the engine brakes, a single manually movable element to control the engine feed and the train brake ports and passages, a second main reservoir feed to the ensine brakes and a double check valve controlling both engine feeds.
15. An engineer's brake valve for fluid pressure brake systems, comprising in combination ports and passages for effecting train brake service, means for feeding main reservoir pressure to the engine brakes, a single manually movable element to control the engine feed and the train brake ports and passages, a second main reservolr engine feed and a double check valve normally closing said second engine feed, but releasable upon destruction of train line to open said second feed.
16. An engineer's brake valve for fluid pressure brake systems, comprising in combination ports and passages for :ifecting train brake service, means for leeding main reservoir pressure to the engine brakes, a single manually movitble element to control the engine feed and the train brake ports and passages, a second main reservoir engine feed and is double check valve controlling both feeds and normally closed by train line pressure against said second engine feed. releasable upon destruction of train line to open said second reed.
17. An engineer's brake valve for fluid pressure brake systems having a manually controlled main reservoir supply fur the engine brakes, an independent constant main reservoir supply for the engine brakes, and means releasable upon destruction of train lines normally closing said constant supply.
18. An engineer's brake valve for thaid pressure brake systems having a manually controlled main reservoir supply for the engine brakes, and an independent constant main reservolr supply for the engine brakes.
19. An engineer's brake valve for fluid pressure braks: systems having a manually controlled main reservoir supply tor the engine brakes, an independent constant main reservoir supply for the engine brakes, and automatic means for controlitig said constant supply.
20. An engineer's brake valve for fluid pressure brake systems, having two main reservoir supply feeds for engine brake service, means for manually controlling one feed, and means automatically operable by train line pressure controlling the other feed.
21. An engineer's brake valve for fluid pressure brake systems, having two main reservoir supply feeds for engine trake service, a manually operable controlling device for one of said feeds, and a train line pressure operated check valve controlling the other feed.
22. An engincer's brake valve for fluid pressure brake systems comprising in combination ports and passages for effecting train brake service, an engine brake supply port in constant communication with main reservoir pressure, and an engine brake feed passage in the path of said supply port. said engine brake supply port and feed passage being so disposed relative to the train brake ports and passages as to fermit engine brake application in advance and indepenuently of train brake application.
23. An engineer's brake valve for fluid pressure brake system, comprising in combination ports and passages for etfecting train brake service, an engine brake supply port in constant communication with main reservoir pressure and an engine brake feed passage in the path of said supply port, said engine brake supply port and passage being disposed relative to each train brake ports and passages as to permir engine brake application in advance and independently of train brake application and without interrupting train line feed.
24. An engineer's brake valve for fluid pressure brake systems, comprising in comblnation ports and passages for effecting train brake service, ports and passages for effecting engine brake service in advance and independently of train Lrake application, an engine exhaust ports and passages so disposed as to effect release of the engine brake after release of the train brakes.
25. An engineer's brake valve for fluid pressure brake systems comprising in combination ports and passages for cfiecting train brake application and release, and ports and passages for efferting engine brake application and release. said engine brake ports and passages being so disposed as
tc permit application and release of engine brakes independently of train brake application and release.
26. In a fluid pressure brake system and in combination, an engineer's brake valve having ports and passages for effecting brake application and release, a single connection bekween said valve and the brake cylinders, a feed valve in said connection through which the brake cylinders are fed. and a by-pass around said feed valve through which the brake cylinders are exhausted.
27. In a fluid pressure brake system and in combination, an engineer's brake valve having ports and passages for effecting brake application and release, a single connection beiween said valve and the brake cylinders, a feed valve in said connection through which the brake cylinders are fed, and a by-pass around said feed valve having a check valve closed in feed and open to exbaust through which the brake cylinders are exhausted.

No. 101,013. Car Brake. Frein de chars.


Edward G. Tillman, Thayer, West Virginia, U.S.A., 18th September, 1906; 6 years. Filed 21st August, 1906. Receipt No. 138.890
Claim,-1. In a car brake the combination with the car frame, an axle mounted in said frame, and the supporting wheels of the axle, of the swinging bar pivotally connected 10 the bottom of the car and having cam slots therein. of sprag bars arranged transversely of the car and having their outer ends adapted to engage with said car wheels and the slide blocks secured to the inner ends of sald sprag bars fitted into said cam slots in said swinging bar und adapted to be actuated by the walls of said slots to effect a longitudinal movement of said sprag bars, substantlally as set forth.
2. In a brake of the class described the combination with the car frame, the car axle and the wheels thereon, of the swinging bar pivotally mounted on the car bottom and having a slot therein, the sprag bar arranged transversely of the cam frame and the slide block carried by said sprag and adapted to be engaged by the walls of said slot to move the sprag longitudinally. substantially as set forth.
3. In a brake of the class described the combination with a car frame, the axle mounted in the frame and the wheels thereon, of the sprag bars arranged transversely of the car frame and adapted to have their outer ends engage with the said wheels and having slide blocks carried by their inner ends and a swinging bar pivotally mounted on the car bottom and having cam slots therein, the slots of which are adapted to engage with the slide blocks on the sprag bars to move the bars longitudinally, substantially as set forth.
f. In a brake of the class described the combination with the car frame, an axle mounted on the frame and the supporting wheels of the axle, of the swinging bar pivotally connected to the bottom of the car and having a cam slot therein. the sprag bar mountd transwersely of the car and having its outer end adapted to engage with one of said car wheels, the guides for said bar adapted to hold it in parallelism with the said axle and the slide block carried by the inger end of said sprag bar and fitted into said cam slot in the swinging bar and adapted to be actuated by the walls :hereof. substantially as set forth.
5. In a car brake the combination of the car frame an axle mounted thereon and the supporting wheels of the axie, of the swinging bar pivotally connected to the bottom of the car on an axis in the vertical plane of the axis of sald axle and having cam slots arranged at either side of said pivotal connection, the sprag bars arranged transversely of the car at either side thereof and on opposite sides of said axle and adapted to have their outer ends engage with the adjacent supporting wheel and the slide blocks secured to the inner cnds of sald sprag bars and each fitted into one of said slots in said swinging bar an adapted to be actuated by the walls thereof, substantially as set forth.
6. In a car brake the combination with a truck frame, an axle therefor and supporting wheels for the axle, of the sprag bars arranged transversely of the truck frame, a swinging bar. and cam-like connections between said sprag bars and said swinging bar, each adapted to reciprocate one of the sprag bars in a straight line into and out of engagement with one of said supporting wheels, as said swinging bar is oscillated.
7. In a car brake the combination with a car frame, an axle thereon and supporting wheels on the axle, of the longitudinally reciprocatable sprag bars, each adapted to be thrown into and out of engagement with one of said supporting wheels, a swinging bar, and cam connections between said swinging bar and said sprag bars adapted to impart straight line motion to the sprag bars as the swinging bar is oscillated.

No. 101,014. Sawbuck. Chevalet pour le bois.


Ashley Dwight Thomas, Arena, Wisconsin, U.S.A., 18th September, 1906 ; 6 years. Filed 22nd August, 1906. Recelpt No. 138,910 .
Claim.-1. In a sawbuck the combination with a frame including crossed braces, of levers pivoted in the frame, log regaging devices carried by the levers, said levers being movable to hold a log engaged by the devices in an angle of the crossed braces and means for holding the levers with a log in such a position.
2. A sawbuck comprising a frame including legs and crossed braces, of levers pivoted between the legs, log engaging devices connected with the levers, said levers being movable to permit of the engagement of the devices with a \(\log\) and to bring a \(\log\) thus engaged into an angle of the crossed braces and means for holding the levers at different points of their movement.
3. In a sawbuck the combination with a collapsable frame including spaced pairs of legs and crossed braces pivotally connected with the legs at one end and removably connected therewith at their opposite ends, of a lever pivoted between the legs of each pair, log engaging tongs connected with the levers at one end, said levers being movable to bring the tongs into position for engagement with a log disposed between the pairs of legs and to raise a log thus engaged to bring it into an angle of the crossed braces, rack bars connected with the pairs of legs and retaining devices carried by the lever and adapted tor engagement of the rack bars to hold the levers at different points of their movement.

\section*{No. 101,015. Saw. Scic.}

Calvin Dilks, Alloway, New Jersey, U.S.A., 18th September, 1906; 6 years. Filed 22nd August, 1906. Recelpt No. 138,909.
Claim.-1. The combination substantially as herein described of the saw blade having a throat whose rea" wall forms a seat for a bit, and provided in advance of said wall with a tongue projecting outwardly into the gullet and spaced apart from sald seat wall and having its wall adjacent to said seat undercut. the bit fitted between said seat wall and tongue and having its front edge opposite the tongue recessed and the key made larger at its butt end und tapering thence toward its point end and fitted in the space between the bit and the tongue whereby to secure
the bit and having its point end bent or returned along the front edge of the tongue whereby to lock the bit in

place and to form a protecting cover for the front edge of the tongue, as and for the purpose set forth.
2. The improvement in saws comprising the blade having a throat whose rear wall forms a seat for the bit, an abutment projecting into the throat in advance of said wall, a bit fitting between the wall and abutment and a key operating between the bit and abutment and bent into locking engagement with the abutment; substantially as set forth.
3. The combination of the saw blade having a seat wall for a bit, an abutment in advance of said seat wall, a bit fitting against said seat wall and a key operating between the bit and abutment and having its point end bent along the front wall of the abutment whereby to protect the same from wear, substantially as set forth.
4. The combination of the saw blade having a seat wall for the bit and an abutment in advance thereof, the bit fitting sald seat wall and the key initially of greater thickHus than the saw blade and applied between the bit and abutment and swaged laterally into engagement therewith and bent longitudinally over the outer end of said abutment, substantially as set forth.
5. The combination of the saw blade having a throat whose rear wall forms a seat for the bit, and said blade being provided with an integral tongue projecting into the throat in advance of the said seat wall, the bit fitting against the seat wall and having opposite the said tongue a recess for the locking key, and the locking key operating between the tongue and bit and bent at its point end along the front edge of the tongue, substantially as set forth.
6. The combination of the saw blade having a seat wall for a blt an abutment tongue in advance thereof and having its edges chamfered, the bit fitting against said seat wall and recessed in its edge opposite the abutment tongue and the key operating between the bit and abutment tongue and initially of greater thickness than the sald tongue and swaged laterally into locking engagement with the chamfered edges thereof and bent longitudinally over the outer end of said abutment tongue, substantially as set forth.
7. A saw blade having a throat whose rear wall forms a seat for the bit and having an integral tongue projecting into the throat in advance o ih said seat wall, the blt fitting against said seat wall and the key operating between the bit and the integral tongue in advance thercof and bent Into engagement with the outer end of said tongue substantially as set forth.

\section*{No. 101,016. Mouthpiece for Pneumatic Teat Oups.} Embouchure dc godet pneumatique pour les dents.
Alexander Gillies, Gulong, Victoria, Australia, 18th September, 1906: 6 years. Filed 20th April, 1906. Recelpt No. 135,094.
Claim.-1. An improved mouthpiece for pneumatic teat cups made of a substantially rigid substance such as metal, and having a hollow chamber the underside of which is in communication with the suction in the cup, and the inner perirhery of which is formed with openings, substantially as and for the purpose set forth.
2. An improved mouthplece for pneumatic teat cups made of metal having a flange to fit substantially round the top of the teat cup, and a raiscd hollow chamber which substantially encircles the root of the teat. sald chamber having openliges on its under side and internal periphery, substantially a) and for the purpose set forth.
3. An improved mouthplece for pneumatic trat cups made of a subsiantially rigid substance such as metal, having a flange to fit substantially round the top of the teat cup, and a raised hollow chamber which substantially encircles the
rcot of the teat. said chamber having openings on its underside and internal periphery and a pin hole air inlet in its



external circumference, substantially as and for the purpose set forth.
4. In a metallic mouthpiece for pneumatic teat cups, a raised annular hollow chambered portion with openings in the underside and a slot around the internal periphery thereof, substantially as and for the purpose set forth and as illustrated in figure 5 of the drawings.
5. In a metallic mouthplece for pneumatic teat cups, a raised annular hollow chambered portion completely open on its underside and having a series of holes on its internal periphery. substantially as and for the purpose set forth and as illustrated in figure 2 of the drawings.

No. 101,017. Track Eander. Appareil d sabler la coic.


John Henry Hanlon, Somerville, Massachusetts, U.S.A., 18th September, 1906; 6 years. Filed 14th August, 1906. Recelpt No. 138.699.
Claim.-1. The improved air nozzle for track sanders, hav!ng a tapering end for engagement with a socket wrench.
2. The improved air nozzle for track sanders, having one end tapering for engagement with a socket wrench and the other end screw-threaded for engagement with the body of the sander.
3. In a track sander, the combination of a sand collector. an air discharge nozzle and a scale collector within the said air discharge nozzle.
4. In a track sander, the combination of a sand collector an air nozzle screwed into the interior of the said sand colifctor, and a scale collector within the said.air nozzle screw\(\in d\) to the interior thereof.
5. The improved air nozzle for sand collectors, comprising a nozzle body, having an air aperture and an enlarged bore and a scale collector within the said enlarged bore having an exterior diameter less than the interior diameter of the said nnlarged bore.
6. The Improved air nozzle for sand collectors comprising a nozzle body having an air aperture, an enlarged bore and a scale collector within the said enlarged bore provided with air apertures in the form of slits.
7. The improved air nozzle for sand collectors comprising a nozzle body having an air aperture, an enlarged bore and a scale collector within the said enlarged bore provided with air apertures in the form of slits and circular holes.
8. The improved clean-out device for track sanders, which ccmprises a tube enclosing the air nozzle and reaching from the exterior of the clean-out to a point back of the air inlet holes.
9. The improved air discharge nozzle for track sanders having its air discharge aperture counterbored to prevent the admission of sand to the interior of the air discharge nozzle.
10. The improved means for preventing the wear of sand discharge pipes comprising a cushion or buffer of sand collected in a suitable pocket.
11. The improved means for preventing the wear of sand discharge pipes which consists in a pocket opposite the point of discharge in which sand may collect and form a cushion or buffer.
12. The improved means for preventing the wear of sand discharge pipes which consists of a T-connection, one branch of which serves as a pocket opposite the point of discharge in which the sand collects to form a cushion or buffer, and the other branch of which is connected to the sand discharge p!pe.
13. The improved means for preventing the wear of sand discharge pipes which consists of a Y-connection, one branch of which serves as a pocket opposite the point of discharge it which the sand collects to form a cushion or buffer, and the other branch of which is connected to the sand discharge plpe, the angle between the said branches of the Y-connection being relatively small.
14. In a track sanding device, the combination with a sand dome, of a sand collector, an ingress hole through the said sand dome, and a hood above the said ingress hole and shielding the said ingress hole from a flow of sand from within the said sand dome.
15. In a track sanding device, the combination with a sand dcme, of a sand collector, an ingress hole through the said sand dome, whereby access may be had to the sand inlet holes in the sand collector, and a hood above the said ingress hole and shielding the said ingress hole from a flow of sand from within the sald sand dome.

No. 101,018. Grain Treating Apparatus. Apparell power traiter le grain.


John Liviagstone Hathaway, West Hill, Turtle Mountain, Manitoba, Canada, 18th September, 1906; 6 years. Filed 23rd August, 1906. Recelpt No. 138,934.
Claim.-1. A grain treating device comprising the combination of a receptacle, a second receptacle pivoted to the first receptacle and provided with a round wall, and a perforated wall.
2. A grain treating device comprising the comblnation of a receptacle, a second receptacle pivoted to the first receptacle, provided with a perforated end wall and a rounded bottom and side, and a guard lip secured to said perforated wall.
3. In a grain treating device the combination comprising a receptacle, provided with openings therein, a grain receptacle disposed within the first-named receptacle, pintles disposed through said openings and secured to the grain receplacle, a guard lip secured on the grain receptacle, and a handle secured to said grain receptacle, all of said parts being constructed of a non-corrodible material.
4. A grain treating device comprising the combination of a solution receiving receptacle provided with a slot in one or its walls, a grain receiving receptacle pivotally supported within the solution receptacle, a handle on the grain receiving receptacle adapted to lie within said slot, and a guard lip secured to the grain receiving receptacle, the latter of which is provided with perforations.

No. 101,019. Shirt. Chomise.


Mato Fitmaurice MaLoney, Norfolk, Nebraska, U.S.A., 18th September, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,837.
Claim.-The herein described shirt provided with shoulder straps 5 providing a series of loops, slits formed at opposite sides of the front and in the center of the back for the suspender ends, and flaps 8 for covering said slits, in combination with suspenders having the ends passed through the slits, and fastening devices 7 for holding the suspender ends within the slits, substantially as described.

No. 101,020. Track Lajing Machino. Machine d poser les voies de chemins de for.


Charles Oscar Wescott, Puyallup, Washington, U.S.A., 18th September, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,827.
Claim.-1. In a track laying machbne the combination of a car platform, a supporting structure secured thereto and extending forward therefrom, a track secured to one side of said structure, a carriage sliding on said track, a cable secured to the rear end of said carriage, means for pulling said cable rearward, two sheaves mounted at the ends of said carriage, a double ended cable passing over said sheaves and extending forward along said track, rail gripping means secured to the ends of sald double ended cable, and means for pulling said double ended cable forward.
2. In a track laying machine the combination of a car platform, a supporting structure secured thereto, an extension of said supporting structure hinged to the forward end
thercof and adapted to extend forward thereof and to be fclded back therebeside, and means supported by said struc ture whereby ralls may be raised, transported, or lowered.
3. In a track laying machine the combination of a car platform, a supporting structure secured thereto and extending forward therefrom, a track secured to one side of said structure, a carriage sliding on said track, two sheaves mounted at the ends of sald carriage, a cable secured to said carriage, a double ended cable passing over said sheaves and supporting the rail, means actuating said cables in opposite directions, and means controlling said actuating means whereby their re-actions one on the other will raise, transport or lower sald rall.
4. In a track laying machine the combination of a supportIng structure having a longitudinal track thereon, a carriage sllding on said track, a cable secured to said carriage, a cable engaging said carriage and depending therefrom to support a rail, means actuating said cables in opposite directions, and means controlling said actuating means whereby their re-actions one on the other will control the vertical position of the suspended rall and the horizontal position of the sliding carriage.

No. 101,021. Cold Draft Etop.
Arrett pour le tirage de l'air froid.


William Andrew Brewster, Edmonton, Alberta, Canada, 18th September, 1906; 6 years. Filed 23rd November, 1905. Receipt No. 130,347.
Claim.-1. In an automatic draft stop the combination with the casing and the door, of a flexible strip secured at its upper side in proximity to the bottom of the door, and extending thereacross, said strip having an enlarged lower edge, a reinforcing crossbar secured to the free portion of the fiexible strip, and on its upper face, and of such dimensions that the enlarged portion of the flexible strip extends below the lower edge of the crossbar, a plurality of spiral compression springs extending from the door and behind the said crossbar, and a stop rigidly secured to one of the case uprights, and designed to receive the said crossbar, and press it downwardly and inwardly, until the enlarged portion of the flexible strip comes into surface contact with the base of the casilig. when the door is passing to its closed position, las and for the purpose specified.
2. In an automatic draft stop the combination with the casing and the door, of a crossbar extending parallel with and along the inner lower edge of the door, a flexible strip secured to and passing longitudinally along the said crossbar, and extending upwardly and laterally away from the same, a cross strip above and substantially parallel the herebefore mentioned crossbar, means for securing the said cross strip through the laterally extending portion of the flexible strip to the door, a cushioning portion extending along the lower face of the crossbar, and secured thereto, a plurality of sprial compression springs extending from the door and behind the said crossbar, and a stop rigidly secured to one of the case uprights, and designed to receive the said crossbar, and press it downwardly and inwardly till the cushioning member comes into surface contact with the base of the casing. when the door is passing to its closed position, as and for the purpose specified.

\section*{No. 101,022. Mothod of Cutting Rails and Chatr Soats in Railway gleepers.}

\section*{Méthode de couper les rails, efc.}

Albert Collet. Paris, France, 18th September, 1906; 6 years.
Filed 27th March, 1906. Receipt No. 134,326.
Claim.-1. A cutting apparatus for forming rail and chair seats in rallway slcepers, comprising the combination of a vertical shaft, arms fixed to the shaft, axles on the arms, culting discs movably disposed on the axles and provided
with inclined faces, and vertical knives arranged to cut the vertical walls of the seat.

2. A machine for forming rail and chair seats in railway sleepers, comprising a frame held upon a rail by means of keys passed beneath the latter and upon which runs a rack carriage supporting the rotary cutter, substantially as hereinbefore described.
3. In a machine of the character described maintaining the sleeper beneath adjustable stops connected to the carriage by pivoting arms, by means of a shoe on the end of a lever adapted to be operated by a screw, substantially as hereinbefore described.
4. In a machine of the character described, the pinion operating the carriage rack and the screw for ralsing the sleeper to be recessed, by means of a hand wheel the sleeve of which may be disengaged in order to act either upon one part or the other, substantially as hereinbefore de-cribed.
o. In a machine of the character described the combination and arrangement of parts for automatically effecting the angular movement of the cutter relatively to the movable carriage each time the said carriage has completed its forward or backward movement, which allows of forming by a movement in each direction above the sleeper a seat or recess the width of which is double the diameter of the cutting tools, substantially as hereinbefore described.
6. In a machine of the character described, the means for effecting the angular automatic movement of the cutter shaft comprising two superposed plates the lower one fixed and the upper movable, supporting the cutter shaft, the said plates being connected during the working stroke of the carriage by catches combined with levers in connection with a rod having adjustable stops determining the disengagement of the plates at the_end of the stroke, substantialy as hereinbefore described.
7. In a machine of the character described. mounting the catches between the fixed plate and the movable pivoting plate in slots, the relative position of the two catches determining in combination with the disengaging levers the variable extent of the angular movement of the cutter shaft. the said catches being adapted to be placed in such a position as not to effect any angular movement when the recessing operation is to be performed in a single stroke, substantially as hereinbefore described.

No. 101,023. Golf Ball Marker.
Marqueur de boule de golfe.

ohn Campbell Cory, New York City, New York, U.S.A., 18th September, 1908; 6 yeras. Filed 29th June, 1906. Recelpt No. \(137,407\).
Claim.-1. A golf ball marker comprising a frame having a circular ball seat, a movable die holder, a die secured
to said holder and a power member adapted to operate sald die holder and ie, substantially as described.
2. A golf ball marker comprising a frame having circular ball seat, a die holder pivoted to said frame and provided with a die having a spherical contour, and a power member likewise pivoted to the frame and engaging said die holder for operating the same, substantialy as described.
3. A golf ball marker comprising a truncated spherical seat, a movable die holder pivotally mounted adjacent thereto, a die mounted on said holder having raised characters thereon. and a pivoted power member engaging with said die holder and adapted to operate the same, substantially as described.
4. A goli ball marker comprising a frame having a truncated spherical seat. a movable die holder pivotally mounted on said frame adjacent thereto, and having a die with raised characters mounted thereon, and a power member also pivoted to sald frame and a ball and socket connection between the die holder, and power member, and a spring for maintaining the die in its normal position, substantially as described.

No. 101,024. Building Block. Bloc de construction.


William Edward Henderson, Toronto, Ontario, Canada, 18th September, 1906; 6 years. Filed 7th February, 1906. Receipt No. 132,676.
Claim.-1. A composite building block comprising fibre and plaster of paris suitably mixed and moulded into block form and having apertures extending therethrough and tongues on two of the adjacent sides and grooves on the two adjacent sides opposite, as and for the purpose specified.
2. A wall comprising a plurality of blocks formed uf Abre and plaster of paris, each block having two tongues on adjacent sides and two grooves on the opposite adjacent sides, and an aperture or apertures extending therethrough as and for the purpose specifled.

\section*{No. 101,025. Mannfacture of Ozygen Briquettey. Fabrication de briquettes d'oxygine.}

George François Jaubert, Paris, France, 18th September, 1906: 6 years. Filed 20th April, 1906. Receipt No. 135,085.
Claim.-Briquettes with a base of oxygenated salt such as a perchlorate of potash or other perchlorates or nitrates liberating practically pure oxygen by their combustion and prepared by kneading, in the presence of water or of another solvent. the said oxygenated salt with a small proportion of puiverulent combustible such as carbon and inert material. this kneading being followed by the moulding into cakes or briquettes of the paste obtained apd by the drying of these briquettes.

\section*{20. 101,026. Oxysen Generator.} GÉnérateur d'oxygìne.
George Francois Jaubert, Paris France. 18th September, 1906; 6 years. Filed 20th April, 1906. Receipt No. 135,086.
Claim.-1. In an apparatus for the production of oxygen by the combustion of briquettes with a base of oxygenated aalts, the combination of a receiver. of independent generators, of pipe connections between the generator or generalors and the receiver, and a puriffer between said parts.
2. In an apparatus for the production of oxygen by the combustion of briquettes with a base of oxygenated salts, the combinatiou of a receiver, independent generators con-
taining briquettes placed in baskets supported within the generators, said generators having as small a capacity as

possible additional to the space occupied by the briquettes, cut-off cocks for said generators, and means for cooling the same.
3. In an apparatus for the production of oxygen by the combustion of briquettes in the manner referred to, the combination of a gas receiver, of one or more independent generators containing briquettes, pipe connections between said generators and a purifier placed In front of the gas receiver, cut-off cocks on the plpe connections and means for cooling the generators, consisting of a water tank in which deep the generators and means for ensuring a water circulation through the tank.

No. 101,027. Vacuum Device. Apparcil dc vacuиm.


Sylvester Smith Leonard, Chicago, Illinois, U.S.A., 18th September. 1906; 6 years. Filed 10th May, 1906. Receipt No. 135,767
Claim.-1. In a device of the class described, the combination with a pump cylinder, a piston movable therein, a piston rod secured to the piston and profecting from the rear of the cylinder, and a handle at the rear end of the piston rod, of a frame slidably mounted on the cylinder, a perforation in the rear end of the frame through which the handle can pass and means for locking the frame in its rear position.
2. In a device of the class described, the combination with a pump cylinder, a piston movable therein, a piston rod secured to the piston and projecting from the rear of the cylinder, and a handle at the rear end of the piston rod of a frame slidably mounted on the cylinder, a perforation in the rear end of the frame through which the handle can pass, an abutment upon the rear end of the cylinder, and a pin upon the frame adapted to be brought into engagement with the rear thereof whereby the frame can be locked in its rear nosition.
3. In a device of the class described, the combination with a pump cylinder, a piston movable thereln. a piston rod secured to the pston and projecting from the rear of the cylinder, and a handle at the rear of the piston rod, of a frame slidably mounted upon the cylinder, a perforation in the rear end of the frame through which the handle can
pass, means for locking the frame in its rear position on the cylinder, and a spring adapted to hold the piston normally forward.
4. In a device of the class described. the combination with a cylinder, a piston movable therein, a piston rod secured to the piston and extending rearwardly from the cylinder and a handle at the rear of the piston rod, of a ring slidably mounted on the cylinder, rods extending rearwardly from the ring on opposite sides of the cylinder, a brace connecting the rear ends of the rods, said brace perforated for the passage of the handle, an abutment upon the rear end of the cylinder having a notch in its periphery, and a pin upon one of the rods adapted to pass through the notch and engage the rear of the abutment, whereby the frame can be locked in its rear position.
5. In a device of the class described, the combination with a cylinder, a piston movable therein, a piston rod secured to the piston and extending rearwardly from the cylinder and a handle at the rear of the piston rod, of a ring slidably mounted on the cylinder, rods extending rearwardly from the ring on opposite sides of the cylinder, a brace connecting the rear ends of the rod, said brace veing perforated for the passage of the handle, an abutment upon the rear end of the cylinder having a notch in Its periphery, a pin unon onc of the rods adapted to pass through the notch and engage the rear of the abutment whereby the frame can be locked in its rear position, and a spring exerting a forward pressure on the piston.

No. 101,028. Carbureter. Carburateur.


William F. Rothe, East Saint Louis, Illinois, U.S.A., 18th September, 1906; 6 years. Filed 10th February, 1906. Receipt No. 132,783.
Claim.-1. A carbureter, comprising a cylindrical member adapted to be secured to the engine casing, there being an integral flange helically arranged on the interior of said member, means whereby oil is discharged into the cylindrical member at the front thereof, and an adjustable member arranged in the cylindrical member opposite the oll inlet and provided in its upper end with a recess, substantally as specified.
2. A carbureter, comprising a cylindrical member adapted to be secured to the engine casing, an integral flange helically arranged on the interior of said cylindrical member, an inlet valve located in the top of the outer end of the cylindrical member in front of the flange therein, an oil inlet tube leading to said valve, a screw bolt passing through the outer end of the cylindrical member opposite the inlet valve, there being a recess in the upper end of said screw bolt, and a lock nut arranged on the screw bolt outside the cylindrical member, substantially as specifled.

\section*{No. 101,029. Mower Cutter Bar.}

\section*{Barre de lames de faucheuses.}

Welden C. Rarig, Ogden, Utah, U.S.A., 18th September, 1906; 6 years. Filed 8th January, 1906. Receipt No. 131,636.
Claim.-1. The combination with a mower cutter bar, of a reciprocating knife mounted thereon, a lubricating conduit extending longitudinally of the cutter bar and having passages leading therefrom for delivering a lubricant, and means for reciprocating said condult relatively to the cutter bar thereby distributing the lubricant between the relatively movable parts of the reclprocating knife and the cutter bar.
2. The combination with a mower cutter bar, of a reciprocating knife mounted thercon. clips ongaging said knife for guiding the same, a lubricating conduit extending longltudinally of the cutter bar, and having passages leading
therefrom for supplying a lubricant between the several clips and the knife, means for automatically supplying a lubricant to said conduit.

3. The combination with a mower cutter bar, of a recipro cating knife comprising cutting sections, gulde clips located at predetermined points on said cutter bar and engaging sections of said knife, a lubricating condult extending longitudinally of the cutter bar and having passages leading therefrom for supplying a lubricant between the several clips and the corresponding knife sections, and means for automatically supplying a lubricant to said condult.
4. The combination with a mower cutter bar, of a reciprocating knife comprising cutting sections, guide clips. located at predetermined points on said cutter bar and engaging sections of said knife, a lubricating conduit beneath the knife sections extending longtudinally of the cutter bar and having passages leading therefrom at points below said clips, the knife sections beneath said clips having holes therethrough with which said passages register, whereby the lubricant is supplied between sald clips and the knife sections engaged thereby.
5. In a mower knife, the combination with a knife bar. of cutting sections secured to said bar, a longitudinal lubricating conduit in said bar extending beneath said sections. predetermined sections having holes therethrough, communicating with said condult, whereby the lubricant is supplied from said conduit to the upper surface of said sections.
6. In a mower knife, the combination with a knife bar, of cutting sections secured to said bar. a longitudinal conduit iccated within said bar and extending beneath said sections, predetermined sections having holes therethrough communicating with holes through said conduit. whereby the lubricant is supplied from said conduit to the upper surface of said sections.
7. In a mower knife, the combination with a knife bar. of a head secured to the inner head of said bar, a hollow ball on sald head to which a pitman rod is adapted to be connected. a lubricating conduit communicating with said hollow bail and extending longitudinally within said bar beneath said sections, predetermined sections having holes therethrough. ocmmunicating with said conduit, and a supply of lubricant communicating with said ball.
8. In a mower kinfe, the combination with a knife bar, o, a head secured to the inner end of said bar, and a hollow ball on said head to which a pitman rod is adapted to be connected, said ball having holes leading from the interior to the exterlor thereof, a lubricating conduit communicating with said hollow ball and extending longitudinally within said bar beneath said sections, and a supply of lubricant communicating with said hollow ball.

\section*{No. 101,030. Motal Brasing Composition. Composition à braser le métal.}

Electus Backus Ward. New York City. New York, U.S.A.. 18th September. 1906; 6 years. Filed 8th May. 1906. Receipt No. 135,700.
Claim.-The herein described composition of matter or brazing flux, consisting of sodium carbonate and boracic acid, substantially as specified.

\section*{No. 101,031. Paint. Peinturc.}

Jolin Francis Villard and and S. L. Tilley Harrison, assignee of a half interest, both of Rexton, New Brunswick, Canada, 18th September, 1906; 6 years. Filed 12th May, 1906. Receipt No. 135,833.
C'laim.-1. The herein described composition of matter which consists of whiting, flour, water and glue cooked into
a paste, rossin and Bergundy pitch, white lead and linseed oil, colouring mattes, and a drier.
2. The herein described composition of matter which consistsof whiting, flour, water and glue cooked into a paste, rosin and Burgundy pitch, beeswax and turpentine, white lead and linseed oll, colouring matter, and a drier.

No. 101,032. Feating and Illuminating Device. Apparefl d chauffer et ćclairer.


Samuel Shelton St. Hoor, Mary H. Clagett, and William S. Clagett, each an assignee of a fourth interest, all of Kansas City, Missouri, U.S.A., 18th September, 1906; 6 years. Filed 1st May, 1906. Receipt No. 135,414.
Claim.-1. A device of the character described, comprising a casing provided with perforations in its lower portion, a suitable drum having its lower portion perforated, a condult or pipeway communicating at its lower end with the upper portion of the casing and at its upper end with said drum, means for adjustably supporting the drum upon sald pipeway or conduit, and means for heating the air in said drum.
2. A device of the character described, comprising a caslag provided with perforations in its lower portion, a sultable drum having its lower portion perforated, a conduit or pipeway communicating at its lower end with the upper portion of the casing and at its upper end with said drum, and a heater within the casing.
3. A device of the character described comprising a casing provided with perforations in its lower portion and with a door controlled opening, a suitable drum having its lower portion perforated, a conduit or pipeway communicating at its lower end with the upper portion of the casing and at its upper end with said drum, and means for heating the air in said drum.
4. In a device of the character described, a suitable casing having its lower portion perforated, a drum suitably supported and having its lower portion perforated, a condult or pipeway communicating at its lower end with the upper portion of the casing and at its upper end with the drum, a lamp sultably supported and having its chimney arranged to discharge into the drum, and an adjustable tube arranged within the drum and having its lower end externally embracing the upper end of the lamp chimney.
5. In a device of the character described, a suitable casing having its lower portion perforated, a drum suitably supported and having its lower portion perforated, a condult or pipeway communicating at its lower end with the upper portion of the casing and at its upper end with the drum, a lamp suitably supported and having its chimney arranged to discharge into the drum, a tube arranged within the arum and having its lower end externally embracing the upper end of the lamp chimney, and a deflecting bell suspended from the top of the drum and overhanging the upper end of said tube.
6. In a device of the character described, a casing baving its lower portion perforated, a drum having its lower portion perforated, a plurality of conduits or pipeways communcating with the upper portion of the casing, and projecting upward into the drum, collars on the conduits or pipeways below the drum to support the latter, a lamp having its chimney arranged to discharge into the drum, and a support for the lamp above the casing and supported by said conduit or pipeways.
7. A device of the character described comprising a casing baving a perforated bottom, a drum having a perforated bottom, pipes leading from the casing into the drum, a lamp
supported by said pipes, and a tube adjustably secured in the bottom of the drum and passing up into the same and having its lower end encircling the top of the chimney of the lamp.

No. 101,033. Oxygon Gas Gonerating Composition. Composition d générer le gaz d'oxygène.

The Roessler and Hasslacher Chemical Company, New York City, assignee of George Fred. Brindley, Niagara Falls, Ontario, Canada, 18th September, 1906; 6 years. Filed 7th May, 1906. Receipt No. 135,659.
Claim.-1. A composition of matter contalning an alkall peroxide and a metallic oxide.
2. A composition of matter containing a fused alkali peroxide and a substance causing a catalytic reaction in the presence of molsture.
3. A composition of matter containing a fused alkall peroxide and a metallic oxide.
4. A composition of matter contalning sodium peroxide and a metallic oxide.
5. A composition of matter containing fused sodium peroxide and a substance causing a catalytic reaction in the presence of molsture.
6. A composition of matter containing fused sodium peroxide and a metallic oxide.
7. A composition of matter containing sodium peroxide and cupric oxide.
8. A composition of matter containing fused sodium peroxide and cupric oxide.

\section*{No. 101,034. Apparatug for Generating Oxygen Gas.}

Appareil d générer le gaz d'oxygìne.


The Roessler and Hasslacher Chemical Company, assignee of Rlchard von Foregger, New York City, New York, U,S.A. 18th September, 1906 ; 6 years. Filed 7th May, 1906. Receipt No. 135,661.
Claim.-1. A generator for oxyegn gas comprising a container, gas producing means suspended therein, means for controlling the generation of gas by said gas producing means and means for controlling the pressure in said container.
2. A generator for oxygen gas comprising a container, gas producing means suspended therein, means for controlling the generation of gas by said gas producing means and means for varying the pressure in said container.
3. A generator for oxygen gas comprising a container, gas producing means suspended therein and means for instantaneously starting the generation of gas.
4. A generator for oxygen gas comprising a container, gas producing means suspended therein and means for instantaneously stopping the generation of gas.
5. A generator for oxygen gas comprising a container, gas producing means suspended therein and means for instantaneously starting and stopping the generation of gas.
6. A generator for oxygen gas comprising a container, gas producing means suspended therein and means for generating said gas under low pressure in sald container.
7. A generator for oxygen gas comprising a container, gas producing means suspended therein and means for preserving said gas producing means against decomposition when said generator has been closed.
8. A generator for oxygen gas comprising a portable apparatus including a container, gas producing means suspended
therein, means for controlling the generation of gas by said gas producing means and means for controlling the pressure on said container.
9. A generator for oxygen gas comprising a container, gas producing means suspended therein, means for controlling the generation of gas by said gas producing means. means for varying the pressure in sald contalner and means for drawing off said gas.

No. 101,035. Proceng of Purifying Air. Procédé pour purificr l'uir.


The Roessler and Hasslacher Chemical Company, assignee of Richard von Foregger, both of New York City, and of George Fred. Brindley, Niagara Falls, Ontario, Canada, 18th September. 1906; 6 years. Filed 7th May, 1906. Recelpt No. 135.662.
Claim.-1. A process for the regeneration and purification of air comprising the passing of a continuous stream of alr over a substance adapted to re-act with the humidity of the air to free oxygen and absorb carbon dioxid.
2. A procyss for the regeneration and purification of air comprising the passing of a continuous stream of air over an alkaline peroxid.
3. A process for the regeneration and purification of air comprising the passing of a continuous stream of air over fused sodium peroxid.
4. A process for the regeneration and purification of air comprising the passing of the air over an alkaline peroxid and the removing of the carbonates or bi-carbonates formed during the re-action.
5. A process for the regeneration and purification of air comprising the passing of the air over an alkaline peroxid whereby the humidity of the alr decomposes the peroxid generating oxygen and absorbing carbon dioxid and the removing of the carbonates or bl-carbonates formed on the peroxid by the re-action.
6. A process for the regeneration and purification of air comprising the generating of oxygen gas and the absorbing of carbon dloxid by the reaction of the humidity contained in the air on sodium peroxid and continuously removing the coating of carbonate of bi-carbonate formed by the re-action.
7. A process for the regeneration and purification of air - omprising the continuous generation of oxygen gas and absorption of carbon dioxid by the re-action of the humidity contained in the air on an alkaline peroxid.
8. A process for the regeneration and purification of air comprising the generating of oxygen and absorbing of carbon dioxid from the air by decomposing fused sodium peroxid or peroxid in any other form, by the humidity contained in the air and continuously removing the coating of carbonates or bi-carbonates formed by the re-action with sodium peroxid.
9. A process for the regeneration and purification of air comprising the passing of the air over an alkaline peroxid whereby the humidity of the air decomposes the peroxid generating oxygen and absorbing carbon dioxid, removing the carbonates of bi-carbonates formed on the peroxid by the the re-action and the regulating of the degree of humidity to which the peroxid is exposed.
10. A process for the regeneration and purification of alr comprising the passing of the air over an alkaline peroxid whereby the humidity of the alr decomposes the peroxid generating oxygen and absorbing carbon dioxid, removing the carbonates of bi-carbonates formed on the peroxid by the re-action and the regulating of the generation of oxygen.
11. A process for the regeneration and purification of air comprising the passing of the air over an alkaline peroxid whereby the huminity of the air recomposes the peroxid gen--raling oxygen and absorbing carbon dioxid and removing the carbonates or bl-carbonates formed on the peroxid by the re-action, sufficient oxygen being generated to restore the air to normal conditions and to destroy the toxic elements of the vitiated air.

\section*{No. 101,036. Mothod of Obtaining a Bolvble Glutinous Bubstance.}

Méthode dobtenir unc aubstance soluble et gluante.
La Compagnie Internationale La Norgine, assignee of Ernest Hermann, both of Paris. France, 18th September, 1906; 6 years. Filed 8th May, 1906. Receipt No. 135,671.
' 'laim.-Method of producing a glutinous substance which shall be dry. neutral and perfectly soluble, by pressing tangacid while in a heated state, reducing the resulting product to a powder and subjecting it to the action of ammonia vapour or treating it with ammonia gas, drying and at the same time freeing said product from any excess of ammonia which it may contain, substantially in the manner described.

\section*{No. 101,037. Window shade Fizture.}

Garniture d'abat-jour de fenêtre.


John Franklin Cannon, Mattie Newton Cannon and Frederick Ernest Beaty, assignee of a half interest, all of Erick, Oklahoma. U.S.A., 18th September, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,019.
Claim.-1. A window shade fixture comprising brackets arranged for attachment to the stiles of a window frame, arms pivotally connected at one end to sald brackets to swing in a vertical plane, a plate connecting the free ends of said arms, said arms being provided with sockets for the reception of the gudgeons of a shade roller, and one of said arms being provided on its inner face with a stud and on its outer face with a pin or lug, an actuating rod secured to the stud whereby the arms may be raised and lowered, a spring catch projecting out from the face of one stlle and provided with an orifice in which the lug on the outer face of said arm is designed to snap and an actuating cord secured to said catch ard designed to draw the same outwardly from engagement with said lug.
2. A window shade fixture comprising brackets designed for attachment to the stiles of a window frame, arms pivoted in said brackets to swing in a vertical plane and provided at their free ends with sockets designed to receive the gudgeons of a shade roller, an L -shaped plate permanently connected at one end to one of said arms and having a detachable conficction to the outer end of the other arm whereby said arm may be sprung outwardly with relation to the plate to secure the shade roller in place and remove it also, an actuating rod secured to one of said arms, said latter arm being provided on its outer face with a lug, an angular spring catch projecting out from one stile and provided with an orifice in which the lug is designed to snap whereby to hold the arms in raised position, and an actuating cord or cable secured to the free end of sald catch, an eye or loop being provided on the stile adjacent to and in horizontal alignment with said catch and through which the cord or cable passes.

No. 101,038. Window Eereen. Eicran de fenêtre.
Joseph W. Adams, Pasadena, California, U.S.A., 18th September. 1906; 6 years. Filed 7th June, 1906. Recelpt No. 136,635.
(laim.-1. The combination with a window having a vertical groove. of a screen frame having a furrow along its vertical edge, a rigid strip mounted in the furrow and engaging within the groove of the window, a spring within the screen trame arranged to hold the strip normally in engagement with the groove, a link engaging the strip and extending transversely through the screen frame, a cam engaging the l!nk and the face of the screen frame and means whereby the cam may be manipulated to draw the strip out of the groove and retain it wholly within the furrow of the screen.
2. A window screen comprising a frame having furrows formed along its opposite vertical edges, a rigid strip mount-

ed and laterally movable within each furrow and with a longitudinal edge protruding normally beyond the lines of the frame, a spring mounted in the frame and exerting pressure against the inner edge of the strip. a link connected with the strip and extending transversely through the frame and ar eccentric connected with the link and extending opposite the strip and arranged upon manipulation to draw and hold the strip wholly within the furrow and against the tension of the spring.

No. 100,039. Hanger for Curtain Poles and shade Rollers.
Console opur batons de rideaus et rouleau d'abat-jour.


Milo A. Elliott, Waterville, Maine, U.S.A., 18 th September, 1906; 6 years. Filed 28th June, 1906. Receipt No. 137,366. Claim.-A reversible and adjustable hanger for curtain pcles and shade rollers comprising two brackets disposed at right angles to each other, the brackets having bearings or supports for the shade roller upon upper and lower edges thereof respectively, one of sald brackets having a support for the shade roller at the end of said bracket and lengthwise therewith, substantially as and for the purpose set forth.

No. 101,040. Curtain Pole. Baton de rideau.
Edson B. French, Helena, Montana, U.S.A., 18th September, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,629.
Claim.-1. The herein described device comprising a plate having means for attachment to a window and with one end bent laterally for bearing beneath the window casing and with a curtain shade roller bracket extending laterally from the other end and with a vertical socket between the bracket and plate, and a standard supported in said socket and having means at its free end for supporting a curtain pole.
2. The herein described device comprising a plate having means for attachment to a window and with one end bent laterally for bearing beneath the window casing and with a
curtain roller bracket extending laterally from the other end and a vertical socket between the plate and bracket, and a

standard supported in said socket and having means at its free end for supporting a curtain pole.
3. The herein described device comprising a plate having means for attachment to a window and with one end bent laterally for bearing beneath the window casing and with a curtain roller bracket extending laterally from the other end and a vertical socket between the plate and bracket and with one side open, a standard supported in said socket and provided with means at the free ends for supporting a curtain pole, and a tongue extending from said plate transversely of said socket and bearing upon the standard supported therein.

No. 101,041. Cathode Plate. Plaque de cathode.


Harry Cross Hubbell, East Orange, New Jersey, U.S.A., 18th September, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,264
Claim.-1. A storage battery cathode composed of hairlike fibers of nickel interwined and embedded in a mass of nickel oxid, forming a plastic mat or cake.
2. A cathode comprising hair-like fibers of nickel and a mass of plastic nickel oxid formed into a mat-like body.
3. A battery plate composed of nickel filaments interlocked in a mass of nickel oxid in a pasty or dough-like condition and forming a mat or cake.
4. A cathode consisting of hair-llke nickel fibers mixed and interwined with a mass of nickel and inserted in a wire gauze pocket or sack.

\section*{No. 101,048. Trap for Bewer Pipes.} Trappe de tuyau d'égout.

Leon Jodoin, Montreal, Quebec, Canada, 18th September, 1906; 6 years. Filed 3rd May, 1906. Receipt No. 135,500.
Claim.-1. The combination with a sewer pipe and a valve for closing the same, of an auxiliary duct communicating with such sewer pipe and containing a float, and means operatively connecting such fioat to the valve, substantially as described and for the purpose set forth.
2. The combination with a street sewer, a house branch pipe connected thereto, and a downwardly projecting circular seat within the upper end of such branch, of an auxiliary duct cast in one with the house branch pipe and containing a ball float, a valve hinged adjacent to the seat, and a curved rod pivotally connected to such float and valve, substantially as described and for the purpose set forth.'
3. The combination of street sewer \(b\), house branch \(c\), duct d. port \(d^{\prime}\), partition \(f\), slit \(f^{\prime}\) valve \(g\), lugs \(g^{1}\), lugs \(h\), bracket \(i\),

ball float \(k\), curved rod \(m\), valve seat \(q\), rubber gasket \(r\), and icmovable side portion \(t\), substantially as described and for the purpose set forth.

No. 101,043. Chair. Fautewil.


Jacob Stadelbauer Encchtel. Hanover. Ontario, Canada, 18th September. 1906; 6 years. Filed ist June, 1906. Receipt No. 136,473.
Claim.-1. In a chair the combination with a frame having a hinged back and a recess from the rear end in each of the side pieces thereof, of a pair of racks pivotally secured to the chair back at one end and adapted to recede into said recesses. and a pin extending across each of the said receases at the open end thereof and engaging sald racks, as and for the purpose specified.
2 . In a chair the combination with a frame having a hinged back and a recess from the rear end in each of the side pieces thereof, of a pair of racks pivotally secured to the chair back at one end and adapted to recede into said recesses having a longitudinal slot therein and teeth projecting downwardly from the upper edge of said slot. and a pin extending across each of the said recesses at the open end thereof and passing through the slot in said racks, as and for the purpose specified.
3. In a chair the combination with a frame having a hinged biack and a vertical longitudinal recess from the rear end in fach of the side pleces thereof, of a pair of racks pivotally secured to the chair back at one end and adapted to recede into sald recesses having a longitudinal slot therein and teeth projecting downwardly from the upper edge of said slot and a rearwardly projecting portion beyond sald slot, and a piu extending across each of said recesses at the open "nd thercof and passing through the slot in said racks and - ngaging the teeth therion. as and for the purpose specified.
4. In a chair in combination with a frame having recesses In each of the side picces thereof and a back hingedly secured thereto. a pair of pivotal members secured to said back and alapted to rected into sad recessis and presenting an unliroken outer adg and having a longitudinal slot therein and ...th projecting into said slot from the upper edge, and moans socurid 10 said frame to ongage the slot in the sald whotal members for securing the back of the chair, as and lor the purpose specilled.
5. In a chair the combination with a frame and a back hingedly secured thereto, of a pair of pivotal members secured to said chair having a longitudinal slot therein and teeth projecting into said slot, and means for engaging the teeth in said slot and securing the back of the chair, as and for the purpose specified.

No. 101,044. Fly Frightener. Chasse-mouche.


Thomas J. Merryman, Lincoln, Nebraska, U.S.A., 18th September, 1906; 6 years. Filed 27th March, 1906. Receipt No. 134,331.
Claim.-1. In a device of the class described, the combination with a door frame and door, of movable insect frightening devices, one mounted upon the vertical side of the door frame and outside thereof, and the other mounted upon the top of said door frame and outside thereof, and a continuous cable wound around both said devices and attached to said door.
2. In a device of the class described, the combination with a door frame and door, of movable insect frightening devices, one mounted upon the vertical side of the door frame and outside thereof, and the other mounted upon the top of said dcor frame and outside thereof, a continuous cable wound around both said devices and attached to said door, and a spring secured to one end of sald cable.
3. In a device of the class described. the combination with a door frame and door, of a plurality of rotatable insect frightening devices mounted one upon the door and the other upon the door frame, and common means for simultaneously rotating said devices.
4. In a device of the class described, the combination with a door frame and door, of an insect frightening device movably mounted on the door frame, a separate fly frightening device mounted to rotate upon the door, and means for simultaneously moving both devices upon the opening of the said duor.
5. In a device of the class described, the combination with a door frame and door, of an insect frightening device mounted on the door frame, an Insect frightening device mounted on the door, one of said devices consisting of a shaft, spiral wings arranged longitudinally of and secured to the shaft. said wings having looped portions projecting on opposite s!des of the shaft, and means for simultaneously operating the frightening devices upon the opening of the door, said means having an engagement with the shaft for actuating the same.
6. In a device of the class described, the combination with a door frame and door, of a movable insect frightening device separately mounted on each, each of said devices including a rotary shaft having a pulley, and a single cable passing about the pulleys of both shafts and having a movuble resistance at one end.
7. In a device of the class described, the combination with a door frame and door, of an insect frightening device mount ed on the door frame and including a vibratory shaft having a drum, another insect frightening device mounted on the dcor and including a shaft having a pulley, a cable having one end wrapped upon the drum, sald cable passing about the pulley, and a weight attached to the other end of the pulley.
8. In a device of the class described, the combination with a door frame and door, of a shaft journalled along the top of the frame and having wings secured thereto, an upright shaft journalled along one side of the frame and having wings, a shaft journalled upon the door and having wings. and a cable having a movable end, said cable passing about the various shafts to simultancously operate the same when the door is moved.

No. 101,045. Sewer Cleaning Devico.
Appareil à nettoyer les égouts.


Robert Shannon, Jersey Clty, New Jersey, U.S.A., 18th September, 1906 ; 6 years. Filed 8th May, 1906. Receipt No. 135.701.

Claim.-1. A sewer cleaning device comprising an opentopped and trough-shaped body portion having a sharp charging or cutting end formed by a pair of segmental edges of the body meeting in a sharp point, said point lying in the plane of the base of said body, and a swinging gate or door back of sald charging or cutting end in one end of said trough-shaped body portion adapted to open inwardly into said trough-shaped body portion, the said gate or door and charging end forming an auxiliary scoop, substantially as and for the purposes set forth.
2. A sewer cleaning device comprising an open-topped and trough-shaped body portion having forwardly and rearwardly projecting and sharp scoop-shaped charging or cuttling ends farmed by segmental marginal edges meeting in sharp points at the opposite ends of the body, said points lying in tha plane of the base of said body, and a swinging gate or door back of said rear charging or cutting end in one end of said trough-shaped body portion adapted to open inwardly into said trough-shaped body portion adapted to open inwardly irto said trough-shaped body portion, said gate or door and rear charging or cutting end forming an auxiliary scoop, ouhstantially as and for the purposes set forth.
3. A sewer cleaning device comprising an open-topped and trough-shaped body portion having a sharp scoop-shaped body charging or cutting end formed by a pair of segmental marginal edges of the body meeting in a sharp point, said point lying in the plane of the base of said body, a swinging gate or door back of said charging or cutting end in one end of sald trough-shaped body portion adapted to open inwardly into said trough-shaped body portion, the said gate or door and charging end forming an auxiliary scoop, and means to prevent sald gate or door from swinging in an outward direction, substantially as and for the purposes set forth.
4. A sewer cleaning device comprising an open-topped and trough-shaped body portion having forwardly and rearwardly projecting and sharp scoop-shaped charging or cutting ends formed by segmental marginal edges meeting in sharp points at the opposite ends of the body, said points lying in the plane of the base of said body, a swinging gate or door back of the said rear charging or cutting end on one end of said trough-shaped body portion adapted to open inwardly into sald trough-shaped body portion, sald gate or door and rear charging or cutting end forming an auxiliary scoop, and means to prevent said gate or door from swinging in an outward direction, substantlally as and for the purposes set forth.
5. A screw cleaning device comprising an open-topped and trough-shaped body portion having a sharp charging or cutting end formed by a pair of segmental edges of the body meeting in a sharp point, said point lying in the plane of the base of said body, a swinging gate or door back of said charging or cutting end in one end of said trough-shaped body portion, the said gate or door and charging end forming an auxiliary scoop, means to prevent said gate or door from swinging in an outward direction, and shoes secured upon the bottom of said trough-shaped body portion, substantially as and for the purpose set forth.
6. A sewer cleaning device comprising a trough-shaped body baving a forwartly projecting and sharp scoop-shaped charging or cutting end pointed at its lowest portion, a
closure near one end of the said device, and a detachable cover, and means for securing said detachable cover to said trough-shaped body, substantially as and for the purpose set forth.
7. A sewer cleaning device comprising a trough-shaped body having forwardly and outwardly projecting and sharp scoop-shaped charging or cutting ends pointed at their lowest portions, a closure near one end of the said device, a detachable cover, and means for securing said detachable cover to said trough-shaped body, substantially as and for the purpose set forth.
8. A screw cleaning device comprising a trough-shaped body having a forwardly projecting and sharp charging or cutting end pointed at its lowest portion, a swinging gate or door in one end of said trough-shaped body portion adapted to open inwardly into said trough-shaped body portion, a detachable cover, and means for securing said detachable cover to said trough-shaped body portion, substantially as and for the purposes set forth.
9. A sewer cleaning device comprising a trough-sbaped body portion having forwardly and outwardly projecting and sharp scoop-shaped charging or cutting ends pointed at their lowest portions, a swinging gate or door in one end of said trough-shaped body portion adapted to open inwardly into said trough-shaped body portion, a detachable cover, and means for securing said detachable cover to said trough-shaped body portion, substantlally as and for the purposes set forth.
10. A sewer cleaning device comprising a trough-shaped body having a forwardly projecting and sharp scoop-shaped charging or cutting end pointed at its lowest portion, a detachable cover, and means for securing said detachable cover to said trough-shaped body, consisting essentially of fixed bolts secured upon one end of said detachable cover. and movable bolts slidably arranged at the opposite end of said detachable cover, said trough-shaped body portion being provided with holes for the reception of sald bolts, substantially as and for the purposes set forth.
11. A sewer cleaning device comprising a trough-shaped body having forwardly and outwardly projecting and sharp scoop-shaped charging or cutting ends pointed at their lowest portions, a detachable cover, and means for securing said detachable cover to said trough-shaped body, consisting essentially of fixed bolts secured upon one end of said detachable cover, and movable bolts slidably arranged at the opposite end of said detachable cover, said trough-shaped body portion being provided with holes for the reception of said bolts, substantially as and for the purposes set forth.
12. A sewer cleaning device comprising a trough-shaped body portion having a forwardly projecting and sharp charging or cutting end pointed at its lowest portion, a swinging gate or door in one end of said trough-shaped body portion adapted \(t\) open inpardly into said trough-shaped body portion, a etachable cover, and means for securing said detachable cover to said trough-shaped body portion, consisting essentially of flxed bolts secured upon one end of said detachable cover, and movable bolts slidably arranged at the opposite end of said detachable cover, said trough-shaped body portion being provided with holes for the reception of said bolts, substantially as and for the purposes set forth.
13. A sewer cleaning device comprising a trough-shaped body portion having forwardly and outwardly projecting and sharp scoop-shaped charging or cutting ends pointed at their lowest portions, a swinging gate or door in one end of said trough-shaped body portion adapted to open inwardly into sald trough-shaped body portion, a detachable cover, and means for securing said detachable cover to said troughshaped body portion, consisting essentially, of fixed bolts secured upon one end of said detachable cover, and movable bolts slidably arranged at the opposite end of said detachable cover, said trough-shaped body portion being provided with holes for the reception of sald bolts, substantially as and for the purposes set forth.
14. A sewer cleaning device comprising a scoop-shaped body adapted to be drawn through a sewer to collect obstructions, a closure near one end of said device, and a cover detachably connected with said scoop-shaped body to produce a bucket, substantially as and for the purposes set forth.
15. A sewer cleaning device comprising a scoop-shaped body, draft links pivotally connected with each end of said body for drawing said body through a sewer to collect obstructions, a closure near one end of said device. and a cover detachably connected with said scoop-shaped body to produce a bucket, substantially as and for the purposes set forth.
16. A sewer cleaning device comprising a scoop-shaped body adapted to be drawn through a sewer to ccllect ob structions, a closure near one end of sald device, a cover tletachably connected with sald scoop-shaped body to produce a bucket, and means for securing said cover in position, consisting essentially of fixed bolts secured upon one
cnd of said detachable cover, and movable bolts slidably arranged at the opposite end of said detachable cover, sald scoop-shaped body being provided with holes for the reception of said bolts, substantially as and for the purposes set forth.
17. A sewer cleaning device comprising a scoop-shaped body, draft links pivotally connected with each end of said body for drawing said body through a sewer to collect obstructions, a closure near one end of the sald device, a cover detachably connected with said scoop-shaped body to produce a bucket, and means for securing said cover in position, consisting essentially of fixed bolts secured upon one end of said detachable cover, and movable bolts slidably arranged at the opposite end of said detachable cover. sald scoop-shaped body being provided with holes for the reception of said bolts, substantially as and for the purposes set forth.
18. A sewer cleaning device comprising a scoop-shaped body adapted to be drawn through a sewer, to collect obstructions, a hinged gate near one end of the sald device, and a projection extending from said gate to prevent the gate sticking by suction, substantially as and for the purposes set forth.

No. 101,046. Fioctric Bmelting Furnace. Hout fourneas éleotrique.

E. A. A. Gronwall, A. R. Lindbald, and O. Stalhane, co-inventors, all of Ludirika, Sweden, 18th September, 1906 ; 6 jears. Filed 5th May, 1906. Receipt No. 135,591.
Claim.-1. An electric furnace comprising a static electric transformer, an endlese groove arranged so as to enclose one or two legs of the said transformer and intended for the reception of the material to be heated or smelted which material itself or eventually other conductors placed in said groove, forms the secandary coil of the transformer, sald groove being thus arranged, that parts of the same are placed substantially parallel to and near each other so as to form arms or projections etxending from those parts of the groove that are bent round the leg or legs of the transformer and for inducing alternate current in the material forming the secondary coll.
2. In an electric furnace of the class described the arrangement of two or more electric transformers combined with each other by a common secondary coll formed by an endless groove onclosing a leg of the iron cores of each of the transformers and charged with the material to be heated, said groove being thus arranged that parts of the same are placed substantially parallel to and near each other so as to form a projection or arm, connecting said parts of the groove with each other that are bent around the said legs of the cores of the transformer.
3. In an electric smelting furnace of the class described, the combination of the groove intended for the reception of the material to be treated with a blast furnace or other smelting furnace in such a way that parts of the sald groove extend into or pass through the hearth of said blast furnace or smelting furaace.
4. In an electric furnace of the class described the combination of two grooves intended for reception of material to be treated and each provided with parts arranged parallel to and near each other so that sald parts form relatively long arms or projections, sald grooves being located the one higher than the other and connected with each other by suitable means for tapping off smelted mass from the one into the other, the higher one of said grooves eventually extends into or passes through the hearth of a blast furnace or other amelting furnace. onc or more transformers elther rommon to both the sald grooves or one or more transformers arranged separately for each of the grooves for inducing alternate electric current in the conducting material placed in said grooves.
5. In an electric furnace of the class described the arrangement that the groove intended for reception of the material to be treated and which extends into the blast furnace or smelting furnace be covered with a vault or plates of fireproof materials, so that canals or passages be formed extending into the blast furnace, said canals or passages being connected with a pipe for introducing suitable gases, as for instance gases containing carbon monoxide, into the blast furnace or the smelting furnace
6. In an electric furnace of the class described two or more grooves each of which being arranged to partly enclose a leg of the iron core belonging to one and the same transformer or a leg of each of several separate electric transformers, sald grooves being connected with each other by means of other grooves arranged parallel to and near each other in such a way that the first-mentioned grooves together with the last-mentioned one form an endless groove, a blast iurnace or other similar furnace located above the parts of sald groove that are placed parallel to and near each other through the hearth of which furnace the last-mentioned parts of the groove pass.
7. In an electric furnace of the class described the arrangement of a basin for collecting the smelted material, said basin being connected with the groove or grooves intended for reception of the material to be smelted and located about at the middle of the parts of said groove or grooves that are arranged parallel to and near each other, sald basin being further so arranged as to form a neutral point.
8. In an electric furnace of the class described the arrangement that the primary coil of the transformer is placed on the lower part of those parts of the core of the transformer that connect its vertical legs with each other or eventually that a primary coll be placed at the same time on both the said lower part and on the adjacent part of the leg not enclosed by the smelting groove or secondary coil.

No. 101,047. Concentrator. Concentrateur.

E. Peters and G. F. Bander, Seattle, Washington, and Alexander D. Campbell, Van Asselt, Washington, U. S.A., co-inventors, 18th September, 1906; 6 years. Filed 24th July, 1906. Receipt No. 138,117.
Olaim.-1. In apparatus of the class described, the comblnation with the chute, and of a frame adapted to be placed within said chute, said frame being formed with sides and a top with alternately disposed rimes and defector bars which are arranged in different planes.
2. In apparatus of the class described the combination with the chute, of a irame adapted to be placed within said chute, said frame being formed with sides and a top with alternately disposed riffes and deflector bars which are arranged in different planes, and a layer of fabric intermediate the frame and the bottom of the chute.
3. In apparatus of the class described the combination with the chute having a cleat at its delivery end, of a frame adapted to be placed within said chute, said frame being formed with sides and a top with alternately disposed riffies and deffector bars which are arranged in different planes, and a layer of fabric intermediate the frame and the bottom of the chute.
4. In apparatus of the class described the combination with the chute having a cleat at its delivery end, and a hopper provided with a discharge opening communicating with the chute, of a frame adapted to be placed within sald chute. said frame being formed with sides and a top with alternately disposed riffies and deficctor bars which are arranged in differcnt planes, and a layer of fabric intermediate the frame and the bottom of the chute.
5. In apparatus of the class described the combination with the chute having a cleat at its delivery end, and a hopper provided with a discharge opening communicating with the chute, of a frame adspted to be placed within said chute, said frame belng formed with side and a top with alternately disposed riffes and deflector bars which are arranged in different planes, a layer of fabric intermediate the frames and the bottom of the chute, and a gate for said discharge opening.
6. In an apparatus of the class described, the combination with the chute having a cleat at its delivery end, and a hopper provided with a discharge opening communicating with the chute, of a frame adapted to be placed within said chute and extend into said discharge opening, said frame being formed with sides and a top with alternately disposed riffles and deflector bars which are arranged in different planes, a layer of fabric intermediate the frame and the bottom of the chute, and a grate for said discharge opening.
7. In apparatus of the class described the combination with the chute having a cleat at its delivery end, and a hopper provided with a discharge opening communicating with the chute, of a frame adapted to be placed within sald chute and extend into said discharge opening, said frame being formed with sides and a top with alternately disposed riffles and deflector bars which are arranged in different planes, a layer of fabric intermediate the frame and the bottom of the chute, a grate for said discharge opening, and a gate for the delivery end of the frame.
8. In apparatus of the class described, the combination with the chute having a cleat at its delivery end, and a hopper provided with a discharge opening communicating with the chute, of a frame adapted to be placed within said chute and extend into said discharge obening, said frame being formed with sides and a top with alternately disposed riffles and deflector bars which are arranged in different planes, a packing piece for making a non-leakable joint between the hopper and the frame, a layer of fabric intermediate the frame and the bottom of the chute, a gate for said discharge opening, and a gate for the delivery end of the frame.

No. 101,048. Railway Gate. Barritre de chembn de fer.


Albert M. Dyer, Baxter, Tennessee, U.S.A., 18th September, 1906 ; 6 years. Filed 25th June, 1906. Recelpt No. 137,251. Claim.-1. The combination with the track ralls, of guides depending therefrom, and a gate movable upon said guides. 2. The combination with the track rails, of guides depending therefrom, and an automatically operated gate slidable upon said guides.
3. The combination with the track rails, of guides depending therefrom, a gate vertically slidable upon said guides, a spring for elevating sald gate, and a tread bar for lowering said gate.
4. The combination with the track ralls, of guide rods depending therefrom and connected at their lower ends, a vertically sliding gate upon said rods having slots or openings to receive said track rails, springs upon said rod for clevating said gate, and tread bars for lowering said gate.
5. The combination with the track rails, of guide rods de pending therefrom and connected at their lower ends, a vertically sliding gate upon said rods having slots or openings to receive said track rails, springs upon said rod for
elevating said gate, and pairs of tread bars arranged upon opposite sides of said gates and having their outer ends pivotally connected to the track rails and their inner ends loosely pivoted to said gate, substantially as described.

No. 101,049. Tobacco Pipe Stem Cleaner. Nettoyeur de pipe de tabac.


Benjamin Franklin Eshelman, Tacoma, Washington, U.S.A.
18th September, 1906; 6 years. Filed 26th June, 1906. Receipt No. 137,313 .
Claim.-1. In a pipe the combination of a bowl, a stem having two smoke passages therein, a mouthpiece having a single passage therein adapted to connect with either one of said smoke passages, and a cleaner secured to said mouthplece and adapted to enter and to dry out the smoke passage with which said mouthplece passage is not connected.
2. In a plpe the combination of a stem having smoke passages therein arranged symmetrically of the center, and a rotatable mouthpiece having an eccentric passage therein adapted to connect with different passages in sald stem in different positions thereof.
3. A pipe having a bowl, a stem with a plurality or symmetrical passages therein, a mouthpiece adapted to connect with any of said passages, a cleaner secured to said mouthpiece and lying within the unused passage in said stem.

No. 101,050. Machine for Clamping Pieces of Wood, Etc.
Machine pour unir des pieces do bois, etc.


William Jamieson, Grays, Essex, England, 18th September, 1906; 6 years. Filed 20th April, 1906. Receipt No. \(135,120\).
Claim.-1. In a machine for clamping wood or other material the employment of a presser bar worked by a crank and connecting rod through a lever having no flxed or immovable fulcrums, and the work of which is measured by the strength of a spring to which it is attached, substantially as described with reference to the accompanying drawings.
2. In a machine for clamping wood or other material, the device for preventing the work rising from the table when pressure is applied, consisting of a bar hinged to the presser and having its lower end extended through a slot in the table against the end of which slot it engages and is tilted up to allow work to be placed on the table.
3. In a machine for clamping wood or other material having a bar hinged to the presser for the purpose of holding the work down on to the table, the arrangement of a piece fixed to the end of the table and having a hole in it through which the said bar can pass (as the presser moves forward) for the purpose of further strengthening and securing \(i t\), substantially as described.
4. In a machine for clamping woorl or other material, the arrangement of a clutch so disposed as will allow the machine to perform one revolution and then stop, such device consisting of a shoe resting on the edge of a disc and controlling the rise and fall of a catch and working conjunction with a projecting ring on the side of a driving wheel, substantially as described and set forth with reference to the accompanying drawings.
No. 101,051. Protector for Tool Handles. Protecteur pour manches d'outils.


John H. Lyons, Oregon, U.S.A., 18th Scptember, 1906 ; \(\mathbf{~}\) years. Filed 29th June, 1906. Receipt No. 137,400.
Claim.-The combination with a tool and its handles, of a detachable shield embracing the handle and comprising a soft iron body portion having its parallel longitudinal edges tampered and spaced apart to conform to the shape of the tool handles and gradually increasing in thickness from said edges to the center of the body portion and inclined towards one end of the latter, said body portion being provided at its opposite end with an annular shoulder for engagement with the base of the tool and having a reduced extension of approximately one half the width of the body portion and forming a socket adapted to receive the adjacent longitudinal edge of the handle, the end of the extension being bent to form a central laterally projecting lug for engagement with the head of the tool and provided with the longitudinal key receiving recess extending laterally through the walls of said extension and communicating with the eye of the tool, and a key seated in said recess and adapted to pierce the handle.

\section*{No. 101,052. Overseaming Device for Sewing Ma-} chines.

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Jehu C. Moore, Brooklyn, New York. U.S.A., 18th September, 1906 ; 6 years. Filed 11th June, 1906. Recelpt No. 136,774. Claim.-1. In a device for the purpose specified the combination with the intermittently rotating pillar provided with a radial cam at its lower end, the base plate and the casing of the plllar provided with a recessed base, of a pusher \(\mathbf{G}\) slidably mounted and provided with a semi-circular yoke \(h\) ombracing the said cam on the pillar, said yoke having a projection \(i\) disposed in the path of the cam for withdrawing the pusher.
2. In a device for the purpose specified the combination with the base plate A, the upright casing B mounted on the base plate and provided with a recessed base \(c\). and the intermittently rotating pillar \(C\) in the casing and provided with a radial cam \(g\) at its lower end of the slidably mounted pusher provided with means so disposed as to be engaged by said cam \(g\) for imparting positive reciprocating movement to the pusher.
3. In a device for the purpose specifled the combination with the base plate, the reciprocating pusher and the spring

plate mounted adjustably on the base plate, of a presser device and guide I, carried by the spring plate and having au upper lip 1, an upper guide 2, a lower lip 3, and a lower guide 4, substantially as set forth.
4. In a device for the purpose specified the combination with the base plate A, having an edge \(n\) set obliquely to the path of the feed, the reciprocating pusher and a spring plate mounted adjustably on said base plate of a presser device and guide \(I\), mounted on and carried by the spring plate and having an upper lip 1, an upper guide 2, a lower lip 3, and a lower guide 4. said guide being parallel with the adjacent margin or edge \(n\) of the base plate.
5. A guide \(J\) for an overseaming attachment having an upright guide plate 4, a loop-like portion, a spring finger \(p\) attached to said loop-like portion at one end and bearing with spring pressure on the outer face of the guide plate 4, said finger being directed forward at its free end and a pin \(q\) carried by the guide and aligned with the guide plate 4 and in front of same.
6. In a device for the purpose specified the combination with the base plate, a pusher for displacing the goods, means for operating the pusher and a guide for the goods, said guide having an attaching portion whereby it is secured to the base plate, a loop-like portion, an upright guide plate 4, a spring finger \(q\) attached to the free end of the loop-like portion and its frec end adapted to bear with spring pressure up to the plate 4, and an upright pin \(q\) carrled by the guide and disposed in front of an adjacent to the pusher.

No. 101,053. Incubator Nest. Couveuse.


John U. Moore, Morrow, Iowa, U.S.A., 18th September, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,300. Claim.-1. In an incubator, a casing opon at the lower side in combination with a nest for the eggs detachably connected into said casing and inserted into and removable downwardly and swinging laterally from sald casing.
2. In an incubator, a casing open at the lower side, a nest for the eggs detachably fitting into said oden side, a supporting means having said nest mounted for rotation thereon, vertically, and means for swinging said supporting means and the nest carried thereby laterally.
3. In an incubator, a casing open at the lower side, a nest for the eggs detachably fitting into said open side, a supporting means having said nest mounted or rotation thereon, means for moving said supporting means and the nest carried thereby vertically, and means for swinging sald supporting means laterally
4. In an incubator, a casing open at the lower side, a bracket connected to said casing, a standard mounted for rotative and longitudinal movement in said bracket, an arm extending laterally from said standard, a nest for the eggs mounted for rotation upon said arm, and means for moving sald standard and the arm and nest carried thereby vertically to insert said nest into and remove it from said casing.
5. In an incubator, a casing open at the lower side, a bracket conected to said casing, a standard mounted for rotative and longitudinal mevement in said bracket, an arm extending laterally from said standard, a nest for the eggs mounted for rotation upon said arm, a collar mounted loosely upon said standard and bearing upon said bracket, spaced rods movably connected by one end to said collar, a wheel rotatively connected to the other ends of said rods and provided with an operating handle, and means for movably coupling said wheel to said standard.

No. 101,054. Crosscut Saw Fandle.
Manche de scie.


Heman E. Owens, Black Creek, New York, U.S.A., 18th September, \(1906 ; 6\) years. Filed 25th June, 1906. Receipt No. 137,261.
Cilam.-1. A saw handle comprising in combination a grip, a ferrule to which said grip is attached and provided with a contracted upper portion and an enlarged lower portion, an internally threaded core projecting upwardly from the bottom of said ferrule, a looped rod having a threaded portion adapted to be retained in place in said core, and means carried by said core adapted to expend the lower end of the grip.
2. In a saw handle, a ferrule formed of a single pitce of metal and having an enlarged lower portion and a contracted upper portion, an internally threaded core projecting upwardly from the bottom of said ferrule, a looped rod adapted to recelve one end of said saw blade and held in place in said threaded core, and wedge-shaped projections provided on opposite sides of said core.
3. A saw handle comprising in combination a grip, a ferrule to which sald grip is connected and provided with an upper contracted portion, a lower enlarged portion and an internally threaded core projecting upwardly from the bottom of said ferrule and provided at diametrically opposite points with wedge-shaped projections, said grip being provided with an upwardly extending opening adapted to receive said core when in place in said ferrule and a looped rod to embrace one end of the saw blade and held in place in the threaded portion of the core.

No. 101,055. Naphin Holder. Porte-serviette.
Sarah VanDuzer, New York City, New York, U.S.A., 18th September, 1906 ; 6 years. Filed 21st June, 1906. Recelpt No. 137.136.
Claim.-A napkin holder comprising a body portion embodying a spring coil, each of the loops of the coil having the curvature thereof continuous in the same plane, sald
body portion having one end thereof extending rearwardly at an inclination and the other end vertically, rearwardly

and downwardly at an inclination, said rearwardly extending portions arranged at the back of the body portion, one of said rearwardly extending portions provided with an enlargement.

No. 101,056. Box Filling Machine.
Machine d remplir les boîtes.


The Diamond Match Company, Chicago, Illinois, assignee of Jacob P. Wright and Charles F. Wright, both of Baberton, Ohio, U.S.A., 18th September, 1906 ; 18 years. Filed 2nd June, 1906. Recelpt No. 136,484.
Claim.-1. In a box filling machine the combination of a series of travelling holders movable in a horizontal plane or substantially so, a fiexible carrier extending toward, longitudinally of, and away from the path of said holders, a series of plungers supported by said carrier and progressively impelled thereby to and in a path alongside of, and in slibstantially the same horizontal plane with, the holders, means for concertedly impelling the holders and the longltudinally adjacent portion of the carrier in the same direction and at the same rate of speed, and means for reciprocating horizontally, or substantially so, the plungers of such portion of the carrier transversely of the path of travel of the holders and of the carrier, substantially as described.
2. In a box filling machine the combination of a series of travelling bolders movable in a horizintal plane, or substantially so, an endless flexible carrier extending toward, longitudinally of, and away from the path of said holders, a series of plungers supported at intervals by and throughout the length of said carrier and progressively impelled thereby to and in a path alongside of, and in substantially the same horizontal plane with, the holders, means for concert cdly impelling the holders and the longitudinally adjacent portion of the carrier in the same direction and at the same rate of speed, and means for reciprocating horizontally, or substantially so, the plungers of such portion of the carrier transversely of the path of travel of the holders and of the carrier, substantially as described.
3. In a box flling machine the combination of a series of \(t \in m p o r a r y\) match holders movable in a horizontal plane, or substantially so, an endless chain of links extending toward, longitudinally of. and away from the path of said holders, Hlungers supported by the respective links of said chain and progressively impelled thereby to and in a path alongside of, and in substantially the same horizontal plane with, the
holders, means for concertedly impelling the holders and the longitudinal portion of the chain in the same direction and at the same rate of speed, and means for reciprocating horlzontally, or substantially so, the plungers of such portion of the chain transversely of the path of travel of the holders and of the chain, substantially as described.
4. In a box filling machine the combination of an endless chain of holders movable in a horizontal plane or substant!ally so, an endless chain of links extending toward, longitudinally of, and away from the path of said holders, plungers supported by the links of said chain and progressively impelled thereby to and in a path alongside of, and in substantially the same horizontal plane with, the chain of holders, means for concertedly impelling the adjacent longitudinal portions of said chains in the same direction and at the same rate of speed, and means for reciprocating horizontally or substantlally so, the plungers transversely of the path of travel of the holders and of the carrier, substantially as described.
5. In a box flling machine the combination of an endless chain of holders movable in a horizontal plane, or substantially so, an endless chain of links extending toward, longitudinally of, and away from the path of sald holders, plungers supported by the links of said chain and progressivels mpelled thereby to and in a path alongside of, and in substantially the same horizontal plane with, the chain of holders, means for concertedly impelling the adjacent longitudinal portions of sald chains in the same direction and at the same rate of speed, and a stationary cam with which the plungers co-act during their traverse, whereby the said plungers are reciprocated horizontally, or substantially so, across the path of travel of the holders as they move onward therewith, substantially as described.
6. In a box flling machine the comblnation of a series of tcmporary match holders movable in a horizontal path, or substantially so, an endless flexible carrier extending toward, longitudinally of, and away from, the path of said match holders, plungers supported by and throughout the length of said carrier, and progressively impelled thereby to and i: a path alongside of, and in substantially the same horizontal plane with, the match holders, means for continuously moving said holders and the adjacent longitudinal portion of the carrier in the same direction and at the same rate of speed, and means for reciprocating the plunger in such portion of the carrier horizontally, or substantially so, into and across the path of travel of the match holders as they travel along therewith, whereby the matches are progressively exalong therewith, whereby the said match holders, substantially as described.
7. In a box filling machine the combination of a series of horizontally travelling holders for tray-and-shuck boxes, an erdless fiexible carrier extending toward, longitudinally of, and away from the path of said holders, plungers supported by and throughout the length of said carrier, and progressively impelled thereby to and in a path alongside of, and in substantially the same horizontal plane with, the holders, means for continuously moving said holders and the adjacent longitudinal portion of the carrier in the same direction and at the same rate of speed, and means for reciprocating the plungers in such portion of the carrier horizontally, or substantially so, into and across the path of travel, of said holders to impinge against and effect the opening of the trays of the boxes carried by the hoiders, substantially as described.
8. In a box flling machine the combination of a serles of horizontally travelling holders for sustaining tray-and-shuck boxes with their trays in open position, an endless flexible carrier extending toward, longitudinally of, and away from, the path of sald holders, plungers supported by and throughout the length of said carrier, and progressively impelled thereby to and in a path alongside of, and in substantially the same horizontal plane with, the holders, means for continuously moving said holders and the adjacent longitudinal portion of the carrier in the same direction and at the same rate of speed, and means for reciprocating the plungers in such portion of the carrier horizontally, or substantially so, in respect to the path of travel of said holders to push into their shucks the open trays of the boxes carried by gaid holders, substantially as described.
9. In a box filling machine the combination with a series oi box holders, and means for impelling the same, of two of positely disposed sets of plungers, whereof one set is adapted to open and the other set to close the trays of boxes in said holders, carriers for the respective sets of plungers, uch of said carriers extending towards, longitudinally of, and away from the path of the box holders, means for imwlling in concert with the box holders the longitudinal portions of the respective carriers adjacent thereto, and means for reciprocating the respective sets of plungers in opposite directions across the path of travel of the box holders, substantially as described.
10. In a box filling machine the combination with a series of temporary holders a series of box holders adjacent thereto, and means for concertedly actuating said match and box holders, of two oppositely disposed sets of plungers whereof one set is adapted to open the trays of the boxes in the box holders and the other set to transfer the contents of the temporary holders to said trays, carriers for the respective sets of plungers, each of sald carrlers extending towards, longitudinally of and away from the path of the box holders, means for impelling in concert with the sald match and box holders the longitudinal portions of the respective carriers adjacent thereto, and means for reciprocating the said sets of plungers across the paths of travel of the match and box holders respectively, substantially as described.
11. In a box filling machine the combination with a series of temporary match holders a series of box holders adjacent thereto, and means concertedly actuating said match and box holders of two oppositely disposed sets of plungers, whereof cne set is adapted to open the trays of the boxes in the box holders and the other set to transfer the contents of the temporary holders to sald trays, carriers for the respective sets of plungers \({ }_{2}\) each of said carriers extending towards, longitudinal of and away from the path of the box holders, means for impelling in concert with the sald match and box holders the longitudinal portions of the respective carriers adjacent thereto, means for receiprocating the said sets of plungers across the paths of travel of the match and box holders respectively and means for closing the filled boxes, substantially as described.
12. In a box filling machine the combination with a series of temporary match holders, a series of box holders adjacent thereto, and means for concertedly actuating sald match and box holders, of two oppositely disposed sets of plungers, whereof one set is adapted to open the trays of the boxes in the box holders and the other set to transfer the contents or the temporary holders to said trays, carriers for the respective sets of plungers, each of said carriers extending towards, longitudinally of and away from the path of the box holders, means for impelling in concert with the said match and box holders the longitudinal portions of the respective carriers adjacent thereto, means for reciprocating the said sets of plungers across the paths of travel of the match and box holders respectively, a third set of plungers adapted to close the filled boxes, a carrier for the last-named plungers, means for actuating this carrier and means for reciprocating its plungers across the path of travel of the box holders, substantially as described.
13. In a box filling machine the combination with a series of temporary match holders, means for ejecting the matches therefrom comprising a series of plungers, a carrier for said plungers, and means for reciprocating said plungers with a vibratory or jarring action across the path of travel of the match holders, substantially as described.
14. In a box filling machine the combination with a series of temporary holders for matches, of a plunger for ejecting the matches endwise from said holders, and means for reciprocating said plungers with a rapid vibratory or jarring action transversely of the match holders, whereby a tremulous impact is exerted upon the ends of the matches while they are being ejected, substantially as described.
15. In a box filling machine the combination with means for impelling open trays in a horizontal position, of means in the horizontal path of said trays for engaging and raising one end of said trays during their trasverse so as to Incline or tilt the same, and means for introducing matches to the inclined trays, substantialiy as described.
16. In a box flling machine the combination with means for impelling open trays in a horizontal position, of means in the horizontal path of said trays for engagng and ralsing one end of said trays during their traverse so as to incline or tilt the same, means for introducing matches to the inclined trays, and means for returning the trays to their normal plane, substantially as described.
17. In a box fllling machine the combination with means for impelling open trays in a horizontal position, of means in the horizontal path of said trays for engaging and raising one end of said trays during their traverse so as to incline or tilt the same, means for introducing matches to the inclined trays, means for returning the trays to their normal plane and yielding means bearing upon the matches while they are being introduced to the trays, substantially as described.
18. In a box flling machine the combination with means for impelling open trays in a horizontal position, of means for raising one end of said trays to incline or tilt the same. means for introducing matches to the inclined trays and yielding means extending longitudinally of the path of travel of the trays and bearing upon the matches during and after their introduction of the trays, substantially as described.
19. In a box filling machine the combination with means for impelling open trays in a horizontal position, of means for raising one end of said trays to incline or tilt the same,
means for introducing matches to the inclined trays and a thin flexible rod extending longitudinally of the path of travel of the trays and bearing upon the matches during and after their introduction to the trays, substantially as described.
20. In a box fllling machine the combination with means for impelling open trays in a horizontal position, of means for raising one end of said trays to incline or tilt the same, means for introducing matches to the inclined trays. a thin flexible member extending longitudinally of the path of travel of the boxes and bearing upon the matches during and after their introduction to the trays, and means for acting against the ends of the matches while they are passing under said member, substantially as described.
21. In a box filling machine the combination with means for impelling slide boxes having their trays in open position, of means extending into and longitudinally of the path of travel of the boxes for raising the engaged ends of the box shucks and trays and thereby inclining the same, and means for introducing matches to the Inclined open trays, substantially as described.
22. In a box filling machine the combination with a travelling carrier on which slide boxes with trays in open position are carried, of a cam extending into and longitudinally of the path of travel of the boxes with which cam said boxes ccntact and by which the engaged ends of the box shucks and trays are raised to incline the shucks and trays and means for introducing the matches to the inclined open trays, substantially as described.
23. In a box flling machine the combination with means for impelling slide boxes having their trays in open position, of means extending into and longitudinally of the path of travel of the boxes for raising the engaged ends of the box shucks and trays and thereby inclining the same, means for irtroducing matches to the inclined open trays, and means for returning the boxes to their normal plane, substantially a. described.
24. In a box flling machine the combination with a travelling carrier on which slide boxes having their trays in open position are carried, of a cam extending into and longitudinally of the path of travel of the boxes with which cam said boxes contact and by which the engaged ends of the box shucks and trays are raised to incline the same, means for introducing matches to the inclined open trays, and means for returning the boxes to their normal plane, substantially as described.
25. In a box fllling machine the combination with means ior impelling slide boxes having their trays in open position, of means for supplying matches to said boxes, means for bodily jarring the filled boxes, and means for thereafter closing the boxes, said latter means comprising a series of plungers, a carrier for moving them along with the boxes and devices for progressively reciprocating them into and from the path of travel of the boxes during their langitudinal traverse therewith, substantially as described.
26. In a box flling machine the combination with means for impelling slide boxes having their trays in open position, of means for supplying matches to said boxes, means for bodily jarring the filled boxes, means for partially closing the boxes while they are being jarred, and means for thereafter completing the closing of the boxes, said latter means comprising a series of plungers, a carrier for moving them along with the boxes and devices for progressively reciprocating them into and from the path of travel of the boxes during their longitudinal traverse therewith, substantially as described.
27. In a box fllling machine the combination with an endless chain of holders in which the boxes are held with their trays in open position, of means for supplying matches to said boxes, means for bodily jarring the flled boxes, and means for partially closing the boxes while they are being jarred, said latter means comprising an inclined rib or cam which extends into the longitudinal path of travel of the open ends of the trays, substantially as described.
28. In a box fllling machine the combination with an end. lags chain of holders in which the boxes are held with their trays in open position, of means for supplying matches to sald boxes. means for bodily jarring the filled boxes, means for partially closing the boxes while they are being jarred, and means for thereafter completing the closing of the boxes, said latter means comprising a series of plungers, a carrier for moving them along with the boxes and devices for progressively reciprocating them into and from the path of travel of the boxes during their longitudinal traverse therewith, substantially as described.
29. In a box flling machine the combination with an endless chatn of holders in which the boxes are held with their trays in open position, of means for supplying matches to sald trays, means for jarring the filled boxes. and means for thereafter closing the boxes, said latter means comprising
a series of plungers, a carrier for moving them along with the boxes and devices for progressively reciprocating them into and from the path of travel of the boxes during their longitudinal traverse therewith, substantially as described.
30. In a box fllling machine the comblnation with an endless chain of box holders in which the boxes are held with their trays in open position, of means for supplying matches to said boxes, means for bodily jarring the holders with the filled boxes, and means for thereafter closing the boxes, said latter means comprising a series of plungers, a carrier for moving them along with the boxes and devices for progressively reciprocating them into and from the path of travel of the boxes during their longitudinal traverse therewith, substantially as described.
31. In a box filling machine the comblnation with box holders comprising jointed links having parallel walls to receive and hold closed boxes, of means for opening the said boxes during the travel of the holders, means for supplying matches to the open boxes, and means for thereafter closing said boxes, said latter means comprising a series of plunsers, a carrier for moving them along with the boxes and devces for progressively reciprocating them into and from the path of travel of the boxes during their longitudinal traverse therewith, substantially as described.
32. In a box flling machine the combination with an endless chain, of box holders comprising jointed links having parallel walls to recelve and hold boxes, of means for supplying closed boxes to said chain, means for opening the said boxes during the travel of the chaln, means for supplying matches to the open boxes, and means for thereafter closing said boxes, said latter means comprising a series of Ilungers, a carrier for moving them along with the boxes and devices for progressively reciprocatingthem into and from the path of travel of the boxes during their longitudinal traverse therewith, substantially as described.
33. In a box filling machine, an endless chain of box holders comprising jointed links each having a horizontal body portion with surfaces for the support of the shucks and trays respectively of the boxes, one of said surfaces being providedwith plane parallel walls to embrace the shucks and the other with recessed or off-set walls to embrace the trays cxtending from said shucks and to overhang the upper edges of the side walls of the trays, substantially as described.
34. In a box filling machine, an endless chain of box holders comprising jointed links each having two flat horizontal surfaces on different planes, the lower surface being provided with plane vertical walls and the upper surface with recessed or offset walls, substantially as described.
35. In a box filling machine the combination of an endless chain of box holders, two endless chains of plungers between which travels the chain of box holders, each of said chains of plungers for a portion of its length extending adjacent to and in parallelism with the chain of box holders, means for impelling the adjacent parallel portions of the respective chains in the same direction and at the same rate of speed, and means for progressively reciprocating the respective sets of plungers toward and from the box holders as they travel along therewith, substantially as described.
36. In a box filling machine the combination with a series of travelling holders and actuating mechanism therefor, of a trough or way for said holders comprising severai sections frinted together and pivotally supported at their outer extremities, and means for vertically jarring sald trough or way, substantially as described.
37. In a box flling machine the combination with the match carrier of a match machine, and means for discharging the matches from said carrier, of a series of travelling holders moving across the path of the matches discharged from said carrier, and a trough or way for said holders comprising several sections jointed together, one section extending throughout the width of carrier, or substantially so, and the other sections of the trough being plvotally supported at their extremities, as described, together wth means for vertically jarring said trough or way, substantially as described.

\section*{No. 101,057. Plate Lifter.}

Appareil à soulever les assiettes.
Oscar Goodwin and William H. Sanborn, assignee of a half interest, both of Berlin, New Hampshire, U.S.A., 18th September, 1906; 6 years. Flled 25th June, 1906. Receipt No. 137,277 .
Claim.-A plate lifter and carrier comprising a handle of the character described, two pairs of arms composed of wire depending from the handle. a pair of jaws formed from the central portions of sald wires and each jaw constructed on cach side with a straight portion, a triangular bend, an inward return bend forming a long finger, and a stretch of wire the outer margin of the central part of the jaws, each jaw
being a counterpart of the other, excepting when closed the finger bends of one jaw will extend parallel with and out-

side of the finger bend of the other \(j a w\), and into the trlangular bend of the opposite jaw.

No. 101,058. Embraidery Device for Bewing Man chine.
- Apparcil de broderics pour machines a coudre.


B!llie Johnson and David R. Pendleton, assignee of a half interest, both of Temple, Texas, U.S.A., 18th September, 1906; 6 years. Filed 4th July, 1906. Receipts Nos. 137,513 and 138,151 .
Claim.-1. A yieldable presser foot attachment formed of a single piece of metal having at its lower end a coiled eye for the passage of the sewing needle, the upper portion of said plece of metal being bent to form a plurality of spaced arms arranged to bear against the bottom of the needle bar, and open at one end to permit the lateral introduction of the shank or body portion of the needle, an intermediate portion of the piece of metal being bent to form a spring loop.
2. A yieldable pressure foot attachment formed of a single piece of wire colled at one end to form an eye, the coils verlapping and the end of the wire being bent upward, the wire being thence bent to form a spring coil and being bent above the coll to form a plurality of arms disposed in paralle! relation, thereby to form an extended bearing for contact with the lower end of the needle bar, the upper port:on of the wire being bent at a right angle to said parallel bars to form a loop for engaging a boss or projection on said needle bar and the extreme end of the wire projecting to form a finger plece.

\section*{No. 101,059. Cement Post and Fastener.}

Poteau et attache de ciment.
Homer S. Quick, Indianapolis, Indiana, U.S.A., 18th September, 1906; 6 years. Filed 3rd July, 1906. Receipt No. 137,474.
Claim.-1. A cement post provided with recesses in the surface and fence wire holding means insertible in any of said recesses and adapted to spread at its inner end to prevent its escape.
2. A cement post provided with recesses in the surface Wereof enlarged within the post, and fence wire holding means insertible in any of said recesses and adapted to spread at its inner end to prevent its escape.
3. A cement post provided with thimbles embedded therein and enlarged within the post, and compressible spring fasteners inscrtible in sald thimbles for holding the wires o: the fence.
4. A cement post with thimbles embedded in the surface thereof and enlarged at their inner ends, and spring wire

looped fasteners with their ends bent away from each other and when compressed insertible in the thimbles and expansible in the enlarged portions of the thimbles.
5. A cement post provided with metallic thimbles embedded therein, each thimble consisting of a body portion extending from the outer surface of the post into the post and a cap covering the inner end of the body portion of the thimble sc as to form an enlarged chamber therein, and a compressible spring fastener insertible in said thimble and with its inner ends expansible in said chamber.
6. A cement post with metallic thimbles embedded therein, each thimble formed of a body portion extending into the post and with an annular outwardly extending flange on its inner end and a cap for covering the inner end of said body portion of the thimble that surrounds sald fiange and has a stop to hold the back of the cap at a distance from the inner end of the body portion so as to form an enlarged chamber, and a compressible spring fastener insertible in said thimble with its inner ends expansible in sald chamber.
7. A cement post with metallic thimbles embedded therein, and compressible fasteners insertible in said thimbles for holding the wires of a fence, the diameter of the thimbles being greater than the width of the fastoners so that a tool may be inserted in the thimbles to compress the fasteners for the removal thereof.
8. A cement post provided with thimbles embedded thereIn, the outer ends of the thimbles being flush with the surface of the post and the inner ends enlarged, and compressible spring fasteners insertible in said thimbles for holding the wires of a fence.
9. A cement post provided with a recess in the surface thereof, and externally extending holding means insertible in said recess and adapted to spread at its inner end to prevent its escape.

\section*{No. 101,060. Process of Producing Fac-similes of 011 Paintinga.}

Procide pour la production de fac-simile de peinture d lhuile.
Herbert Frederick Gribble and Frank Augustus Rolph, assignee of a half interest, both of Toronto, Ontario Canada, 18th September, 1906; 6 years. Filed 20th July, 1906. Receipt No. 137,995.
Claim.-1. A process for the production of fac-similles of oil paintings consisting in first forming a solvent surface on a flexible holding, then printing the various colours upon said solvent surface and allowing the same to dry, then applying to the complete surface a solid colour and allowing the same to dry, then applying to said surface an adhesive, then applying said adhesive surface in a tacky condition to a primed sheet of textile material and finally removing said flexible holding, as described.
2. A process for the production of facsimiles of oll paintings consisting in first forming a solvent surface of a preparation of gum arabic on an absorbent flexible holding, then printing the various colours upon said solvent surface and allowing the same to dry, then applying to the complete surface a solid colour and allowing the same to dry, then applying to said surface an adhesive, then applying said adhesive surface in a tacky condition to a primed sheet of textile material and finally removing sald flexible holding, as described.
3. A process for the production of fac-similes of oll paintings consisting in first forming a solvent surface of a pre paration of gum arabic on an absorbent flexible holding. then printing the various colours upon sald solvent surface and allowing the same to dry, then applying to the complete surface an adherent coating and allowing the same to dry and form a solid backing to the colours, then applying to said surface an adhesive, then applying said adhesive surface in a tacky condition to a primed sheet of textile material and finally removing said flexible holding, as described.
4. A process for the production of fac-simlles of oll paintings consisting in first forming a solvent surface of a preparation of gum arabic on an absorbent flexible holding, then printing the various colours upon said solvent surface and allowing the same to dry, then applying to the complete surface an adherent coating and allowing the same to dry and form a solid backing to the colours, then applying to said surface an adhesive coating of a mixture of Canada balsam and lithograph varnish, then applying said adhesive surface in a tacky condition to a primed sheet of textile material and finally removing said flexible holding.
5. A process for the production of fac-similes of oil paint ings consisting in first forming a solvent surface of a preparation of gum arabic on an absorbent flexible holding, then printing the various colours upon the solvent surface and allowing the same to dry, then applying to the complete surface an adherent coating and allowing the same to dry , aud form a solid backing to the colours, then applying to said surface and adhesive coating of a mixture of Canada balsam and lithograph varnish, then applying said adhesive surface in a tacky condition to a primed sheet of textile material, then partly dissolving the solvent surface and finally removing the flexible holding, as described.
6. A process for the production of fac-similes of oil paintlags consisting in first forming a solvent surface of a preparation of gum arabic on a flexible holding, then printing the various colours upon sald solvent surface and allowing the same to dry, then applying to the complete surface an adherent coating and allowing the same to dry and form a solid backing to the colours, then applying to said surface an adhesive coating of a mixture of Canada balsam anil lithograph varnish, then applying said adhesive surface in a tacky condition to a primed sheet of textile material, then dampening the back of the flexible holding, then subjecting the whole to pressure and finally removing the said flexible holding, as described.

No. 101,061. Talking Machine. Gramophone.


The Victor Talking Machine Company, assignee of Wllburn N. Dennison, Camden, New Jersey, U.S.A., 18th September, 1906 ; 6 years. Filed 25th March, 1906. Recelpt No. 123.698

Claim.-1. A multi-speed regulator for talking machines comprising a governor, an adjusting screw for regulating the speed of the governor, connections between said screw and goveroor, a slidable rotatable sleeve within which said screw is mounted, an inclined guide for said rotatable sleeve and for limiting the movement of said slecve to give different speeds having definite relations to each other.
2. A multi-speed regulator for talking machines comprising a governor, an adjusting screw for regulating the speed of the governor, connections between sald screw and governor, a slidable rotatable sleeve within which sald screw is mounted, a fixed sleeve for holding said slidable sleeve, said sleeves being provided with a projection and corresponding recess for limiting the movement of said movable sleeve in relation to said fixed sleeve to give different speeds having defnite relations to each other.
3. A multi-speed regulator for talking machines comprisIng a governor, an adjusting screw for regulating the specd of the governor, connections between said screw and governor, a slidable sleeve within which said screw is mounted, a fixed sleeve for holding said slldable sleeve, means for movIng said slidable sleeve, a projection carried by sald slidable sleeve, said fixed sleeve having an inclined portion, said inclined portion being provided with stops for limiting the movement of said projection to definite distances thereover to give different speeds having definite relations to each other.
4. A multi-speed regulator for talking machines comprisIng a governor, an adjusting screw for regulating the speed of the governor, connections between said screw and the governor, a slidable sleeve within which said screw is mounted, a fixed sleeve for holding said slidable sleeve, a lever for moving said slidable sleeve radially, a projection carried by sald slidable sleeve, said fixed sleeve having a recess with an inclined rear wall within which is a socket for limiting the movement of said projection to definite distances on sald incline to give different speeds having definite relatlons to each other
5. A multi-speed regulator for talking machines comprising a governor, an adjusting screw for regulating the speed of the governor, connections between said screw and gover nor, a slidable sleeve within which said screw is mounted a fixed sleeve for holding said slidable sleeve. said fixed sleeve having a spring portion adapted to hold said slidable sleeve frictionally in position, and means for limiting the movement of said slidable sleeve within said fixed sleeve to give different speeds having definite relations to each other.

No. 101,062. Sole Presaing Machine.
Machine d presser les semelles.


The United Shoe Machinery Company. Montreal, Quebec, Canada, assignee of Erastus Edwin Winkley, Lynn, Massachusetts, U.S.A., 18th September, 1906 ; 6 years. Flled 22nd September, 1904. Receipt No. 118,602.
Claim.-1. A sole pressing machine having in combination a shoe supporting jack, a sole pressing form and mechanism operating automatically and continuously to impart a rela tive vertical movement to the jack and form to bring the jack and form into a position of pressure, to hold the jack and form in said position during the time required to press the sole of a shoe placed upon the jack and thereafter to separate the jack and form to bring the jack into a position of clearance, substantially as described.
2. A sole pressing machine baving in combination a shoe supporting jack, a sole pressing form and mechanism operat ing automatically and continuously to impart a relative vertical movement to the jack and form to bring the jack and form into a position of pressure, to hold the jack and form in said position during the time required to press the sole of a shoe placed upon the jack, and thereafter to return the jack to its position of presentation, substantially as described.
3. A sole pressing machine having in combination a plurality of shoe supporting jacks, a plurality of pressing forms co-operating respectively therewith, mechanism for rela lively actuating the jacks and forms to cause each jack and its co-operating form to press the sole of a shoe placed on the jack, comprising means for imparting relative vertical movements to each jack and form to produce pressure and clearance, means controlled by the operator for connerting each jack with said actuating mechanism and automatic means for disconnecting each jack therefrom, substantially 25 described.
4. A sole pressing machine having in combination a plurality of shoe supporting jacks, a plurality of pressing forms co-operating respectively therewith, mechanism for relatively actuating the jacks and forms to eause each jack and
its co-operating form to press the sole of a shoe placed on the jack comprising means for imparting relative vertical movements to each jack and form to produce pressure and clearance, and means for connecting each jack with said actuating mechanism having provision for throwing sald mechanism into operation, substantially as described.
5. A sole pressing machine having in combination a plurality of shoe supporting jacks, a plurality of pressing forms co-operating respectively therewith, mechanism operating automatically and continuously to impart a relative vertical movement to each jack and form when connected therewith to bring the jack and form into a position of pressure, to hold the jack and form in said position during the time required to press the sole of a shoe placed upon the jack and thereafter to return the jack into its position of presentation, and means for connecting and disconnecting each jack and said actuating mechanism, substantially as described.
6. A sole pressing machine having in combination a plurallty of shoe supporting jacks, a plurallty of pressing forms co-operating respectively therewith, mechanism for imparting to the jacks rectilinear reciprocating movements to bring them from a position of presentation to a position of clearance and to return them to a position of presentation, means for connecting and disconnecting each jack and said mechanism and mechanism for imparting to each jack and form relative vertical movements to bring the jack and form into a position of pressure and to separate the jack and form to bring the jack into a position of clearance, substantially as described.
7. A sole pressing machine having in combination a plurality of shoe supporting Jacks, a plurality of forms co-operating respectively therewith, mechanism acting to bring each jack and form when connected therewith into a position of pressure, to separate the jack and form to bring them into a position of clearance and to return the jack to a position of presentation, means for throwing each jack and its cooperating form into and out of operative connection with said actuating mechanism, and means acting automatically to throw said actuating mechanism out of operation when the Jack is in its position of presentation and its co-operating form is in its position of clearance, substantially as described.
8. A sole pressing machine having in combination a plurality of shoe supporting jacks, a plurality of forms cooperating respectively therewith, mechanism acting to bring each jack and form into a position of pressure, to separate the jacks and forms to bring them into a position of clearance and to return the jacks to a position of presentation, and means acting automatically to throw said actuating mechanism out of operation when one of the jacks is in its position of presentation and all the forms are in thelr position of clearance, substantially as described.
9. A sole presing machine, having in combination, a plurality of sole pressing forms, a plurality of shoe supporting jacks co-operating respectively therewith, a vertically reciprocating supporting table common to all the jacks and along which each jack is independently movable from a position of presentation to a position of clearance, and means for actuating the table and jacks, substantially as described.
10. A sole pressing machine having in combination a plurality of shoe supporting jack, a plurality of sole pressing forms co-operating respectively therewith, swinging levers for imparting to said jacks a rectilinear movement from a position of clearance, links and latches connecting the levers and jacks, and means for automatically actuating the latches to disconnect the jacks when the jacks are returned to a position of presentation, substantially as described.
11. A sole pressing machine having in combination a plurality of shoe supporting jacks, a plurality of sole pressing forms co-operating respectively therewith, and mechanism for relatively actuating the jacks and forms to press the soles of shoes supported upon the jacks and to return the jacks to a position of presentation having provision for actuating each jack separately or all the jacks simultaneously at the will of the operator, substantially as described.
12. A sole pressing machine having in combination a plurality of shoe supporting jacks, a plurality of sole pressing forms co-operating respectively therewith, mechanism acting to impart to each jack and its co-operating form relative vertical movements to produce pressure and clearance and to return the jack to its position of presentation, while the other jacks remain in a position of presentation, and means acting automatically to throw said mechanism out of operation when all the jacks are in a position of presentation, substantially as described.
13. A sole pressing machine having in combination a shoe supporting jack, a sole pressing form, mechanism acting automatically to bring the jack and form in such position of fressure to hold the jack and form in such position and thereafter separate the jack and form, and means for varying the time during which the jack and form are held in a pusition of pressure, substantially as described.
14. A sole pressing machine having in combination, a shoe supporting jack, a sole pressing form, mechanism for relatively actuating the jack and form to press the sole of a shoe, means acting automatically to stop sald mechanism with the jack and form in a position of pressure, and means acting, automatically to thereafter start said mechanism into operation, substantially as described.
15. A sole pressing machine having in combination, a shoe supporting jack. a sole pressing form, mechanism for relatively actuating the jack and form to press the sole of a shoe, means acting automatically to stop said mechanism with the jack and form in a position of pressure, and means acting automatically to thereafter start said mechanism into operation having provision for adjustment to vary the time during which the jack and form are held in a position of pressure, substantially as described.
16. A sole pressing machine having in combination a shoe supporting jack, a sole pressing form, mechanism for relatively actuating the jack and form to press the sole of a shoe, means acting automatically to stop said actuating mechanism with the jack and form in a position of pressure, normally inoperative mechanism actlng automatically when thrown into operation to start said actuating mechanism, and means acting automatically to throw said normally inoperative mechanism into operation, substantially as described.
17. A sole pressing machine having in combination a shoe supporting jack, a sole pressing form, mechanism acting automatically to bring the jack and form into a position of lressure to hold the jack and form in such position, and thereafter return the jack to a position of presentation, and means for varying the time during which the jack and form are held in a position of pressure, substantially as described.
18. A sole pressing machine having in combination a shoe supporting jack, a sole pressing form, mechanism for relatively actuating the jack and form to bring them into a position of pressure, to hold them in such position and thereafter return the jack to a position of presentation, means acting automatically to stop said mechanism with the jack and form in a position of pressure, and means acting automatically to thereafter start said mechanism into operation, substantially as described.
19. A sole pressing machine having in combination a shoe supporting jack, a sole pressing form, mechanism for relatively actuating the jack and form to bring them into a position of pressure, to hold them in such position and thereafter return the jack to a position of presentation, means acting automatically to stop said mechanism with the jack and form in a position of pressure, and means acting automatically to thereafter start said mechanism into operation having provision for adjustment to vary the time during which the jack and form are held in a position of pressure, substantially as described.
20. A sole pressing machine having in combination a plurality of shoe supporting jacks, a plurality of co-operating sole pressing forms, mechanism acting automatically to bring each jack and form into a position of pressure to hold the jack and form in such position and thereafter separate the jack and form, means for throwing each jack and its co-operating form into and out of operative connection with said mechanism and means for varying the time during which the jack and form are held in a position of pressure, substantially as described.
21. A sole pressing machine having in combination a plurality of shoe supporting jacks, a plurality of co-operating sole pressing forms, mechanism acting automatically to bring each jack and form into a position of pressure to hold the jack and form in such position and thereafter return the jack to position of presentation, means for throwing each jack and its co-operating form into and out of operative connection with said mechanism and means for varying the time during which the jack and form are held in a position of pressure, substantially as described.
22. A sole pressing machine having in combination a plurality of shoe supporting jacks, a plurality of co-operating sole pressing forms, mechanism for relatively actuating each jack and its co-operating form to press the sole of the shoe, means for throwing each jack and its co-operating form into and out of operative connection with said mechanism, means acting automatically to stop said mechanism with a jack and form in a position of pressure, and means acting automatically to thereafter start said mechanism into operation, substantially as described.
23. A sole pressing machine having in combination a plurality of shoe supporting jacks, a plurality of co-operating sole pressing forms, mechanism for relatively actuating each jack-and its co-operating form to press the sole of the shoe, means for throwing each jack and its co-operating form into and out of operative connection with said mechanism, means acting automatically to stop said mechanism with a jack and form in a position of pressure, and means acting automatic-
ally to thereafter start said mechanism into operation havlng provision for adjustment to vary the time during which the jack and form are in a position of pressure, substantially as described.
24. A sole pressing machine having in combination a plurality of shoe supporting jacks, a plurality of co-operating sole pressing forms, mechanism for relatively actuating each jack and form to press the sole of the shoe and to return the jack to its position of presentation, means for connecting and disconnecting each jack in its actuating mechanism, and means for locking each jack in its position of presentation. substantially as described.
25. A sole pressing machine having In combination a plurallty of shoe supporting jacks, a plurality of co-operating sole pressing forms, mechanism for relatively actuating each jack and form to press the sole of a shoe and to return the jack to its position of presentation, means for locking eac! jack in its position of presentation, and a treadle and suitable connections for unlocking a jack, for connecting the jack to the mechanism. for relatively actuating said jack and its co-operating form and for throwing said mechanism into operation, substantially as described.
26. A sole pressing machine having in combination a shoe supporting jack, a co-operating sole pressing form, mechanism for relatively actuating the jack and form to press the sole of the shoe and to return the jack to its position of presentation, means for locking the jack in its position of presentation and a treadle and suitable connections for unlocking the jack and for throwing the mechanism for relatively actuating the jack and form into operation, substantiaily as described.
27. A sole pressing machine having in combination a shoe supporting jack and a sole pressing form co-operating to level the sole of a shoe placed on the jack, mechanism for relatively actuating the jack and form comprising an intermittently rotating cam shaft, a constantly rotating driving shaft, and connections between the driving shaft and cam shaft acting automatically to stop the cam shaft with the jack and form in a position of pressure and thereafter start the cam shaft, substantially as described.
28. A sole pressing machine having in combination a shoe supporting jack and a pressing form co-operating to press the sole of a shoe placed on the jack. means for actuating the Jack, a latch for holding the jack in a position of presentation, a latch for connecting the jack with its actuating mechanism, and mechanism connected with both latches for actuating the same to release the jack and connect it with its actuating mechanism. substantially as described.
29. A sole pressing machine having in combination a jack and a pressing form co-operating to press the sole of a shoe placed on the jack, a spring pressed latch for holding the jack in a position of presentation, mechanism controlled by the operator for disengaging the latch from the tack. and means for preventing a re-engagement of the latch with the jack until the machine has completed its cycle of operations, substantially as described.
30. A sole pressing machine having in combination a shoe supporting jack and a pressing form co-operating to press the sole of a shoe placed on the jack, means for holding the jack in a position of presentation, means for connecting the jack with its actuating mechanism, and mechanism connected with both of said means whereby one is rendered inoperative when the other is rendered operative, substantially as described.
31. A sole pressing machine having in combination a shoe supportlng jack and pressing form co-operating to press the sole of a shoe placed on the jack, means for holding the jack in position of presentation, mechanism controlled by the operator for rendering said means inoperative and a device for maintaining said means inoperative until the machine has completed its cycle of operations, substantially as described.
32. A sole pressing machine having in combination a shoe supporting jack and a pressing form co-operating to press the sole of a shoe placed on the jack, means for holding the jack in a position of presentation. mechanism controlled by the operator for rendering said means inoperative, a device acting to maintain said means inoperative until the machine has completed its cycle of operations and then allow said means to become operative, and means acting automatically to actuate said device, substantially as described.

\section*{No. 101,063. Machine for Forming Stoppers from Pulp Fibre.}

\section*{Machine pour faire des bouchons de flbre de pulpe.}

The United States Fibre Stopper Company, assignee of Rudolph William Goeb, both of St. Louis, Missouri, U.S.A., 18th Sepatember. \(1906 ; 6\) years. Filed 17th May, 1906. Recelpt No. 135,991.
('Vaim.-1. In a machine of the class described, a perforated receptacle for receiving a quantity of pulp water, a movable
carrier upon which said receptacle is mounted, a hollow member which receives the water that drains away from

the pulp fibre, means for turning said receptacle over to deposit the wet pulp fibre at a certain point, dies which mould the pulp flbre into the orm of a stopper, and means for extracting all of the water from sald pulp fibre, substantially as described.
2. In a machine of the class described, a movable member carrying a plurality of oscillating perforated receptacles for receiving a quantity of pulp water, means for collecting the water which drains away from the pulp fibre, means for oscillating said receptacles to discharge the pulp fibre therefrom, dies which mould the pulp fibre into predetermined form, and means for extracting all of the water from said pulp fibre. substantially as described.
3. In a machine of the class described, a turntable carrying a plurality of pivotally mounted perforated receptacles, means for moving said table intermittently, means for actuating said receptacles to discharge the contents thereof, dies for moulding the pulp fibre into predetermined form, and means for extracting the water from said pulp flbre while it is being acted upon by sald dies, substantially as described.
4. In a machine of the class described, a movable member provided with a plurality of pivotally mounted perforated receptacles. means for actuating said receptacles to discharge the contents thereof, and dies for moulding the material discharged from said receptacles into predetermined form, substantially as described.
5. In a machine of the class described, a movable member provided with a plurality of pivotally mounted preforated receptacles, a rack bar for actuating sald receptacles to discharge the contents thereof and dies for moulding the material discharged from sald receptacles into predetermine form, substantially as described.
6. In a machine of the class described, a trough, a plunger leciprocatingly mounted in said trough, means for depositing a mass of wet pulp fibre in said trough, dies co-operating with said plunger to mould the pulp fibre into predetermined form, dies for thereafter acting on gaid pulp fibre to mould it into cylindrical form and a movable member provided with dies into which the pulp fibre is forced to mould it into the form of a stopper, substantially as described.
. In a machine of the class descrbed, a trough for receiving a quantity of wet pulp flbre, a movable member having a solid face which closes the end of said trough and provided with a die adjacent said solid face, a plunger reciprocatingly mounted in said trough for pressing the pulp fibre dies which thereafter act upon the fibre to mould it into cylindrical form, means for actuating said movable member to bring its die into alignment with the trough, and means for forcing the pulp fibre into the die in said member, substantially as described.
8. In a machine of the class described, a trough for receiving a quantity of pulp fibre, a plunger reciprocatingly mounted in said trough for acting upon said pulp fibre, moulding dies co-operating with said plunger to mould the the pulp fibre into predetermined form, a member provided with a recess acting as a die, a hollow die mounted in the plunger, means for causing the water from the wet pulp fibre to be drawn through said hollow die by means of air pressure. and means for moving said hollow die relatively to said plunger to force the pulp flbre into the recess of said member, substantially as described.
9. In a machine of the class described, a hollow support, a turntable rotatably mounted on said support and provded with a plurality of openings and a plurality of buckets pivotally mounted on the turntable over said openings and provided with perforated bottoms, substantially as described.
10. In a machine of the class described, dles for moulding a mass of wet pulp fibre into predetermined shape, a movable member provided with dies, means for forcing the pulp fibre into the dies of said member to mould It into predetermined form, and means for subjecting the pulp fibre to an air vacuum while it remains in the die of said member for extracting the water therefrom, substantially as described.
11. In a machine of the class described, dies or moulding a mass of wet pulp into a predetermined shape, a member provided with dies, means for forcing the pulp fibre into the dies of said member, means for subjecting the pulp fibre to an air vacuum while it remains in said member, means for imparting an intermittent movement to said member, and means for ejecting the moulded fibre from said member, substantlally as described.
12. In a machine of the class described, dies for moulding a mass of wet pulp fibre into a predetermined shape, means for supplying pulp fibre to sald dies, a movable member provided with a plurality of dies, means for forcing the pulp fibre into one of the dles of said member after it has been shaped by the dies first referred to, means for actuating said movable member, and means for extracting the water from the pulp fibre before it leaves the die of said member, ubstantially as described.
13. In a machine of the class described, dies provided with oncave faces for moulding a mass of wet pulp fibre into the form of a cylindrical block, an air vacuum for acting upon the pulp fibre while it is being moulded by said dies, a movable member provided with plurality of tapered openings acting as said dies, means for forcing the cylindrical block of pulp fibre into one of the dies of said member, plungers mounted in said movable member in alignment with the tapered openings therein and provided with perforated ends. means for creating a vacuum in sald plungers, and means for actuating said plungers to eject the moulded pulp fibre from the dies of said movable member, substantially as described.
14. In a machine of the class described a movable member provided with a plurality of openings acting as dies, means for forcing pulp fibre into said openings, devices mounted in said movable member in alignment with said openings and i, rovided with perforated ends which form the bottom of said dies, each of said devices being provided with a bore or passageway, a valve which moves with said movable member, said valve being provided with ports which communicate with the bores of sald devices, a stationary valve seat provided on its inner face with a recess that registers with a number of the ports of said valve and an air vacuum pipe communicating with the recess of said valve, substantially as described.
15. In a machine of the class described a turret provided with a plurality of openings actlng as dies, plungers mounted in the turret in alignment with said openings and having perforated ends which form the bottom of said dies, each of said plungers being provided with a bore, a valve moving with the turret and provided with a plurality of ports, tubes communicating with said ports and connected to the outer ends of said plungers, a stationary valve seat provided on its inner face with a recess with which a number of the ports of said valve register simultaneously, an air vacuum pipe communicating with said recess, a second recess formed in the valve seat and registering with but a single port of the valve seat at the same time and an air pressure pips communicating with said last-named recess, substantially as described.
16. In a machine of the class described, a die for acting on a mass of wet pulp fibre, an air vacuum for extracting the water from said pulp flbre through said die, a trap into which the water drains, said trap being provided with an opening, a slide provided with an opening, and means for actuating said slide to move the opening therein into alignment with the opening of the trap, substantially as described.
17. In a machine of the class described a die for acting on a mass of wet pulp fibre, an air vacuum for extracting the water from said pulp fibre through said die, a trap into which the water drains, said trap being provided with an opening, a slide provided with an opening. means for actuating said slide to move the opening therein into alignment with the opening of the trap, and ylelding means for holding the slide in intimate engagement with the trap, substantially as described.
18. In a machine of the class described a die for acting on a mass of wet pulp fibre, an air vacuum for extracting the wateh from said pulp fibre through said die, a trap into which the water drains, sald trap belug provided with an opening, a slide provided with an opeuing, a guideway in which the slide moves, a drain pipe communicating with said guideway, and means for actuating said slide to cause its opening to allgn with the opening in the trap and thereafter allgn with the draln pipe in the guldeway, substantially as described.
19. In a machine of the class described a die for acting on a mass of wet pulp abre, an alr vacuum for extracting the
water from sald pulp fibre through said die, a trap into which the water drains, said trap being provided with an opening in its bottom, a guideway carried by the trap, a slide mounted in said guideway and provided with an opening, a spring pressed plate forming the bottom of said guideway and having a drain pipe connected thereto and means for reciprocat ing the slide, substantially as described.
20. In a machine of the class described a turret provided with a plurality of recesses acting as dies, means for rotating the turret intermittently, a locking device for said tur ret plungers mounted in said turret in alignment with said dies, and a stationary cam with which projections on sald plungers engage during the movement of the turret, substantially as described.
21. In a machine of the class described, a turret having notches formed in its periphery and provided with a plurallaty of dies, an actuated lever provided with pawl which co-operates with the notches in said turret to impart movement thereto, a locking dog for sald turret and means carried by said lever for moving the locking dog into an inoperative position as said lever moves into position preparatory to feeding the turret forwardly, substantially as described.
22. In a machine of the class described. a trough for recelving a quantity of liquid pulp fibre, a plunger mounted in said trough, means co-operating with said plunger for compressing the pulp fibre, and means for causing the face of tho pulp fibre which is acted upon by said plunger to be subjected to air pressure which causes the liquild to be forced out of the fibre, substantially as described.
23. In a machine of the class described. a trough for recelving liquid pulp fibre, a plunger mounted in said trough. dies co-operating with said plunger to compress the pulp fibre, a movable member normally closing one end of the irough and provided with a die and a reciprocating member mounted in the plunger for forcing the pulp fibre into said din substantially as described.

\section*{No. 101,064. Punching and Shearing Machine.}

Machine a poingonnage et ragnage


Leslle David Jannell, Sylver J. Gonya, Aretas E. Stearns and Philo B. Clark, each an assignee of a sixth interest all of Rumford, Maine, U.S.A., 18th September, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,095
Claim.-1. In a combined punching and cutting machine the operating shaft arranged transversely to the line of the cutting blades and a punch operated from the same shaft being in substantially the same plane, and said punch and cutting mechanisms having feed openings facing in the same direction.
2. A punching and shearing machine comprising a supporting frame having a fixed punch member at its upper portion, and a fixed shear blade located below the flxed punch member, a carrier movable vertically in the frame and having a punch member and a shear blade arranged to co-operate respectively with the fixed punch member and fixed shear blade, and an operating shaft located below the shear blades and having oppositely and alternately acting cams engaging the carrier at points at opposite sides of the shaft and substantially in alignment with the punch members and with the central portions of the shear blades, one of the cams being formed to depress the carrier with a relatively slow motion. while the other is formed to raise the carrier with a relatively quick motion.
3. A punching and shearing machine comprising a supporting frame, a movable carrier guided thereby in a substantially vertical path, said frame and carrier having complemental cutting members which are caused to co-operate by
movements of the carrier, and an operating shaft provided with two oppositely acting cams, one cam acting to project the carrier and cause the action of the cutting members, and the other cam acting to retract the carrier.
4. A punching and shearing machine comprising a supporting frame, a movable carrier guided thereby in a substantially vertical path, said frame and carrier having complemental cutting members which are caused to co-operate by movements of the carrier, and oppositely facing abutments at its lower portion, located substantially in alignment with the said cutting members, and an operating shaft provided with two oppositely acting cams co-operating with said abutments, one cam acting to project the carrier and the other to retract the carrier.
8. A punching machine comprising a supporting frame having a substantially horizontal seat provided with guides, a die holding and guiding yoke having a base movable on said seat between the guides, complemental punching dies, one attached to the yoke and the other movable therein, the movable die having coupling members, and a reciprocating carrier having a head overhanging the seat, sald head and niovable die having complemental coupling members adapted to be interlocked by a movement of the yoke to its operative position on the seat.
6. A punching machine comprising a supporting frame having a punch member, a guide above such punrh member, a reciprocating carrier having a head overhanging the guide and the punch member, and a punch member movable in said guide and engaged with the overhanging head, the said head being relatively small cross sectional area, so that it nay be surrounded by an annular body presented to the flinching dles, and the said guide and the two punch members being removable as a unit from the supporting irame.
7. A punching and shearing machine comprising a supporting frame having a substantially horizontal seat at its upper forward portion. and a fixed shear blade located below said seat, a die holding and guiding yoke movable horizontally to and from said seat, complemental punching dies, one attached to the yoke and the other movable therein, and a reciprocating carrier movable vertically in the frame and having an upper end projecting above the frame and overhanging the seat, sald overhanging end being provided with means for detachably engaging the movable die when the yoke is in its operative position upon the seat, the carrier having also a shear blade arranged to co-operate with the fixed shear blade, the sald yoke occupying a space directly above the shear blades, and between the seat and the overhanging end of the carrier, so that the removal of the yoke permits the utilization of said space for the reception of the upper portion of an annular body subjected to the shear tlades.
8. A punching and shearing machine comprising a supporting frame, a carrier movable thereon, said frame and carrier having complemental cutting members caused to act by movements of the carrier, a rotary operating shaft having means for engaging and reciprocating the carrier, a power mechanism for rotating said shaft, said mechanism having an automatic stop motion for rendering it inoperative and a hand operated shaft rotating mechanism adapted to be used interchangeably with the said power mechanism.
9. In a machine of the character stated, a shear blade holder having a three-sided recess, one of the end walls of which overhangs the bottom of the recess, a shear blade adapted to enter said recess and having shouldered ends, the blade being shorter than the recess, so that a space exists between one of its ends and the corresponding end of the recess when the blade is in place, and an attaching bolt engaged with the holder and having a head occupying said space, one side of the head being formed to overhang the adjacent end of the shear blade.
10. In a machine of the character stated, a male punch of cylindrical form, having a stepped acting end and a centering projection on the axial line of the punch, each stepped portion having a flat outer face arranged substantially at a right angle with the axial line of the punch, and adapted tc independently detach a portion of the material removed by the action of the punch, the hole being formed by successively detaching parts or sections of the material, one stepped portion acting to detach a part of the material before the next stepped portion commences to act.

No. 101,065. Compensating Direct Acting Engine. Machine d action directe.

Henry R. Worthington, New York City, New York, U.S.A. assignee of Franz F. Nickel, East iange, New Jersey. U.S.A., 18th September. 1906; 6 years. Filed 13th June, 1906. Receipt No. 136,831.

Claim.-1. In a compensating direct acting engine having one or more compensating cylinders and pistons, a valve conone or more compensating pressure and means controlled
by the length of the engine stroke for varying the pressure on said valve to control its movement.

2. In a compensating direct acting engine having one or more compensating cylinders and pistons, and means for applying fiuid in opposition to the working pressure to adjust the compensating pressure, a valve opened by the opposing pressure to permit the escape of opposing fluid, and means controlled by the length of the engine stroke for varying the resistance to the opening of said valve to vary the compensating pressure.
3. In a compensating direct acting engine having one or more compensating cylinders and pistons and an accumulator though which the compensating pressure is derived, a valve actuated by presure in the compensating system to control the accumulator pressure, and means controlled by the length of the engine stroke for varying the resistance to movement of sald valve to vary the compensating pressure.
4. A compensating direct acting engine having devices for controlling the compensating pressure including a valve, a pressure device acting on said valve, means actuated by the engine piston for actuating the pressure device to vary the pressure when the length of the engine stroke is increased, and means for returning the pressure device to normal position.
5. In a compensating direct acting engine having one or more compensating cylinders and pistons, a weighted valve controlling the compensating pressure and means actuated by the engine piston for shifting the weight to vary the pressure on the valve.
6. In a compensating direct acting engine having one or more compensating cylinders and pistons, a weighted valve actuated by the pressure in the compensating system to control the compensating pressure, means actuated by the engine piston for shifting the weight to vary the pressure on the valve, and means for slowly returning the weight when shifted by the engine.
7. A compensating direct acting engine having devices for controlling the compensating pressure including an escape valve opened by pressure in the system, a weight lever and shiftable weight controlling the valve, a rod and connections for shifting the weight, a tappet moved by the engine plston for shlfting the rod, a spring for returning the rod and a cataract cylinder having a piston connected to the rod and arranged to retard the return movement of the rod.
8. The means for varying the compensating pressure to control the stroke of a compensating direct acting engine. substantially as shown in the accompanying drawings.

\section*{No. 101.068. Brooder. Coureuse.}

Marion W. Savage, assignee of Newton C. Sprague, Minneapolis, Minnesota, U.S.A., 18th September, 1906; 6 years.
Filed 19th February, 1906. Receipt No. 133,044.
Claim.-1. In a brooder the combination with a floor havling an opening therein, of a perforated drum removably mounted on said floor, a hover plate supported above said drum having depending curtains inclosing the same, and imperforate drum removably mounted within said first-named dirum and spaced therefrom, intake and discharge fiues communicating with said drums respectively and a source of heat communicating with said imperforate drum, substantially as described.
2. The combination with a brooder floor having an opening therein of a perforate drum arranged on sald floor, a hover plate having discharge ports supported above said drum and having a depending curtain inclosing said drum, an imperforate drum provided within said first-named drum and spaced therefrom, intake and discharge flues communicating with said drums respectively. a pipe provided in said second imperforate drum and having open ends, the lower end com-
municating with a source of heat, substantially as described. 3. The combination with a brooder floor of a plate arrang-

ed beneath the same and spaced therefrom, a perforate drum mounted on said floor, cold air intake flues provided in the siace between said plate and floor and communicating with said drum, a hover inclosing said drum, an imperforate drum provided within said first-named drum and spaced therefrom amsl having a discharge flue leading to the open air and a pipe provided within said imperforate drum and communicaling with a source of heat, substantially as described.

No. 101,067. Milling Machine. Machinc ì trairc.


The Canadian General Electric Company, Limited, Toronto, Ontario. Canada, assignee of John Riddle. Schenertady. New York, U.S.A., 18th September, 1906; 6 years. lilles Tth June, 1905. Receipt No. 125,799.
Claim.-1. In a machine of the character described ihe combination of a column supported above the work, an 2 rm attached to the column which is unsupported at its out'r cnd, a work holder having its axis coincident with the ax:m of the column, the arm and work holder being capabion n! relative angular adjustment, a tool holder carried by the fre: end of the arm, means for adjusting the position of the tool holder with respect to the work, and a motor supported by the column which drives the tool, as specfied.
2. In a machine of the character described the combinaof a supporting column, a radial cutter carrying arm revolvably mounted thereon, and means for adjusting the ar:a elther side of a radial position and in a plane at right angles to the axis of the column, as specified.
3. In a machine of the character described the combination of a supporting column having a base which is adap:cd io rest on the work, a radial tool carrying arm revolvably supported solely by the arm, a tool carriage arranged to reciprocate on the arm, and means for angularly adjusting the arm on its axis, as specified.
4. In a machine of the character described the combination of a supporting column. means for supporting the work with respect to the axis of the column to permit of a relalive turning movement, an arm carried by the column, moans for shifting the arm laterally in a plane at right augles to the axis of the column, means for angularly adjustIng the arm on its axis and a cool carriage operatively mounted on the arm, as specifled.
J. In a machine of the character described the combinat!on of a hollow column which is adapted to be mounted on interchangeable supporting columns for work of different sizes, a radial arm arranged on the hollow column, means between the column and the arm which permits the latter to be adjusted laterally of and also around its axis and a tool carriage operatively mounted on the arm, as specified.
6. In a machine of the character described the combination of a supporting column suitable for work of a definite size, a hollow column adapted to fit the supporting column, a ball bearing between the columns, an arm secured to the hollow column to rotate therewith, means between the arm and hollow column for adjusting the former in a lateral direction, means for adjusting the arm on its axis and a tool carriage on the arm which is adjustable and is adapted to be reciprocated axially of the arm, as specified.
7. In a machine of the character described the combination of a supporting column, a shoulder on the column which rests on the work for supporting the column, a hollow column assembled on the supporting column, a ball bearing between the lower end of the hollow column and the said shoulder and a cutter carrying arm on the hollow column, as specified.
8. The combination of a supporting column, a hollow column assembled thereon, an anti-friction bearing between them, an arm carried by the hollow column which extends parallel to the plane of the work, a tool carriage operatively mounted on the arm, a tool carried by the carriage, and means for adjusting the arm to cause the tool to be moved radially with respect to the work, as specified.
9. In a machine of the character described the combination of a supporting column, a cutter carrying arm, a support between the arm and the column, a carrier between the arm and the support, means for adjusting the carrier laterally on the support, and means for adjusting the arm around ats axis on the carrier, as speciffed.
10. In a machine of the character described the combination of supporting column, a hollow column assembled thereon, a dovetail way provided on the hollow column, a carrier movably supported in said way, means for adjusting the carrier laterally in the way, an arm rigidly secured to the carrier to move therewith, means for adjusting the arm about its axis on the carrier and a tool carriage operatively mounted on the arm, as specified.
11. In a machine of the character described, the combination of a column adapted to be arranged centrally on the work to be finished, a radial arm supported thereon, a carrier between the column and the arm, a dovetall connection between the carrier and the column, an adjusting screw supported by the column for moving the carrier and the arm laterally on the column, means for permitting the arm to be adjusted axially on the carrier, and a tool carriage operatively mounted on the arm, as specifled.
12. In a machine of the character described, the combination of a central supporting column, a radial arm mounted thereon, a tool carriage arranged on the arm which is movable longitudinally thereof, a cutter carrying spindle mounted in the carriage which extends transversely to the axia of the arm, a cutter on the spindle, means for adjusting the spindle longitudinally in the carriage, and means for adjusting the arm angularly about its axis and also laterally in a plane at right angles to the column to cause the cutter to move in a radial direction with respect to the supporting column, as specified.
13. In a machine of the character described, the combina. tion of a central supporting column pivotally supported to move on its axis, a radial arm arranged thereon, a cutter carriage mounted on the arm and adapted to move there with about the axis of the column which is movable longltudinally thereof, a means carried by the arm for reciprocating the carriage, a cutter carrying spindle mounted in the carriage, a cutter on the spindle, a source of power arranged on the column and movable therewith and means for transmitting power from said source to the spindle, as specified.
14. In a machine of the character described, the combina tion of a supporting column, a radial arm mounted thereon and composed of two sections which are independently adjustable about the same axis, a yoke formed on the outer section the axis of which extends parallel to that of the arm, a carriage mounted in the yoke, means for reciprocating the carriage, a spindle mounted in the carriage with its axis extending transversely to that of the arm, a cutter on the spindle, and means for rotating the cutter, as specifled.
15. In a machine of the character described, the combination of a column, a radial arm adjustably mounted thereon. a yoke formed at the outer end of the arm, a carriage mov: ably mounted in the yoke, a rotating cutter carrying spindle in the carriage, a manually actuated lever carried by tho arm, and a connection between the lever and the carriage. as specifled.
16. In a machine of the character described, the combination of a column, a radial arm adjustably mounted thereon

Which is provided with a yoke, a carriage which is movable in the yoke in the direction of the axis of the arm, a sleeve in the carriage which extends transversely to the axis of the arm, a spindle rotatably mounted in the sleeve, a cutter on the spindle, means for adjusting the spindle and sleeve together in the carriage, and a manually operated device carried by the arm for reciprocating the carriage and cutter during the cutting strokes, as and for the purpose specifed.
17. A milling machine adapted to be bodlly supported and movably mounted on the work, an adjustable cutter carrying spindle in the carriage, a motor supported on the column, and a power transmitting device between the motor and the spindle for rotating the latter, said device including means for permitting the arm and spindle to be adjusted, as and for the purpose specified.
18. In a machine of the character described, the combination of a stationary support, a laterally and angularly adjustable arm revolvably mounted thereon, a carriage longitudinally movable on the arm, a rotating cutter carrying spindle adjustably mounted on the carriage, a driving wheel on the spindle, a motor supported to revolve with the arm, a belt driving connection between the wheel and motod, and means for maintaining said connection in operative relation to the wheei for all positions of adjustment of the cutter carying spindle, as and for the purpose specified.
19. In a machine of the character described. the combination of a supporting column, a radial arm which is revolvably mounted thereon, and is capable of lateral and axial adjustment, a carriage on the arm which is adjustable therewith, means for reciprocating the carriage longitudinally of the arm, a cutter carrying spindle on the carriage which extends transversely of the arm and is longitudinally adjustable, a motor secured in fixed position on the supporting column, a shaft pulley for the motor, a distance pulley adjustably supported on the arm, a driving wheel on the spindle which is movable therewith, an idler arranged in a common plane with the wheel and distance pulley and movable with the former, and a driving belt extending from the motor pulley to the distance pulley and operatively engaging with the driving wheel and idler, as and for the purpose specified.

No. 101,068. Means of Attaching Turbine Buckets. Moyen d'attacher des godets de turbines.


Ihe Canadian General Electric Company, Toronto, Ontario, Canada, assignee of John G. Callan, Lynn, Massachusetts U.S.A., 18th September, 1906 ; 6 years. Filed 2nd May, 1906. Receipt No. 135,462.

Claim.-1. In an elastic fluid turblne the combination of a support having one or more channels, a bucket carrying base mounted in the channel, and staking pieces situated between the bucket base and the walls of the channel, said staking p!eces being held by the walls of the groove and turned over at their outer ends to secure the buckets.
2. In an elastic fluid turbine the combination of a support provided with one or more channels having overhanging shoulders on opposite sides. a bucket carrying segmental base mounted in the channel and provided with shoulders on opposite sides, and staking pieces located between the sides of the channel and the bucket base, the inner ends of the staking pleces being held in place by the support and the outer ends turned over to engage the said shoulders.
3. In an elastic fluid turbine the combination of a support having a channel formed therein with an overhanging wall, a bucket carrying base mounted therein and provided with a shoulder on one side, and a staking piece located between the wall of the channel and the bucket base and secured at its inner end by the overhanging wall of the channel. the outer end being bent over to engage the shoulder on the bucket base and secure it in place.

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No. 101,069. Bucket for Elastic Finid Turbines. Godet pour turbines id fluides clastiques.


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of George E. Stevens, Lynn, Massachusetts, U.S.A., 18th September, 1906 ; 6 years. Filed 8th May, 1906. Receipt No. 135.670.
Claim.-1. In an elastic fluid turbine the combination of a support, a sheet metal bucket having a base formed integral therewith, and a device which extends across the base for securing the bucket to the support.
2. In an elastic fluid turbine the combination of a support, sheet metal buckets having a base that is common to and integral therewith, a device which extends across the base and acts as a means common to the buckets for securing them to the support.
3. In an elastic fluid turbine the combination of a support, sheet metal buckets arranged between the separate rows, a base plece which is common to and integral with the buckets, and a retainer which crosses the base piece for securing the buckets and is located between the rows.
4. In an elastic fluid turbine the combination of a suppcrt, a sheet metal bucket having an integral base piece projecting each side thereof and retainers which overlle the base piece and secure the bucket to the support.
5. In an elastic fluid turbine the combination of a support, having projections thereon, sheet metal buckets which are supported by the projections, a base plece formed integral with two or more buckets which is located in the groove between the projections, and retainers that occupy the grooves and hold the buckets in place.
6. In an elastic fluid turbine the combination of a support, sheet metal buckets arranged in rows thereon, a base plece formed integral with and connecting buckets of different rows, and retainers which secure the buckets at a point between the rows.
7. In an elastic fluid turbine the combination of a sup port, sheet metal buckets arranged in rows thereon, a base piece formed integral with and connecting buckets of different rows, retainers which secure the buckets at a point between the rows, and means for securing the base piece at the ends.
8. In an elastic fluid turbine the combination of a support buckets carried thereby and arranged in rows, a base com mon to and integral with the buckets in different rows, re tainers for the buckets which extend across the base and are common to adjacent rows.
9. In an elastic fluid turbine the combination of a support a plurality of buckets carried thereby and arranged in rows said buckets being formed by sheet metal and each provided with an integral tenon, a base piece common to and connecting buckets of different rows, and a cover that is secured tc the ends of the buckets by the tenons thereon.
10. In an elastic fluid turbine the combination of a support having a deformed edge portion, with buckets having bases mounted on the support which are secured in place by securing the support of its deformity by forcing the metal of which it is composed over the ends of the bucket bases.
11. In an elastic fluid turbine the combination of a support having parallel projections thereon, with grooves between buckets mounted on the projections having bases which extend acriss the grooves and segmental locking pieces located in the grooves which extend across the bases
12. In an elastic fluid turbin the combination of a support having parallel projections thereon with grooves between buckets mounted on the projections having bases which extend across the grooves, and segmental locking pleces locat ed in the grooves which extend across the bases, and retain ing devices which are common to adjacent segmental lock ing pleces.
13. As an article of manufacture a bucket element which is punched out of sheet metal and has a base plece common to two or more buckets, the said buckets being arranged to form an angle with the base piece.

No. 101,070. Bucket for Elastic Fluid Turbines. Godet pour turbines ì thides élastiques.


The Canadian General Electric Company, Toronto, Ontar;o, Canada, assignee of Edmund H. Farquhar, Schenectady, New York, U.S.A., 18th September, 1906 ; 6 years. Filed 4th June, 1906. Receipt No. 136,514.
Claim.-1. In an elastic fluid turbine the combination of a plurality of buckets made of a hot rolling alloy, a cast metal support to which the buckets are fused and a carrier for the support, as and for the purpose specified.
2. In an elastic fluid turbine the combination of a plurality of buckets each saving a concave and a convex wall and made of hot rolling alloy, a cast metal base to which the buckets are fused at one end, a means for connecting the opposite ends of the buckets to hold them in alignment and preserve the pitch distance and a carrier for the support, as and for the purpose specifled.
3. In an elastic fluid turbine the combination of a plurality of buckets each being separately formed and provided with concave and convex walls, a base to which the buckets are secured by fusing, tenons on the buckets, a cover or shroud that is secured to the buckets by the tensons which forms one wall of the fluid passages, preserves the pitch relation between the buckets and assists in securing the buckets against centrifugal strains and a carrier for the base, as and for the purpose specifled.
4. In an elastic fluid turbine the combination of a plurality of buckets each being made of extruded metal and provided with a recess at one end, tenons formed integral with the buckets, a cast metal base to which the buckets are fused, the metal of the base fllling the recesses and forming an additional mechanical support, a cover for the buckets which is secured thereto by riveting over the ends of the tenons, the said cover acting as a mechanical support to resist centrifugal strains and also to preserve the pitch distance between the buckets and hold them in allgnment against lateral displacement and a carrier for the base, as and for the purposo specified.

No. 101,071. Bucket for Elastic Fluid Turbines. Godet pour turbines à Aluides élastiques.


The Canadian General Electric Company, Coronto, On arin. Canada, assignee of Edmund H. Farquhar, Schencctady, New York, U.S.A., 18th September, 1906 ; 6 years. Filed 27th August, 1906. Receipt No. 138,991.
elaim.-1. The combination with a base having a dovetall \(\sigma^{\text {r }}\) undercut groove, of a plurality of separately formed buckets having shanks fitting said groove and spacing blocks in said groove between sald bucket shanks. the material of the base at the pads of the groove being upset to secure the parts together.
2. The combination with a base having a dovetail or undercut groove, of a plurality of separately formed buckets of uniform cross section and cut away at one end to form shanks fitting said groove, spacing blocks in sald groove flush with the surface of the base and having curved ends fitting against the bucket shanks, and lips upset at the ends of the groove to hold the parts together.
3. The combination with a base having a dovetail or undercut groove, of a plurality of separately formed buckets of uniform cross section land cut away at one end to form shanks fitting said groove, spacing blocks of the same material as the buckets fitted into said groove and fitting the curves of said bucket shanks, a filling block at the end of the groove of substantially the same material as the base, the incisions in the ends of the base forming upset lips to hold the parts together.
4. In an elastic fluid turbine the combination of a bucket support having a groove formed therein which is narrower at the throat than at the bottom buckets, having projections thereon which enter the groove and are retained in place by the walls thereof and devices for spacing the buckets apart to preserve the proper pitch, the ends of the support being riveted over to force the buckets and spacing devices into engagement with each other and also to secure them rigidly in said support.
No. 101,072. Bucket Fastening for Flastic Fluid Turbines.
Attache de golet pour turbines aluides élastiques.


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Oscar Junggren, Schnectady. New York, U.S.A., 18th September, 1906; 6 years. Filed 2sth August, 1906. Receipt No. 139,037 .
Claim.-1. In an elastic fluid turbine the combination with a wheel, of bucket carrying base segments fitted thercto. shoulders on each side of said wheel and segments, flangeil rings engaging with said shoulders and rivets passing through sald rings and wheel.
2. In an elastic fluid turbine the combination with a wheel having a concentric shoulder on each side and transverse passages, of a base segments fitted to the rim of said wheel and provided with shoulders concentric therewith, separately formed buckets secured in said segment, flanged clamping rings engaging said shoulders and rivets passing through said rings and the passages in said wheel.
3. In an elastic fluid turbine the combination with a wheel having a smooth periphery and concentric shoulders on its sides, of the base segments fitted to sa!d periphery provided with a longitudinal undercut groove and having concentric shoulders on each sides, separately formed buckets having shanks engaging in said groove, spacing blocks between them, segmental clamping rings having flanges engaging with said shoulders on the base segments and wheel and rivets passing through said rings and wheel.

\section*{No. 101,073. Bucket for Elastic Fluid Turbines.} Godet pour turbines ì fuides élastiques.
The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Walter Field Rice, Quincey, Massachusetts. U.S.A., 18th September, 1906; 6 years. Filed 31st August, 1906. Receipt No. 139,133.
Claim.-1. In an elastic fluid turbine the combination with separately formed buckets. of a connector passing through the same, and a mass of metal cast on said buckets, as anl for the purpose specified.
2. In an elastic fluid turbine the combination with sepa:ately formed buckets, of a connector passing through the same and a mass of metal cast on said buckets and fusc.l thereto, as and for the purpose specifled.
3. In an elastic fluid turbine the combination with separately formed buckats, of a connector passing through the
same, and a mass of metal cast on said buckets and fused thereto and to said connector, as and for the purpose specified.

4. In an elastic fluid turbine the combination with separately formed buckets. of a connector passing through their "nds, and a mass of metal cast thereon and extending be yond said connector, as and for the purpose spesifed.
5. In an elastic fluid turbie the combination with separately formed buckets, or a cable passing through their ends and a support cast thereon and enveloping said ends and said cable, as and for the purpose specified.
6. In an elastic fluid turbine the combination with sepacately formed buckets, of a base and cover both cast on said buckets, as and for the purpose specified.
i. In an elastic fluid turbine the combination with separately formed buckets, of a base and a cover both cast thereon and a connector passing through said buckets, as and for the purpose specified.
8. In an elastic fluid turbine the combination with separately formed buckets, of a base and cover both cast thereon and a connector passing through said buckets and enveloped by the cast metal, as and for the purpose specitied.
9. In an elastic fluid turbine the combination with separately formed buckets, of a cover nast thereon and mechanically interlocked therewith, as and for the purpose specified.
10. In an elastic fluid turbine the combination with separately formed buckets, of a cover cast thereon and mechanically interlocked therewith and a base cast on and fused to said buckets, as and for the purpose spociffed.
11. In an elastic fluid turbine the combination with separately formed buckets having shouldered ends, of a cover cast thereon and interlocking with said shoulders, as and for the purpose specified.
12. In an elastic fluid turbine the combination with separately formed buckets, of a connector passing through them near one end, a base cast on and fused to sald buckets and enveloping sald connector and a cover cast on and mechanically interlocked with said buckets, as and for the purpose specified.

\section*{No. 101,074. Packing Device for Shafts of Steam Turbines.}

\section*{Garniture pour essieus de turbines d vapeur.}


The Honourable Charles Algernon Parsons, Heaton Works, Newcastle-on-Tyne, assignee of John Turnbull and Howitson Hall, both of Turbina Works, Walsend-on-Tyne, England, 18th September, 1906; 18 years. Filed 7th February, 1906. Receipt No. 132,663.
Claim.-1. A packing gland for rotating shaft, having in combination a semi-cylindrical extension in the pressure casing, a removable top cover, split bushing carrying the packing collars, packing collars on the shafts and registering with the packing bushings, substantially as described.
2. A packing gland for rotating shafts having in combination, a fixed semi-cylindrical extension on the pressure casing, a removable top cover, a split bushing having groups of packing rings or collars. packing rings or collars fixed to the shaft and registering with the packing rings or collars on the bushing, substantially as described.
3. A packing gland for rotating shafts having in combination, conically arranged collars on the shaft, a split bushing carrying packing collars adapted to sald conically arranged collars, an enclosing box having a removable top thereto, substantially as and for the purpose described.
4. A packing for rotating shafts having in combination groups of collars arranged in steps on the shapt, a split bushing carrying packing collars, an enclosing box having a removable top thereto.
5. A packing gland for rotating shafts having in combination packing collars arranged in groups partly cylindrical in form and partly conical, a split bushing adapted to the collars on the shaft, a box enclosing the bushing and having a removable cover thereto, substantially as described.
6. A packing gland for rotating shafts having in combination a packing gland box with a removable top cover, a split bushing within the box, said split bushing having packing collars thereon, packing collars on the shaft, and means for longitudinally adjusting the position of the split bushing, substantially as described
7. A packing gland for rotating shafts having in combination a packing gland box with a removable cover, a split bushing within said box. groups of packing collars arranged in steps. collars on the shaft adapted to the collars in said bushing, means for longitudinally adJusting the position of the bushing, substantially as described.
8. A packing gland for rotating shafts having in combination a packing gland box with a removable cover, a split bushing carrying groups of packing collars, groups of packing collars on the shaft adapted to the packing collars on the bushing, spaces between said groups, lantern spaces \(g\) in the packing gland box, holes in the split bushing at the spaces between the groups of packing said holes communicating with the latern spaces.
9. A packing gland for rotating shafts having in combination, a packing gland box with removable cover, a split bushing, packing collars on said bushing, packing collars on the shafts, lantern spaces \(g\) in the packing gland box, a packing gland \(q\) adapted to prevent leakage from said lantern spaces, substantially as described.
10. A packing gland for rotating shafts having in combination a packing gland box with removable cover, a split bushing, packing collars on sald bushing, packing collars on the shafts, lantern spaces \(g\) in the packing gland box, a packing gland \(q\) adapted to prevent leakage from said lantern spaces, means for longitudinally adjusting the split bushing.
11. A packing gland for rotating shafts having in combination a packing gland box with removable cover, a split bushing, packing collars on said bushing, packing collars on the shafts, lantern spaces \(g\) in the packing gland box, a packing gland \(q\) adapted to prevent leakage from said lantern spaces, a ring externally fixed to the gland box, a screwed ring engaging with a screw on the split bushing and working in a recess in the externally fixed ring.
12. A packing gland for rotating shafts having in combination a packing gland box with removable cover, a split bushing, packing collars on sald bushing, packing collars on the shafts, lantern spaces \(g\) in the packing gland box, a packing gland \(q\) adapted to prevent leakage from said lantern spaces, a ring externally flxed to the gland box, a screwed ring engaging with a screw on the split bushing and working in a recess in the externally fixed ring, screws in the screwed ring adapted to exert an end pressure on the packing gland \(q\).

No. 101,075. Liquid Filter. Filtrc à liquidc.


Wilfred Reeves and Balfour Bramwell, co-inventors, both of Wellington Place, Belfast, Ireland, 18th September, 1906;
6 years. Filed 29th August. 1906. Recelpt No. 128,020.
Claim.-1. Apparatus for filtering liquids comprising a filter chamber revolvably mounted on hollow trunnions, a permanently fixed inlet pipe passing through one of the said trunnions in and extending upwardly within the said chamber, a filter bed having spherical walls is the lower part of the chamber. a passage connecting the lower side of the filter
bed with the second trunnion, and a fixed outlet pipe leading from the said second trunnion, substantially as described.
2. In apparatus for filtering liquids such as herein described, a filter chamber revolvably mounted on hollow trunnious, a filter bed in the lower part of the sald chamber, and a fixed inlet pipe passing through one of the said trunnions and extending upwardly over the filter bed and terminating ir an upwardly turned open bell-mouth, substantially as described.
3. In apparatus for flltering liquids such as herein described. a spherical ended filter chamber revolvably mounted on hollow trunnions and constructed in two sections divided en a plane normal to the axis of said trunnions, a permanently flxed inlet pipe passing through one of the said trunnions into the filter chamber, an upwardly inclined extension of said inlet pipe terminating in an upwardly directed open bell-mouth, a fixed outlet plpe leading from the second hollow trunnion, and means for revolving the filter chamber, substantially as described.
4. Apparatus for filtering liquids comprising a spherical ended fiter chamber revolvably mounted on hollow trunnions, a filter bed in the lower part of the said chamber, a fixed pipe passing through one of the said trunnions and terminating in an upwardly turned open bell-mouth adapted to distribute the liquid to be filtered over the upper side of the f.ter bed, a perforated supporting floor for the filter bed.

\section*{Na 101,076. Vacrum Filter. Filtre d vacuиm.}


Charles Butters. Berkeley. California. U.S.A., 18th September. 1906: 6 years. Filed 12th February, 1906. Receipt .- 0 . 132,842.
Cluim.-1. A vacuum filter frame having a porous material interposed between two sheets of filtering fabric and a perforated tube for removing fluid from and supplying fluid to the interior of said filter frame.
2. The combination in a vacuum filter frame of a porous material interposed between two sheets of iltering fabric, the fibrous material and filtering fabric being sewed or fastened together at intervals and a perforated pipe for withdrawing and admitting fluid to and from the filter.
3. A vacuum filter frame having a porous material interfosed between two sheets of filtering fabric and a perforated cube for removing fluid from and supplying fluid to the interior of said filter frame, and means for producing a vacuum in the interior of said frame.
4. A vacuum filter frame having a top member or rall. grooves therein, retaining strips having the under outer edge lower than the portion next to the frame adapted in combination with said grooves to hold filtering fabric, and means for producing a vacuum in the interior of said frame.
5. A vacuum filter frame provided with a filtering fabric portions of which are rendered impervious to fluid.
6. A vacuum filter frame provided with a filtering fabric a narrow rim around the sides of which is rendered impervious to fluid.
7. A vacuum filter frame having a porous material interposed between two sheets of flltering fabric and means for removing fluid from and supplying fluid to the interior of said filter frame, and means for producing a vacuum in the interior of said frame.
8. A vacuum filter frame having a top member or rall, grooves therein, retaining strips adapted in combination with said grooves to hold flltering fabric and grooves in said retaining strips adapted to deflect fluid from the surface of said filter frame.
9. A vacuum filtering apparatus having a receptacle, a filtering frame, a drum, connections between said drum and filter frame, an outlet pipe from said drum, and means for exhausting the air from said drum.
10. A vacuum filtering apparatus having a receptacle, a Altering frame, a drum, connections between sald drum and filter frame, an outlet pipe from said drum, a supply and discharge pipe, means for connecting and disconnecting said supply and discharge pipe from said vacuum drum, and m"ans for exhausting the air from said drum.
11. A vacuum filter aparatus having a filter frame, a vacuum drum, connections between sald frame and drum. means for exhausting the air from sald drum, a discharge pipe from said drum and a water seal at the lower end of said discharge pipe.
12. A vacuum filter having a tubular frame and porous material interposed between two sheets of filtering fabric.
13. A vacuum filter frame having a porous material interposed between two sheets of filtering fabric and a perforated tube enclosed within said filtering fabric.
14. The combination in a vacuum filter of a porous material interposed between two sheets of filtering fabric, the material and fabric being sewed together or fastened at intervals and a perforated pipe within said filtering fabric.
15. A vacuum filter frame having a porous material interposed between two sheets of filtering fabric. a perforated tube within said filter fabric for supplying fuid to and removing fluid from the interior of said filter. and means for producing a vacuum in the interior of said irame.
16. A vacuum filter frame having a foraminous materia! interposed between two sheets of filtering fabric, and means for removing fluid from and suplying fluid to the interior of said frame.
17. A vacuum filter frame provided with a filtering fabric, portions of which are coated with waterproofing material.
18. A vacuum filter frame provided with filtering fabric, a narrow rim of which is coated with a waterproofing material.
19. A vacuum filter having its surface divided into panels by vertical strips.
20. A vacuum filter having projections upon the surface thereof to aid in holding material to be filtered upon said surface.

No. 101,077. Power ELammer. Marteau mécanique.


Austin Bragg, Waterville, Maine, U. S. A., 18th September.
1906; 6 years. Filed 23rd July. 1906. Receipt No. 138.019 . Claim.-1. In a power hammer, the combination with a ram or hammer, of an elliptic spring helve having both of its members connected at one end to said ram or hammer and the other ends of said members pivotally supported an means connected to the two members of said spring helve intermediate the ends thereof for actuating it, substantially as set forth.
2. In a power hammer. the combination with a ram or hammer and a movable support, of an elliptic spring helve having its two members connected at one end to said ram or hammer and at the other end pivotally connected to the movable support, and means connected to the members o: the spring helve intermediate the ends thereof for operating the same.
3. In a power hammer, the combination with a ram or hammer and a lengthwise adjustable support, of an elliptic spring helve having both of its members connected at one end to said ram or hammer and at the other end pivotall: connected to the adjustable support and means connectid to the helve intermediate its ends for operating same.
4. In a power hammer the combination with a ram or hammer and a swinging fulcrum, the latter being constructed whereby it may be lengthened or shortened, of an elliptic spring helve having both of its members connected at one end to the ram or hammer and at the other end pivotally connected to the free end of the fulcrum, and means engaging the two members of the helve intermediate the ends thereof for operating the same.
5. In a power hammer the combination with a rain or hammer, of a movable fulcrum, an elliptic spring helve connecting said ram and fulcrum. bars on opposite sid.s of said spring helve, clamping bolts connecting said birs and adanted to adjust the tension and flexibility of the spring helve. and onerating means connected with said helve between its ends.
6. In a power hammer, the combination with a frame, of an elongated ram or hammer guide in said frame, a ram or hammer in said guide having an opening therein. a fulcrum rod, an elliptic spring helve having eyes in the ends of its two members, one of said eyes pivotally mounted on the fulcrum rod, an eccentric, and a pitman connecting said eccentric with the helve between the ends of the latter.
7. In a power hammer, the combination with a frame, of a head having ram guides therein and pivoted at its lower end to said frame, a shaft carried by the head, pinions on said shaft, racks on the frame in mesh with said pinions, a hand wheel to turn the shaft, and a lock nut to secure the parts at any adjustment.
S. In a power hammer, the combination with a ram or hammer, of an elliptic spring connected at one end to tha ram or hammer and at the other end to a fulcrum, a bar connecting the two ends of the spring helve and means intermediate the ends of the helve for operating the same.
9. In a power hammer, the combination with a ram or hammer, of an elliptic spring helve connected at one end to said hammer and at its other end to a fulcrum, means connecting the semi-elliptic sections of the spring for regulating their tension and means connected to the helve intermediate its ends for operating same.

No. 101,078. Station Indicator. Indicatcur de station.


Arthur James Clark, Seattle, Washington, U.S.A., 18th September. 1906 ; 6 years. Filed 25th July, 1906. Receipt No. \(138,155\).
Claim.-1. The combination with a car, a track contact and the circuit wires connected with a source of energy of two spools, a screen provided with apertures adjacent of its ends and wound about the spools, spaced attachments upon the screen, a contact on the car and connected with the track contact by two-fold primary circuit. said circuit, a duplex switch including said primary circuit, a two-fold supplementary circuit connected with the electro-magnets of said switch and terminating in two palrs of contacts arranged upon opposite sides of the screen and adapted to complete the respective circuits thereof through the said screen apertures, devices for detachably retaining the switch in its closed condition with either fold of said primary circult. electro-magnets included in said supplementary circuit for disengaging said retaining means to divert the current from one-fold to the other of said primary circuit when the respective pairs of contacts close the supplementary circuit, a iwo-fold primary circuit including a motor and a circuit closer in each of its folds, said motors, sald circuit closers which are respectively actuated by the first-named electromagnets. devices for individually retaining said circuit closers in operative condition. means co-acting with said attachments for disengaging said retaining devices from said circuit closers, and driving connections between said motors and spools.
\(\therefore\) The combination with a car, a track contact and the circuit wires connected with a source of energy of two spools. a screen provided with apertures adjacent of its ends and wound about the spools, spaced attachments upon the screen, a contact on the car and connected with the track
contact by a two-fold primary circuit, sald circuit, a duplex switch including said primary circult, devices for detachably retaining the switch in its closed condition with either fold of said primary circuit, mechanical means for diverting the current form one fold of the primary circult to the other, a two-fold primary circuit including a motor and a circuit closer in each of its folds, said motors, said circul! closers which are respectively actuated by the first-named electro-magnets, devices for individually retaining said circuit closers in operative condition, means co-acting with said attachments for disengaging said retaining devices from said circult closers and driving connections between said motors and spools.
3. The combination with a car, a track contact and the rircuit wires connected with a source of energy of two spools, a screen provided with apertures adjacent of its ends and wound about the spools, spaced attachments upon the screen, a contact on the car and connected with the track contact by a two-fold primary circuit. said circuit, a duplex switch including said primary circuit, a two-fold supplementary clrcuit connected with the electro-magnets of said switch and terminating in two pairs of contacts arranged upon opposite sides of the screen and adapted to complete the respective circuits thereof through the sald screen apertures, devices for detachably retaining the switch in its closed condition with either fold of said primary circuit, electro-magnets included in said supplementary circuit for disengaging said retaining means to divert the current from one fold to the other of said primary circult when the respective pairs of contacts close the supplementary circuit, mechanical means for diverting the current from one fold of the primary circuit to the other, a two-fold primary circuit including a motor and a circuit closer in each of its folds, said motors, said circuit closers which are respectively actuated by the first-named electro-magnets, devices for individually retaining said circuit closers in operative condition, means co-acting with said attachments for disengaging said retaining devices from said circuit closers, and driving connections between said motors and spools.
4. The combination with a car, a track contact, and the circuit wires connected with a source of energy, of two spools, a screen provided with apertures adjacent of its ends and wound about the spools, spaced attachments upon the screen, a contact on the car and connected with the track contact by a two-fold primary circuit, said circuit, a duplex switch including said primary circuit, a two-fold supplementary circuit connected with the electrro-magnets of sald switch and terminating in two pairs of contacts arranged upon opposite sides of the screen and adapted to complete the respective circuits thereof through -the sald screen apertures, devices for detachably retaining the switch in its closed condition with either fold of sald primary circuit, electro-magnets included in said supplementary circuit for disengaging said retaining means to divert the current from one fold to the other of sald primary circuit when the respective pairs of contacts close the supplementary circuit, a slidable bar, devices actuated by the movement of the bar for reversing the switch, a two-fold primary circuit including a motor and a circuit closer in each of its folds, said motors, said circuit closers which are respectively actuated by the first-named electro-magnets, devices for individually retaining said circuit closers in operative condition, means co-acting with said attachments for disengaging said retaining devices from said circuit closers, and driving connections between sald motors and spools.

\section*{No. 101,079. Railway Track. Voie de ohemin de for.}

Reuben D. Culver, Veederburg, Indiana, U.S.A., 18th September, 1906; 6 years. Filed 12th April, 1906. Recelpt No. L3i, 973
Claim.-1. Iי, a railw 2 s tiack consirvilion, a concrete base £xtending lorgitudinally beneath each track rail, and rail cushiuns arranged at intervals in the tops of said bases, substatially as spenified.
2. It ab railway track raistriatin, a coucrete base extandlick lons;tudinally heleeitly cach track rail, there being cavirites !ormerl at intervals '"1 the tops of the bases, and rail cushlons arranged in said cavities, substantially as zreciflel
3. An improved track construction for street and other railways comprising independent cement concrete bases having spaces formed at intervals in their length, cushions nounted in said spaces, and ralls supported by said cushfous, substantially as specified.
4. An improved track construction for street and other rallways, comprising independent cement concrete bases, bearing boxes formed at intervals in the length of said bases, cushions mounted in said boxes, rails supported by said cushions, and bolts engaging said ralls and having their lower ends anchored to said bases, substantially as specified.
5. An improved track construction for street and other railways. comprising independent cement concrete bases.

\section*{No. 101,080. Production of Nickel.}

\section*{Production de nickel.}

Ellen G. Elworthy, Battlefleld Road, Herts, England, administrix of the estate of Herbert Samuel Elworthy, 18th September, 1906; 6 years. Filed 30th May, 1905. Receipt No. 125,609.
Claim.-1. Method or process for the manufacture of nickel. comprising the reduction of a nickel compound by means of a reducing gas and heating the resulting metallic nickel to a temperature at which the metal becomes pasty and coherent.
2. Method or process for the manufacture of nickel, comprising the reduction of a nickel compound by means of a reducing gas, and heating the resulting metallic nickel in an atmosphere of gas inert thereto. to a temperature at which the metal becomes pasty and coherent.
3. Method or process for the manufacture of nickel, comprising the reduction of a nickel compound, as commercial nickel oxide, by a reducing gas, as hydrogen, and heating the resulting metallic nickel to approximately 1,200 to \(1,400^{\circ} \mathrm{C}\).
4. Method or process for the manufacture of nickel, comprising the reduction of a nickel compound, as commercial nickel oxide, by a reducing gas, as hydrogen, and heating the resulting metallic nickel in an atmosphere of gas inert thercto approximately \(1,200^{\circ}\) to \(1,400^{\circ} \mathrm{C}\).

\section*{No. 101,081. Tag. Etiquette.}


Axel E. Ellis, Boston. Massachusetts. U.S.A.. 18 th September.
1906; 6 years. Filed 25th June. 1906. Receipt No. 137,281.
Claim.-1. A tag comprising a body portion, a string and a fastening device, said fastening device belng located near one end of the tag and provided with a plurality of prongs and said string being looped about one prong and passing between two other prongs, substantially as described.
2. A tag comprising a body portion, a string and a fastening device provided with three or more prongs, said string being looped about one of said prongs and passing between two other prongs, sald prongs extending through the body portion of the tag and being clinched on the reverse side, substantially as described.
3. A tag comprising a body portion, a pronged fastening device located adjacent to one end of the tag and a string looped about one of the prongs of said fastening and placed with both strands arranged between other prongs, said prongs extending through the body portion and being clinched upon the reverse side, substantially as described.

\section*{No. 101,082. Tag. Etiquettc.}

Lavid Essex, Kearney, New Jersey. U.S.A., 18th September, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138.083.
Claim.-1. A tag comprising a body, a turned-over lap at each end of said body, and a string or cord connected with each end and the turned-over lap of the said body, and each string or cord having a pair of free end portions extending from each end of the tag. whereby the tag can be arranged and secured in a flat condition upon a package, substantially as and for the purposes set forth.
2. A tag comprising a body. a turned-over lap at each end of said body, both the said body and said laps being provided with a plurality of perforations at the ends of the tag, and a string or cord at each end of said body, each string or cord beling inserted in the perforations at the respective ends ci the tag, and having their free end portions extending from the ends of the tag. whereby the tag can be arranged and secured in a flat condition upon a package, substantially as and for the purpose set forth.
3. A tag comprising a body, sald body being provided at each end with two pairs of perforations, said perforations being staggered. and a string or cord at each end of sald body, each string being inserted in the said staggered perforations
and having their free end portions extending from the ends of the tag. whereby the tag can be arranged and secured in

a fiat condition upon a package, substantially as and for the purposes set forth.
4. A tag comprising a body, a turned-over lap at each end of said body, both the said body and said laps being provided with two pairs of perforations, said perforations being staggered, and a string or cord at each end of said body, each string being inserted in said staggered perforations and having their free end portions extending from the ends of the tag, whereby the tag can be arranged and secured in a flat condition upon a package, substantially as and for the purposes set forth.

No. 101,083. Steam Engine. Machine à vapeur.


Thomas Row Fowler, Formby, Lancaster, England, 18th September, 1906; 6 years. Filed 16th July, 1906. Receipt No. 137,870.
Claim.-1. In a high pressure, superheated steam engine of the single acting type, the combination of a closed crank chamber \(j\), a cylinder \(a\) open at its inner end, and in iree communication with the chamber \(j\). two pistons \(c\), \(d\), directly connected together and working in said cylinder, a space \(f\) between the said pistons, and a port \(g\) through the walls of the cylinder in constant communication with the saidespace, substantially as described.
2. In a high pressure, superheated steam engine of the single acting type, the combination of a closed crank chamber \(j\), a cylinder \(a\) open at its inner end, and in free communication with the chamber \(j\), two pistons \(c, d\), directly connected together and working in said cylinder, a space \(f\) between the said pistons, a port \(g\) through the walls of the cylinder in constant communication with said space, a jacket \(b\) around the cylinder \(a\), a passage \(r\) communicating at one part with the cylinder \(a\) and at another with the jacket \(b\), an exhaust lift valve \(k\) adapted to opan and close the said communication, and an exhaust port \(n\) on said jacket \(b\), as herein set forth.

\section*{No. 101,084. Finger Bar of Mowery.}

\section*{Barre de fauchouses.}

William Gaterman, Manitowoc, Wisconsin, U.S.A., 18th September, 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,222.
Claim.-1. In combination with the finger bar and guards of a mower or harvester, a series of castings, shoes pivotally attached to the forward ends of sald castings, sald shoes having pointed front ends and lifting arms extending backward therefrom, adjustable and vertically reversible end socketed engaging bodies to receive and hold the points or forward ends of said guards and bolts for securing the said bodies in adjusted position.
2. In combination with the finger bar and guards of a mower or harvester, a series of castings having openings
therein, adjustable and vertically reversible end socketed engaging bodies for the reception of the points or forward

ends of said guards, and bolts for uniting the castings and bodies in adjusted position.
3. In combination with the finger bar and guards of a mower or harvester, a series of castings, and a series of adjustable and vertically reversible end socketed bodies attached to said casting for the reception of the points or lorward ends of said guards.
4. In combination with the finger bar and guards of a mower or harvester, a series of castings with openings therethrough, adjustable and vertically reversible end socketed engaging bodies for the guard points, and bolts for securing the castings and bodies together, sald bolts being adjustably movable in said openings, and adapted to stay in place after adjustment.
5. In combination with the finger bar and guards of a mower or harvester, a series of castings, shoes pivotally attached to the forward ends of said castings and having pointed cront ends, and a serles of engaging bodies having end sockets at one side of the centers thereof, and adjustably secured to said castings for the reception of the forward ends of the guards, said bodies being reversible so as to receive sald guard ends at a different elevation, whereby the eievation of the shoe points may be changed.
5. In combination with the finger bar and guards of a mower or harvester, a series of castings, shoes pivotally atbached ito the forward ends of said castings, said shoes having pointed front ends, and lifting arms extending backward therefrom, longitudinally and reversible blocks having end sockets at one side of the centers thereof for the reception of the points of forward ends of said guards, and bolts for securing the said blocks in adjusted position.
6. In combination with the finger bar and guards of a mower or harvester, a series of castings recessed to form troughs with divergent side walls, and having longitudinal openings with serrated opposed edges through their bottom walls, hexagonal longitudinally adjustable and reversible blocks formed with end sockets at one side of their centers for the reception of the points or forward ends of sald guards and vertical bores beyond the end sockets, and bolts for uniting the castings and blocks, the bolt shank having squared or lozenge-shaped portions for adjustable engagement with the serrated edges of the trough openings.
8. In combination with the finger bar and guards of a mower or harvester, a series of castings, and a series of reversible blocks resting on and attached to said castings, and having end sockets at one side of the centers thereof for the reception of the points or forward ends of said guards.
9. In combination with the finger bar and guards of a mower or harvester, a reversible socketed member for each guard adapted to engage the point thereof at one side of the central horizontal plane of the block, a supporting member adjustably connected therewith and also secured to the finger bar, and lifting shoe pivotally connected with said supporting member in advance of the socketed member.

\section*{No. 101,085. Ice Cream Freezer.} Appareil réfvigérant pour crème a la glace.
Henry Jacob Gerner, Niagara Falls, New York, U.S.A., 18th September, 1906; 6 years. Filed 15th May, 1906. Receipt No. 135,934 .
Claim.-1. In an ice cream freezer, a freezer can, a cream feeding pipe leading into said can adjacent the bottom thereof, an air supply plpe communicating with the feed pipe, agitating means within said freezer can, and means for rotating same.
ereezer can, a cream feed pipe 2. In an ice cream freezer, a freeze bottom thereof, an air leading into said can adjacent the bottom

supply pipe communicating with the feed pipe, oppositely rotating agitating means operating within said freezer can, and means for operating said oppositely rotating agitating means.
3. In an ice cream freezer, a tub, a freezer can stationary within said tub, a frame mounted within said freezer can and provided with wings or arms held at a suitable angle, a shaft also within said freezer tub and provided with wings or arms held at a suitable angle, and means for rotating said frame and said shaft in opposite directions.
4. In an ice cream freezer, a tub, a freezer can stationary within said tub and provided with a pyramidal or frustro-conical-shaped top, a discharge tube opening into said top, a frame mounted within said freezer and provided with wings or arms held at a suitable angle, a shaft also within said freezer tub and provided with wings or arms held at a suitable angle, a spiral discharge screw controlled by said frame and operating within said freezer can top and designed to feed the finished product out of said freezer through said discharge tube, and means for rotating said frame and said spiral discharge screw in a direction opposite to that in which said shaft is rotated by said means.
5. In an ice cream freezer, the freezer tub hung to swing in uprights or standards, freezer can mounted in the tub, a reservoir, a feed pipe in communication with the reservoir and the freezer can adjacent the bottom of the latter, means for agitating the cream within the freezer can, and means for moving the tub and freezer can from a vertical to a horizontal position to permit of the discharge of the finished product.
6. In an ice cream freezer, a vertically disposed freezer tub trunnioned to swing in uprights or standards, a can mounted stationary within said tub, means for supplying a freezing agent to the tub through one of the trunnions, means for supplying cream to the can through the other trunnions, means for moving the tub and can from a vertical to an inclined and horizontal position, and agitating means within the freezer can.
7. In an ice cream freezer, a vertically disposed fre zer tub, a freezer can mounted stationary therein, means for supplying cream to said freezer can adjacent the bottom thereof, a frame mounted to turn within said freezer can and provided with wings or arms placed at a suitable angle, a shaft mounted within said freezer can and provided with wings or arms placed at a suitable angle, the said shaft and its wings or arms rotated in a direction opposite to the direction of rotation of said frame and its wings or arms, and means for rotating said frame and said shaft.
8. In an ice cream freezer, a freezer tub trunnioned in uprights or standards, a freezer can mounted within said tub and stationary therein, means for supplying brine to the tub through one of the trunnions, a cream supply pipe leading through the opposite trunnion and into the freezer can adjacent the bottom, agitating means within the freezer can, and means for moving the tub on its trunnions to incline the same.
9. In an ice cream freezer, a freezer can provided at its upper edge with a series of lugs, threaded bolts pivoted or hinged to said lugs, a can top resting on the top of said can and provided with a horizoníal flange having notches which receive said threaded bolts, and nuts in said bolts for securing said top to said freezer can.
10. In an ice cream freezer, a ireezer tub, a freezer can mounted within said tub and provided with a substantially pyramidal or frusto-conical fop, a lid for the freezer tub embodying two hinged sections or members adapted to con-
form to said top and means for holding said sections or members in the closed gosition.
11. In an ice cream freezer, a stationary freezer can, a frame mounted within said can and provided with a seriso of wings or arms placed at a suitable angle, a shaft also mounted within said can and provided with a series of wing mounted wid at a suitable angle, said sliaft and its wings or arms held at a suictate in a direction opposite to the or arms designed to rotate frame and its arms or wings direction of rotation of sald rotating these members.
and means for oppositely rotating stationary freezer can, a
12. In an ice cream freezer, and provided with a series frame mounted within said can and provide, a sleeve held of wings or arms placed at a said freezer can and provided to rotate within the botholes or notches, pins secured to or in its top portion with holase and designed to rest in the formed a part of said frame and shaft also mounted within holes or notches in said sleeve. aries of wings or arms held said can and provided with a member mounted within said at a suitable angle, a couplate therewithin and provided with sleeve and designed to rotate head in which is designed to a square-shaped socket in its end of said shaft and means fit the square shaped other said shaft in shaft, and means for rotating said frame and sald shaft in opposite directions.

No. 101,086. Circulating Advertising Card. Carte d'annonce.


George Weatherall Hemmans. Winnipeg. Manitoba, Canada. 18 th September, 1906; 6 years. Filed 27 th July, 1906. Receipt No. 138,216 .
Claim.-1. Improved advertising means, comprising a monthly circulating card, having a centrally disposed limitrd space thereon, a vertical index column at the outer edge thereof, vertically and horizontally aligned block sections. to receive the text of the individual advertisements, sur rounding said open space. vertical columns adjoining said index column, and means within said adjoining columns. co-operative with said index column, for giving immediate reference to the aforesaid individual block sections, as anti for the purpose specifled
2. An improved advertising device comprising a card divided at one portion into columns and lines by squares an 1 having a complementary index portion to designate the contents and positions of each square on the card, as and for the purpose specified.

\section*{No. 101,087. Sterilizing Cabinet.}

\section*{Cabinet de stérilisation.}

James A. Henning, Beardstown, Illinois, U.S.A., 18th September, 1906 ; 6 years. Filed 26th June, 1906. Receipt No. 137,304.
Claim.-1. In a sterilizing cabinet, a plurality of perforated shelves arranged within the cabinet one above the other to form compartments, whereby a sterilizing agent may pass throughout the entire cabinet, a door for one of the faces of the cabinet whereby access may be had to the entire cabinet, and means carried by the door communicating with each of the compartments in such a way that access may be had to une of the shelves independent of the other compartments.
2. In a sterilizing cabinet, a plurality of perforated shelves arranged within the cabinct one above the other and forming compartments through which a sterilizing agent is free to pass, a door for one of the faces of the cabinet, said door being provided with a series of openings communicating with a compartment within the cabinet, the lower edge of each
opening being flush with the corresponding shelf or floor and means for closing each of the openings within the door.

3. In a sterilizing cabinet, a plurality of perforated sleeves aranged within the cabinet one above the other and forming compartments, each of said compartments being of such size as to receive a tray, a hinged door for one of the faces of the cabinet, sald door permitting access to all of the compartments, said door having a series of openings of such size as to allow the passage of a tray therethrough, each of sald. openings communicating with a compartment within the cabinet, the lower edge of each opening being flush with the corresponding shelf or floor, guides on the sides of the openings and drop doors mounted in the guides.

No. 101,088. Tension Regulator for Belte, Ftc. Régulateur de tension de courroies, etc.


Frederick Duncan Mercer, London, Ontario, Canada, 18th September, 1906; 6 years. Filed 16th March, 1906. Receipt No. 133,965 .
Claim.-1. A tension regulating means comprising a belt, a tension regulator, means connected with the tension regulator and connecting one part of the belt to another part, means for attaching the connecting means at one place to the belt, and other means for slidably attaching the connecting means at another place disposed with regard to the firstmentloned place lengthwise of the belt, and located between the tension regulator and the first-mentioned means of attachment.
2. A tension regulating means comprising a belt, a tension regulator. means connected with the tension regulator and connecting one part of the belt to another part, said connecting means being attached at one place to the belt, and slidably attached to the belt at another place disposed with regard to the first-mentioned place lengthwise of the belt, said last-mentioned place being intermediate the tension regulator and the first-mentioned place of attachment.
3. A tension regulating means comprising a belt, a tension regulator, means connected with the tension regulator and connecting one part of the belt to another part, means for attaching the connecting means at one place to the belt and aranged to adjust the length of the connecting means, other means for slidably attaching the connecting means to the belt at another place disposed with regard to the first-ment;oned place lengthwise of the belt. said last-mentioned means being located between the tension regulator and the arst-mentioned means of attachment.
4. A tension regulating means comprising a belt, an extenalle and contractile member, means connected with the extensile and contractile member and connecting one part of the belt to another part, means for attaching the connecting neans at one place to the belt, other means for slidably at-
taching the connecting means to the belt at another place disposed with regard to the first-mentioned place lengthwise ot the belt, said last-mentioned means being located between the extensile and contractile member and the first-mentioned means of attachment, and means for adjusting the connecting means.
5. A tension regulating means comprising a belt, a tension regulator, means connected with the tension regulator, and connecting one part of the belt to another part, means for attaching the connecting means at one place to the belt, and other means for slidably attaching the connecting means to the belt at another place disposed with regard to the firstmentioned place lengthwise of the belt, and located between the tension regulator and the first-mentioned means of attachment, and means for limiting the extending movements of the tension regulator.
6. A tension regulating means comprising a belt, a .tension regulator, means connected with the tension regulator and connecting one part of the belt to another part, means for attaching the connecting means at one place to the belt, and arranged to adjust the length of the connecting means, other means for slidably attaching the connecting means to the \(b \in l t\) at another place disposed with regard to the first-mentioned place lengthwise of the belt, said last-mentioned means being located between the tension regulator and the first-mentioned means of attachment and means for limiting the extending movements of the tension regulator.
7. A tension regulating means comprising a belt, a tension regulator disposed transversely to the length of the belt and intermediate its side edges, connecting means connected with the tension regulator, fastening means for adjustably attaching the connecting means at one place to the belt, and other means for slidably attaching the connecting means to the belt, said last-mentioned means of attachment being located intermediate the tension regulator and first-mentioned means of attachment.
8. A tension regulating means comprising a belt, a tension regulator disposed transversely to the length of the belt, connecting means connected with the ends of the tension regulator, fastening means for attaching the connecting means at one place to the belt, and other means for slidably attaching the connecting means to the belt intermediate the tension regulator and the first-mentioned means of attachment, said last-mentioned means of attachment belng arranged to limit the extending movement of the tension regulator.
9. A tension regulating means comprising a belt, a tension regulator disposed transversely to the length of the belt, connecting means connected with the ends of the tension regulator, fastening means for attaching the connecting means at one place to the belt, and other means for slidably attaching the connecting means to the belt intermediate the tension regulator and the first-mentioned means of attachment, said last-mentioned means of attachment being arranged to limit the extending movement of the tension regulator, and means for adjusting the length of the connecting means.

No. 101,089. Lock. Scrrure.


Sorren Juul Nielson, Copenhagen, Denmark, 18th September, 1906; 6 years. Flled 9th December, 1905. Receipt No. 130,833.
Claim.-Keyless lock comprising in combination a frame at the front end of the drawer to be locked, a ledge in the bottom end of the frame, a slab with a horizontal slot for covering the front surface of the frame, and upper guide board of the drawer having a groove in the lower surface and the bottom plate of the drawer having a groove in the upper surface, a number of vertical rods shorter than the helght
of the frame standing on said ledge of the frame and provided with an aperture, an equal number of longer rods close behind said short rods, having longitudinal slots and adapted to engage with the groove of the bottom plate or with the groove of the upper gulde board according to their position with regard to the front rods, and flat headed screw bolts located in the apertures of the front rods and projecting with their heads through the slot of the slab and plate flxed in the drawer behind the longer rods, screw nuts for the reception of the ends of the flat headed screw bolts in said plate, substantially as described and shown and for the purpose set forth.

No. 101,090. Surface Carbureters. Carburatewr.


William Oliphant, mronto, Ontario, Canada, 18th September 1906; 6 years. Filed 4th May, 1906. Receipt No. 135,530.
Claim.-1. In a carbureter a tank, a feed rescrvoir therefor having its outlet extending down below the fluld level in the tank, a diphragm in the reservoir close to its outlet having an opening therein and a needle valve adapted to control the said opening and having its stem extending out through the reservoir, substantially as described.
2. In a carbureter a tank, a feed reservoir therefor having its outlet extending down below the fluid level in the tank, a cup supported about the lower end of the outlet to form a scal perforated to permit of a flow of liquid, substantially as described.
3. In a carbureter a tank, a tapped air inlet therefor, an air outlet therefor, a supply pipe for an engine connected with the air outlet, a check valve in said pipe, and a valve controlled air inlet in the pipe between the check valve and the engine end of the pipe, substantially as described.

\section*{No. 101.091. Driving Belt and Covering for Friction Wheels.}

Courroic If commande et courercle pour roue» de friction.


Parascheva Seehiari, Paris, France, 18th September, 1906; 6 years. Filed 1st May, 1906. Recelpt No. 135,429.
Claim.-1. A frictional transmission element having a covering or envelope of cork.
2. A transmission element having a working surface of denaturized cork.
3. A transmission element having a covering of denaturized cork applied in sheets.
4. A transmission element having a body of textlle fabric and a covering composed of sheets of denaturized cork.
5. A driving belt comprising a body of textile fabric and a covering of denaturized cork applied in sheets.
6. A driving belt comprising superposed plies of textile fabric and a covering of cork sheets applied thereto by rubber containing cement.
7. A driving belt embodying a plurality of plies of textile liabric applied to each other by means of india rubber rement, and a covering of cork sheets, likewise applied by mans of india rubber cement to the outer piles.
8. A driving belt embodying a plurality of plies of textile fabric applied at an angle to each other by means of india rubber cement, and a covering of cork sheets, likewise applied by matas of india rubber cement to the outer plles.

No. 101,092. Steam Enginc. Machine d rapfur.


Leon Serpollet, Paris, France, 18th September, 1906; 6 years. Filed 11th June, 1906. Receipt No. 137,700.
Claim.-1. A double steam acting motor with distribution by means of valves, comprising in combination a motor cylinder \(a\) with two bottoms, a cylindrical sleeve \(j\) rigid. connected to the motor cylinder and in a line therewith. a tight casing \(p\) filled with oil and secured in a line with the sleeve \(j\), a piston \(c\) moving in the motor cylinder, a slide block \(k\) fixed to the pree end of the piston rod and moving tigthly in the sleeve \(j\), a connecting rod \(l\) jointed to the block \(k\) and a cross driving shaft o journalled on bearings through the casing \(p\) and to which is jointed the connecting rod, substantially as described and for the purpose set forth.
2. A double steam acting motor with distribution by means of valves, comprising in combination a motor cylinder \(a\) with two bottoms, a cylindrical sleeve \(;\) rigidly connected to the motor cylinder and in a line therewith, a tight casing \(p\) flled with oll and secured in a line with the sleeve \(j\), a piston \(c\) moving in the motor cylinder, a slide block \(k\) fixed to the free end of the piston rod and moving tightly in the sleeve \(j\), a connecting rod \(l\) fointed to the block \(k\), a cross driving shaft \(o\) journalled on bearings through the casing \(p\) and to which is jointed the connecting rod, a guide \(d\) for the piston rod comprising parallel grooves, a passage \(g\) by which oll is supplied to said grooves, a passage \(h\) leading on one hand to the sleeve \(;\) between the guide \(d\) and the slide block \(k\) and on the other hand to the exterior, substantially as described and for the purpose set forth.
3. A double steam acting motor with distribution by means of valves, comprising in combination a motor cylinder \(a\) with two bottoms. a cylindrical sleeve \(j\) rigidly connected to the motor cylinder and in a line therewith. a tight casing \(p\) filled with oil and and secured in a line with the sleeve \(j\), a piston \(r\) moving in the motor cylinder. a slide block \(k\) fixed to the free end of the piston rod and moving tightly in the sleeve \(f\), a connecting rod \(l\) jointed to the block \(k\), a cross driving shaft o journalled on bearings through the casing \(p\) and to which is jointed connecting rod, two admission valves 1 and 2 , two exhaust valves 3 and 4, a distributing shaft \(q\) parallel with the motor shaft and journalled on bearings through the casing \(p\), two cams r and " mounted on the distributing shaft within the casing p, two rollers \(s\) carried by the rod of one the admlssion valves and by the rod of one of the exhaust valves, and bearing respectively on the cams \(r\) and \(u\), and two transmission levers \(t\) bearing on one side respectively upon the cams \(r\) and \(u\) and on the other side upon the ends of the rods of the other admission valve and of the other exhaust valve. substantially as described and for the purpose set forth.

No. 101093. Can Opener. Appareil d ouvrier les boîtcs.


Archibald Grant Snowdown, Westmount, Quebec, Canada, 18th September. 1906; 6 years. Filed 1st August, 1906. Receipt No. 138,330.
Claim.-1. A can opener comprising a case having an opening at one end thereof and a knife blade projecting from its under side at sald open end and a bar slidably arranged in said case and extending beyond the open end thereof having at the outer end thereof a downwardly and outwardly turned and pointed end, and means for stopping the further movement of the bar on the said bar reaching its extreme outer position, as and for the purpose specifled.
2. A can opener comprising a case having an open end and formed in the interior thereof with suitable guide ways, a knife blade projecting from its under side and in a parallel direction therewith , bar sliding in sald guide ways and having a pointed end suitably formed to engage one of the walls of the can, said pointed end extending byond said open end of the case, and means for stopping the slipping out of the bar from the case, as and for the purpose specifled.
3. A can opener comprising a handle having a central recess and a knife blade projecting from its under surface in a parallel direction therewith and a bar longitudinally slotted having a suitably formed point to engage the top of the can and a rivet extending through the said handle and said slot in the bar, as and for the purpose specified.
4. A can opener comprising a handle internally recessed forming a case and having a knlfe blade projecting from the ur der side thereof and in a parallel direction therewith, a bar longitudinally slotted and correspondingly formed to slide in said recess, and a rivet extending across the open end of said recess through said slot in the sliding bar, as and for the purpose specified.
5. A can opener comprising a handle formed of upper and lower pieces internally grooved to form a case having a gulde way therein and an open end, a knife blade projecting from the under side of said under piece and extending in a parallel irection therewith, a bar sliding in sald handle and extending through said open end and having a longitudinal slot for a portion of its length and a downwardly and outwardly turned point adapted to engage the can, and a rivet securing said pleces together at the open end thereof and extending through the slot in the said bar and forming the stop for the further outwardly movement of said bar, as and for the purpose specifled.

\section*{No. 101,094. Bed. Lit.}

John Henry Sticht, Montreal, Quebec, Canada, 18th September, 1906; 6 years. Filed 11th January, 1906. Receipt No. 131,760.
Claim.-1. The combination with a bed post and a slide frame piece, of a member secured rigidly to the post and presenting a pair of vertical ribs having corresponding transverse recesses extending downwardly from their tops, the forwand walls of such recesses being downwardly inwardly inclined to present vertical wedges, a second member secured rigidly to the side frame and presenting a pair of abutment shoulders and a vertical tongue adapted to be received between the said pair of ribs, and a transverse pin projecting through the middle of the said tongue and having its ends adapted to be inserted into the recesses in the pair of pibs and jam the said wedges between them and the abutment shoulders, substantlally as described and for the purpose set forth
2. The combination with a bed post and a side frame piece, of a member secured rigidly to the post and presenting a

pair of vertical ribs having the outer corners of their adjacent sides rounded and such sides being formed with corresponding longitudinal recesses extending downwardly from their tops to within a short distance of their lower ends, the forward walls of such recesses being downwardly inwardly inclined to present vertical wedges, a second member secured rigidly to the side frame piece and presenting a pair of abutment shoulders and a vertical tongue adapted to be received between the said pair of ribs, and a steel pin project ing through the middle of the tongue with its ends adapted to be inserted into the slots in the pair of ribs and jam the wedges between them and the abutment shoulders, substantially as described and for the purpose set forth.

\section*{No. 101,095. Tag for Clothing.}

Etiquettc pour vêtements.


John Cornelius St. John, Boston, Massachusetts, U.S.A., 18th September, 1906; 6 years. Filed 16th July, 1906. Receipt No. 137,860 .
Claim.-1. The combination with a ticket or tag made of cardboard or other such like material, and a fabric of any suitable kind lying in part within the thickness of the tag, of a pin inserted through and lying in the thickness of the tag and passing through the goods lying within the thickness of the tag, substantially as described for the purpose specifled.
2. The combination with a ticket or tag made of cardboard or other such like material and having a hole through its thickness, and a fabric of any suitable kind lying in part within said hole of the tag, of a pin inserted through and lying in the thickness of the tag and passing through the goods lying within said hole of the tag, substantially as described for the purpose specified.
3. A pin tag comprising a main label having a seat formed in the body therefor, and having cavities in the body thereof aligned with each other on the opposite sides of said seat. and a removable fastener inserted in said cavities and across fald seat, substantially as described.

No. 101,096. Milling Machine. Machine d mouler.


Percy Leonard Weston, University of Sidney, New South Wales, Australla, 18th September, 1906; 6 years. Filed 16th December, 1906. Receipt No. 131,062.
Olaim.-1. A bevel gear milling machine comprising a stationary standard having a head whose center constitutes a fixed axis for the co-acting parts, a sleeve having a socket articulating mounted on the head of the stationary standard, an arm supported by the sleeve, a tool supporting means connected with the arm, a work supporting standard adjustable relatively to the stationary standard and radially on an arc concentric with the fixed center, and means for actuating the arm to determine the obliquity of the tool on the work.
2. A bevel gear milling machine comprising a base, a stationary standard supported thereon having a head, the center of which constistutes a fixed center for the co-acting parts, an oscillatory plate mounted upon the base and movable in a curvilinear plane concentric with the fixed center, a work supporting standard carried by the oscillatory plate, adjustable relatively to the stationary standard and radially to the fixed center, a sleeve supported by the stationary standard, and arm carried by the sleeve, a tool supporting means adjustable connected with the arm, and means for automatically positioning the arm to determine the obliquity of the tool on the work.
3. A bevel gear milling machine comprising a base, a stationary standard supported thereon having a head, the center of which constitutes a fixed center for the co-acting parts, an oscillatory plate mounted upon the base and morable in a curvilinear plane concentric with the center of the fixed standard, a work supporting standard carried by the oscillatory plate adjustable relatively to the stantionary standard, an arm shpported by the stationary standard, a tool supporting means adjustably connected with the arm and and so arranged that the longitudinal axis of the cutting tool supported by its will when projected intersect the fixed center, and means for automatically positioning the arm to determine the obliquity of the tool on the work.
4. A bevel gear milling machine comprising a base, a stationary standard supported thereon having a head, the center of which constitutes a fixed center for the co-acting parts, an oscillatory plate mounted upon the base and movable in a cnrvilinear plane concentric with the fixed center, a work supporting standard carried by the oscillatory plate, means for adjusting the oscillatory plate, means for adjusting the work supporting standard relatively to the stationary standard, an arm supported by the stationary standard, a tool supporting means adjustably connected with the arm and arranged so that the longitudinal axis of the work cutting tool will constantly Intersect the fixed center, and means for automatically positioning the arm to determine the obliquity of the tool on the work.
5. A bevel gear milling machine comprising a base, a stationary standard supported thereon having a head, the conter of which constitutes a fixed center for the co-acting parts, an ocillatory plate mounted upon the base and mor-
able in a curvilinear plane concentric with the fixed center. a work supporting standard carried by the oscillatory plate, means for adjusting the oscillatory plate, means for adjusting the work supporting standard relatively to the stationary standard, an arm suported by the stationary standarr a tool supporting means adjustably connected with the arm and arranged so that the longitudinal axis of the work cutting tool will constantly intersect the fixed center, and means for automatically positioning the arm to determine the obliquity of the tool on the work, comprising a sector plate on the free end of the arm, a guide cone engaging the working face of the sector plate, a travelling clutch engaging the sector plate and the guide cone, and means for actuating the travelling clutch.
6. A bevel gear inlling machine comprising a base, a stationary standard supported thereon having a head, the center of .which constitutes a fixed center for the co-acting parts, an oscillatory plate mounted upon the base and movable in a curvilinear plane concentric with the fixed center, a work supporting standard carried by the oscillatory plate, means for adjusting the work suppnrting standard relatively to the stationary standard, an arm supported by the stationary standard, a tool supporting means adjustably connected with the arm and arranged so that the longitudinal axis of the work cutting tool will constantly intersect the fixed center, and means for automatically positioning the arm to determine the obliquity of the tool on the work, comprising a sector plate on the free end of the arm, a gulde cone engaging the working face of the sector plate, a travelling clutch engaing the sector plate and the guide cone, and means for actuating the travelling clutch, comprising a pair of clutch arms, a spur wheel to oscillate the clutch arms in a fixed path. a pinion meshing with the spur wheel, a stub shaft for the pinion, a worm wheel mounted on the stub shaft and arranged to revolve un!tedly with it in one direction and to permit the stub shaft to revolve independently of it in the opposite direction, a worm meshing with the worm wheel, and means for causing the revolution of the worm.
7. A bevel gear milling machine comprising a base, a stationary standard supported thereon having a head the center of which constitutes a fixed center for the co-acting parts. an oscillatory plate mounted upon the base and movable in a curvilinear plane concentric with the fixed center, a work supporting standard carried by the oscillatory plate, means for adjusting the work supporting standard relatively to the stationary standard, an arm supported by the stationary standard, a tool supporting means adjustably connected with the arm and arranged so that the longitudinal axis of the work cutting tool will constantly intersect the fixed center, means for automatically positioning the arm to determine the obliquity of the tool on the work, comprising a sector plate on the free end of the arm, a guide cone engaging the working face of the sector plate, a travelling clutch engaging the sector plate and the guide cone, and means for actuating the travelling clutch, comprising a pair of clutch arms, a spur wheel to oscillate the clutch arms in a fixed path, a pinion meshing with the spur wheel, a stub shaft for the pinion, a worm wheel mounted on the stub shaft and arranged to revolve unitedly with it in one direction and to permit the stub shaft to revolve independently of it in the opposite direction, a worm meshing with the worm wheel, means for causing the revolution of the worm, and means for automatically stopping the motion of the worm when the travelling clutch has completed its movement in a forward direction.
8. A bevel gear miling machine comprising a base, a stationary standard supported thereon having a head, the center of which constitutes a fixed center for the co-acting parts, an oscillatory plate mounted upon the base and movable in a curvilinear plane concentric with the fixed center, a work supporting standard carried by the osclllatory plate, means for adjusting the work supporting standard relatively to the stationary standard, an arm supported by the stationary standard, a tool supporting means adjustably connected with the arm and arranged so that the longitudinal axis of the work cutting tool will constantly intersect the fixed center, means for automatically positioning the arm to determine the obliquity of the tool on the work, comprising a sector plate on the free end of the arm, a guide cone engaging the working face of the sector plate, a travelling clutch engaging the sector plate and the guide cone, and means for actuating the travelling clutch, comprising a pair of clutch arms, a spur wheel actuating the clutch arms and adapted to oscillate the clutch arms in a fixed path, a pinion meshing with the spur wheel, a stub shaft for the pinion, a worm wheel mounted on the stub shaft and arranged to revolve unitedly with it in one direction and to permit the stub shaft to revolve independently of it in the opposite direction, a worm meshing with the worm wheel, means for causing the revolution of the worm, and two bands, the ends of one of which are connected to the upper extremity of the gulde cone and to the lower extremity of the sector plate, and the other to
the upper extremity of the sector plate and to the lower extremity of the guide cone.
9. A bevel gear milling machine comprising a stationary standard having a head whose center constitutes a fixed axis for the co-acting parts, a sleeve having a socket articulatirgly mounted on the head of the stationary standard, an arm supported by the sleeve, a movable head adjustable on the arm, a plate swivelled to the movable head, a tool supporting means connected with the swivel plate, a work supporting standard adjustable relatively to the stationary standard and radially on an arc concentric with the fixed center, and means for actuating the arm to produce a geometrically correct involute conical surface on the work.
10. A bevel gear milling machine comprising a base, a stationary standard supported thereon having a head, the center of which constitutes a fixed center for the co-acting parts, an oscillatory plate mounted upon the base and movable in a curvilinear plane concentric with the fixed center, a work supporting standard carried by the oscillatory plate adjustable relatively to the stationary standard and radially to the fixed center, a sleeve supported by the stationary standard, ar arm carried by the sleeve, a movable head adjustable on the arm, a plate swivelled to the movable head, a tool supporting means connected with the swivel plate, and means for actuating the arm to produce a geometrically correct involute conical surface on the work.
11. A bevel gear milling machine comprising a base, a stationary standard supported thereon having a head, the center of which constitutes a fixed center for the co-acting parts, an oscillatory plate mounted upon the base and movable in a curvilinear plans concentric with the center of the fixed standard, a work supporting standard carried by the osclllatory plate adjustable relatively to the stationary standard, an arm supported by the stationary standard, a movable head adjustable on the arm, a plate swivelled to the movable head, a tool supporting means connected with the swivel plate and means for actuating the arm to enable the tool to produce a geometrically correct involute conical surface on the work.
12. A bevel gear milling machine comprising a base, a stationary standard supported thereon having a head, the center of which constitutes a fixed center for the co-acting parts, an oscillatory plate mounted upon the base and movable in a curvilinear plane concentric with the fixed center a work supporting standard carried by the oscillatory plate, means for adjusting the oscillatory plate, means for adjusting the work supporting standard relatively to the stationary standard, an arm supported by the stationary standard, a movable head adjustable on said arm, a plate swivelled to the movable head, a tool supporting means connected with the swivel plate, and means for actuating the arm to enable the tool to produce a geometrically correct involute conical surface on the work.
13. A bevel gear milling machine comprising a base, a stationary standard supported thereon having a head, the center of which constitutes a fixed center for the co-acting parts, an oscillatory plate mounted upon the base and movable in a curvilinear plane concentric with the fixed center a work supporting standard carried by the oscillatory plate, means for adjusting the oscillatory plate, means for adjusting the work supporting standard relatively to the stationary standard. an arm supported by the stationary standard, a movable head adjustable on said arm. a plate swivelled to the movable head, a tool supporting means connected with the swivel plate, means for actuating the arm to enable the tool to produce a geometrically correct involute conical surface on the work, comprising a sector plate on the free end of the arm, a guide cone engaging the working face of the sector plate, a travelling clutch engaging the sect.or plate and the guide cone, and means for actuating the travelling clutch.
14. A bevel gear milling machine comprising a base, a stationary standard supported thereon having a head. the center of which constitutes a fixed center for the co-acting parts, an oscillatory plate mounted upon the base and movable in a curvilinear plane concentric with the fixed center, a work supporting standard carried by the oscillatory plate, means for adfusting the oscillatory plate, means for adjusting the work supporting standard relatively to the stationary standard, an arm supported by the stationary standard. a movable head adjustable on said arm, a plate swivelled to the movable head, a tool supporting means connected with the swivel plate, means for actuating the arm to enable the tool to produce a geometrically correct involute conical surface on the work, comprising a sector plate on the free end of the arm, a guide cone engaging the working face of the sector plate, a travelling clutch engaging the sector plate and the guide cone, means for actuating the travelling clutch, comprising a pair of clutch arms, a spur wheel to oscillate the clutch arms in a fixed path, a pinion meshing with the spur wheel, a stub shaft for the pinion, a worm Wheel mounted on the stub shaft and arranged to revolve unitedly with it in one direction and to permit the stub
shaft to revolve independently of it in the opposite direction, and a worm meshing with the worm wheel and means for causing the revolution of the worm.
15. A bevel gear milling machine comprising a base, a stationary standard supported thereon having a head, the center of which constitutes a fixed center for the co-acting parts, an oscillatory plate mounted upon the base, and movable in a curvilinear plane concentric with the fixed center, a work supporting scandard carrled by the oscillatory plate, means for adjusting the oscillatory plate, means for adjusting the work supporting standard relatively to the stationary standard, an arm supported by the stationary standard, a movable head adjustable on said arm, a plate swivelled to the movable head, a tool supporting means connected with the swivel plate, means for actuating the arm to enable the tool to produce a geometrically correct involute conical surface on the work, comprising a sector plate on the free end of the arm, a guide cone engaging the working face of the sector plate, a travelling clutch engaging the sector plate and the guide cone, means for actuating the travelling clutch, comprising a pair of clutch arms, a spur wheel to oscillate the clutch arms in a fixed path, a pinion meshing with the spur wheel, a stub shaft for the pinion, a worm wheel mounted on the stub shaft and arranged to revolve unitedly with it in one direction and to permit the stub shaft to revolve independently of it in the opposite direction, and a worm meshing with the worm wheel, means for causing the revolution of the worm, and means for automatically stopping the motion of the worm when the travelling clutch has completed its movement in a forward direction.
16. A bevel gear milling machine comprising a base, a stationary standard supported thereon having a head, the center of which constitutes a fixed center for the co-acting parts, an oscillatory plate mounted upon the base, and movable in a curvilinear plane concentric with the fixed center. a work supporting standard carried by the oscillatory plate, means for adjusting the oscillatory plate, means for adjusting the work supporting standard relatively to the stationary standard, an arm supported by the stationary standard a movable head adjustable on said arm, a plate swivelled to the movable head, a tool supporting means connected with the swivel plate, means for actuating the arm to enable the tool to produce a geometrically correct involute conical surface on the work, comprising a sector plate on the free end of the arm. a guide cone engaging the working face of the sector plate. a travelling clutch engaging the sector plate and the guide cone, means for actuating the travelling clutch. comprising a pair of clutch arms, a spur wheel to oscillate the clutch arms in a fixed path, a pinion meshing with the spur wheel, a stub shaft for the pinion, a worm wheel mounted on the stub shaft and engaged to revolve unitedly with it in one direction and to permit the stub shaft to revolve independently of it in the opposite direction and a worm meshing with the worm wheel, means for causing the revolution of the worm, means for automatically stopping the motion of the worm when the travelling clutch has completed its movement in a forward direction, and two bands, the ends of one of which are connected to the upper extremity of the guide cone and to the lower extremity of the sector plate, and the other to the upper extremity of the sector plate and to the lower extremity of the guide cone.

\section*{No. 101,097. Turbine Bucket Wheel. Turbine d roues d godets.}


James Wilkinson, Providence, Rhode Island, U.S.A., 18th September, 1906; 6 years. Filed 4th September, 1906. Recelpt No. 139,100 .
Claim.-1. A turbine bucket wheel or drum, a bucket supporting rim thereon, buckets mounted on said rim and having integral elongated shank portions which straddle said rim and hug the sldes thereof. inwardly disposed hooked
extensions carried by said shanks and adapted to engage with said rim to hold the buckets against radial displacement, and means to secure said buckets positively to said rim.
2. The combination with a bucket supporting element provided with shouldered portions on each side. a plurality of individual buckets adapted to be mounted thereon and provided each with a pair of integral spacing shank portions adapted to straddle said element, and projections on said shanks which catch under said shouldered portions.
3. A turbine bucket element having a rim portion on which the buckets are mounted. in combination with buckets having shanks which straddle said rim portion, shoulders on said shanks adapted to engage a portion of said rim, and projections on sald rim adapted to be caulked against said shanks to hold them in engagement with said rim.
4. A bucket wheel having a rim portion for supporting buckets and an annular flange on each side, in combination with buckets adapted to be mounted on sald wheel and to be held in position by having said flanges bent into engagement with them.
5. A turbine bucket wheel comprising an under cut rim and two caulking flanges. In combination with buckets having portions which interiock with said rim, said flanges being so disposed relatively to said bucket portions that they may be bent into engagement with them, for the purposes described.
6. A turbine bucket wheel provided near its perlphery with an annular flanged portion, and a narrow annular web connecting said portion with a rim which is wider than said web but of less width than said flanged portion, in combination with buckets which straddle and interlock with said rim, the sides of said flanged portion being adapted to be bent into engagement with said buckets, for the purposes described.
7. The combination with an element having an undercut bucket sypporting portion, of individual buckets having integral spacer base blocks carrying two shanks which are adapted to straddle said portion with a close fit, sald shanks being enlarged for a considerable portion of their length to form intermediate shoulders which are adapted to enterlock with the overhanging parts of said portion, caulking flanges en said element, and tapered faces at the ends of sald shanks against which said flanges are adapted to be caulked.
8. As an article of manufacture, a bucket or vane having integral ductible shanks oppositely disposed and provided with inwardly projecting shoulders. the top faces of which are disposed substantially at right angles to sald shanks.
9. A turbine bucket wheel having a rim. in combination with bucket elements, each of which is provided with arms adapted to be spread apant and passed over said rim so as to straddle it, hooked projections on said arms so disposed that when the bucket is seated upon the rim and said arms have been brought together Against the sides of the rim. the sald projections will catch under said rim, and means to hold said projections in engagement with the rim.
10. A turbine bucket wheel having a shouldered rim of considerable radial thickness. an annular groove in said rim to lighten ft , buckets adapted to seat against said rim and having elongated hooked shanks which straddle said rim, flting closely against its sides and catching under the shouldcred portions thereof, and means to hold sald shanks in engagement with said rim.
11. The combination with a bucket supporting element, of a row of buckets mounted thereon and provided each with a spacing flange at its outer end, which is spread until it abuts against an adjacent bucket.
12. \(\Lambda\) bucket wheel comprising a row of buckets spaced at their inner and outer ends and placed under an initial tension at their outer ends by spreading or caulking their abutting portions.

No. 101,098. Illuminated Sign. Enseignc illuminée.
Charles L. Williams, Parkersburg. West Virginia. U.S.A., 18th September. 1906; 6 years. Filed 21st July, 1906. Recelpt No. 138,015.
Claim.-1. A symbol for flluminated signs comprising an opaque body, and translucent edge plates set at an angle to the body, the body and the plates being in contrasting colors to produce a shaded effect.
2. A symbol for illuminated signs comprising a back having an opening therein, an opaque symbol body disposed opposite the opening at one side of the back, and translucent edge plates extending between the edge of the body and the edges of the opening, the symbol body and plates being in contrasting colors to give a shaded effect to the symbol.
3. A symbol for llluminated signs comprising a back having an opening therein in the: shape of a symbol. a seat. exlonding around the odge of the opening, an opaque symbol body dixposed opposite. the opening at one side of the back and provided with a peripheral seat. and translucent plates get at an angle to the body with their edges recelved within
the seat of the body and the seat of the back, the body and plates being in contrasting colours.

4. In an illuminated sign the combination of a fleld having an opening therein in the shape of a symbol, an opaque symbol body disposed opposite the opening at one side of the field and smaller than the opening, and translucent edge plates extending between the edges of the symbol and the edges of the opening and inclined across the opening, the symbol body and the plates being in contrasting colours.
5. A symbol for illuminated signs comprising a back having an opening therein in the shape of a symbol, and provided with seats around the edges of the opening, an oqaque symbol body disposed opposite the opening at one side of the back and provided with peripheral edge seats, translucent plates set at an angle to the body with their edges received within the seats of the body and the back, and angle bars connecting the abutted ends of adjacent translucent plates, the symbol body and the plates being in contracting colours.
6. A symbol for illuminated signs comprising an opaque back plate having edge portions bent across the back of the plate to form atlaching flanges and there being an opening formed in the plate and having the shape of the symbol to be exhibited, an opaque symbol body of the same shape and of less size than the opening and translucent pdge plates extending between the edges of the opening and the edges of the symbol and inclined across the opening, the symbol body and the plates being in contrasting colours and the plates forming a connection betwern the symbol body and the back glate.

\section*{No. 101,099. Metal Turning Lathe.}

\section*{Tour pour le métal.}

Henry Pattman Trueman and Edward Duncan Cleghorn, co-inventors, both of Worcester. England, 18th September, 1906; 6 years. Filed 22nd May, 1903. Receipt No. 105.764.

Claim.-1. In screw making and metal turning lathes, the means for enabling various thicknesses of work to be operated upon, consisting in the combination of a work spindle. a feed tube carried within said work spindle, and having an interior screw thread at one end, a feed shell having an exterior screw thread at its inner end, and a reducing socket having one end screw threaded internally and adapted to receive the externally screw threaded end of the feed shell and having its other end screw threaded externally and adapted to screw into the feed tube, substantially as specified.
2. In screw making and metal turning lathes, in which a supplemental tool carried.is employed, means for imparting a sliding movement to said tool carrier, said means comprising a shaft having a worm wheel and crank for actuating said tool carrier, a worm shaft to actuate said worm wheel, a bearing bracket upon the main tool slide for supporting said shaft, an arm for supporting said tool carrier. and an extension on said arm the bearing bracket for which said extension slides, in combination with stops and springs fcr automatically operating said tool carrier, said stops being rigidly carried upon sald worm shaft, one on each side of said bearing bracket. and said spring being interposed between said stops and said bearing bracket, substantially as specifiod.
3. In screw making and metal turning lathes, the cutting of slideways held upon the main frame and capable of angular adjustment, the actuating lever of said cutting off slideways, the telescoping ball joints of said actuating lever, and the grooved guides along which the ball ioints of said actuating lover nperato. said grooved guides being attached to the tool slides. substantially as specified
4. In stork fording mechanism for screw making and metal turning lathes the combination with the fending slides and the feed spools operated by said fced spools in their retracted positions, sald means consisting of balls arranged
to lie in a groove in the feed spool, recesses in the end of the feed tube, in which are located said balls, and springs

located in said recesses and arranged to exert a pressure on said balls, substantially as specifled.
5. In screw making and metal turning lathes of the multispindle type, means for enabling the tool slides to be adjusted to compensate for wear, said means comprising the rombination with side strips, capable of adjustment to compensate for the wear on the sides of the tool slide, of screw and clamp bolts for adjustment, and blocks fitted in spaces, and the spaces formed in the under side of the tool slide, said blocks being capable of vertical adjustment to compensate for wear on the bottom of the tool slide, and the set screws for adjusting vertically. substantially as specified.
6. In screw making and metal turning lathes, means for operating the feed spools, said means comprising a clamp sllde. a feed slide arranged to slide upon said clamp slide. a cam pin upon said clamp slide and a cam pin upon said feed slide, said pins being arranged to be operated by cam strips upon a cam drum, and the said cam drum and the said cam strips upon said cam drum, substantially as speciIled.

No. 101,100. Illuminated Sign. Enscignc illuminée.


Joseph Hotchner, New York City, New York, U.S.A., 18th September, 1906: 6 years. Filed 28th March, 1906. Recelpt No. 134,363.
Claim.-1. An illuminated sign comprising a light transmitting character, and an illuminating means, said illumibating means partially protruding throngh the character.
2. An illuminated sign comprising a casing. a light transmitting character carried by the casing, a reflector arranged within the casing, and an Illuminating means arranged within the casing and partially protruding through the character.
3. An illuminating sign comprising a light transmitting sign panel, and an illuminating means partially protruding through the panel.
4. An illuminated sign comprising a light transmitting sign panel, and a single illuminating means arranged on both sides of the panel.
5. An illuminated sign comprising a sign panel, and a single illuminating means arranged on both sides of the panel.

No. 101,101. Door. Porte.


Floyd W. Newman, Bradford, Pennsylvania, U.S.A., 18th September, 1906; © ycars. Filed 23 rd June, 1906. Receipt No. 137.223.
Claim.-1. In a closure of the class described, a stationary receiving pocket having spaced sldes, a plurality of leaves in \(\mathbf{C}\)-shape in transverse section and individually pivoted within the pocket with their adjacent spaced longitudinal edges overlapping the connected longitudinal edges of the adjacent leap, and a stile pivoted to the free ends of sald leaves, whereby the leaves are capable of interfolding within the pocket and the stile foldable within the interfolded leaves when the door is in open position.
2. In a closure of the class described, a stationary receiving pocket having spaced sides, a plurality of leaves in \(U\) shape in transverse section and individually plvoted within the pocket with their adjacent spaced longitudinal edges overlapping the connected longltudinal edges of the adjacent leaf, a stile pivoted to the free ends of said leaves whereby the leaves are capable of interfolding within the pocket and the stile foldable within the interfolded leaves when the uoor is in open position, and locking means carried by the closure for rendering the leaves rigid at any point of thelr clevation.
3. In a closure of the class described, a stationary receiving pocket having spaced sides, a plurality of leaves in \(U\) shape in transverse section and indlvidually pivoted within the pocket with their adjacent spaced longitudinal edges overlapping the connected longitudinal edges of the adjacent leaf, a stile pivoted to the free ends of said leaves whereby the leaves are capable of interfolding within the pocket and the stile foldable within the interfolded leaves when the door is in open position, a spring actuated bolt, and a member having spaced recesses to receive said bolt one at a time and connected respectively to one of said leaves and to said stile, for rendering said leaves rigid at any point of elevation.
4. In a closure of the class described, a stationary recelving pocket having spaced sides, a plurality of leaves in \(U\) shape in transverse section and individually pivoted within the pocket with their adjacent spaced longitudinal edges overlapping the connected longitudinal edges of the adjacent leaf, a stile pivoted to the frecends of said leaves whereby
the leaves are capable of interfolding within the pocket and the stile foldable within the interfolded leaves when the door is in open position, a spring actuated bolt carried within one of said leaves, an arm extending from the adjacent pivot of sald leaf supported bolt and operating in a recess in sald bolt, an operating lever connected to said pivot, a plate within the stile and provided with spaced recesses for recelving said bolt when projected.
5. In a closure of the class described, a statlonary receiving pocket having spaced sides diverging toward the inner edge, a plurality of leaves in U-shape in transverse section and with the side walls converging toward the free ends and individually pivoted within the pocket with their adjacent spaced longitudinal edges overlapping the connected longitudinal edges of the adjacent leaf, and a stile pivoted to the free ends of said leaves, whereby the leaves are capable of interfolding within the pocket and the stile foldable within the interfolded leaves when the door is moved into open position, and the adjacent surfaces of the individual members of the structure caused to draw away from each other and avoid -ietion bedween the parts.
6. In a closure of the class described, a stationary receiving pocket, a plurality of leaves in U-shape in transverse section and with the side walls converging toward the freo ends and individually pivoted within the pocket with their adjacent spaced longitudinal edges overlapping the connected longitudinal edges of the adjacent leaf, a stile pivoted to the free ends of said leaves whereby the leaves are capable of interfolding within the pocket and the stile foldable within the interfolded leaves when the door is moved into open position, and the adjacent surfaces of the individual members of the structure caused to draw away from each other and avoid friction between the parts, a stlle pivoted to the free ends of said leaves, and bindings of yleldable material upon the overlapping edges of said leaves.
7. In a closure of the class described, a stationary side member, a plurality of leaves individually pivoted to said member with their adjacent longitudinal edges overlapping, a stile with the free ends of the leaves individually pivoted thereto, and a brace bar spaced from said leaves and pivoted at one end to the pocket end of one of the leaves and with the other end pivoted at the free end of the same leaf.
8. In a closure of the class described a door frame, a pocket within sald frame at one side and opening into the doorway opening, a plurality of leaves individually pivoted within said pocket with their adjacent longitudinal edges overlapping. a stile with the free ends of the leaves individually pivoted thereto, and a brace bar spaced from said leaves and pivoted at one end to one of the pivots at the pocket end of the leaves and with a section curved concentric to said pivot and extending through an aperture in the frame and pivoted at the free end of the same leaf.
9. In a closure of the class described, a door frame, a pocket within said frame at one side and opening into the doorway opening and a recess in the frame at the opposite side and opening into the doorway opening, a plurality of leaves individually pivoted within said pocket and with their adjacent longitudinal edges overlapping, and a stile with the frae ends of the leaves individually pivoted thereto and capable of seating within the recess in the frame when the door is in closed position.
10. In a closure of the class described, a door frame having a pocket therein at one side and opening into the doorway opening and a recess in the frame at the opposite side and opening into the doorway opening, a plurality of leaves individually pivoted within said pocket and with their adjacent longitudinal edges overlapping, a stile with the tree ends of the leaves individually pivoted thereto and capable of seating within the recess in the frame when the door is in closed position, and a yieldable packing strip attached to said stile to bear against the frame within the recess.
11. In a closure of the class described, a stationary side nuember, a plurality of leaves individually pivoted to said member with their adjacent longitudinal edges overlapping and with projections at the pree ends of two or more of the leaves, lifting bars pivoted to said projections, and a stile with the free ends of the leaves pivoted thereto.
12. In a closure of the class described, a stationary receiving pocket having spaced sides, a plurality of leaves in U-shape in transverse section and individually pivoted withit the pocket with their adjacent spaced longitudinal edges overlapping the connected longitudinal edges of the adjacent leaf, a stlle pivoted to the free ends of sald leaves, a socket adjacent to the pocket pivot of one of sald leaves and having extended side walls, a spring folded upon itself and seated at the fold within said socket, spaced pins carried by the leaf adjacent to sald socket and embracing both arms of said spring, and spaced pins carried by said leaf and embracing one arm of said spring.

1:. In a closure of the class described, a stationary receiving pocket having spaced sides, a plurality of leaves in Ushije in transverse section and individually pivoted within the pocket with their adjacent spaced longitudinal edges
overlapping the connected longitudinal edges of the adjacent leaf, a stile pivoted to the free ends of said leaves, whereby the leaves are capable of interfolding within the pocket and the stile foldable within the interfolded leaves when the door is in open position, and a bar coupled to the upper leaf and two or more of the intermediate leaves and operating withis said pocket, to govern the movement of the leaves.
14. In a closure of the class described, a stationary rer iving pocket having spaced sides, a plurality of leaves it. Ushape in transverse section and individually pivoted wititiv the pocket with their adjacent spaced longitudinal edg's overlapping the connected longitudinal edges of the adiacent leaf and a stile pivoted to the free ends of sald leaves whereby the leaves are capable of interfolding within the pucket and the stile foldable within the interfolded leaves when the door is in open position, one or more of sald leaves having projections at the free ends and formed with depressious for bearing yieldably against the stile and retarding the movement of the parts.
15. In a closure of the class described, a stationary recelving pocket having spaced sides, a plurality of leaves in \(U\) shape in transverse section and individually pivoted within the pocket with their adjacent spaced longitudinal edges overlapping the connected longitudinal edges of the adjacent leaf, a stile pivoted to the free ends of sald leaves whereby the leaves are capable of interfolding within the pocket and the stile foldable within the interfolded leaves when the door is in open position, and filler strips upon the stlle for closing the spaces between the leaves and stile when in closed position.
16. In a closure of the class described, a stationary receiving pocket having spaced sides and opening into the doorway opening, a plurality of leaves in U-shape in transverse section and with the side walls parallel for a distance of the ends and converging toward the outer ends between the parallel portions, the parallel portions of said leaves at one end individually pivoted within the pocket with their adjacent spaced longitudinal edges overlapping the connected longitudinal edges of the adjacent leaf, and a stlle substantially In U-shape in cross section with the sides parallel for a distance at the open edge and converging toward the closed edge for the remainder of the distance, the parallel portions of said stile pivoted between the parallel portions of said leaves at the outer ends, whereby the leaves are capable of interfolding within the pocket and the stile resting within the interfolded leaves when the door is disposed in open position, and the parts caused to move without lateral strains or friction.
17. In a closure of the class described. a stationary side member, a plurality of leaves individually pivoted to said member with their adjacent longitudinally edges overlapping and with projections at the free ends of two or more of the leaves, a handle having laterally extended ends bearing against two of said projections, clamp screws operating through said projecting portions and into said extended ends, a brace member pivoted at one end at the pocket end of one of the leaves and engaging one of the extended ends of the handles which projects beyond the same and returned parallel to the body of the brace and spaced therefrom and conrected to the handle end.
18. In a closure of the class descried, a stationary side nomber, a plurality of leaves individually pivoted to sald member with their longitudinal edges overlapping and with projections at the free ends of two or more of the leaves, a handle having laterally extended ends bearing against two of said projections. lifting bars pivoted to sald projections, a brace member pivoted at one end at the pocket end of the leaves and engaging one of the extended ends of the handle and projecting beyond the same and returned parallel to the body of the brace and spaced therefrom and connected to the handle end exteriorly of the leaves.
19. In a closure of the class described, a door frame including spaced vertical tubular supporting members connected at the end to the supporting structure, horizontal tubular members within the header portion of said frame and connected at the ends to the vertical members, a pocket within said frame at one side and opening into the doorway opening and a recess in the frame at the opposite side and opening into the doorway opening, a plurality of leaves individually pivoted within said pocket and with their adfacent longitudinal edges overlapping, and a stile with the free ends of the leaves individually pivoted thereto and capable of seating within the recess in the frame when the door is in closed position.
20. In a closure of the class described, a door frame including spaced vertical tubular supporting members bearing at one end over depending pins and with spring supported pins at the other ends for entering sockets in the adjacent supporting structure, horizontal tubular members within the header portion of said frame and connected at the ends to the vertical members, a pocket within said frame at one side and opening into the doorway opening and
a recess in the frame at the opposite side and opening into the doorway opening, a plurality of leaves individually pivoted within said pocket and with their adjacent longitudinal edges overlapping, and a stile with the free ends of the leaves individually pivoted thereto and capable of seating within the recess in the frame when the door is in closed nosition.

No. 101,102. Concrete Block Making Machine. Huchine à faire des blocs de béton.


Albert A. Pauly, Youngstown, Ohio, U.S.A., 18th Septem-
ber, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,092.
Claim.-1. The combination with a frame having rollers journalled therein, of standards carried by said frame, a plate connecting said standards together, a frame slidably mounted upon sald standards, a plunger carried by said standards, a shaft journalled in said frame and having suitable crank handles, a toothed wheel mounted upon said shaft, a rack carried by sald plate and meshing with said loothed wheel, a pawl pivotally mounted upon said frame and normaily engaging said toothed wheel, substantially as described.
2. The combination with a frame having rollers journalled therein, of standards carried by said frame, a rack bar carried by said standards, a frame slldably mounted upon sald standard, a plunger carried by said frame a toothed wheel journalled in said frame and meshing with said rack bar, means to rotate said toother wheel and means to normally hold said wheel in a locked position, substantially as described.
3. The combination with a frame having rollers journalled therein, of standards carried by said frame, a frame slidably mounted upon said standards, a plunger carried by said frame, means to elevate said frame, and means to lock eaid frame in an elevated position, substantially as described.
4. Mechanism of the character described consisting of standards, a rack bar carried by sald standards, a frame slidably mounted upon said standards. a plunger carried by said frame, a toother wheel journalled in said frame, and meshing with said rack bar, means to rotate said toothed wheel and means to lock said toothed wheel in a fixed position, substantially as described.

No. 101,103. Butter Cutter. Couteau à beurre.
Patrick Mathew Scanlan, New York City, Now York, U.S.A., 18th September. 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,177.
Claim.-1. A device of the class described, comprising a casing open at one end, a tube connected with the other end thereof, a handle on said tube, cutter blades pivotally mounted on said casing one on each side thereof, a supplemental tube in said first-named tube, a rod in said supplemental tube and devices for moving said supplemental tube, said rod and said cutter blades independently of cach other, substantially as described.
2. A device of the class described, comprising a casing open at one end, a tube connected with the other end there-

of, a handle on said tube, a plunger in said casing, cutter blades on said casing, a wire carried by sald cutter blades, a supplemental tube mounted in seid first-named tube and the end of which adjacent to said handle is provided with a screw thread and an internally threaded device in operation with said supplemental tube for adjusting the same longitudinally, substantially as described.
3. A butter cutter, comprising a casing open at one end, a handle connected therewith, a blade on either side thereof, a laterally arranged block on the inner side of each of said blades, a screw in each side of said casing and provided with a slotted head in which the corresponding one of said laterally arranged members is adapted to slide, and devices connected with said handle for moving said blades, substantially as described.
4. In a butter cutter, a casing open at one end, a handle connected therewith, a plunger in said casing, a handle connected therewith, a block in said plunger, and devices for limiting the outward movement of said block in the outward movement of said plunger, substantially as described.
5. A butter cutter, comprising a casing open at one end, a tube secured to the closed end of said casing, a handle secured to said tube, plunger in said casing, a tube secured in said plunger and provided with a handle, a blade pivotally mounted on each side of said casing, a wire adjustably mounted in said blades, devices for moving said blades on their pivotal points, devices for locking said blades in their intermediate positions, a plurality of wires adjustably and detachably secured to said casing and passing over the open end thereof, a block in said plunger and devices for limiting the movement of said block in the movement of said plunger, substantially as described.
6. In a butter cutter of the class described, a casing open at one end, a handle connected therewith, a plunger movable therein, a handle connetced with said plunger, a block in said plunger, a rod connected with said block and secured in said rod and passing through a slot in sald plunger handle, said screw being also secured in a collar slidably on said plunger handle, a tube mounted on said plunger handle and provided with a screw thread at one end thereof, a screw-threaded sleeve engaging said tube, and blades pivotally mounted on each side of said casing, a wire detachably and adjustably secured on said blades and passing over the open end of said casing, and devices for moving said blades and said wire, substantially as described.
7. In a butter cutter, a casing open at one end, a hollow shank connected therewith, a handle secured to said shank, a plunger in said casing, a blade rotatably and laterally movable on each side of said casing, a plate on each side of said shank and provided with a segmental slot, a yoke lever pivoted on said shank, a link pivotally connected to said yoke-shaped lever and provided with a stub-shaft operating in said segmental slot, and a stub shaft passing through the corresponding one of said blades, a rod slidably mounted on each side of said shank and provided with a handle member, a bracket mounted on each of said slidable rods, a connecting rod pivotally connected with each of said brackets and with said yoke lever, devices for locking said blades in a predetermined position. and devices for moving said plunger longitudinally of said casing, substantially as described.
8. In a butter cutter of the class described, a casing open at one end, a blade pivoted to each side thereof, a wire secured in said blades and passing over the open end of sald casing, a plunger in said casing. devices for moving said blades, devices for moving said plunger, a plurality of wires on said casing and passing over the open end thereof, a shaft on said casing to which said wires are connected, a
lever on said shaft, a segment gear on said casing, and serving as one of the supports for said shaft, and a plate slidably mounted on said lever and adapted to engage said segment gear, substantially as described.

No. 101,104. Scaffold Bracket. Console d'échafaud.


Alfred Weir, Winnipeg, Manitoba, Canada, 18th September, 1906; 6 years. Filed 21st June, . 1906. Receipt No. 137.121.

Claim.--1. A scaffolding bracket consisting of a main arm, having one of its ends pointed, an arm pivotally bolted to the other extremity of the main arm, and a hook at the free end of the depending arm, as and for the purpose specified.
2. A scaffolding bracket consisting of a bar iron compression arm, having the liwer end pointed and turned inwardly, and the upper end turned at right angles to the body, a tension arm pivotally bolted to the compression arm and at its upper end, and means at the free end of the tension arm for securing to the uprights or studs, as and for the purpose specifled.

No. 101,105. Sea Wall. Mur de mer.


Henry Winter, Seattle, Washington, U.S.A., 18th September, 1906 ; 6 years. Flled 19th July, 1906. Receipt No. \(137,978\).
Claim.-1. A wall of the character described, comprised of a plurality of piles and blocks, said blocks being each formed or provided with apertures adapted to severally receive said piles.
2. A wall of the character described, comprised of a plurality of piles and blocks, saīd blocks being formed or provided with agertures adagted to register with said plles and thereby be interlocked for positioning the blocks during the process of construction and thereafter maintaining them in alignment.
3. A wall of the character described, consisting of parallolopiped concrete blocks arranged in courses, the blocks being arranged in the several courses to overlap those in the adjacent courses, piles passing rectangularly to and through the various said courses and so disposed as to be at rach joint of the contiguous blocks of a course.
4. A wall of the character described. consisting of parallelopiped concrete bocks arranged in courses with intervening cement flling therebetween and between the blocks of arh course, the blocks being arranged in the several courses to overlap those in the adjacent courses. piles passing rectangularly to and through the various sald courses and so disposed so ats to br at rach joint of the contiguous blocks of a rours.
5. A wall of the character described, consisting of parallelopiped concrete blocks arranged in courses, the blocks being arranged in the several courses to overlap those in the adjacent courses, piles passing rectangularly to and through the various said courses and so disposed as to be at each joint of the contiguous blocks of a course and also intermediate thereof.
6. A wall of the character described, consisting of parallelopiped concrete blocks arranged in courses with intervening cement filling there-between and between the blocks of each course, the blocks being arranged in the geveral courses to overlap those in the adjacent courses, piles passing rectangularly to and through the various said courses and so disposed as to be at each joint of the contiguous block of a course and also intermediate thereof.

No. 101,106. Fonntain Pen. Plume-fontaine.


Joseph F. Betzler, Akron, Ohio, U.S.A., 18th September, 1906;
6 years. Filed 26 th May, 1906. Receipt No. 136,288 .
Claim.-1. In a fountain pen the combination with a barrel, of a corrugated longitudinally compressible ink receptacle therein, a nozzle and pen, one end of said receptacle communicating with said nozzle, and means for compressing said receptacle, substantially as described.
2. The combination with a fountain pen having a barrel, a nozzle feeding device therein and a pen in the nozzle, of a longitudinally compressible ink receptacle enclosed within the barrel, said receptacle communicating with sald nozzle at one end, and closed at the other end, and a compressing device for the receptacle, said compressing device located within the barrel, substantially as described.
3. The combination with a fountain pen having a barrel, a nozzle therefor and a penaand ink feeding device in the nozzle, of a longitudinally compressible ink receptacle in the barrel communicating with said nozzle, a compressing device for the receptacle located in said barrel and an operating device accessible from the exterior of the barrel for sald compressing device, substantially as described.
4. The combination in a fountain pen having a barrel, a nozle therefor and a pen feeding device therein of a longitudinally compressible receptacle therein comunicating with said nozzle, a piston in the barrel behind the compressible receptacle, and means located exterior to the barrel and connected with said said piston for operating the same, substantially as described.
5. In a fountain pen the combination with the barrel and nozzle therefor having a pen and feeding means therein, of a longitudinally compressible receptacle, within the barrel, a piston behind the receptacle, an exterior longitudinally movable member and operatively connecting means for said exterior member with said piston, said barrel having an open-ir.- through which said connecting means projects, substan. itally as described.
6. In a fountain pen having a barrel, a nozzle and pen and fecding device in the nozle, a longitudinally compressible corrugated roubber tube in the barrel, a piston in the barrel. behind the tube and a stem for said pen passing longitudinally through the outer extremity of said barrel, substantially as described.
7. Ina fountain pen the combination with a barrel having a nozle and pen therein, of a longitudinally compressible ink receptacle therein. a piston in the barrel, a stem therefor projecting longitudinally though an opening in the outer end of the barrel and longitudinally extensible extremity for sald stem, substantially as described.

\section*{No. 101,107. Passenger Recorder.}

\section*{Registre pour voyagcurs.}

Emma W. Jackson, administratix of the estate of C. F. Jackson. decrased, Sherman, Texas, U.S.A., 18 th September. 1906; 6 years. Filed 7th March, 1906. Receipt No. 133,610.
Claim.-1. In a passenger recorder a plurality of yieldable steps each having independent circuit closing contacts. \(\pi\) plurality of imprinting devices, electro-magnets controlling the movement of imprinting members, said magnets being independently connected in circuits lrading to the step conlarts and elictro-magnetically controlled operating means
connected in series with certain of the electro-magnets of the imprinting members and serving to feed the record strip

only at intervals with respect to the operation of the imprinting devices.
2. In passenger recorders a series of three movable steps each having independent circuit closers, three electro-magnets connected one to each of the steps, imprinting devices operably connected to the armatures of the electro-magnets, and means for imparting feeding movement to the record strip after closing of the circuits controlled by the first and third steps.
3. In passenger recorders yleldable steps, movable doors or gates, independent contacts carried by the steps and doors and forming the terminals of electric circuits, electro-magnets connected with the circuits, imprinting devices having. operative connections with the armatures of said electromagnets, an auxiliary imprinting device, an operating magnet therefor, a circuit in which the operating magnet is connected and contacts forming the terminals of said circuit, said contacts being moved to engaging position on the closing of the doors.
4. In passenger recorders a plurality of yieldable steps, a movable door or gate, independent contacts carried by the steps and doors, circuits of which the contacts form terminals, electro-magnets connected in said circuits, imprinting devices operatively connected to the armatures of said electro-magnets and a battery circuit connected to and forming a part of the magnet circult, said battery circuit having terminals disposed adjacent to the door of the vehicle and arranged to break the circuit when the door is closed.
5. In a passenger recorder for vehicles a plurality of yieldable steps each having independent contacts, a door, ccntacts controlled thereby, circuits of which contacts form terminals, electro-magnets connected in said circuits, imprinting devices operatively connected to the armatures of said electro-magnets, means for imparting a step-by-step movement to a record strip, an auxiliary electro-magnet, a printing member carried thereby for recording on the strip the stations at which the vehicle stops, an independent circuit for the magnet, said circuit having terminals that are movable into engagement by the closing of the vehicle door, and a battery circuit having terminals disposed adjacent to the door and movable to break the circult when the door is closed.
6. In a passenger recorder a plurality of yieldable steps, contacts carried thereby and forming the terminals of inde-pendent circuits, a casing, a platen arranged in the casing, electro-magnetically actuating means for a recording strip, an inked ribbon also movable over the platen, an electromagnetically movable feeding means for the ribbon, a plurality of imprinting devices and electro-magnets for actuating the same, said electro-magnets being disposed in the circuit of which the step contacts form the terminals.

\section*{No. 101,108. Furniture. Meuble.}

William Kirkpatrick, Jamestown, New York, U.S.A., 18th September, 1906 ; 6 years. Filed 24th July, 1906. Recelpt No. 138,112.
Claim.-1. In an article of furniture of the character described the combination with vertically grooved front and rear posts and back rails, of slotted end rails having tenons slidably engaging the grooves of said posts, and front rails having slotted extension tongues engaging the slots of the end ralls and keys for securing said tongues.
2. In an article of furniture of the character described the combination with rabbetted front posts having vertical grooves offset from their rabbets, vertically grooved rear posts and back ralls, of slotted end ralls having tenons, front ralls having extension tongues passing through the slots of the end rails, and means for keying the tongues to said end ralls.
3. In an article of furniture of the character described the front post having a longitudinal corner rabbet provided with

an offset groove in combination with a slotted end rail engaging the rabbet and having a tenon engaging said groove, and a front rail having an extension tongue adapted to pass through the slot of said end rall and engage the rear surface of the front post, and means for securing said tongues to said end rail.
4. In an article of furniture of the character described the comblnation with the vertically grooved front post and slotted laterally grooved end rail having a tenon, of tha front rail having a tongue engaging the slot of the tenon, and a drawer track bar having lateral tenons engaging the groove of the end rail.

No. 101,109. Acetylene Gas Generator. Génératcur à gaz acétyline.


Aquila Lauzon, Labelle, and Liniàre Grègoire, St. Jovite, both in Quebec, Canada, co-inventors, 18 th September, 1906; 6 years. Filed 15th March, 1906. Receipt No. 133,944.
Resumé.-1. Dans un genérateur à gaz acetylene, la combinof the front post, and means for securing said tongues to aison dune cuve 12 avec une cloche a gaz fixe 11, plongeant dans l'eau de cette cuve, avec audessus un réservolr a eau indepenendant 10 surmonte d'une capacité a carbure, avec un agitateur avec une branche elliptique 22 avec une tige recourbee 23 , le tout tel que decrit en substance.
2. La combinaison dans un générateur à gaz acetylne, d'une cuve avec une cloche a gaz fixe, avec un tube de sarete 138 , avec un flotteur cylindrique plat 17 , avec une tige fletée 15 , fixee a volonte au flotteur au moyen de deux ecrous 19. avec une tête cylindrique 9 formant soupape à carbure, le teut tel que decrit en substance, pour les fins speciffees.

\section*{No. 101,110. Map Hanger. Pcndant de cartes.}

John J. O'Leary, Yreka, California, U.S.A.. 18th September. 1906; 6 years. Filed 16th July, 1906. Receipt No. 137,862.
Claim.-An improved map hanger having in combination two parallel spaced rods or rollers. transversely extending end pleces in which the rods or rollers are journalled, said end pieces having sockets intermediate of their ends, flexible suspending devices and rods connected thereto and having their lower ends provided with journal pins adapted to engage the sockets of the end pleces whereby said end pleces and the rollers are substantially balanced, a map or other descriptive sheet having bars at opposite ends and having
a limited reciprocating movement between said rods or rollers and adapted to carry graphic representations on its ob-

verse and reverse sides, the representation on one side being upside down in relation to that on the other side.

\section*{No. 101,111. Fire Extinguisher. \\ sertinotowr d'moendla.}


Henry Simpson and Robert Tomlinson, both of Liverpool Lancaster, England, 18th September, 1906 ; 6 years. Filed 12th September, 1905. Recelpt No. 128,374.
Olaim.-1. The improved fire extinguishing apparatus consisting of an actuating device operated by changes of temperature, an alarm, a serles of jets or sprinklers, and means for producing a fire extinguishing fluid under pressure and supplying the same to the said jets, all so characterized that when the limiting temperature is reached the said device actuates means which give the alarm produces the said fluid and supplies the same to eaid jets, substantially as described. 2. Apparatus of the class described consisting of a serles of sets of jets or sprinklers, a corresponding series of actuating devices, means for producing a fire extinguishing fluid under pressure adapted to be connected to any one of the sald sets of jets and means for giving an alarm, the arrangement being such that a predetermined rise of temperature near any sets of jets operates the actuating device corresponding with that set which thereupon actuate the alarm and the means for producing the fluid under pressure and connecting it to that set of jets, substantially as described.
3. A fire extingulshing apparatus comprising an actuating device comprising a quick acting and slow acting means adapted to actuate the apparatus either when a maximum temperature is reached or when the normal temperature is exceeded by a predetermined amount, substantially as described.
4. A fire extinguishing apparatus comprising a tank containing substances which when mixed provide a fire extinguishing fluid under pressure, means for mixing the substances including a weight arranged to drop and fracture a container of one of the substances, means for connecting the tank to a particular set of sprinklers or jets, and an actuating device fixed near the said set of sprinklers and adapted to actuate an alarm and to release a weighted lever or the like device which thereupon operates the mixing and connecting means, substantially as described.
5. A fire extinguishing apparatus including actuating means comprising quick acting and slow acting devices, each carryIng two sets of contacts, one set for actuating the alarm and one set which afterwards closes the circuit, of an elec-tro-magnet which releases a loaded lever or the like which thereupon operates the fire extinguishing apparatus, substantlally as described.

No. 101,112. Display Case. Oatese d't́talage.
D. M. Ferry \& Company, assignee of Robert Turner, Jr., both of Detroit, Michigan, U.S.A., 18th September, 1906; 18 years. Filed 4th July, 1906. Receipt No. 137,502.
Claim.-1. A display casc having an inclosing body, independently constructed, folding stepped end brackets located
within the body at the extremities thereof, and a series of trays each provided at the upper ends of the extremities

thereof with supporting means to rest upon the upper edges of the corresponding steps, of said folding end brackets to suspend the trays at different elevations, whereby the trays way each be lifted vertically off from the corresponding steps of the brackets, said brackets arranged to be folded within the inclosing body in knockdown position, sald trays With their supporting means constructed to be located within the body of the case when removed from the end brackets.
2. A display case having in combination an inclosing body independently constructed, folding end brackets located within the body at the extremities thereof formed with a series of steps, and a series of trays each provided with outwardly projecting supporting clips at the extremities thereof to extend over and upon the upper edges of the corresponding steps of the brackets, to suspend the trays at different elevations, whereby the trays may be lifted vertically off from the steps of the brackets, said brackets arranged to be folded within the body in knockdown position, said trays with their supporting clips constructed to be located within the body of the case when removed from the end brackets.
3. A display case having in combination an inclosing body independently constructed, folding stepped end brackets located within the body at the extremities thereof, and a series of trays supported upon the steps of said brackets. cne rising above another, said trays each provided at its opposite extrem!ties with outwardly projecting metal suspending clips secured to the corresponding end of the tray, said clips extending outward and over the upper edge of the corresponding step of the brackets, whereby the trays may be lifted vertically off from the steps of the brackets, sald brackets arranged to be folded within the body in knockdcwn position, sald trays with their suspending clips constructed to be located within the body of the case when removed from the end brackets.
4. A display case having in combination an inclosing body independently constructed, folding end brackets located withIf the body at the extremities thereof each formed with a series of steps, and a series of trays each provided at its extremities with supporting means to suspend the tray upon the upper edges of the corresponding steps of the brackets. whereby the several trays may individually be lifted vertically off from the supporting brackets, said brackets arranged to be folded within the body in knockdown position, said trays with their supporting means constructed to be located within the body of the case when removed from the end brackets.
5. A display case having in combination an inclosing body, folding end brackets each formed with a series of steps, additional means to connect said brackets, and a series of trays each at its extremities provided with clips whereby the trays may be supported upon the upper edges of the brackets and whereby the trays may individually be lifted vertically off from the end brackets.
6. A display case having in combination an inclosing body. folding end brackets, each form with a series of steps. a back strip connecting the rear edge of said brackets, and a series of trays each provided at its extremities with clips whereby the tray may be supported upon the corresponding upper edges of the brackets, and whereby the trays may be Individually lifted vertically of from the end brackets, sail brackets and the back connecting strip being removable from the body.

No. 101,113. Advertising Apparatus. Apparell d'annonce.


Berliner Ansslellings-Gallerien, Berlin, assignee of Karl J. H. Klempau. Hamburg, both in Germany, 18th September 1906; 6 years. Filed 16th September, 1905. Recelpt No. 128,471.
Claim.-1. Advertising apparatus comprising an advertising band, two drums around which the band passes, a sliding frame in the form of a crosshead and having constant movement to and fro, an endless chain connecting the two drums, and means for connecting the sliding frame with cither the right or the left hand side of said endless chain to transmit the downward movement of said sliding frame to sald chain whereby the drums are operated to rotate either one way or the other according to whether the connection of the sliding frame is with the right hand or left hand side of the chain. substantially as described.
2. In combination in an advertising apparatus, a pair of drums, an endless band passing over the same, an endless chain connecting the drums, a reciprocating crosshead or sliding frame, means for reciprocating the said crosshead or sliding frame, pawls carried by the sliding frame and adaptcd to engage either the right or left hand side of the chain, means for automatically controlling the engagement of the pawls with the chain in order to effect the reversal of the directions of rotation of the drums, said controlling means consisting of a cam disc. a device for operating the sald cam disc, sald device being in turn operated by the reciprocating movement of the sliding frame, the said cam device having its edge formed to maintain one pawl out of engagement with the endless chain while permitting the engagement of the other pawl therewith, the said cam disc revcrsing the position of the pawl just before the completion of the transfer of the advertising band from one drum to the other, substantially as described.
3. In an advertising apparatus the combination of an advertising band, drums for holding the sald band, an endless ciain connected with the drum, a sliding frame having pawls, one of which engages one side of the chain and the other of which engages the other side of the chaln, means for automatically controlling the engagement of the pawl with the chain, a stopping lever arranged to render both pawls inoperative simultaneously and a striking pin against which the stopping lever strikes during the upward stroke of the sliding frame to release the pawls, substantially as described.
4. In an advertising apparatus the combination of the advertising band, the drums carrying the said band, an endless chain connected with the drums, a sliding frame, means for rectprocating the same, pawls carried by the sliding frame for engaging the chain to operate the same in opposite directions, means for controlling the engagement and disengagement of the pawls, two spring locking pawls for the upper drum, a pin on said upper drum to be engaged by the said spring locking pawls, a bent lever adapted to press the spring locking pawls aside. and a supporting lever engaging the bent lever, said supporting lever being controlled by the sllding frame, substantially as described.

No. 101,114. Imitation 8ilk. Imitation de sote.
La Societe Génerale de la Sole Artificielle Linkmeyer, assignee of Rudolf Linkmeyer, all of Brussels, Belgium 18th September, 1906; 6 years. Filed 22nd March, 1906. Receipt No. 134,150.
Claim.-1. In the process for the manufacture of brilliant threads resembling silk by means of solutions of cellulose in ammoniacal oxide of copper converted into threads by precipitation in solutions of fixed alkalles or salts, the treatment of the threads on leaving the precipitation bath with gases or solutions of salts adapted to absorb the ammonia and to form with the oxide of copper combinations readily soluble in acids but insoluble in water, substantially as described above.
2. In the process for the manufacture of brilliant threads resembling silk by means of solutions of cellulose in ammoniacal oxide of copper converted into threads by precipitation in solutions of fixed alkalies or salts, a method of extracting oxide of copper from the alkaline precipitation bath consisting in immersing cellulose in this bath and in withdrawing it after the salts of copper have become deposited thereon, substantially as described above.

No. 101,115. Steam Turbine. Turbine d vapeur.


The Allis-Chalmers Company, assignee of James Wilson, all of Milwaukee, Wisconsin, U.S.A.. 18th September. 1906 6 years. Filed 2nd August, 1906. Receipt No. 138,368.
Claim.-1. A grooved base, a notched strip in the groove. blades in the notches and blocks in the groove co-acting with the strip and blades.
2. A grooved base, a strip in the groove having undercut notches, blades in the notches and blocks in the groove coacting with the strip and blades.
3. A grooved base, a strip in the groove having undercut notches, blades in the notches and blocks in the groove coacting with the strip and blades and having an undercut portion.
4. A grooved base, a notched strip, in the groove, blades in the notches and blocks in the groove co-acting with the strip and blades and having an undercut portion.
5. A grooved base, a strip in the groove having notches undercut at their ends, blades in the notches co-acting along an edge with the undercut notch ends and blocks in the groove, said blocks having an undercut portion co-acting with the side of the blade.
6. A base, a blade tapered across its thickness at one portion of the blade root and across its width at a second portion of the blade root, and means for fastening the blade to the base comprising an element co-acting with the first portion of the blade root and a separate element co-acting with the second portion of the blade root.

\section*{No. 101,116. Power Transmitting Mechanism.} Mécanisme de transmission de la force.
The Canadian General Electric Company, Limited, Toronto, Ontario, Canada, assignee of Richard H. Rice. Swampscott, and Fred. R. C. Boyd, Lynn, both in Massachusetts U.S.A., 18th September, 1906 ; 6 years. Filed 15th May. 1906. Receipt No. 135,928.

Claim.-1. In an apparatus of the character described the combination of a motor, a shaft driven thereby, a driven shaft, worm gearing between the shafts, and a means for adjusting the worm longitudinally on the motor driven shaft. 2. In an apparatus of the character described the eombination of a motor, a shaft driven thereby, a bearing for the shaft, means for preventing endwise movement of the shaft,
a worm splinted on the shaft, a means for adjusting the position of the worm on the shaft, a driven shaft and a worm

wheel mounted on the driven shaft and meshing with the worm.
3. In an apparatus of the character described the combination of a motor, a shaft driven thereby, a secondary or driven shaft, gearing between the shafts, a means for adjusting the gear on the motor driven shaft, a thrust bearing lor the motor driven shaft and a conduit for introducing lubricant under the pressure to the thrust bearing and continuousiy maintaining a fluid film between its blocks.
4. In an apparatus of the character described the combination of a motor, a shaft driven thereby, a secondary or driven shaft, gearing between the shafts, a means for adjusting the gear on the motor driven shaft, a thrust bearing for the motor driven shaft, a conduit for introducing lubricant under pressure to the thrust bearings and continuously malntaining a fluid film between the blocks, one or more conduits for introducing lubricant to the gearing, and means for preventing the lubricant delivered to the gearing and the thrust bearings from mingling.
5. In an apparatus of the character described the combination of a frame or support, a driving shaft, a driven shaft, a separ splinted on the driving shaft, a gear on the driven shaft meshing therewith, a sleeve for longitudinally adjusting the gear on the driving shaft, a bearing block carried by the sleeve, an adjustable block carried by the frame or support, and a conduit for introducing fluid under pressure between the blocks and maintaining a fluid film therein.
6. In an apparatus of the character described the combination of a frame or support, a driving shaft mounted therein, a driven shaft, a gearing for transmitting motion from the driving to the driven shaft, a casing for enclosing one of the gears to keep a body of lubricant in contact therewith for lubricating and cooling purposes, and a condult for supplying lubricant to the casiag.
7. In an apparatus of the character described the combination of a frame or support, a driving shaft, a worm and worm wheel for transmitting motion from the driving to the driven shaft, a shell which surrounds the shaft.' a casing or projection carried by the shell which encloses the worm to keep lubricant in contact therewith for lubricating and cooling purposes, and a conduit for supplying lubricant to the casing projection.
8. In an apparatus of the character described the combination of a frame or support, a driving shaft mounted thereon, a driven shaft, a worm and worm wheel for transmitting motion from the driving to the driven shaft, a shell which surrounds the shaft, a casing or projection carried by the shell encloses the worm to keep lubricant in contact therewith for lubricating and cooling purposes, a condult for supplying lubricant to the casing or projection, a bearing for supporting the shell and through it the shaft. and means for adjusting the worm longitudinally of the shaft and shell. 9. In a device of the charactor described the combination of a motor having a rotating clemont, a shaft driven thereby. a bearing for the shaft, means for preventing longitudinally thrust on the shaft from being transmitter to the sald rotating eloment. a driven shaft at right angles to the drivIrig shaft, a longitudinally movable worm on the motor driven shaft, a worm wheel secured to the driven shaft, a sleeve on the shaft, a thrust block carried to the sleeve, and an adjustable thrust block engaging with the first.
10. In a device of the character described the combination of a driving shaft, a driven shaft, worm gearing between the shafts, a means for adjusting the position of the worm and worm whet with respect to each other, a means for discharging lubricant over the face of the worm, a base for supporting the shafts which contains a chamber to receive the lubricant after it is used, and a coolling coll located in the chamber..
11. In an apparatus of the character described the combination of a driving and a driven shaft, gearing between the shafts, a shell for supporting the driving shaft and containing a cylinder and a collection chamber, a longitudinally adjustable bearing block in the cylinder, a second block opposing the first, the lubricant from the blocks discharging Irto the collection chamber, a bearing carried by the shell, a second chamber formed in the shell and separated from the first to receive lubricant exhausting from the bearing.
12. In an apparatus of the character described the combination of a base or frame. a shaft mounted thereon, a motor for driving the shaft which is overhung and attached tc the frame. a driven shaft, gearing between the shafts, a means for taking up the thrust on one of the shafts.
13. In an apparatus of the character described the comtination of a base or frame, a driving shaft carried thereby. a driving shaft at right angles to the first, bearings for the driven shaft also carried by the frame and located above the driven shaft, gearing between the shafts, a fluid bearing thrust bearing between the driving shaft and a fixed abutment, and a second thrust bearing between the driven shaft and a fixed abutment.
14. In an apparatus of the character described the combination of a driving and a driven shaft, journals for the shafts, gearing between the shafts, a worm and a worm wheel, a pump driven thereby. and conduits for convering libricant from the pump to the gearing to lubricate it and dissipate heat. and also to the journals.
15. In combination a steam turbine, a hydraulic pump, a shaft driven by the turbine, a second shaft connected to and driving the movable member of the pump, the two shafts being at right angles to each other, worm gearing between the shafts. means for taking up the thrust on the worm, and a separate means for taking up the thrust on the turbine driven shaft.
16. In an apparatus of the character described the combination of a motor, a shaft driven thereby, a gearing arranged to take the thrust thereof, other bearings for supporting the motor driven shaft, a frame for supporting the bearings, a second suitably supported shaft, a gearing for transmitting motion from one shaft to the other, and means for supplying lubricant under pressure to the bearings and the gearing.
17. In an apparatus of the character described the combination of a motor, a shaft driven thereby, a frame; \(n\) bearing supporting one end of the shaft. a bearing for the other end of the shaft, a shell supporting said bearing and attached to the frame, a thrust bearing carried by the shell, a second suitably supported shaft, and gearing for transmitting motion from one shaft to the other.
18. In an apparatus of the character described the comblnation of a motor, a shaft driven thereby, a frame, bearings for the shaft supported by the frame, a second shaft, gearing for transmitting motion between the shafts, bearings for the second shaft supported by the frame, and means for taking up the thrusts on the shafts.

\section*{No. 101,117. Elastic Flnid Turbine. Turbine à fluide ćlastique.}

The Canadian General Electric Company, Toronto, Ontario. Canada, assignee of Richard H. Rice, Lynn, Massachusetts, U.S.A., 18th September, 1906; 6 years. Filed 28th August, 1906. Recelpt No. 139,036.
Claim.-1. An elastic fluid turblne comprising relatively rotating parts in combination with a main shaft, a valve mechanism a secondary shaft driven by the main shaft. gcaring between the main and secondary shafts, a means driven by the secondary shaft for actuating the valve mechanism. and a lubricating pump geared to and driven by the secondary shaft, as and for the purpose specificd.
2. An clastic fluid turbine comprising relatively rotating pirts and a main shaft in combination with a bearing therefor, a secondary shaft carried by the boaring support, gearing between the main and secondary shafts. a gear pumo also carried by the bearing support, and a gear mounted on the secondiary shaft and meshing with one of the pump gears for driving it. as and for the purpose specified.
3. An elastic fuid turbine comprising relatively rotating parts and a main shaft in rombination with a bearing therefor, a secondary shaft extending at right angles to the main shaft and carried by the bearing support, a reciprocating member driven by the secondary shaft, gearing between the
shafts, a gear pump comprising meshing gears, shafts therefor extending parallel to the secondary shaft and a gear

mounted on the secondary shaft and meshing with one of the gears of the pump to drive it, as and for the purposes specified.
4. An elastic fluid turbine comprising relatively rotating parts and a main driving shaft in combination with a bearing therefor, a secondary shaft extending at right angles to the main shaft, gearing between the two, a casing enclosing the gearing to confine the lubricant and insure proper distribution thereof, bearings for the secondary shaft, a gear pump and a support that is common to the bearings of the secondary and pump shafts, as and for the purposes specified.
5. In an elastic fluid turbine the combination of a fluid discharging device, a bucket wheel, a lip on the discharging device which projects over the periphery of the wheel, and a cylindrical projection on the wheel that extends under the discharging device, as and for the purpose specified.
6. In an elastic fluid turbine the combination of a support that is split to provide a yielding clamping member and contains a bucket receiving groove, buckets the ends of which extend into the groove, and means for causing the parts of the support to clamp the buckets, as and for the purpose specified.
7. In an elastic fluid turbine the combination of a split support having a dovetail groove, buckets with the ends mounted therein, means for clamping the parts of the support to hold the buckets, and a lining strip inserted between the support and the main body of the buckets, as and for the purpose specified.
8. In an elastlc fluid turbine the combination of wheel buckets and fluid discharging devices, a shield to reduce the rotation losses of the idle buckets, and a circumferential flange co-operating with the shield to reduce the tendency of the motive fluid to leave its normal path, as and for the purpose specified.

\section*{No. 101,118. Elastic Flnid Turbine. Turbine à fluide élastique.}

The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Elihu Thompson. Swampscott, Massachusetts, U.S.A.. 18th September, 1906;6 years. Filed 9th May, 1906. Receipt No. 135,712.
Cluim.-1. In an elastic fluid turbine the combination of a casing, a bucket wheel mounted therein, a device for discharging fluid against the buckets, the axis of which is inclined towards the wheel axis to reduce the effects of centrifugal force on the fluid.
2. In an elastic fluid turbine of the parallel flow type, a wheel having peripheral buckets, with the device for discharging fluid thereto. the axis of which is inclined to the plane of of the wheel and also to its axis.
3. In an elastic fluid turbine the combination of a casing, a wheel, rows of buckets mounted thereon, intermediate

buckets between the rows of wheel buckets and a device for converting pressure of the motive fluid into velocity and discharging it against the wheel buckets, the axis of the said device being inclined to the plane of the wheel and also to the axis of the wheel to reduce the tendency for the motive fluid to pass the buckets without performing useful work.
4. In an elastic fluid turbine the combination of a casing, a wheel having a row of buckets, a cover therefor having projections extending transversely of the wheel axis and a wall carried by the casing which extends between and co-operates with said projections to reduce the leakage.
5. In an elastic fluid turbine the combination of a casing, a wheel having a row of buckets, a cover therefor, a plurality of projections and projections carried by the casing which extend between the profections on the cover to form a path of high resistance to leakage fluid.
6. In an elastic fluid turbine the combination of a casing, a wheel having rows of buckets, a cover for each row having projections extending transversely to the wheel axis, cyindrical projections carried by the casing which extend between the projections on the cover and co-operate therewith to reduce leakage, intermediate buckets, a device for discharging motive fluid against the wheel buckets.
7. In an elastic fluid turbine the comblnation of a casing, a wheel having rows of buckets, a cover for each row having projeotions thereon extending transversely of the wheel axis, projections carried by the casing which extend between the projections to reduce leakage, intermediate buckets between each two rows of wheel buckets, projections on sald intermediate buckets which co-operate with the wheel to reduce leakage and a device for discharging fluid against the buckets.
8. In an elastic fluid turbine the combination of a casing, a Huid discharging device, a wheel having buckets thereon, a cover for the buckets having projections extending transversely to the plane thereof. a projection carried by the casing which extends between those on the cover to baffle the leakage, and a means situated between the wheel axls and discharging device for further reducing the leakage.
9. In an elastic fluid turbine the combination of a support, a row of buckets mounted thereon, a cover for the buckets having a plurality of projections thereon, and means for securing the cover to the buckets which are located between the projections.
10. In an clastic fluid turbine the combination of a support, a row of buckets mounted thereon, a cover for the buckets having a plurality of rows of projections formed integral therewith and rows of tenons formed integral with the buckets which project through the cover on opposite sides of a projection and are riveted over to secure the cover in place.

No. 101,119. Governor for Elastic Fluid Turbines. Gouverneur pour turbines d fuide élastique.
The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Walter Kieser, Berlin, Germany, 18th September, 1906 ; 6 years. Filed 19th July, 1906. Receipt No. 137,954.
Claim.-1. In a governing mechanism the combination of a valve, a means for vibrating the valve, and a device responsive to lead variations for changing the region of vibration of the valve, as and for the purpose specified.
2. In a governing mechanism the combination of a valve, a means for vibrating the vaive in a manner to throttle the passage of motive fluid, a speed responsive device. and means acted upon by the speed responsive device for changing the region of vibration of the valves, as and for the pur. rose specified.
3. In a governing mechanism the combination of an elastic band valve, a means for winding and unwinding the valve. a
device for vibrating the said means and a speed responsive device for changing the region of the vibration of the said means, as and for the purpose specified.

4. In a governing mechanism the combination of a valve, a power driven means for constantly vibrating the valve and a device responsive to load conditions for varying the region of vibration of the valve, as and for the purpose specifled.
5. In a governing mechanism the combination of a valve, a spindle for the valve, a means for oscillating the spindle to vibrate the valve, a driving device for the said means, and a sneed responsive device for modifying the action of the valve vibrating means, as and for the purpose specifled.
6. In a governing mechanism the combination of a valve, a means for vibrating it, a speed responsive device and a weighted lever and connections for changing the region of vibration of the valve, as and for the purpose specified.
7. In a governing mechanism the combination of a valve, a means for vibrating It. a speed responsive device, a weighted lever and connections for changing the region of vibration of the valve, and a speed responsive device controlling the action of the welghted lever, as and for the purpose specifled.
8. In a governing mechanism the combination of a valve, a source of power, a speed responsive device, a system of levers and connecting rods connected to the source of power for moving the valve, and a means actuated by the speed responsive device for changing the relative positions of the pivots of sald system of levers and rods, as and for the purpose specifled.
9. In a governing mechanism the combimation of a valve, an actuating rocking spindle therefor, a driving connection which is directly connected to the spindle and is constantly in motion for vibrating it, and a speed responsive device for modifying the movements of the driving connection so as to change the region of vibration of the valve spindle, as and for the purpose specfied.
10. A fluid actuated motor in combination with a vibrating valve controlling the passage of motive fluid therethrough, a low speed shaft driven by the moving element of the motor, a rod which is constantly vibrated by the shaft levers, and a connecting rod for transmitting motion from the vibrating rod to the valve spindle and a speed responsive device driven by the motor for changing the position of certain of the pivots of the levers, and connecting rod to change the region of vibration of the valve, as and for the purpose specified.
11. A fluld actuated motor in combination with a vibrating valve. a speed responsive device driven by the motar, a weighted lever, the position of which is changed by the speed responsive device. a driving connection between the movable element of the motor and the valve for vibrating it and a connecting rod between the weighted lever and the driving connection for varying the position of rertain of its pivots to vary the region of the vibration of the valve, as and for the purpose specified.
12. A fluid actuated motor in combination with a speed responsive device, a vibrating valve for controlling the passage of motive fluid therethrough, a bell crank lever having a fixed pivot, a rod connecting one end of the lever with the valve to vibrate it, a second bell crank lever supported by the frst, a rod vibrated by the motor and connected to one
and of the second lever, and means for transmitting motion from the speed responsive device to the other end of the second bell crank lever to vary its position to change the region of vibration of the valve, as and for the purpose specified.
13. In a governing mechanism the combination of a valve, a means for vibrating the valve, a means changing the region of vibration of the valve and an elastlc medium which tends at all times to move the valve in one direction, as and for the purpose specified.
14. In a governing mechanism the combination of an elastic band valve, a means for winding and unwinding the valve, a means responding to speed changes for moving the valve and a spring which tends at all times to move the valve in one direction, as and for the purpose specifled.
15. In a governing mechanism the combination of a plurality of ports, a valve which opens the ports one after the other as the demand for motive fluid increases and closes them one after the other as the demand decreases, a governor for setting the valve in response to load changes, and a neans for vibrating the valve at each of its positions, as and for the purose specifled.
16. In a governing mechanism the combination of a plurality of ports, a valve which opens and clases the ports one after the other as the demand for motive fluid changes, an actuating spindle for the valve, a governor for moving the spindle too and fro in response to load changes, and a means for vibrating the valve each side of a neutral position for cach new position assumed by the actuating spindle, as and for the purose specified.
11. In a governing mechanism the combination of a plurality of ports, a valve which opens and closes the ports buccessfully, a source of power, a lever and connections between the source and the valve for vibrating the latter and a governor which adjusts the valve and determines the neutral point of vibration, as and for the purpose specified.
18. In a governing mechanism the combination of a speed responsive device, a valve, a spring tending at all times to seat the valve, a latch which holds the valve in the open position and a second latch acted upon by the speed responsive device which trips the first and allows the spring to close the valve, as and for the purpose specified.
19. In a shaft governor the combination of a support adapted to be mounted on a shaft, centrifugally acting weights mounted oa the support, a spring opposing the weights, an emergency weight mounted on the support for radial movement and a spring opposing the outward movement of the weight, as and for the purpose specifed.
20. In an elastic fluid turbine the combination of a wheel, buckets carried thereby, a blank wall situated at one side of the buckets to cut down the rotation losses and also to restrict the passage of motive fluid toward the shaft, a cylindrical wall that surrounds the idle buckets and in close proximity thereto to reduce rotation losses, and means for discharging motive fluid against the buckets, as and for the purpose specifled.
21. In an elastic fluid turbine the combination of a rotating bucket wheel, a wall, tubes which pass axially through the wall and nozzles that are detachably secured to the tubes and extend tangentially to the wheel, as and for the purpose specified.
22. In an elastic fluid turbine the combination of a wheel, Li-shaped buckets mounted on the periphery thereof, nozzles for discharging motive fluid against one side of the buckets and a wall which prevents the fluid exhausting from the wheel from interfering with that discharged by the nozzles, as and for the purpose specified.

No. 101,120. Governor for Elastic Fluid Turbines. Gouvcrncur pour turbincs d̀ Auide élastiguc.
The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of John G. Callan, Lynn, Massachus: etts, U.S.A., 18th September, 1906; 6 years. Filed 3rd March, 1906. Recelpt No. 133,492.
Clain.-1. In a governing mechanism for multi-stage turbincs, the comblnation of an admlssion valve, means for actuating the admission valve, a stage valve, means for actuating the stage valve, and a speed responsive device which causes the stage valve to open after the admission valve and close before it, as specifled.
2. In a governing mechanism for multi-stage turbines, the combination of a plurality of admission valves, means under the control of a speed governor for actuating the admission valves, a plurality of stage valves, means under the control of the speed governor for actuating the stage valves. and a syeed governor which causes the stage valves to open successively and between the periods of operation of the admission valves, as specified.
3. In a governing mechanism for multi-stage turbines, the combination of a device moved by a speed governor, an admission valve under the control of said devlce, a stage valve, a fluid actuated motor for controlling the stage valve.
the diameter of the valve being greater than that of the motor piston, and a pilot valve for controllin; the stage

valve that is connected to the device operated by the speed governor, as specified.
4. In a governing mechanism for multi-stage turbines, the combination of admission and stage valves, a mechanical means for opening and closing the admision valves, a fluid pressure means for actuating the stage valve or valves and a speed responsive device that is common to and controls the operation of the valves, as specified.
5. In a governing mechanism for multi-stage turbines, the combination of admission and stage valves, a mechanical means for opening and closing the admission valves, a fluid pressure means for actuating the stage valve or valves, one or more pilot valves for controlling the action of the stage valve or valves, a speed responsive device that is common to said mechanical means and the pilot valve or valves, as specified.
6. In a governing mechanism for multi-stage turbines, the combination of admission valves, crossheads connected to the valve stems, actuators for moving the crosshead to and fro, one or more stage valves, fluid pressure motors for actuating them, one or more crossheads for the stage valves, one or more actuators for moving the last-mentioned crossheads to and iro, one or more pilot valves for the motors actuated by the crosshead or heads, and a speed responsive device which controls the action of the admission valve actuators and the pilot valves, as specified.
7. In a governing mechanism for multi-stage turbines, the combination of a plurality of separately actuated admission valves, one or more stage valves, one or more fluid pressure motors for actuating the stage valves, a baffling device in the conduit between the source of supply and a motor, and a speed responsive device for controlling the admission of motive fluid to the turbine, as specifled.
8. In a governing mechanism for multi-stage turbines, the combination of a plurality of separately actuated admission valves, one or more stage valves, one or more fluid pressure motors for actuating the stage valves, one or more dash pots for damping the action of the stage valve or valves, and a speed responsive device for controlling the action of the valves.

\section*{No. 101,121. Governor for Turbines.} Gowverneur de turbines.
The Canadian General Electric Company, assignee of John G. Callan, Lynn, Massachusetts, U.S.A., 18th September 1906; 6 years. Filed 31st August, 1906. Receipt No. 139,131.
Claim.-1. In a governing mechanism the combination of a valve that has a tendency at a.l times to close a catch which normally prevents the valve from closing, and a means for rotating the catch after it has released the valve to reset it, as and for the purose specified.
2. In a governing mechanism an emergency valve, a catch which may engage the valve to hold it open, means for rotating the catch to engage it with the valve and means rendered operative by an increase of speed above a prescribed limit which rotates the valve from the catch, as and for the purpose specified.
3. In a governing mechanism an emergency valve, a catch which may engage the valve to hold it open, means rendered operative by an increase of speed above a prescribed limit to release the valve, and means for rotating the catch to open and reset the valve, as and for the purpose specifled.
4. In a governing mechanism an emergency valve, a catch having a plurality of members one of which engages a porcion of the valve to hold it open while another is located
adjacent another portion of the valve, means rendered operative by an increase of speed above a prescribed limit which

actuates the catch to release the valve and to impart a blow to the second portion of the valve, and means for rotating the catch to rest the valve in open position, as and for the purpose specified.
5. In a governing mechanism an emergency valve having a plurality of projections, a catch having oppositely disposed members one of which engages one of the projections while a second member is adjacent another projection, and means rendered operative by an increase of speed above a prescribed limit which actuates the catch to release the first projection and to impart a blow to the other projection to close the valve, as and for the purpose specifled.
6. In a governing mechanism an emergency valve having a plurality of projections, a catch having oppositely disposed members one of which engages one of the projections while a second member is adjacent another projection, means rendered operative by an increase of speed above a prescribed limit which actuates the catch to release the first projection and to impart a blow to the other projection to close the valve, and means for resetting the valve, as and for the purpose specified.
7. In a governing mechanism an emergency valve, a catch having oppositely disposed members one of which engages the valve to hold it open while another member is located adjacent a portion of the valve, means rendered operative by an increase of speed above a prescribed limit whicb actuates the catch to release the valve and to impart a blow to said portion to close the valve, and a means for rotating the catch to open and rest the valve, as and for the purpose specified.
8. In a governing mechanism a stud, an emergency valve loosely mounted on the stud and having a projection substantially in line with the valve and another proection at an angle to said valve, a pivoted catch having two oppositely disposed members one of which engages the first projection to hold the valve open while the other overlies the second projection, and means rendered operative by an increase of speed above a prescribed limit which actuates the catch to release the first projection and to impart a hammerlike blow to the other projection to close the valve, as and for the purpose specified.
9. In a governing mechanism an emergency valve, a catch which normally holds the valve open and is also employed to reset it after being closed, and means for operating the catch to reset the valve, as and for the purpose specified.
10. In a governing mechanism the combination of an emergency valve, a catch to hold the valve open, a device for releasing the catch when it is desired to close the valve, and means for moving the catch in a manner to reset the valve, as and for the purpose specifled.
11. In a governing mechanism an emergency valve, a catch for the valve having oppositely dispo d members including a notch and a cam-like portion, projections on the valve one of which engages the notch while the other is disposed adjacent a cam portion, means rendered operative by an increase of speed above a prescribed limit which releases the valve from the notch and brings the cam portion into forcible contact with its adjacent projection, and means for normally operating the catch to bring a cam portion into engagement with the first-mentioned projection for resetting the valve and catch, as and for the purpose specifled.
12. In a governing mechanism an emergency valve, a catch which engages the valve to hold it open, a shaft upon which the catch is mounted, an arm upon the shaft, a rod having a sliding connection with the arm, a swivel bearing for the rod, abutments on the rod for limiting the sliding movement. a spring tending to move an abutment into engagement with
the arm to actuate the catch and release the valve, a trigger for holding the rod against the action of the spring, a speed responsive device which actuates the trigger to release the rod when the speed rises to a prescribed limit, and a handle on the arm for manually resetting the catch and valve, as and for the purpose specified.
13. In a governing mechanism a valve having two discs, means for adjusting the discs with respect to each other, and means for securing the discs in adjusted position, as and for the purpose specified.
14. In combination a valve, an actuating member having a connection with the valve which permits the latter to be moved laterally into engagement with the member, a spindle extending centrally through the valve and having a conical ind, and means for bringing said end into engagement with a similar seat in said member to align the valve and the member, as and for the purpose specified.
15. In combination a valse actuating member, a hub carrying a valve dise and slidably engaging said member, a second hub carrying a valve disc and adjustably connected with the \(r\) st hub, and a spindle extending centrally through the hubs and dises and having a conical end engaging a simllar seat in said member to align the parts, as and for the purpose specifled.
16. In comblation a speed responsive device, a connection actuated thereby. a stud in one end of said connection. a hub having a connection with said stud which permits the hub to be moved laterally to connect or disconnect the hub and stud, a valve dise on the hub, a second hub in threaded engagement with the first hub, a valve disc on the second hub, a spindle passing centrally through the hubs having a threaded engagement with the second hub and a conical end engaging a corresponding seat in the head of the stud, the opposite end of the spindle extending beyond the second hub, a check nut on the extended end of the spindle for locking the hubs in adjusted position, and means for guiding the end of the spindle, as and for the purpose specified.
17. In combination, a steam chest, a speed responsive device and a forked lever connected therewith rocated outside said steam chest, a shaft extending through the wall of the chest to which one branch of the lever is secured, bearings for said shaft mounted in the walls of the steam chest and having a steam tight connection therewith, an arm mounted on the shaft within the chest adjacent one of the bearings, thrust washers between the arm and the bearing which prevent leakage along the shaft, a stud mounted in the other bearing having a steam tight connection therewith and engaging the end of the shaft to prevent longitudinal movement, said stud also affording a bearing for the other branch of the forked lever, and a valve connected with said arm, as and for the purpose specified.
18. In combination, a steam chest, a shaft mounted in the walls of the steam chest. a speed responsive device having forked lecer connected with the shaft outside the chest, an arm mounted on the shaft whithin the chest and a valve connected with the arm, as and for the purpose specified.

No. 101,122. Governor for Turbines.
Gouverncur de turbines.


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of William L. R. Emmet. Schenectady, New York. U.S.A., 18 th Soptember, 1906 ; 6 years. Filed 27th August. 1906. Recelpt No. 138.992.
Claim.-1. In a governing mechanism for turbines the combination of a valve whose region of movement varies for different loads, and speed responsive device for changing the region of movement of the valve, and a means that acts to retard the movements of the valve in the opposite direction.
2. In a goveruing mechanism for turbines the combina-
tion of a regulating valve, a governor which imparts a certain number of strokes to the valve in a given unit of time, and a means which retards the movement of the valve in the opposite direction.
3. In a governing mechanism for turbine the combination o: a regulating valve, a governor which positively imparts to the valve in one direction a given number of strokes per interval of time, and a device which moves the valve in the cpposite direction and also retards it.
4. In a governing mechanism for turbines the combination of a regulating valve, a governor, a valve actuator reciprocated directly by the governor in one direction at a speed and through a distance determined by the speed of the turblne, a retract device for said actuator acting in opposition to said actuator, and means for retarding the effect of said retracting device.
5. In a governing mechanism for turbines the combination of a regulating valve, a governor responsive to speed changes, a lever actuated by said governor at a speed and through an angular distance depending upon the speed of the turbine, a valve actuator operated by said lever to open said valve, a spring for closing said valve, and a retarding device controlling the rate of the closing.
6. In governing mechanism for turbines the combination of a regulating valve, a governor comprising a weight pivoted eccentrically to its axis of revolution, a lever connceted to said weight, a valve stem operated by said lever in one direction, a spring to move said valve in the opposite direction, and a dash pot to control the rate of movement by said spring.
7. In a governing mechanism for turbines the combination with a regulating valve controlling two or more ports in succession during its travel, of a valve stem, a governar responsive to speed changes, and intermediate mechanism whereby said governor will actuate said stem by an amount inverse to the speed of the turbine.
8. In a governing mechanism for turbines the combination with a regulating valve controlling two or more ports in succession during its travel, of a valve stem, a governor comprising a revolving weight plvoted eccentrically to the axis of revolution, a wrist pin on said weight, whose orbit of revolution varies in diameter inversely with the speed of the turbine, a lever connected to the said pin and actuating said stem in one direction, and a retarded device for moving said stem in the opposite direction.

No. 101.123. Governor for Turbines.
Gouverneur de turbines.


The Canadian General Electric Company, Toronto. Ontario, Canada, assignee of Charles H. Worsey, Lynn, Massachusetts, U.S.A., 18th September, 1906 ; 6 years. Flled 28th August, 1906. Receipt No. 139,038.
Claim.-1. In a governing mechanism the combination of a plurality of regulators, a rotating actuator for sucessively moving the regulators to and fro as the load conditions change, a driving means for the actuator, a device for imparting a step-by-step action to the actuator, and a load responsive mechanism controlling the action of said device to cause successive operation of the regulators. as and for the purpose specifled.
2. In a governing mechanism the combination of a regulator, means for moving the regulator in one direction or the other, and a load responsive device for controlling the operation of said regulator including a lever having stepped ends. as and for the purpose specified.
3. In a governing mechanism the combination of a plurality of regulators, means for opening and closing said regulators, and a load responsive device for controlling the oper-
ation of said regulators including a tilting lever having stepped ends, as and for the purpose specifled.
4. In a governing mechanism the combination of a valve, means for opening and closing said valve, a device responsive to changes in the load for controlling the operation of said valve including a lever having stepped ends and a positioning device for said lever, as and for the purpose specified.
5. In a governing mechanism the combination of a valve, means for opening and closing the valve, a load responsive device controlling the operation of said valve including a lever and a positioning device for said lever comprising a spring pressed plunger and a fixed abutment having recesses with which the end of said plunger yieldingly engages, as and for the purpose specified.
6. The combination of a regulator with a constantly rotating cam for actuating said regulator. means for transmitting motion from the cam to the regulator, a means for shifting the cam to one side of a given position to move the regulator in one direction. and for shifting it further in the same direction to move the regulator in the opposite direction. as and for the purpose specified.
7. In a governing mechanism the combination of a regulator. a constantly rotating cam for actuating said regulator, means for transmitting motion from the cam to the regulator, a means for shifting the cam to one slde of a given position to move the regulator in one direction and for shifting Ii further in the same direction to move the regulator in the opposite direction, and a speed responsive device for controlling said shifting means, as and for the purpose specitied.
8. The combination of a regulator, a constantly rotating cam for actuating the regulator, means for transmitting motion from the cam to the regulator, and a means for shifting the cam to one side of a given position to move the .- M- inr in one direction and for shifting it further in the same direction to move the regulator in the opposite direction and for shifting it still turther in said direction to reliase the regulator from the cam, as and for the purpose specified.
9. In a governing mechanism the combination of a valve. a constantly rotating cam for actuating the valve, means for transmitting motion from the cam to the valve, a means for shifting the cam to the one side of a given position to move the valve in one direction and for shifting it further in the samr direction to move the valve in the opposite direction and for shiftine it still further in said direction to release the valve from the cam, and a speed responsive device contriling said shifting means, as and for the purpose specified.
10. The combination of a regulator, a yoke connected to the regulator having two oppositely disposed offset portions, a rotating cam located between said portions, and speed responsive means for shifting said cam to engage either or neither of said portions to open or close said valve or to permit it to remain open or closed, as and for the purpose specified.
11. In a governing mechanism, the combination of a plurality of valves, means for actuating said valves, a device for shifting said actuating means including a lever having stepped ends, and a speed responsive mechanism which positions said lever to shift sald actuating means, as and for the purpose specifed.
12. In a speed governing mechanism, the combination of a plurality of valves, connections spaced apart for moving said valves, a rotating shaft, a plurality of cams on the shaft so spaced apart that they can engage the connections to open or close but one valve at a time, means for shifting the cams longitudinally to actuate the valves in successive order in elther direction, and a speed responsive device to control the shifting means, as and for the purpose specified.
13. In a governing mechanism, the combination of a plurality of valves, a shaft, a series of valve actuating devices mounted on said shaft and receiving their motion therefrom, means for transmitting motion from the devices to the valves, shifting means moving with said shaft, a device adjacent said shaft which may be moved into engagement with said shifting means, a load responsive mechanism which moves sald device into or out of operative engagement with the shifting means to shift said series of devices longitudinally in either direction to engage said transmitting means and central the operation of the valves, as and for the purpose specified.
14. In a governing mechanism, the combination of a plurality of valves, a shaft, a series of actuating devices for the valves mounted on the shaft and recelving their motion therefrom, means for transmitting motion from the devices to the valves, shifting means on the shaft, a lever adjacent the shaft having means at its end to engage the shifting means, and a speed or load responsive device controlling the position of said lever and moving its end into or put
of operative engagement with the shifting means to shift the series of devices in either direction to engage the transmitting means and to onen or close the valves in successive order, as and for the purpose specified.
15. In a governing mechanism, the combination of a plurality of regulaters, a rotating shaft, a series of actuating shafts, devices for the regulators mounted on the shaft. means for transmitting motion from the devices to the valves, a shifting cam on the shaft adjacent each end of said series, a lever pivoted at a point between the cams, adjacent the shaft and having stepped ends, and a load responsive device having a connection with said lever to move its ends into or out of operative engagement with the shifting cams to move said series of devices longitudinally in either direction to engage the transmitting means and to open or close the regulators in successive order, as and for the purpose specified.
16. In a governing mechanism, the combination of a series of shiftable valve actuating devices, means for shifting the devices including a lever, a speed responsive mechanism having a connection with the lever, and a pivot for the lever which is located to receive the thrust of said shifting means to prevent load upon said mechanism, as and for the purpose syecified.
17. In a governing mechanism, the combination of a series of shifting cams, means for rotating the cams, means for shifting the cams including a lever, a speed responsive device having a connection with the lever, and a pivot for the lever which is located to receive the thrust of said shifting means to prevent load upon said device, as and for the purpose specifled.
18. In a governing mechanism, the combination of one or more regulators, means for operating sald regulators including a shaft, means for shifting the shaft in either direction comprising two discs mounted thereon and having oppositely disposed cam surfaces, a lever plvoted adjacent said shaft having stepped ends, and a load responsive device having a connection with the lever to move its ends into or out of operative engagement with the cam surfaces, as and for the purpose specified.

\section*{No. 101,124. Governor for Turbines. \\ Gouverncur dc twrbines.}


The Canadian General Electric Company, Toronto, Ontario, Canada, assignec of Oscar Junggren, Schenectady, New York, U.S.A., 18th September, 1906 ; 6 years. Flled 28th August, 1906. Receipt No. 139,039.
Claim.-1. In a governing mechanism for elastic fluid turbines the combination with the turbine of sets of nozzle valves, a cam shaft for actuating each set of valves, a liquid -pressure motor located at about the level of said valves. connections between said motor and said cam shafts and speed responsive devices controlling said motor, as and for the purpose specifled.
2. In a governing device for elastic fluid turbines the combbination with the turbine of scts of nozzle valves, a cam shaft for actuating each set of valves, a horizontal cylinder hocated at about the level of said valves, a piston in said cylinder actuated by liquid pressure, connections between said piston and said cam shafts and speed responsive devices controlling the admission of liquid to said cylinder, as and for the purpose specified.
3. In a governing mechanism for elastic fluid turbines the combination with the turbine of sets of nozzle valves, a cam shaft for actuating each set of valves, a transverse shaft geared to said cam shafts, a liquid pressure motor for rotat-
ing said transverse shaft and controlling devices for said motor responsive to speed changes of the turbine,, as and for the purpose specifed.
4. In a governing mechanism for elastic nuid turbines the combination with the turbine casing and the generator of a stool interposed between them, two valve chests on opposite sides of said stool, a cam shaft on each chest, a transverse shaft geared to said cam shafts and pressing through said stool, a hydraulic motor mounted outside of and extending into said stool and connected with said transverse shaft, and controlling devices for sald motor connected to the speed governor of the turbine, as and for the purpose specified.
5. In a governing mechanism for elastic fluid turbines the combination with mechanically operated nozzle valves, of a -liquid pressure motor for operating them and means for causing said motor to operate by an intermittent motion instead of continuously, as and for the purpose specifed.
6. In a governing mechanism for elastic fluid turbines the combination with mechanically operated nozzle valves, of a - hquid pressure motor for operating them, and means for periodically interrupting the escape of the liquid from the motor when working, as and for the purpose specified.
7. In a governing mechanism for elastlc fluid turbines the combination with mechanically operated nozzle valves, of a liquid pressure motor for operating them, means for causing said motor to operate by an intermittent motion instead of continuously comprising a valve offering a predetermined resiatance to movement and an air chamber, as and for the purpose specilled.

1T0. 101,125. Plantinc Minchine. Plastotr.


Fellx G. Green, John W. Cooper and Conway G. Norris, each an assignee of a three-fifths interest, all of Ledalia, Missouri, U. S. A., 25th September, 1906; 6 years. Filed 3rd April, 1906. Receipt No. 134,556.
Olain.-The herein described planter comprising a suitable framework and carrying wheels therefor, said carrying wheels being each formed in two parts, separated slightly from each other, furrow making discs 6 adapted to have one portion of their edges disposed between the separated wheels whereby the discs will be kept clean and in a secured condition, a pair of hoppers, grain conveying tubes extending from said hoppers to the furrows made by said discs, a slide mounted in the bottom of each hopper and an actuating disc controlling a lever connected with said slides whereby each of the slides will be operated simultaneously and at predetermined points to dispose the grain in continuous or drilled rows or hills of uniform separation all comblned, substantlally as set forth.

\section*{No. 101,126. Nut Look. \(\Delta\) rrete-ecrou.}

George Bryar, Waltham, Massachusetts, U.S.A., and John White, each an assignee of a one-sixteenth interest, all of St. John, New Brunswick, Canada, 25th September, 1908; 6 years. Filed 27th August, 1906. Receipt No. 138,998.
Olaim.-1. A nut having a free portion produced by making a longitudinal and transverse cut in the nut, the end of said free portion being pressed inwardly toward the bottom of one cut and the side of the other cut, as set forth.
2. A nut having a cut parallel with the top and base and a radial cut communicating with the arst-mentioned cut, the free portion of the nut being pressed so as to throw the threads of said portion out of alignment with the threads of the adjacent portion of the nut.
8. A nut having a free portion or tongue bent inwardly thereby throwing the threads out of alignment and also producing a shoulder adapted to engage the thread of a bolt, as set lorth.
4. A nut having a free portion or tongue, the threads of sald tree portion or tonsue being of the same pitch as the
main portion of the nut, the iree end of said tongue being Thent 80 as to throw the threads thereof out of alignment with the adjacent threads of the other portion of the nut.

5. A nut having a longitudinal cut produced therein and extending substantially half way through the nut, a radial cut extending from the top of the nut to the longitudinal cut thereby producing a free portion or tongue, the end of the said free portion being pressed inwardly toward the bottom of the longitudinal cut and side of the radial cut, as and for the purpose described.

No. 101,127. Trace Conncoter. Joint de tratt.


Robert James Lay and Benjamin E. Summers, assignee of a half interest, both of Cairo, West Virginia, U.S.A., zsth September, 1906; 6 years. Filed 3rd August, 1908. Receipt No. 138,404.
Claim.-1. A trace connector consisting of a piece of wire that is bent to provide converging membere to lle over one side of a portion of a trace, continuations of such members which span the edges of the trace, a terminal portion shaped to engage the eye of a whimetree when passed through the eye of the trace, the other terminal entering a recess in the trace, substantially as shown.
2. A trace connector made from a continuous plece of spring wire that is bent to provide diverging bars, crossportions that embrace the edges of a trace, a spring depressed member having an upward extending portion and parallel therewith a pin, a member that extends from the other cross portion, such member being bent to form a loop that limits the movement of the pin carrying member, the part beyond the loop being substantially at right angles to the bar which terminates in the pin that enters the eje of the singletree, substantially as set forth.

\section*{No. 101,128. Fireboz for Stoves and Ranges. \\ Foyer pour podles.}

The Canadian Heating and Ventilating Company, assignee of William James Christie, Robert Crane and Westley R. Wilson, all of Owen Sound, Ontario, Canada, 25th September, 1906: 6 years. Filed 29th August, 1906. Recelpt No. 139,076.
Claim.-1. In a range or stove the combination with the firebox, of bricks having hollows perforated upper edges or rims, as and for the purpose specifed.
2. In a range or stove the combination with the firebox, of the back bricks having hollow perforated rims and an arched rim extending upwardly therefrom and perforated, as and for the purpose specified.
3. In range or stove the combination with the firebor. of the back bricks having hollow perforated rims and an arched rim extending upwardly therefrom and perforated, and the end bricks having the upper hollow perforated rim communlcating at the back with the openings in the rim, as and for the purpose specified.
4. In a range or stove the combination with the firebox, of the back bricks having hollow perforated rims and an arched

rim extending upwardly therefrom and perforated, and the end bricks having the upper hollow perforated rim and having a depending front perforated portion having a front opening, the front brick having perforations or openings registering with sald openings in the depending front perforated portions of the rim of the end bricks, sald openings in the front brick communicating with openings in the front of the stove, as and for the purpose specified.
5. The combination with the back bricks having a perforated top rim, of the end bricks having a perforated top rim having end openings registering with openings in the sides of the ends of the back bricks and front openings registering with the openings in the front of the stove, as and for the purpose specified.

No. 101,129. Filling Device. Appareil d̀ remplir.


Charles A. M. Nystrom, Jacob H. Beckman, and Frank W. Beckman, co-inventors, all of Portland, Oregon, U.S.A., 25th September, 1906; 6 years. Filed 24th August, 1906. Receipt No. 138,950 .
Claim.-1. The combination with a vessel, of a closure for sald vessel, a closed tube connected with said vessel through said closure, a smaller inner tube passing through and longitudinally movable in sald outer tube and open from end to end and having outlet passages therein connecting the intcrior of the outer tube with the interior of the inner tube and being adapted to be moved into and out of communication with the inglde of said outer tube by the longitudinal motion of said inner tube.
2. The combination with a vessel of a closure for said ressel, a closed tube secured to said closure and communi-
cating therewith by passages near its ends, a smaller inner tlibo passing through and extending beyond and longitudinally movable in said outer tube and open from end to end and having outlet passages therein connecting the interior o: the outer tube with the interior of the inner tube when said inner tube is in its operative position but being removed from connection with said outer tube when not in its operative position, and a collar secured to said inner tube adjacent to said outlet passages and adapted to press against the lower end of the outer tube to prevent the leakage of liquid from said outer tube around said inner tube when sald inner tube is not in operative position.

No. 101,130. Rail Fastener. Attache de rails.


William J. Allin, Clarendon, Arkansas, U.S.A., 25th Sep tember. 1906 ; 6 years. Filed 31st August, 1906. Receipt No. 139,122.
Claim.-1. A rail fastener constructed of a single plece of metal folded upon itself and provided with an upwardly extending brace and transverse strengthening lugs upon the bottom of its lower surface and upon the outer side of its upward brace, substantially as specified.
2. A rail fastener constructed of a single piece of sheet metal forming a base plate for the rail and bent upwardly to form a brace adapted to fit against the under and outer surface of the ball of the rail to recelve its outward thrust, and transverse strengthening lugs upon the bottom surface of the fastener and upon the upper edge of the brace, sub stantially as specifled.
3. A rail fastener consisting of a tie plate and brace constructed of a single piece of metal bent and folded upon itself, the lower portion of which fastener is provided with transverse \(V\)-shaped ribs adapted to impinge against the tie when in position for use, the terminal folded end of said fastener extending up at an angle and adapted to fit underneath the head of the rail, which terminal portion is provided with transverse strengthening ribs and the bended orer portion also provided with ribs which serve as a brace for the lower end of the ribs formed on the upwardly projecting portion, substantially as specified.
4. A rail fastener comprising a single sheet of metal folded upon itself to form a seat for the rail, and a brace to proteet the ball of the rall from lateral thrust, the bottom of the fastener and the outer surface of the bracing end being provided with transverse ribs, substantially as specified.
5. A rail fastener constructed of a single plece of metal and comprising a flat base portion, integral ribs on the under side of said base portion, and an integral brace extending upwardly at an angle so as to bear against the ball of the rail, and the top side of which brace is provided with Integral ribs, substantially as specified.
6. A rail fastener constructed of a single plece of metal and comprising a flat base portion, integral ribs on the under side of sald base portion, an integral brace extending upwardly at an angle so as to bear against the ball of the rail, the top side of which brace is provided with integral ribs, and there being a tongue cut from said brace and adapted to be bent downwardly by one of the spikes which secures the fastener to the tie, substantially as specified.

\section*{No. 101,131. Rake. Ratelier.}

George W. Anderson, Ladoga, Indiana, U.S.A., 25th September, 1906 ; 6 years Filed 15th May, 1906. Receipt No. 135,944.
Claim.-1. In a rake, the combination of a crosshead having a pair of tooth recelving perforations and an allgned receptacle for an intermediate kinked portion of the tooth, and a tooth passage through said perforations and having
an intermediate portion between the perforations kinked into said receptacle.

2. In a rake, the combination of a crosshead having a pair of tooth receiving perforations, and a dimple formed in alignment therewith, and a tooth passed through said perforations and having a portion between said perforations kinked into said dimple.

No. 101,132. Lace Shoe. Laccts de chaussures.


Frank William Barron, Toronto Junction, Toronto, Ontario,
Canada, 25th September, 1906; 6 years. Filed 29 th August, 1906. Receipt No. 139,070 .
Claim.-1. In a lace shoe, an upper having a front laced portion and a back flap extending over the heel, and means for fastening such flap around at the side of the shoe, as and for the purnose specified.
2. In a lace shoe, an upper having a front laced portion and a back minor flap designed to fit inside and a major flap designed to extend around the minor flap and means for fastening such flap around at the side of the shoe, as and for the purpose specified.

No. 101,133. Bolster. Coussin.
Edward Hendry Benners, Elizabeth, New Jersey, U.S.A., 25th September, 1906; 6 years. Filed 1st September 1906. Receipt No. 139,162.

Claim-1. A bolster comprising a top plate, a narrower bottom plate and inclosed side webs connecting them, said side webs being approximately stralght from the top to the bottom plates.
2. In a bolster comprising a top plate, a narrower bottom plate and inclined open work webs connecting said plates, said webs being approximately straight from the top to the bottom plates.
3. A cast metal bolster comprising a top plate, a bottom plate of less width than the top plate, and approxi-

mately straight side webs connecting the longitudinal edges of the top and bottom plates.

No. 101,134. Crane. Grue.


Milford F. Berry, Bombay, New York, U.S.A., 25th Septem-
ber, 1906; 6 years. Flled 27th August, 1906. Receipt No. 139,001 .
Claim.-In a crane, a mast having a lower pivot, an upper socket member secured to the mast, a pivot rod extending within said socket member and provided with bifurcated arms, a support for receiving the ends of said arms, guiding sheaves mounted on the bifurcated arms, a crane arm also having guiding sheaves, a holsting cable guided by the several sheaves, a stationary operating cylinder, a piston disposed in sald cylinder, a piston rod, and means for connecting the cable to the piston rod.

\section*{No. 101,135. Heating Mechanism.}

\section*{Mécanisme de chauffage.}

Albert Preston Bromell, York. Pennsylvania, U.S.A., 25th September, 1906 ; 6 ycars. Filed 21st August, 1906. Receipt No. 138,902.
Claim.-1. In a steam heating apparatus a recoiver for the water of condensation from the radiators, a connection at the upper end of the receiver for the return water, a connection at the lower end of the receiver for returning water to the boiler, a damper actuating float in the receiver, a relief valve chamber opening into the upper end of the receiver and having a connection for the steam space of the boiler, a relief valve in the said chamber and a lever for lifting the valve extending into the receiver for operating by said float.
2. In a steam heating apparatus a receiver for the water of condensation from the radiators, a connection at the upper end of the recelver for the return water, a connection
at the lower end of the receiver for returning the water to the boiler, a damper actuating foat in the receiver, a relief

chamber opening into the upper end of the receiver and having a connection with the steam space of the boiler, a rellef valve in the chamber, a lever for lifting the valve and a rod depending from the lever into the path of the said float.
3. In a steam heating apparatus a receiver for the water of condensation from the radiators, a connection at the upper end of the receiver for the return water, a connection at the lower end of the receiver for returning the water to the boller, a float in the receiver provided with an upwardly extending damper actuating chain, a relief valve chamber opening into the upper end of the recelver and having a connection for the steam space of the boiler, a rellef valve in the chamber, a weight secured to the upper side of the valve and a lever connected to the valve and extending into the receiver for operation by the float.
4. In a steam heating apparatus a receiver for the water of condensation from the radiators, a connection at the upper end of the receiver for the return water, a connection at the lower end of the receiver for returning the water to the boller, a float in the receiver having a damper actuating chain, a relief valve having a connection for the steam space of the boiler and provided with an operating lever extending ir.to the receiver, an adjustable rod depending from the inner end of the lever, and having an abutment at its lower end in the upward path of the float.
5. In a steam heating apparatus a receiver for the water of condensation from the radiators, a connection at the upper end of the receiver for the return water, a connection at the lower end of the receiver for returning the water to the boiler, a damper actuating float in the receiver, a relief valve chamber opening into the upper end of the receiver, and open at its top and bottom, an elbow coupling to connect with the steam space of the boller and entering the lower open side of the chamber, means for securins said elbow to the chamber, a relief valve seating on the upper end of the elbow, a lever in the chamber connected to said valve and at its free end entering the receiver in operalive relation to the float.
6. In a steam heating apparatus a receiver for the water of condensation from the radiators, having a trap chamber at its upper end, a return pipe connection for said chamber, a vent pipe connection for the top of sald chamber, a conneclion from the lower end of the receiver to return the water to the boiler, a float in the receiver having a damper actuating chain and weighted at its lower end to keep the chain connection on top, a relief valve having a boiler connection and a valve operating lever entering the receiver for operation by the float.
7. The combination with the relief valve chamber having a seat at its lower end and open at its top and side, of a valve seated on the said seat and provided with a weighted extension extending up through the top opening and an actuating lever removably connected to the valve, whereby on removing the lever the valve may be rotated on its seat by means of its projecting extension.
8. In a steam heating apparatus a receiver for the water of condensation from the radiators, a connection at the upper end of the receiver for the return water, a connection at the lower end of the receiver for returning the water to the boller. a damper actuating float in the receiver, a relief valve for the steam space of the boiler, a lever extending from the valve into the receiver, a vertically adjustable rod depending from the inner end of the lever and having a lateral abutment at its lower end in the path of the float.
9. In a steam heating apparatus a receiver for the water of condensation from the radiacors, a connection at the upper end of the recelver for the return water, a connection at the lower end of the receiver for returning the water to the boller, a guide frame or spider on the upper open end of the receiver and having an interlocking connection therewith, a damper actuating float in the receiver, a relief valve connected with the steam space of the boiler, a lever for lifting the valve extending into the receiver, a vertical rod adjustably connected to said lever guided at its upper end in the guide frame or spider and having a ring-like abutment at its lower end in the path of the float.

No. 101,136. Car Conpler. Attelage de chars.


Frederick William Colley, Basswood, Manitoba, Canada, 25th September, 1906 ; 6 years. Filed 30th August, 1906. Recelpt No. 139,098.
Claim.-1. In a car coupler the combination with the drawhead provided with a substantially U-shaped end, a longitudinal recess, and the knuckle journalled on a pin extending through the apices of one of the sides, of a stem extending inwardly from the knuckle, a spring secured within the recess and co-operating with the stem, and means within the recess whereby the knuckle may be locked in a closed position, as and for the purpose specified.
2. In a car coupler the combination with the drawhead provided with a substantially U-shaped end, a longitudinal recess, and the knuckle journalled on a pin extending through the apices of one of the sides, of a stem extending inwardly from the knuckle, a spring secured within the recess and co-operating with the stem, and means within the recess whereby the knuckle may be held in an open position, as and for the purpose specified.
3. In a car coupler the combination with the drawhead provided with a substantially U-shaped end, a longitudinal recess and the knuckle journalled on a pin extending through the apices of one of the sides of a stem extending inwardly from the knuckle, a spring secured within the recess and cooperating with the stem, a spring actuated bar slidable within the recess and designed to lock the knuckle in a closed position and withhold it in an open position, as and for the purpose specified.
4. In a car coupler the combination with the drawhead provided with a substantially U-shaped end, a longitudinal recess, and the knuckle journalled on a pin extending through the apices of one of the sides, of a stem extending inwardly from the knuckle, a spring secured within the recess and co-operating with the stem, a bifurcated bar slidable within the recess, a spiral spring actuating the bar, a roller bearing within the bifurcations, the said roller being adapted to engage the stem and hold it in a locked closed position, and means whereby the bar may be thrown backwardly within the drawhead to release the stem, as and for the purpose specifled.
5. In a car coupler the combination with a hollow drawhead provided with a substantially U-shaped end and having one of the sides of the U-shaped end open mouthed, of a knuckle journalled on a pin extending through the apices of the open mouthed side, a stem extending inwardly from the knuckle and integral therewith, a spring secured to the inner face of the drawhead and behind the stem, a bifurcated bar slidable within the recess in the head, a spiral spring enveloping the inner portion of the bar and abuting forwardly a shoulder on the bar. a cross partition within the drawhead, a roller bearing within the porwardly extending ends of the slidable bar and designed to secure the knuckle In a locked closed position and to restrain the knuckle in an open position, as and for the purpose specifled
6. In a car coupler the combination with a hollow drawhead, having a substantially \(U\)-shaped end and provided with
a knuckle fournalled on a pin extending through the apices of one of the sides, of a stem extending inwardly from the knuckle and integral therewith, means whereby the knuckle is automatically locked when it is returned to a closed position, and means whereby the knuckle may be loosed from the closed position and withheld in the open position, as and for the purpose specified.
7. In a car coupler the combination with the drawhead, having a longitudinal recess and provided with a substantially U-shaped end and a knuckle journalled on a pin extending through the apices of one of the sides, of a stem extending inwardly from the knuckle and integral therewith, a spring secured within the drawhead and bearing behind the knuckle when in a locked position, a bifurcated bar slidable within the recess, a spiral spring actuating the bar forwardly, a roller bearing within the extending ends of the bar and designed to engage with the stem of a knuckle to withhold it in a closed or open position, a roller pivotally supported in the drawhead on the side opposito to the kuuckle and bearing continuously on the face of the bar, and a key extending within the drawhead and designed in its rotation to throw the bar backwardly in the recess, as and for the purpose specified.

No. 101,137. Balligg Press. Presse d'emballage.




William O. Cumming, Macon, Georgia, U.S.A., 25th September, 1906. 6 years. Filed 20th February, 1906. Receipt No. 133,103 .
Claim.-The combination in a baling press with a single plunger, of an antifriction abutment carried by and projecting at an angle to the plunger, operating arms suitably pivoted at one end of the baling press, the arms comprising a plurality of horizontal members extending transversely to each other and located in different horizontal and parallel planes the members in one horizontal plane provided with cam faces adapted to engage and wipe the anti-friction abutment preliminary to the engagement of the members in the remalning horizontal plane with the end of the plunger.

No. 101,138. Metal Tie. Dormant métallique.


Thomas A. Enloe and Joseph V. Enloe, co-inventors, both of Pinole, Californla, U.S.A., 25th September, 1906 ; 6 years. Filed 20th June, 1906. Recelpt No. 137,092.
Claim.-A permanent form of metal crosstie comprising a suitable base and top section properly united and having
upon one end an integral rail engaging device 7 and upon the opposite end an adjustable clamp 8 fitting around sald top member, a plurality of corrugations or prictional devices formed on the edges of said top section, and means carried by the adjustable member to engage said frictional devices whereby it may be locked securely against the track rall, an auxiliary securing device carried by the crosstle and adJustably secured thereon adapted to press against the inner sides of the track rails or the guard and switch ralls cooperating therewith all combined, substantially as specified and for the purpose set forth.

No. 101,139. Seat for Fiarrows. Siège de herses.


Samuel B. Hazard, Peoria, Illinols, U.S.A., 25th September, 1906; 6 years. Filed 30th July, 1906. Recejpt No. 138,234.

Claim.-1. In a device of the character described the combination of a pair of carrying wheels and their axle, \& carrying frame carried by the latter, a reach pivoted to the frame to swing in a horizontal plane, a bar carried at the forward end of the reach, and a harrow attached to the rear side of said bar, substantially as described and shown. carried by the latter, a reach plvoted to the frame to swing reach, and a harrow attached to the rear side of said bar substantially as described and shown.
2. In a device of the character described the combination of a harrow, a bar forward of the same, connections between the bar and harrow, a pair of wheels rearward of the harrow, a frame carried by the wheels, and a reach pivoted on the frame and rigidly secured to the bar forward of said harrow, draft attachments on the said bar, and a seat carried or the wheel frame, substantially as and for the purposes set forth.
3. In a combination with a harrow, a bar forward of the same and with which it has connection, a wheeled frame in the rear of the harrow, a seat carried thereon for the purposes set forth and a reach rigidly secured to the bar forward of the harrow, said reach having pivoted connection with the said wheeled Prame, and adapted to swing in a horizontal plane, as described.
4. In comblation with a harrow. a bar forward of the same to which it is connected, draft attachments on the bar, a pair of wheels rearward of the harrow, an axle therefor, a pair of hounds secured to the axle and extending forward, a reach having pivotal connection with the hounds to move in a horizontal plane, sald reach being formed in two extensions projecting forward at an angle to the right and left, said projections having rigid connection with the bar fcrward of the harrow, and a seat and seat frame carried between the wheels for the purposes explained.
5. In a combination with a harrow, a bar forward of the same with which it is connected, draft attachments on said bar, a pair of wheels rearward of the harrow, a palr of: hounds carried between the wheels, a seat carried on the hounds, a reach comprising two arms pivoted at the forward ends of the hounds and lying parallel with one another rearward of the pivot but diverging and extending forward from the pivot, the forward ends having attachment with the bar fcrward of the harrow, and means rearward of the pivot of the reach for sustaining the said reach as against vertical movement but permitting a free horizontal movement for the jurposes set forth.
b. In combination with a harrow, a bar forward thereof and to which it is connected, draft attachments for the bar, a wheeled frame in the rear of the harrow, a seat carried thereby, a bifurcated reach pivoted to the said wheeled frame, the extremities extending forward and diverging and having connection with the bar forward of the harrow
substantially as shown, means for preventing vertical movement of the reach at its rear end, and a footrest placed at the pivot of said reach, for the purposes set forth.
7. In combination with a harrow, a bar forward thereof and having connection therewith, draft attachments on the bar, a pair of reaches attached at their forward ends to the bar and extending rearward and converging near their rear ends and thence extending parallel with each other, a supporting plate to which the converging ends are secured, a second plate beneath the first, a wheeled frame to which the said second plate is secured, a guide carried by the wheeled frame between which the rear ends of the reach members are slidably held for the purposes set forth, and a pivot for the plate for permitting horizontal pivotal movement of the reaches and wheeled frame.
8. In combination with a harrow a bar forward thereof and having connection therewith, draft attachments on the bar, a pair of reaches attached at their forward ends to the bar and extending. rearward and converging near their rear ends and thence extending parallel with each other a supporting plate to which the converging ends are secured, a second plate beneath the first, a wheeled frame to which the said sccond plate is secured, a guide carried by the wheeled frame between which the rear ends of the reach members are slidably held for the purposes set forth, a plvot for the plates for permitting horizontal pivotal movement of the reaches and wheeled irame, a seat carried on the wheeled frame, and a foot rest located at the said pivot, substantially as set forth.
9. In combination with a harrow a draft bar forward thereof and with which it is connected, a wheeled frame rearward of the harrow, a pair of reach arms, of angle iron secured at their forward ends to the draft bar and extending upward and then rearward therefrom, said arms converging near their rear ends and lying parallel with each other at the rear ends, the extremities being flattened and slidably held within the said wheeled frame, and pivotal connection between the reaches and said frame, the latter preventing vertical movement of the frame and reaches at the pivot thereof.
10. The combination of a harrow having draft devices forward thereof, a wheeled seat carrying frame rearward of the harrow, a connecting frame between the said draft device and the wheeled frame, there being a pivotal connection between the two frames substantially as shown and described, and means for preventing vertical tilting movement between the two frames.
11. In combination with a harrow having draft attachments, a wheeled seat carrying frame rearward of the harrow, a connecting frame attached to sald draft attachments and pivoted on the wheeled frame and composed of two diverging ferwardly extending bars attached at their separated ends to the draft attachents, a place on the wheeled frame at the point of pivotal connection of the connecting frame and a plate on the latter, said plates forming the bearings between the said frames, and means for preventing a vertical tilting movement between the frames while permitting a horizontal movement for the purposes described.
12. In combination with a harrow having draft attachments, a wheeled frame rearward of the harrow, a reach consisting of two members pivoted to the said wheeled frame and extending both forward and rearward of the pivot, the forward ends of the reach diverging and having connection with the said draft attachments, and means for preventing vertical rocking movement between the frames while permitting horizontal movement thereof on the connecting pivot.

\section*{No. 101,140. Milking Bhield.}

Garde pour machines d̀ traire les vaches.

John W. Hughes, Rogers, Arkansas, U.S.A., 25th September. 1906; 6 years. Filed 29th August, 1906. Receipt No. 139,064.
Claim.-1. A head protector comprising a saddle block having a concaved under face for engagement upon the shoulder of the wearer, said block having a groove in its upper face, an arm depending from each end of the block, each arm having aligning slots, a waist strap secured in the lowermost aligning perforations in saidarms, a side strap secured in the uppermost slots \(0^{*}\) said arms, a neck strap secured to one of the side faces of the aforesald block, a shoulder strap secured te the other side face of the block, and a shield fitted in the aforesaid groove in the top of the block.
2. A head protector comprising a saddle block for engagement with the shoulder of the wearer, a neck strap secured

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tc said block, an arm depending from each end of the block, straps connected to said arms, a shoulder strap secured to

the outer face of the block, and a shield secured to the upper face of the block.

No. 101,141. Butter Cutter. Coutear d beurre.


Arthur C. Hummer, Seattle, Washington, U.S.A., 25th September, 1906; 6 years. Filed 4th September, 1906. Receipt No. 139,252.
Claim.-1. A butter cutter comprising means for supporting a body of butter for movement, a cutting means movable into and out of the path of said body, and means engaging the body when advanced for limiting the movement thereof operated so as to be moved away from said body as the cutting means is moved for cutting.
2. A butter cutter comprising means for supporting a body of butter for movement, a cutting means movable to and from the path of said body, and means for limiting the movement of said body associated with sald cutting means for movement into said path in advance of the body as the cutter is moved from said path.
3. A butter cutter comprising means for supporting a body of butter for movement, a frame supported for movement to and from the path of said body, a cutter mounted on said frame, and means to limit the movement of said body mounted on sald frame and arranged to be moved into the path of the butter in advance of the said body as the frame is moved from the path and to move from said path as the frame is moved toward the samp.
4. A butter cutter comprising means for supporting a body of butter for movement, a frame swingingly supported for movement to and from the path of said body in a relatively angular plane, means to limit the movement of said body arranged on sald frame so as to move into said path as the frame is moved toward the same. and a cutter mounted on said frame rearwardly of said limiting means. 5. A butter cutter comprising means for supporting a body of butter for movement, a frame swingably supported for movement to and from the path of sald body in a relatively angular plane, a stop arranged to contact with said frame when the frame is in either retracted or advanced positions, means to limit the movement of said body comprising a finger arranged on said frame so as to project
into said path and to lie without the same when the frame is respectively in retracted and advanced positions, and a cutter mounted on said frame rearwardly of said limiting means.
6. A butter cutter comprising a rectangular frame having notches spaced apart in the forward outer edge of each bar thereof, a bottom plate and a side plate secured to said frame and extending rearwardly thereof, tension devices mounted on said plates adjacent their rear ends, angularly disposed cutters in the form of wires seated in opposite notches of said frame and engaged at one end each with a respective one of said tension devices, each of said cutters being secured at the opposite end to said frame rearwardly of the adjacent notches therein, a cutter frame swingingly supported in front of said first frame, and a cutter mounted on said last frame.

No. 101.14\%. Apparatus for Receiving and Delivering Mail Bags on and from Moving Traing.
Appareil pour capter et livrer les sacs posteaus des trains en mouvement.


Frank Meeker Hurley, Blissfield, Ohio, U.S.A., 25th September, \(1906 ; 6\) years. Filed 1st September, 1906. Receipt No. 139,160.
Claim.-1. In an apparatus of the character described, a supporting post, a sleeve mounted to move freely on said post both in an axial and vertical direction, the post being provided with a base and surfaces descending therefrom and the sleeve being provided with a foot designed to rest on said base and ride downwardly on said surfaces and a bag catcaing hook carried by said sleeve.
2. In an apparatus of the character described, a supporting post provided with a base and surfaces descending therefrom, a sleeve mounted to move freely both axially and in a vertical direction on said post and provided with a foot designed to rest in said base and ride on said surfaces and a bag catching hook carried by said sleeve and axially adjustable thereon.
3. In an apparatus of the character described, a supporting post provided with a base and surfaces descending therefrom, a sleeve mounted to move freely both axially and in a vertical direction on said post and provided with a foot designed to rest on sald base and ride in said surfaces and a bag catching hook carried by said sleeve and provided with an arm for supporting the bag thereon.
4. In an apparatus of the character described, a supporting post provided with a base and surfaces descending therefrom, a sleeve arranged to turn ireely on said post both axially and in a vertical direction and provided with a foot designed to rest on said base and ride on surfaces, a bag ratching hook carried by said sleeve and a stop for prevening the movement of said parts in one direction.
5. In an apparatus of the character described, a supportIng post provided with a base and surfaces descending therefrom, a sleeve arranged to turn freely on said post both axially and in a vertical direction and provided with a foot designed to rest on said base and ride on said surfaces, a bag catching hook carried by said sleeve and an adjustable stop for preventing the movement of said parts in one direction.
6. In an apparatus of the character described the combinatlon of a supporting post, a bag catching hook designed to swing axially around said post and to move vertically upon the same, and a stop mounted on the post and arranged to prevent or limit the movement of sald hook in one direction.
7. In an apparatus of the character described, a supporting post and a bag dellvering device supported thereon, the same consisting of a lower member movable both axially and vertically on sald post and an upper member mounted on said post to swing in a vertical plane.
8. In an apparatus of the character described, a support ing post, a bag delivering device mounted thereon, the same consisting of upper and lower members designed to hold the mail bag, the lowermost being mounted to turn axially and also to move in a vertical direction, and said member being provided with a foot and the post provided with inclined surfaces designed to effect a turning and lowering of said member.
9. In an apparatus of the character described comprising a bag catching hook, a spring normally tending to hold said hook within a car, means for holding said hook in a projected position from the door of the car against the action of said spring, and means whereby the impact of a bag in the hook will release the same from the means which hold it projected.
10. An apparatus of the character described comprising a bag catching hook, means for holding said hook in a profected position from a car, said means including a trigger connected to the hook, a lever connected to the trigger, a link rod connected to said lever, a cam block operatively connected to said link rod, a latch hook and a support for the bag catching hook, said support being arranged for engagement by said latch hook and a spring tending to draw said support backwardly in the car.
11. An apparatus of the character described comprising a bag catching hook, a support therefor, a latch hook adapted for engagement with said support and designed to hold the support with the bag catching hook in a projected position from the car, a cam block adapted to disengage said latch hook from the said support, a spring tending to withdraw the support and bag catching hook backwardly into the car and a trigger arranged for connection to the bag catching hook and operatively connected to said cam block, for the purpose specified.
12. An apparatus of the character described comprising a post, a bag catching hook carried by said post, a latch hook arranged for connection to a portion of the post, a cam block adapted to release said latch hook, and a trigger arranged for detachable connection to said bag catching hook and operatively connected to said cam block.
13. An apparatus of the character described, comprising a bag catching hook, a post supporting said hook, a transverse elevated rail, a carriage connected to the upper part of said post and mounted to travel on said rail, a spring pressed latch hook designed for engagement with said carriage whereby to hold the bag catching hook in a projected posithon from the car, means for automatically withdrawing said post and its bag catching hook, a cam block supported on said rail and arranged for operative engagement with said latch hook to release the same, and means whereby the impact of the bag within the hook will actuate said cam block. 14. An apparatus of the character described, comprising a post, an elevated travelling support carrying sald post, and with which the post is pivotally connected to turn in a horizontal plane, a bag catching hook carried on said post and adapted to be projected out of either doorway of the car, according as the post is turned in one direction or the reverse, a spring adapted to draw the post back into the car, and arranged to be reversed, to withdraw the post in one direction or the opposite, means for holding the post with its bar catching hook contiguous to either doorway of the car, and means whereby the impact of a bag in the hook will release the holding means.
15. An apparatus of the character described, comprising a post adapted to move transversely of a car, a bag catching hook secured by said post, a carriage provided with wheels and an elevated rall on which sald wheels are designed to run, said carriage supporting the post at its upper end, a latch hook arranged for engagement with said carriage to hold the post near the car doorway with the hook in projected position therefrom, a cam block arranged to disengage sald hook, a link rod connected to said cam block, a spring for retracting said link rod, a lever fulcrumed intermediate its ends within the car and connected at one end to said link rod, and a trigger connected to the other end of said lever and arranged for engagement with the bag catching hook.
16. An apparatus of the character described, comprising a bag catching hook provided with an aperture 11 , means for holding sald hook in a projected position from the trigger of a car, said means including a spring pressed latch hook and a travelling support for the bag catching hook with which said latch hook is designed to engage, means for disengaging said hook from the travelling support, sald means including a trigger provided at one end with a hook adapted to enter the aperture in the bag catching hook whereby the impact of a mall bag in the bag catching hook will actuate said trigger, and means for automatically withdrawing the hook into the car.
17. In an apparatus of the character described, the combination of a bag catching hook, a vertical post by which said hook is carried, a travelling support with which said post has a plvotal connection so that it may be turned in a hori-
zontal plape, whereby to rave CANADIAN
elevated rall unan
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 spring addapted to we car, meanok in support ruh hook, an
port back into to
 to the elevated rail at and means hok and thing sald hosition
for the purpose specitedech side or con trectravellinok ho a 18. Iu an apparatus of side of the trecting sailing supa, catching hook, a post upon wher tharacter deascring support. post belng axially movable which said hook described, a bag a rall upon which elevated travelleby to reverseried. said a spring connected at travelling support sort forse sate bag satid its other end with a pine end to support is mour said poss, end with an aperture in wither rall being provid provided run, raged whereby the tenslon of of which sraidided near nat ai the post in one the tension of the which said ped near ach the post adjacent the dioar the oppring may be exite, mean be encatching hook will the held din of the car whens for holding and means for automatically proleasied position trom the bag No. 101,143. Dispensing Can. Bidon holding means.


Rodolph F. Moore. Providence, Rhode Island, U.S.A., 25th September. 1906 ; 6 years. Filed 29th August, 1306. Receipt No. 139,068.
Clinim.-1. In a dispensing can the combination with the lody and a top secured thereto, of a pump barrel secured to sald top, a ball valve normally closing the lower or inlet passage to the pump, a manually actuated piston mounted in the pump barrel, a discharge pipe communicating with the pump above said valve and extending therefrom through the top of the can. a ball valve normally closing the outlet passage between the pump and discharging pipe, a branch pipe or nozzle in continuous open communlcation with the said discharge pipe and having an opening into the can chamber, and a manually controlled valve for automatically and normally closing the said opening when the downward pressure upon the valve is removed, substantially as here!nbefore described.
2. In a can of the character described the combination of a single acting pump, self closing inlet and discharge valves communicating with the pump barrel, an upwardly extending discharge pipe secured to the lower portion of the pump barrel having said discharge valve movably mounted therein, and a manually controlled self closing siphon valve mounted in an normally closing an opening formed in said discharge pipe, substantially as set forth.

\section*{No. 101,144. Rubber Fastener. Attache de galoches.}

Hugh D. McLachlin, Glencoe, Ontario, Canada, 25th September, 1906; 6 years. Filed 5th September, 1906. Receipt No. \(128,174\).
Claim.-1. A rubber provided with a resilient socket in combination with a shoe provided with a ball member, said ball member being secured in sald resllient socket by being inserted and sprung into said resilient socket, substantially as showa and described and for the purpose specified.
2. In a rubber fastener, a resilient socket provided with a flange in which slits are formed and a hollow body provided with an opening, radiating form which opening into said hollow body slits are formed, and a rubber to which said resilient and hollow bodies are secured in combination with a tubular section provided with a flange and a hollow ball section provided with a flange, and a shoe to which said tubular

described and for said rubber, subutanial
No. 101,145. Fan for Furnaces.
Evantail pour fournaises.


Walter Armstrong McLeod, Winnipeg, Manitoba, Canada. 25th September. 1906; 6 years. Filed 30th August, 1906. Receipt No. 139,097.
Claim.-1. In a device of the class described the combination, with the dome and the outer casing of the furnace, of a fan rotatably supported between the dome and the casing, and means for rotating the fan, as and for the purpose specified.
2. In a device of the class described the combination with the casing of the furnace, of a fan suspended within the casing and means for rotating the fan, as and for the purpose specified.
3. In a device of the class described the combination with the casing of the furnace, of a fan revolubly supported within the casing and above the dome and means for rotating the fan, as and for the purpose specified.
4. In a device of the class described the combination with the casing and the dome of the furnace, of a vertical shaft extending through the top of the casing and bearing centrally on the dome, a horizontal fan secured on the shaft and means for rotating the shaft, as and for the purpose specifled.
5. In a device of the class described the combination with the dome and the casing of the furnace, of a cup bearing centrally secured on the dome, a vertical shaft extending downwardly through the casing and bearing within the cup. a bearing for the shaft in the casing, a bevelled gear at the upper extremity of the shaft, a bevelled gear in mesh with the aforesald gear, a horizontal shaft extending from the latter gear, supports for the shaft, means for rotating the shaft and a fan secured to the vertical shaft and designed In its rotation to increase the warm alr circulation in the pipes, as and for the purpose specified.
6. In a device of the class described the combination with the dome and casing, of a fan located at the top of the dome within the casing and means outside the casing for driving the fan, as and for the purpose specified.

No. 101,146. Nut Lock Washer.
Rondelle d'arrête-éorou.


Wllliam B. Neel, Meeker, Oklahoma, U.S.A., 25th September,
1906; 6 years. Filed 30th May, 1906. Receipt No. 136,403.
Claim.-The combination with a body of a plurality of bolts extending therethrough, nuts threaded on said bolts, a flat longitudinal bar having terminal and intermediate openings formed therein for the reception of said bolts and having its opposite ends at sald openings terminating in spherical enlargements, the continuous marginal edges of which are curved laterally beyond the general plane of the bar to form :washers, sald bar having its upper and lower edges at the intermediate openings extended laterally forming spaced projections, the marginal edges of which are curved both longitudinally and laterally, there being reversely inclined incisions formed in the bar on each side of the intermediate openings and extended inwardly from the points of juncture of the longitudinally curved marginal edges of the lateral projections with said bar to thereby permit the washers to be bent inwardly into engagement with the nuts on elther side of the openings.

No. 101,147. Snatch Block for Pulleys. Chatmard pour poulics.


Gustav Nettle, Leaburg, Oregon, U. S. A., 25th September, 1906 ; 6 years Flled 4th September, 1906. Receipt No. 139,228.
Claim.-1. In a snatch block two jaws, provided each with a long opening or slot therethrough, extending from the top towards the bottom thereof, straps or plates fitting in said openings, and means for holding the jaws spaced apart.
2. In a snatch block, two jaws, provided each with a long opening or slot therethrough, extending from the top toward the bottom thereof, straps or plates fitting in said openings, and means for holding the jaws spaced apart, such means also holding together the jaws and the straps.
3. In a snatch block, two jaws provided each with a long opening or slot therethrough, extending from the top toward the bottom thereof, strans or plates fitting in said openings. and means for holding the jaws spaced apart, such means also holding together the jaws and the straps and permitting pivotal movement of the jaws thereon.
4. In a snatch block, two jaws provided each with a long opening or slot therethrough, extending from the top toward the bottom thereof, straps or plates fitting in said openings, and means for holding the jaws spaced apart. such means also holding together the jaws and straps and permitting pivotal movement of the straps thereon.
5. In a snatch block, two jaws, provided each with a long opening or slot therethrough, extending from the top toward the bottom thereof, straps or plates fitting in said openings, and means for holding the jaws spaced apart, such means also holding together the jaws and the straps and permitting pivotal movement thereon of said jaws and straps.
6. In a snatch block, two jaws provided each with a long opening er slot hterethrough, extending from the top toward the bottom thereof, straps or plates fitting in said openings, means located at the top of the jaws and the straps for spacing the jaws apart, such means also holding together the jaws and the straps, and additional means located below and independent of the first-mentioned means, for temporarily securing the jaws and the straps against independent movement.
7. In a snatch block, two jaws provided each with a long opening or slot therethrough, extending from the top toward the bottom thereof, straps or plates fitting in said openings, a swinging crosshead for spacing the jaws apart, and means engaging the crosshead, the jaws and the straps for holding together the jaws and the straps relatively to the crosshead.
8. In a snatch block, two jaws provider each with a long onening or slot therethrough, extend'ne from the top toward the bottom thereof. straps or plates fitting in said openings. a swinging crosshead for spacing the jaws apart. and means engaging the crosshead, tre jaws and the straps for holding together the jaws and the straps relative to the crosshead, and constructed to permit pivotal movemint of the jaws and the strans thereon.
9. In a snatch block, two jaws provided each with a long opening or slot therethrough, extending from the top toward the bottom thereof, straps or plates fitting in said openings, a swinging crosshead for spacing the jaws apart. and means engaging the crosshead, the jaws and the straps for holding together the jaws and the straps relative to the crosshead, and constructed to permit independent pivotal movement of the jaws and the straps thereon.
10. In a snatch block, two jaws provided each with a long opening or slot therethrough, extending from the top toward the bottom thereof. straps or plates fitting in said openings, a swinging crosshead for spacing the jaws apart, and a dowel pin passing through the crosshead, the Jaws and the strans.
11. In a snatch block, two jaws provided each with a long opening or slot therethrough, extending from the top toward the bottom thereof, straps or plates fitting in said openings, a swinging crosshead for spacing the jaws apart, means engaging the crosshead, the jaws and the straps for holding together the paws and the straps relative to the crosshead, and constructed to permit pivotal movement of the jaws and the straps thereon, and strips or bars disposed transversely of and secured to the jaws and constructed to permit temporary clamping of the jaws and the straps against independent movement.
12. In a snatch block. two jaws provided each with a long opening or slot therethrough, extending from the top toward the bottom thereof, straps or plates fitting in said openings, a swinging crosshead for spacing the jaws apart, means engaging the crosshead, the jaws and the straps for holding together the jaws and the straps relative to the crosshead, and constructed to permit pivotal movement of the Jaws and the strans thereon, strips or bars disposed transversely of and secured to the jaws, the straps and the transverse strips being prvoided with aligning openings, and means passing through said openings for temporarily clamping the jaws and the straps against independent movement.
13. In a snatch block, two Jaws provided each with a long opening or slot therethrough, extending from the top to ward the bottom thereof, straps or plates fitting in said openings, and provided with openings therethrough near 'heir lower ends, a swinging crosshead for spacing the jaws apart, means engaging the crosshead, the jaws and the straps for holding together the jaws and the straps rela-
tive to the crosshead, and means passing through the openings in the lower ends of the strapz for temporarily securing them against independent movement
14. In a snatch block, two jaws carrying a pulley and provided each with a long opening or slot therethrough extending from the ton towards the bottom thereof, said pulley being provided with a central opening and with counter sunk portions, in each face, adjacent to said opening.
15. In a snatch block, two jaws carrying a pulley and pro. vided each with an extended opening or slot therethrough running from the top to a point towards the bottom thereof. said pulley being provided with a central opening, with countersunk portions, in each face, adjacent to said opening, and with an internal lubricant chamber.
16. In a snatch block, two jaws carrying a pulley and provided each with a long opening or slot therethrough extend ing from the top to a point toward the bottom thereof, said pulley being provided with a central opening and with countersunk portions, in each face, adjacent to sald openIng, and a ball bearing cone disposed in the central opening of the pulley.
17. In a snatch block, two jaws carrying a pulley and provided each with a long opening or slot therethrough extending from the top to a point toward the bottom thereof, said pulley belng provided with a central opening, and a ball bearing cone disposed in the central opening of the pulley and provided with flanges adapted to fit in the countersunk portions.
18. In a snatch block, two jaws carrying a pulley and provided each with a long opening or slot therethrough extending from the top to a point toward the bottom thereof, said pulley being provided with a central opening and with countersunk portions ineach face adjacent to said openings, and a ball bearing cone disposed in the central opening of the pulley and formed in two sections, and provided with flanges adapted to it in the countersunk portions of the pulley.
19. In a snatch block. two faws carrying a pulley and provided each with a long opening or slot therethrough extending from the top to a point toward the bottom thereof, said pulley being provided with a central opening and with countersunk portions, in each face adjacent to said opening, and a ball bearing cone disposed in the central opening of the pulley and formed in two sections, and provided with flanges adapted to fit in the countersunk portions of the pulley, each section of the cone being provided with removable bushings or sleeves on which the balls run.
20. In a snatch block, two jaws carrying an automatic, self lubricating pulley and provided each with a long opening or slot therethrough extending from the top to a point toward the bottom thereof, and straps or plates fitting in said openings, said pulley being provided with a central opening and with countersunk portions, on each face, adjacent to said central opening.

No. 101,148. Infant's shirt. Chemise d'enfant.


Hattie R. Ovenshire, Minneapolis, Minnesota, U.S.A., 25th September, 1906; 6 years. Filed 4th September, 1906. Recelpt No. 139,224.

Clatm.-A band or shirt comprising a body of elastic knitted fabric having shoulder pleces or straps and inelastic tapes extending downward over the front and rear if the body to a point near the bottom thereof, and tabs secured at the lower ends of said tapes, and said shoulder straps having clastic portions intermediate to said forward and rear tapes, substantlally as described.
2. A band or shirt comprising a body of elastic knitted fabric having elastic shoulder pieces or straps and inelastic strips or tapes extending diagonally downward from said shoulder pieces over the front and rear of the body to central pionts near the bottom thereof, and suitable tabs secured at the lower ends of said tapes.
3. A band or shirt comprising a body of elastic knitted fabric having shoulder pieces or straps and inelastic strips or tapes extending diagonally downward from said shoulder pieces over the front and rear of the body to central points near the bottom thereof, and suitable tabs secured at the lower ends of said tapes.
4. A band or shirt comprising a body of elastic knitted fabric having shoulder pieces or straps and inelastic tapes extending downwardly over the front and rear of the body to a point near the bottom thereof tabs secured at the lower ends of said tapes and said shoulder straps having elastic or yielding portions of double thickness at the point where they bear on the shoulder intermediate to sald forward and rear tapes, substantially as described.

No. 101,149. Washing Machine and Etand. Machine et banc à laver.


Edward M. Sinclair, Sloux City, Iowa, U.S.A., 25th September,
1906; 6 years. Filed 25th August, 1906. Receipt No. 138,979.
Claim.-1. In a washing machine the combination of primary standards, auxiliary standards, horizontal supports pivotally connected to said auxillary standards, each of said primary standards provided with an elongated groove or slot, means carried by the horizontal supports and engaging the grooved portions of said primary standards for limiting movement of the horizontal supports, swinging arms pivotally connected to the upper ends of said primary standards, means carried by said swinging arms for locking said auxiliary standards and horizontal supports in a folded position, and a wringer device connected to said swinging arms.
2. In a washing machine the combination of standards provided with longitudinally extending grooves, a tub support pivotally connected to said standards, a rod in engagement with said tub support and extending into the grooves of said standards, a tub carried by said support, a wringer positioned upon said tub, and means pivotally connecting said wringer to said standards.
3. The combination of pairs of primary and auxiliary standards, means pivotally connecting sald standards, a horizontal support connected to one pair of said standards and slidably connected to the other pair, a swinging arm, means connecting sald arm to one pair of said standards, and locking means carried by sald arm and adapted to retain said horizontal support in a folded position.
4. The combination of primary standards, auxiliary standards pivotally connected to said primary standards, a tub support plvotally connected to said auxiliary standards, and reans slidably connecting said tub support to sald auxiliary standards.
5. The combination of primary standards, each standard provided with an elongated groove, auxiliary standards
pivotally connected to said primary standards, horizontal supports pivotally connected to and near the upper ends of said auxiliary standards, a rod extending through said horizontal supports and having its ends positioned within the grooves of said primary standards, and wringer supporting means in engagement with some of said standards.
6. The combination of primary standards, each standard provided with a longitudinally extending groove. auxiliary standards pivotally connected to said primary standards, horizontal supports to said auxiliary standards near their upper end, a rod in engagement with said horizontal support and positioned within the grooves of said primary standards, swinging arms, a rod extending through sald swinging arms and in engagement with said primary standards, each of said swinging arms provided with a notch, the notched portions adapted to engage said rod positioned within said grooves when the auxiliary standards and horizontal supports are in a folded condition, and a wringer device in engagement with said arms.
7. In a washing machine the combination of a bench, a wringer device, means connecting said wringer device to said bench, said wringer device comprising a base board, a pair of detachable plates in engagement with said base board, each plate provided with a pair of elongated apertures. a pair of fastening means positioned within the elongated apertures of each plate and adjustably securing said plate to the end of said baseboard, and rollers journalled above said baseboard.
8. In a washing machine the combination of a wash bench, a wringer device, means pivotally connecting said wringer device to said wash bench, said wringer device comprising a base board. supports secured to said base board. auxiliary rollers journalled upon said supports, a primary roller journalled upon said supports. a shaft in engagement with said primary roller, hooks in engagement with said shaft and extneding through said baseboard, a bowed spring, fastening means positioned centrally of said bowed spring and base hoard, said spring provided with apertures at its ends, the hooks extending through the apertured ends of said soring. and nuts carried by said hooks and being capable of controlling the tension of said spring.
9. In a washing machine the combination of a washing bench, a wringer device, means pivotally connecting said wringer dev!ce to said wash bench, said wringer device comprising a baseboard. plates in engagement with the ends of said baseboard. each plate provided with parallel elongated asertures, bolts oositioned within the apertures of each plate and extending through said baseboard. nuts threaded upon said bolts, rollers journalled above said baseboard, a shaft in engagement with one of said rollers. hooks engaging said shaft and extending through said baseboard, a bowed spring positioned upon the lower ends of said hooks, a bolt extending through the central portion of said baseboard and spring, ond a nut threaded upon said bolt.
10. The combination of primary standards, auxiliary standards pivotally suported to said primary standards, tub supporting means pivotally conected to said auxiliary standards. means slidably connecting said supporting means to said primary standards, and means for locking said supporting means and auxiliary standard in a folded position.
11. The combination of primary standards, auxiliary standards pivotally connected to said primary standards, horizontal supports pivotally connected to said auxiliary standards, means slidably connecting said horizontal supports to said primary standards, arms pivotally connected to said primary standards, a hook carried by one of said arms, and means carried by one of said primary standards and adapted to be engaged by said hook for holding said arms in a raised pesition.
12. The combination with a wash bench, of a wringer device supporting arm pivotally connected to said bench, a hook fixedly secured near one end to said arm, and means formed upon said bench and adapted to be engaged by said book for holding said arm in an adjusted position.
13. The combination with a wash bench, of pivotally mounted wringer supporting means carried by said bench, and means for locking said wringer supporting means in a raised position.
14. The combination with a wash bench, of a pivoted arm carried by said wash bench, a hook provided with a pin, fixedly secured to said arm, and means engaging said pin and being capable of retaining said arm in an adjusted position.
15. The combination with a wash bench, a slide member provided with an enlarged portion secured to said bench, said slide member and enlarged portion provided with a groove, an arm pivotally mounted upon said bench, a hook fixed to said arm, a pin carried by said hook, the pin positioned withIn the groove of said slide member and being adapted to engige the enlarged portion for retaining said arm in an adjusted position.
16. The combination with a wash bench provided with a standard, of a slide member secured to the standard near its
upper end, said slide member provided with an enlarged portion and a longltudinally extending groove, an arm plvotally mounted upon said bench contiguous to sald standard, a hook fixedly secured to said arm, and means in engagement with said hook and the grooved portion of sald slide member, being capable of retaining said arm in a raised position.

No. 101,150. Mall Bag Catcher.
Apparell d capter les sacs postauc.


Frank Douglas Smiley, Ithaca, New York, U.S.A., 25th September, 1906: 6 years. Filed 1st September, 1906. Receipt No. 139,157.
Claim.-1. A mall bag catcher comprising a sectional hinged bar having a pair of spring actuated gripping arms mounted upon the outer end of one section, means for holding the said arms in an opened position together with means for closing and releasing said arms, as set forth.
2. A mail bag catcher comprising a bar having a pair of gripping arms pivotally connected to the outer end thereof, a spring for normally throwing said arms into closed position, a keeper adapted to be engaged by one of said arms, the other arm provided with a finger adapted to operate upon the other arm and release the same from the keeper, as set forth.
3. A mail bag catcher comprising a bar made in two sections hinged together, the coil spring attached to the said sectional bar upon the side opposite the hinge, the gripping arms pivotally connected to the outer end of the outer section, the outer arm having an upwardly projecting finger adjacent its pivotal end, a spring keeper carried by the outer section of the arm and adapted to be engaged by the inner gripping arm, and a helical spring adapted to bear upon one end of the inner arm, as and for the purpose set forth.

\section*{No. 101,151. Washboard. Planche d laver.}


Archelaus Enos Spencer, Barrie, Ontario, Canada, 25th September, 1906; 6 years. Filed 4th September, 1906. Recelpt No. 139,195.
Claim.-1. The combination with the washboard, of a projecting portion extending rearwardly from near the top and designed to form a support for the board when in a slahting position, as and for the purpose specifled.
2. The combination with the washboard, of the top back board having a lower projecting portion, as and for the purpose specified.
3. The combination with a washboard, of the top back boards having blocks or projections secured to the ends of the same at the lower edge, as and for the purpose specified.
4. The combination with the washboard, of the top back boards, blocks or projections having the lower sides extending substantially at right angles to the board, and the upper sides inclined, as and for the purpose specified.

No. 101,152. Liquid Recoptacle.
Réceptacle pour liquides.


Edwin Clay Webb, Providence, Rhode Island, U.S.A., 25th September, 1906; 6 years. Filed 30th August, 1906. Receipt No. 139,092.
Claim.-1. A receptacle comprising a body portion, an inner and outer head at one end of said body forming an air space between them, each of said heads being provided with an inlet and outlet hole, each of said heads also being provided with vent holes independent of sald outlet holes.
2. In an oil can, a body portion, a bottom at one end, an outer head at its opposite end, an inner head provided with a plurality of holes, said head being located below said outer head forming a narrow space between said two heads, a partition through said space dividing the same into a plurality of compartments, one of said compartments being provided with vent holes and another compartment being provided with delivery holes.
3. An oil can comprising a body with a bottom at one end, a head at its opposite end, and an inner head or partition below said outer head forming an air space between them, and a valve placed between said heads.
4. An oil can comprising a body provided with a bottom at one end, an outer head at its opposite end, and a perforated inner head located a short distance below said outer bead forming a narrow air space between said heads, and a valve or shut-off between said heads dividing said space.
5. An oil can comprising a body provided with a bottom at one end, an outer head at its oppgite end, and a perforated inner head located a short istance below sald outer hean forming a narrow air space, between said heads, and a rotal able spindle valve extending across the can between sail heads and adapted to divide the space therein.
6. In an oil can, a body portion having a bottom at one end. an outer head at its opposite end, an inner head located below said outer head forming a narrow space between them said inner head being provided with a plurality of open spaces, and the space between said inner and outer heads being divided into a plurality of compartments, and means whereby said compartments may be subdivided.
7. In an oll can, a body portion having a bottom, at one end, an outer head at its opposite end, an inner head located below sald outer head forming a narrow space between them, said inner head being provided with a plurallty of open spaces, and the space between said inner and outer heads being divided into a plurality of compartments, and a rotatable spindle valve extending across the can between said heads and adapted to sub-divide the space between the heads In each compartment.
8. A receptacle comprising a body portion, and inner and outer head at one end of said body forming a narrow space between them, each of said heads being provided with an inlet and outlet hole, each of said heads also being provided with vent holes independent of said outlet holes, and a valve extending through said space between the heads adapted to control the communication between the hole in the inner Lead and the holes in the outer head.

No. 101,153. Press. Pressc.


Martin H. Schirmer and Josepr Lehr, co-inventors, both of Rochester, New York. 25th September, 1906; 6 years. Filed 30th August, 1906. Recelpt No. 139,103.
Claim.-1. In a pressing machine the combination with a pressing surface, of a jointed arm arranged to swing in a plane parallel to the pressing surface, a rocker arm carried by the jointed arm and mounted to swing angularly to the pressing surface, an iron catried by the rocker arm, and means operating between the jointed supporting arm and the rocker to produce pressure between the Iron and pressing surface.
2. In a pressing machine the combination with a horizontal pressing surface, of a pivoted arm arranged to swing freely In a horizontal plane, an intermediately pivoted rocker arm carried by the first arm and arranged to swing in a vertical plane, an iron carried on one end of the rocker arm and a motor operating on the other end thereof to produce pressure between the iron and pressing surface.
3. In a pressing machine the combination with a pressing surface, of a folnted arm and a rocker arm mounted thereon to swing in a plane intersecting the plane of movement of the jointed arm, an iron having a universal connection with the rocker arm and arranged to co-operate with the pressing surface, and a motor operating to produce pressure between the iron and pressing surface.
4. In a pressing machine the combination with a pressing surface, of a jointed arm arranged to swing in a plane parallel to the pressing surface, a rocker arm carried by the flrst-mentioned arm and arranged to swing angularly to the pressing surface, an iron carried by the rocker arm, and a motor arranged between the sald arms for producing pressure between the iron and the pressing surface.
5. In a pressing machine the combination with a pressing surface, of a jointed arm arranged to swing in a horizontal plane, a rocker arm carried by the first-mentioned arm and pivoted intermediately to swing in a vertical plane, an iron carried on one end of the rocker arm having an operating handle for guiding it over the pressing surface, a motor carried at the other end of the rocker arm for moving the iron toward the pressing surface, and controlling devices connected to the motor and having an operating member adjacent to the iron operating handle.
6. In a pressing machine the combination with a suitable pressing surface, of an arm mounted to swing in angular relation to the pressure surface, an iron having a supporting sbaft mounted in a universal bearing on said arm, a motor mounted separately from said shaft for operating said arm to move the iron into co-operative relation with the pressing surface, and controlling devices connected to the motor and having an operating mamber on the supporting shaft of the iron.
7. In a pressing machine the combination with a pressing surface, of an arm mounted to swing in angular relation to the pressure surface, an iron having a shaft connected by a universal bearing with the arm, a motor carried by sald for moving the iron into co-operative relation with the pressing surface, and controlling devices for the motor embodying an operating member on the said shaft, and devices for malntaining operative connection between the operating member and motor irrespective of the different angular relations of the said arm and shaft.
8. In a pressing machine the combination with a suitable pressing surface, of an arm mounted to move in angular relation to the pressing surface, an iron having a supporting shaft connected by a universal bearing to said arm, a motor mounted separately from the said shaft, and motor controlling devices embodying an operating member on the shaft, a lever on the arm having a bearing surface thereon formed
concentric with the shaft bearing and connected to the motor controlling devices, and a part actuated by the operating member and co-operating with the bearing surface on the lever while the said arm and shaft occupy different angular relations.
9. In a pressing machine the combination with a horizontal pressing surface, of an arm mounted to operate in a vertical plane, an iron having a shaft with a universal bearing on the said arm, a motor mounted separately from said shaft for moving the iron into co-operative relation with the pressing surface, and motor controlling devices embodying an operating member on said shaft, a lever on said arm having a spherical surface thereon formed concentric to the universal shaft bearing and having operative connection with the motor, and an actuating lever connected to the operating member for moving the latter into engagement with the spherical surface of the said lever.
10. In a pressing machine the combination with a horizontal pressing surface, of an arm mounted to operate in a vertical plane, an iron having a supporting shaft with a universal bearing on the sald arm and provided with a handle for manipulating the iron, a fluid pressure motor carried by the arm for moving the iron into co-operative relation with the pressing surface and having a controlling valve thereon, a bell crank lever in the said arm operatively connected to the motor controlling valve and having a bearing surface thereon formed concentric with the center of movement of the said shaft, and an operaling member located on the shaft adjacent to the handle and having a portion co-operating with the concentric bearing surface of the bell crank lever for operating the latter irrespective of the different angular relations of the said arm and shaft.
11. In a pressing machine the combination with a suitable pressing surface, of a jointed arm arranged to swing parallel to the pressing surface and having a U -shaped frame thereon, a rocker arm plvoted to the arms of the sald frame to swing in angular relation to the pressing surface, an iron carried on the rocker arm and arranged in co-operative relation with the pressing surface, and a motor operating between the said frame and rocker arm for producing pressure between the iron and pressing surface.
12. In a pressing machine the combination with a horizontal pressing surface, of a frame mounted to swing in a horizontal plane and having a pair of spaced horizontal arms, a rocker arm plvoted between the spaced arms of the frame and arranged to swing in angular relation to the pressing surface, an iron carried at one end of the rocker arm and arranged to co-operate with the pressing surface, and a motor connected to the other end of the rocker arm for tilting the latter to bring the iron into co-operative relation with the pressing surface.
13. In a pressing machine the combination with a suitable pressing surface, of a movable frame, and a rocker arm supported thereon and arranged to swing in angular vertical relation to the pressing surface, an iron carried by the rocker arm and arranged to co-operate with the pressing surface, a Huid pressure cylinder having a piston operating therein, and operating connections between the said frame and rocker arm which are operated on by the piston for producing a relative movement of the frame and rocker arm.
14. In a pressing machine the comblnation with a pressing surface, of a frame and a rocker arm pivoted thereon and arranged to swing in angular relation to the pressing surface, an iron operated on by the rocker arm, and a motor mounted on the frame for operating the arm embodying a fluid pressure cylinder having a piston operating therein, and a lever connected to the piston and forming an operative connection between the frame and rocker arm.
15. In a pressing machine, the combination with a pressing surface, of a frame, and a rocker arm pivoted thereon and arranged to swing in angular relation to the pressing surface, an iron operated on by the rocker arm, and a motor for producing relative motion between the frame and arm embodying a fluld pressure cylinder and piston carried by one of the parts, and a lever connected to the piston and having a plvotal bearing on one of the parts and a link connection with the other.
16. In a pressing machine, the combination with a pressing surface, of a supporting arm, and a rocker arm pivoted thereon and arranged to move in angular relation to the pressing surface, an iron operated on by the rocker arm, and a motor for operating the arm embodying a fluid pressure cylinder and its piston mounted on the arm, a lever pivoted on the supporting arm and having one arm thereof attached to the piston, and a link connecting the other arm of the lever and the rocker arm.
17. In a pressing machine, the combination with a pressing surface, of a supporting arm, and a rocker arm carried thereby and arranged to swing in angular relation to the pressing surface, an iron operated on by the rocker arm and arranged to co-operate with the pressing surface, a motor, connections between the said arms actuated by the
motor for operating the rocker arm, and a retracting device operating on the motor connections for restoring the motor and arm to normal position.
18. In a pressing machine, the combination with a pressing surface, of a supporting arm, and a rocker arm mounted thereon and arranged to move in angular relation to the pressing surface, an iron carrled by the rocker arm arranged to co-operate with the pressing surface and having an operating handle, a motor for operating the rocker arm, a retracting device exerting a force tending to return the rocker arm to normal position, and means for preventing the operation of the retracting device to permit manual manipulation of the iron.

No. 101,154. Gas Lamp. Lampe d gas.


Adolphus Sydney Francis, London, England, 25th September, 1906; 6 years. Filed 23rd May, 1906. Receipt No. 136,172.
Claim.-1. An inverted incandescent gas lamp comprising a gas supply pipe, a ring pipe connected thereto and a plurality of bent tube Bunsen burners connected to and arrarged to project radially inwards from said ring pipe, substantially as set forth.
2. An inverted incandescent gas lamp comprising a gas supolv pipe, a ring plpe connected thereto, a plurality of bent tube Bunsen burners connected to and arranged to project radially inwards from said ring pipe, a chimney flared at its lower end, means for supporting said chimney over said burners and apertures in said chimney to allow sald burners to pass through said chimney, substantially as set forth.
3. An inverted incandescent gas lamp comprising a gas supply pipe, a ring plpe connected thereto, a plurality of burner tubes connected to and arranged to project radialIy inwards from said ring pipe, a plurality of bent tube Bunsen burners, and a plurality of sliding foints connecting the said burners with their respective tubes, substantially as set forth.
4. An inverted incandescent gas lamp comprising a gas supply pipe, a ring pipe connected thereto, a plurality of burner tubes connected to and arranged to project radially inwards from said ring pipe, a plurality of bent tube Bunsen burners, a nlurality of sliding joints connecting the said burners with their respective tubes, a chimney flared at its lower end, means for supporting said chimney over said burners and apertures in said chimney to allow said burners to pass through said chimney, substantially as set forth.
5. An inverted incandescent gas lamp comprising a gas supply pipe, a ring pipe connected thereto, a plurality of bent tube Bunsen burners connected to and arranged to project radially inwards from said ring pipe, a chimney flared at its lower end, means for supporting said chimney over said burners, apertures in said chimney to allow said burners to pass through said chimney, an imperforate globe of larger diameter than the end of said chimney, means for supporting said globe beneath said burners and beneath sald chimney substantially as and for the purpose set forth.
6. An inverted incandescent gas lamp comprising a gas supply pipe. a ring pipe connected thereto. a plurallty of bent tube Bunsen burners connected to and arranged to project radially inwards from sald ring pipe, a chimney. means for supporting said chlmney over said burners, apercures in said chimney to allow said burners to pass through said chimney, a flare end to said chimney situated approximately in the same plane as that in which the points of said burners are situated, an imperforate globe of larger diameter than said flared end. and means for supporting sald globe in such manner that its upper edge is situated approximately in the same plane as that in which said burner points and said flared end are situated, substantially as and for the purposes set forth.
7. An inverted incandescent gas lamp comprising a gas supply pipe, a ring pipe connected thereto a plurality of bent tube Bunsen burners connected to and arranged to project radially inwards from said ring pipe, a chimney flared at its lower end, means for supporting said chimney over said burners, apertures in said chimney to allow said burners to pass through said chimney, an imperforate globe of larger diameter than the end of said chimney, means for supporting said globe beneath said burners and beneath said chimney, a cover for the upper end of said chimney, and a ring of perforations situated near to the edge of sald cover, substantially as set forth.
8. An inverted incandescent gas lamp comprising a gas supply pipe, a ring pipe connected thereto, a plurality of bent tube Bunsen burners connected to and arranged to project radially inwards from said ring pipe, a chimney flared at its lower end, means for supporting said chimney over said burners, apertures in said chimney to allow said burners to pass through said chimney, an imperforate globe of larger diameter than the end of said chimney, means for supporting said globe beneath said burners and bencath said chimney, and a domed cover supported upon said chimney for the purpose of further isolating the fresh air supply from the escaping exhaust gases, substantially as set forth.

No. 101,155. Gas Range. Poêle d gaz.


Will:am Joseph Hallarn. Toronto, Ontario, Canada, 25th September, 1906; 6 years. Filed 15th May, 1906. Receipt No. 135,930.
Claim.-1. In a gas range, a body part formed by inner and outer side and back plates, air spaces formed between the inner and outer plates, an oven bottom dividing the said body part into oven and broiler sections, an air space formed by the top and bottom faces of the said oven bottom, a hinged door for the said oven section. and a broiler pan adapted to slide in and out of the said broiler section, substantially as described.
2. In a gas range, a body part formed by inner and outer side and back plates, air spaces formed between the inner and outer plates, an oven bottom dividing the body part into oven and broiler sections, an air space formed by a flat top face and a V-shaped bottom face of said oven bottom, passages between the side edges of the said oven bottom. and the side walls of the body part, a hinged door for said oven section, a broiler pan adapted to slide in and out of said broller section. substantially as described.
3. In a gas range, a body part formed by inner and outer side and back plates, air spaces formed between said inner and outer plates, an asbestos lining on one of the inner walls of the said air spaces, an oven bottom dividing said body part into oven and broiler sections, said oven bottom comprising a flat top and a \(V\)-shaped bottom, an air space formed by said flat top and V-shaped bottom, passages between the side edges of the oven bottom and side walls of body part, current directing plates fastened to the said side walls of the body part, passages formed between the said current directing plates and the said side walls, a draft plate fastened to the inner fince of the back of the body part, a passage formed between the sald draft plate and the back wall, said passage adapted to communicate with a flue, said flue formed through the back of said body part, substantially as described.
4. In a gas range, a body part comprising inner and outer side and back plates, air spaces formed between the inner and outer plates, an oven bottom dividing the body part into oven and broller sections, said oven bottom consisting of a flat top and a \(V\)-shaped bottom, an air space formed between the said flat top and \(V\)-shaped bottom, passages between the side edges of oven bottom and side walls of body

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part, current directing plates fastened to the inner side walls of the body part, passages formed by the said current directing plates and the inner side walls of the said body part, a draft plate fastened to the inner face of the safd back plate, a passage formed by said draft plate and the inner back plate, said passage communicating with the flue, said flue formed through the back plates of body part, a hinged door for the said oven section, and a sliding pan for the said broiler section, substantially as described.

\section*{No. 101,156. Treatment of Vulcanized Rubber}

Traitement des déchets de caoutchouc vulcanisés.
Whlliam Adolph Köneman, Chicago, Illinols, U.S.A., 25th September, 1906; 6 years. Filed 21st May, 1906. Receipt No. 136,114.
Claim.- - In the chemical treatment for the purpose set forth, of vulcanized rubber or rubber compounds, the process of devulcanizing the same, which consists in boiling the material in a finely divided conditon, in an aqueous compound acid solution, practically free from oxidizing ingredients, of sulphuric acid, as the base, and an acid of the halogen elements of chlorin, bromin or iodine.
2. The process of treating vulcanized rubber or rubber compounds, for the purpose set forth, which consists in boiling the material, in a finely divided condition, in an aqueous solution, practically free from oxidizing ingredients. of sulphuric acid and hydrochloric acid, and washing and drying the product.
3. The process of treating vulcanized rubber or rubber compounds, for the purpose set forth, which consists in boiling the material, in a finely divided condition, in an aqueous compound acid solution, practically free from oxidizing ingredients, of sulphuric acid, as the base, and an acid of the halogen elements of chlorin, bromin or iodine, boiling the product in an alkaline solution, and washing and drying said product.

\section*{No. 101,157. Method of Recovering Rubber. Méthode de récupérer le caoutchouc.}

William Adolph Köneman, Chicago, Illinois, U.S.A., 25th September, 1906; 6 years. Filer 21st May, 1906. Receipt No. 136,113.
Claim.-1. The process of recovering rubber from rubber waste, which consists in boiling the finely divided material in a mineral acid solution with the addition of a halogen salt of the alkaline group, such as sodium or calcium chloride, without setting free in a gaseous state the chlorine, bromine, or iodine, and removing the dissolved and decomposed fiber.
2. The process of recovering rubber from rubber waste, which consists in boiling the finely divided material in a mineral acid solution with the addition of a halogen salt of the alkaline group, such as sodium or calcium without setting free in a gaseous state the chlorine, bromine or lodine, and removing the dissolved and decomposed fiber and mineral substances.
3. The process of recovering rubber from rubber waste. which consists in bolling the finely divided material in a mineral acid solution with the addition of a halogen salt of the alkaline group, without setting free in a gaseous state the chlorine, bromine or iodine, removing the acid and dissolved matter from the rubber, then boiling the rubber in a solution of alkaline salt, and washing and drying the product.
4. The process of recovering rubber from rubber waste, which consists in first decomposing and then removing the fiber, and treating the resultant rubber product with a solution of an alkaline salt. such as soda or potash, with the addition if a chemical substance having a preservative effect on vegetable matter, such as boracic acid or sodium borate. and washing and drying the product.
5. The process of recovering rubber from rubber waste, which consists in first decomposing and then removing the fibre, and treating the resultant rubber product with a solution of an alkaline salt, such as sida or potash, with the addition of a soluble gum, and washing and drying the product.
6. The process of recovering rubber from rubber waste, which consists in first decomposing and then removing the flbre, and treating the resultant rubber product with a solution of an alkaline salt, such as soda or potash, with the addition of a chemical substance having a preservative effect on vegetable matter, such as boralc acid or sodium borate. and of a soluble gum, such as rosin or shellac, and washing and drying the product.
7. As a step in the recovery of rubber from rubber waste ty decomposing and separating the fibre from the rubber by subjecting the material to the action of a suitable chemical solution, that of removing from the rubber product soluble compounds remaining from the soluble employed in previous
treatment, which consists in rendering said soluble compounds insoluble and removing them from the rubber product by precipitation.
8. As a ste in the recovery of rubber from rubber waste by decomposing and separating the fiber from the rubber by subjecting the material to the action of a suitable chemical solution, that of removing from the rubber product soluble compounds remaining from the solution employed in previous treatment, which consists in rendering insoluble and precipltating said compounds by treating said product with a weak astringent solution of aluminum salt.
9. The process of recovering rubber from rubber waste which consists in bolling the material in a finely divided state in a mineral acid solution with the addition of a balogen salt, removing the dissolved fiber, bolling the rubber product in a solution of an alkaline salt, with the addition of a chemical substance having a preservative effect on vegetable matter and with a soluble gum, then treating the product with a weak astringent solution of an aluminum salt having the effect of rendering insoluble any remaining soluble compounds in the rubber and precipating the same, and finally washing and drying the product.

No. 101,158. Process Recovering Rabber from Wanto.
Procédé pour récupérer le caoutchouo des déchets de caoutchouc.
William A. Köneman, Chicago, Illinols, U.S.A., 25th September, 1906 ; 6 years. Filed 21st May, 1906. Receipt No. 136,115.
Claim.-1. The process of treating finely divided rubber, which consists in boiling the same in a suitable liquid and adding thereto a mixable hydro-carbon such as tar, pitch, resin or balsam, for the purpose set forth.
2. As a step in the recovery of rubber from rubber waste material by treating the material in a suitable chemical solution, adding to sald material a suitable proportion of hydrocarbon, for the purpose set forth.
3. As a step in the recovery of rubber from rubber waste material by treating the material in a suitable chemical solution, adding to said material a suitable proportion of tar, pitch or balsam, for the purpose set forth.
4. The process of recovering rubber from rubber waste material, which consists in boiling the finely divided material with the addition thereto of a suitable proportion of mixable hydro-carbon in a suitable chemical solution, and \(r \in m o v i n g ~ t h e ~ d i s s o l v e d ~ a n d ~ d e c o m p o s e d ~ f i b e r, ~ f o r ~ t h e ~ p u r-~\) pcse set forth.
5. The process of recovering rubber from rubber waste material, which consists in boiling the finely divided material with the addition thereto of a suitable proportion of mixable hydro-carbon in a mineral acid solution containing a halogen salt of the alkaline group, such as sodium or calclum chlorid, and removing the dissolved and decomposed fiber, for the purpose set forth.
6. The process of recovering rubber from rubber waste material, which consists in boiling the tinely divided material with the addition thereto of a suitable proportion of mixable hydro-carbon in a mineral acid solution containing a halogen salt of the alkaline group, removing the acid and dissolved matter from the rubber, then boiling the rubber in a solution of alkaline salt, and washing and drying the product, for the purpose set forth.

\section*{No. 101,159. Linotype Machine. Linotype.}

Gustav Kretzsehmar, Baltimore, Maryland, U.S.A., 25th September, 1906; 6 years. Filed 25th July, 1906. Recelpt No. 138,145.
Claim.-1. The combination with a linotype machine, of a holder adapted to support a plurality of magazines, and a movable magazine carrier adapted to transport magazines between the machine and holder.
2. The comblnation with a linotype machine, of a movable holder adapted to support a plurality of magazines, and a carrier movable between the machine and the holder and adapted to transport a magazine.
3. The combination with a linotype machine, of a rotatable holder adapted to support a plurality of magazines, and a carrier movable between the machine and the holder and adapted to transport a magazine.
4. The combination with a linotype machine, of a holder adapted to support a plurallty of magazines, a rail extending bitween said holder and the machine, a carrier supported on said rail, and means depending from the carrier and adapted to engage and support a magazine.
5. The combination with a linotype machine, of a holder adapted to support a plurality of magazines, a rail extendIng between sald holder and the machine, a carrier supported on said rall, and means depending from the carrier for raising and supporting a magazine.
6. The combination with a linotype machine, of a holder adapted to support a plurality of magazines, a rail extend-

ing between said holder and the machine, a carrier supported on said rail, and means depending from the carrier, comprising a lever for raising the magazine and means for retaining the lever to hold the magazine in its raised position.
7. The combination with a linotype machine, of a holder adapted to support a plurality of magazines, a rall extending between said holder and the machine, a carrier supported on said rail, and means depending from the carrier comprising a hanger, a lever pivotally connected with the hanger, a beam connected with the lever and adapted to be engaged with a magazine and means for engaging the free end of the lever with the beam.
8. The combination with a linotype machine, of a plurality of holders, each adapted to support a magazine, and a movable magazine carrier adapted to transport magazines between the machine and each of said holders.
9. The combination with a linotype machine, of a plurality of holders, each adapted to support a plurality of magazines, and a movable magazine carrier adapted to transport magazines between the machine and each of said holders.
10. The combination with a linotype machine, of a plurality of holders each adapted to support a magazine, a pivotally supported rail adapted to extend between either of said holders and the machine, and a carrier supported on said rail and provided with means for engaging and supporting a magazine.
11. The combination with a linotype machine, of a plurality of holders each adapted to support a magazine, a rail pivotally mounted on the machine and adapted to extend to either of said holders, and a carrier supported on sald rall and provided with means for engaging and supporting a magazine.

\section*{No. 101,160. Support for Electric Lamps. Support pour lampes électrigues.}

Hubert Cheppendale Smith, Erdington, near Manchester, England, 25th September, 1906; 6 years. Filed 16th May, 1906. Receipt No. 135,968.

Claim.-1. In pendants or like supports for electric lamps, the combination with a pendant of looped suspension cords, automatically adjustable connections between the cords and the pendant, and a sustaining block provided with apertures through which the said looped cords can slide on the application of a pendant adjustment movement, substantially as set forth.
2. In pendant or like supports for electric lamps, the combination comprising a pendant and looped suspension cords therefor, cord attachment arms secured to the pendant, sliding connections between the cords and the said arms permitting of a lateral movement of the lower extremities of the cords when the pendant is angularly adjuster. and a sustaining block provided with apertures through which the cords can slide on the application of a lamp adjustment modement, substantially as set forth.
3. In a pendant or like supports for electric lamps, the combination comprising a pendant and a pair of looped sus-

pension cords therefor, cord attachment arms secured to the pendant, sliding connections between the cords and the sald arms permitting of a lateral movement of the lower extremities of the cords when the pendant is angularly adjusted, a flexible lead or conductor, and a sustaining block attached to the said lead or conductor and provide with angular apertures through which the sald cords can slide, substantially as set forth.

\section*{No. 101,161. Ore Amalgamator.}

Amalgamateur de minerais.


John Robert Harrison and Hugh Victor Mackay, assignee of a half interest, both of Victoria, Australia, 25 th September, 1906 ; 6 years. Filed 11th May, 1906. Receipt No. 135,790.
Claim.-1. In an improved amalgamator or concentrator a suspended pan or table volute shape in plan having a fall helically from its feed to its discharge end partially in the form of a channel and partially provided with an inner gutter, substantially as described and shown.
2. In an improved amalgamator or concentrator, a suspended pan or table volute shape in plan having an adjustable fall helically from its feed to its discharge end and with an adjustable radial transverse fall from its inner edge to its outer edge provided with an outer rim and a partial inner rim and a discharge gutter, substantially as described and shown.
3. In an improved amalgamator or concentrator a pan or table having a volute shape surface and a radial transverse fall and a circumferential fall from its feed to its discharge end suspended by such as chains, and having a gyratory or eccentric motion imparted to the pan or table, substantially as described and shown.
4. In an improved amalgamator and concent.ator of the type herein specifled, the means for adjusting the transverse fall. circumferential fall and the height at discharge end of table, substantially as described and shown.
5. In an improved amalgamator or concentrator consisting of one or more pans or tables having a volute shaped surface with a radial and a circumferentlal fall, and a spray pipe near its discharge end, suspended by such as chains and furnished with arms having a central boss to receive a ball or other eccentric by means of which a gyratory or eccentric motion is imparted to the table substantially as described and shown.
6. An improved amalgamator or concentrator consisting of a volute shape surface having a transverse radial and a circumferential fall and a spray pipe at one side near
its discharge end, a central stool and pillar carrying bearings for the eccentric and driving gear and overhead arms by which the pan is suspended by such as adjustable chains and the pan furnished with arms having a central boss to which an eccentric or gyratory motion is imparted, a perforated feed hopper a divided collecting hopper for the saved mineral and seconds, and a tympanum elevator for returning seconds to table, all substantlally as described and shown.

\section*{No. 101,162. Method of Making Buttons from} Anstralian Ivory Nut.
Méthode de faire des boutons des noks d'ivoire.
Edward Julius Conn. Hamburg, Germany, assignee of H. G. Lelthäuser, Schmollin, Germany, 25th September, 1906 ; 6
years. Filed 19th May, 1906. Receipt No. 136,068.
Claim.-1. The method of producing buttons from Australian nuts consisting in cutting the nuts into discs, extracting the fatty matters from these discs, from which the buttons can be made.
2. The methed of producing buttons from Australian nuts, consisting in cutting the nuts into discs. extracting the fatty matters from these discs by boiling them in solutions of fat absorbing matters and in working them into buttons. 3. The method of producing buttons from Australian nuts consisting in cutting the nuts into dises. extracting the fatty matters from these discs by boiling them in a solution of soda and in working them into buttons.
4. The method of producing buttons from Australian nuts consisting in cutting the nuts into discs, extracting the fatty matters from these discs, turning these to shape and perforating them, whereupon they are ground with pumice stone and finally polished with chalk and tripoli mixed with oil.

No. 101,163. Type Setting and Distributing Machine.
Machine d distribuer les caractères.


Arthur G. Baker, Albion, J. Frank Scott and J. Frank Helmer, both of Jackson, all in Michigan, U.S.A., 25th September, 1906 ; 6 years. Filed 15th June, 1906. Receipt No. 136,950 .
Claim.-1. The combination of a movable type distributor having a rack and a detent at each end of the rack, a swinging arm, means for operating the arm. and a reversible pawl carried by the arm and co-acting with the rack and adapted to be alternately struck by the detents, for the purpose specified.
2. The combination of a movable type distributor comprising a rack and a detent at each end thereof, a swinging arm, means for opertaing the arm, and an intermediately pivoted pawl adapted to co-act at its ends with the rack and to be alternately struck by the detents automatically to reverse the pawl.
3. In a type setting and distributing machine, the combination of a base, type selecting mechanism therein, vertically extending plates rising from the base, horizontally extending bars clamping sald plates together and spaced apart from each other to form type compartments, the upper bars forming a track, a distributor mounted to move horizontally on said track, the distributor comprising vertically extending plates and means for clamping them together and spaced apart from each other to form type compariments, a rack on said distributor, a swinging arm, a reversible pawl mounted
on the arm and co-acting with the rack, a detent at each end of the rack adapted to strike the pawl to reverse the same and means for imparting regular movement to said arm.
4. In a type setting and distributing machine, the combination of a base, type selecting mechanism thercin, vertically extending plates rising from the base, horizontally extending bars clamping said plates together and spaced apart from each other to form type compartments, the upper bars forming a track, a distributor mounted to move horizontally on said track, the distributor comprising vertically extending plates and means for clamping them together spaced apart from each other to form type compartments, a rack on said distributor, a swinging arm, a reversible pawl mounted on the arm and co-acting with the rack, a detent at each end of the rack adapted to strike the pawl to reverse the same, means for imparting regular movement to sald arm, a table mounted on the base and inclining forward and downward from the lower type compartments, curved guldes extending along the upper surface of sald table to control the movement of the type delivered thereon, a galley to which said guides lead. and means for advancing the type in the galley.
5. In a type setting and distributing machine, the combination of a base, type selecting mechanism therein, vertically extending plates rising from the base, horizontally extending bars clamping said plates together and spaced apart from each other to form type compartments, the upper bars forming a track, a distributor mounted to move horizontally on said track, the distributor comprising vertically extending plates and means for clamping them together and spaced apart from each other to form type compartments, a rack on said distributor, a swinging arm, a reversible pawl mounted on the arm and co-acting with the rack, a detent at each end of the rack adapted to strike the pawl to reverse the same, means for imparting regular movement to said arm, a table on the base inclining downwardly and forwardly from the lower type compartments and adapied to receive the type from the selecting mechanism, a diagonal wall extending along said table from the upper part to the opposite lower corner thereof. curving guides on top of the table directing the type from said lower corner of the table, a galley adapted to receive the type from said lower corner, a push rod adapted to advance the type in the galley, and means for reciprocating the push rod.

No. 101,164. Process of Extracting Potassinm Chloride from Seaweed.
Procidé pour extraive le chlorure de potassium des plantes marincs.


David M. Balch, Coronado, Callfornia, and Anson P. Stephens, New York City, New York. U.S.A., assignee of a half interest, 25th September. 1906; 6 years. Filed 19th May, 1906. Receipt No. 136,072 .

Claim.-The hercin described process of obtaining potassium chloride from sea woeds, which consists in first sweatligk and drying the weeds in an enclosure and then separating the exuded salts therefrom by mechanical agitation.

No. 101,165. Machine for Making Vegetable Matter into a Solid Mass of a selective Size and Shape.
Hachine pour mettre en blocs des matirres vigitales.
Willam Howard Buker, Alliston, Ontario, Canada, 25th September, 1906; 6 years. Filed 3rd March, 1906. Receipt ㅅo. 133,502.
Claim-1. A machine for manufacturing vegetable matter Into a solid mass, comprising a machine frame, compression
rolls journalled therein, means for causing the revolution of the compression rolls, a delivery tube located at the de-

livery end of the compression rolls and located opposite the interval between them, a cutting mechanism at the delivery end of the dellivery tube, means for Imparting motion to the cutting mechanism, and means for softening the vegetable matter during its compression by the compressing rolls.
2. A machine for manufacturing vegetable matter comprising a main frame, compression rolls journalled therein having spiral grooves in their peripheral surfaces to move the material towards their delivery end, means for imparting motion to the compression rolls, a tank mounted on the main frame, steam jets to direct the steam towards the material contained between the compression rolls, and means for connecting the tank with the steam jets and the steam space of the boiler.
3. A machine for manufacturing vegetable matter comprising a main frame, compression rolls journalled therein having spiral grooves in their peripheral surfaces to move the material towards their delivery end, mans for impartIng motion to the compression rolls, a delivery tube at the delivery end of the compression rolls located opposit" the interval between them, a cutting means opposite to the lelivery end of the delivery tube, and means for actuating the cutting means.
4. A machine for manufacturing vegetable matter comprising a main frame. compression rolls journalled therein having spiral grooves in their peripheral surfaces to move he material towards their delivery end. means for imparting motion to the compression rolls. a tank mounted on the main frame, steam jets to direct the steam towards the material contained between the compression rolls, means for connecting the tank with the steam jets and the steam space of the boiler, and a delivery tube at the delivery end of the compression rolls located opposite the interval between them.
5. A machine for manufacturing vegetable matter comprising a main frame, compression rolls fournalled therein having spiral gooves in their peripheral surfaces to move the material towards their delivery end, means for imparting motion to the compression rolls, a tank mounted on the mair frame, steam jets to direct the steam towards the material ontained between the compression rolls. means for connecting the tank with the steam jets and the steam space of the boller a delivery tube at the delivery end of the compression rolls located opposite the interval between them, a utting means opposed to the delivery end of the delivery lube and means for actuating the cutting means.
6. A machine for manufacturing vegetable matter comprising a main frame, compression rolls journalled therein having spiral grooves in their peripheral surfaces tomove the material towards their delivery end. means for imparting notion to the compression rolls, a feeder for the compression rolls, a feed roll to positively deliver the vegetable matlur from the fecder to the compression rolls, a delivery lube at the delivery end of the compression rolls located opposite the interval between them. a tank mounted on the main frame. steam juts to direct the stram towards the mawrial contained between the compression rolls, and means ior connurting the tank with the stcam jets and the steam - pace of the boiler.
7. A malhine for manufacturing vegetable matter con prising a matin frame. compression rolls journalled thereln having spiral grooves in their peripheral surfaces to move the material towards their delivery end. means for imparting motion to the compression rolls. a feeder for the comprossion rolls. a feed roll to positively deliver the vegelable matter from the fioder to the compression rolls. a delivery thbe at the delivery end of the compression rolls located opposit, the interval between them, a tank mounted
on the main frame, steam jets to direct the steam towards the material contained between the compression rolls, means for connecting the tank with the steam jets and the steam space of the boiler, a cutting means opposed to the delivery end of the delivery tube and means for actuating the cutting means.
8. A machine for manufacturing vegetable matter comprising a main frame, compression rolls journalled therein having spiral grooves in their peripheral surfaces to move the material towards their delivery end. means for imparting motion to the compression rolls, a feeder for the conpression rolls, a feed roll to positively de!iver the vege table matter from the feeder to the compression rolls, a delivery tube at the dellvery end of the compression rolls lo cated opposite the interval between them. a tank mountef on the main frame, steam jets to direct the stea'n towarls the material contained between the compression rolls, means for connecting the tank with the steam jets and the steam space of the boiler, a cutting means opposed to the delivery end of the delivery tube, means for actuating the cutting means and a shaping means opposed to the end of the delivery tube.

No. 101,166. Furnace for 8melting, Eto. Fonderie, etc.


Kristian Birkeland and Samuel Eyde, Readhusgaden, Norway, 25th September, 1906; 6 years. Filed 22nd January, 1906. Receipt No. 132,103.

Claim.-1. In an electric arc furnace for smelting or metallurgical operations, the combination with a smelting hearth, of a pair of electrodes, feedways for introducing material to the hearth so disposed that no material passes under the points of the electrodes, and a magnetic field dispersing the arc to a large disc.
2. In an electric arc furnace for smelting or metallurgical operations, an annular hearth, means to create a magnetic field inside of the hearth, and a pair of electrodes placed in an axial plane in the magnetic field.
3. In an electric are furnace for smelting or metallurgical operations, a hearth in the form of an annular channel, a sloping hearth concentric with and raised above the said channel, feedways for introducing raw material to the top of the sloping hearth, electrodes placed in an axial plane above the hearth and means to create a magnetic fleld adapted to spread the arc over the hearth so that it will take the form of a more or less spherical or vault-shaped disc.
4. In an electric arc furnace for smelting or metallurgical operations a hearth in the form of an annular channel, a terraced sloping hearth concentric with and raised above the said channel, feedways for introducing raw material to the top of the terraced sloping hearth, electrodes placed in an axial plane above the hearth and means to create a magnetic field adapted to spread the arc over the hearth so that it will take the form cf a more or less sphis.cal or vault-shaped disc.
5. In an electric arc furnace for smelting or metallurgical operations, a hearth in the form of an annular channel, a sloping hearth concentric with and raised above the said channel, feedways for introducing raw materlal to the top of the sloping hearth, electrodes placed in an axial plane above the hearth and means to create a magnetic fleld adapted to spread the arc over the hearth so that it will take the form of a more or less spherical or vault-shaped disc, and to cause it to vibrate in a vertical direction.
6. In an electric furnace, a pair of electrodes, means to produce a strong magnetic field, the arc gap between the electrodes at substantially the center of said field, and a hearth situated to one side of the arc gap and magnetic field center and within the fleld and influence of the spread arc.
7. In an electric furnace, a hearth having a central aperture, a pair of electrodes projecting over the aperture, means
to produce an arc between the electrodes, and magnets of unequal intensity mounted above and below the apertures. for the purpose specifled.
8. In an electric furnace, a hearth having a central aperture and a concentricichannel in the hearth surrounding the aperture, a plurality of steps surrounding the channel, a pair of electrodes having their ends projecting over the aperture, means to produce an arc between the electrodes, means to feed raw material onto the steps of the hearth, a magnet mounted centrally of the aperture, and a magnet of greater intensity than the aforesaid magnet mounted above the latter.

No. 101,167. Die for Making Forks.
Etampe pour faire des fourches.


Cashmer Eisbrenner and Charles Arthur Dumeah, both of Tillsonburg, Ontario, Canada, 25th September, 1906; 6 years. Filed 28th August, 1906, Receipt No. 139,041.
Claim.-A die for three tine forks having a tang portion. having a central tine portion, the axis of which is coincident with the axis of the tang portion, and having outside tine portions, the axes of which are at an angle to the axis of the tang portion, said tang portions and one tine portion being pointed in one direction, and the central tine portion and the other tine portion being pointed in an opposite directiou from a central point.

No. 101,168. Wrench. Clé à écrou.


Andrew H. De Groff, Little Genesee, New York, U.S.A., 25th September, 1906; 6 years. Filed 1st September, 1906. Recelpt No. 139,161.
Claim.-A wrench comprising slmilarly formed members, each provided at one end with an off-standing jaw extending forwardly at an obtuse angle, a flattened handle at the opposite end and an intermediate flattened shank. the handles being offset from the shanks, one of said members having a stop shoulder at the juncture of the handle and shank and provided with a flattened pivot, and the other member having its shank provided with a series of pivot openings connected by means of a slot, the said pivot fastening and stop shoulder co-operating to limit the closing of the handle members.

No. 101,169. Machine for Making Turbine Wheels, Rings, Drums, Etc.
I/achine pour laire des roucs de turbines, anneaux, tambours, eto.


Sebastian Ziani de Ferranti, London, England, 25th September, 1906; 6 years. Filed 14th August, 1906. Receipt No. 138,696.
Claim.-1. In combination in apparatus for welding turbine blades to their carrying elements, means for pressing the turbine blade and carrying element together, including a slidable blade clamp adapted to carry electric current and means for automatically effecting a relative displacement of the carrying clement and welding hrad, substantlally as described.
2. A machine adapted to electrically weld turbine blades to their carrying elements comprising in combination means for causing a blade and its carrying element to approach and be pressed together, means for leading current to and from the welding point together with means for setting the blade carrying element in position for the next well, substantlally as descrlbed.
3. A machine adapted to electrically weld turbine blades to their carrying elements comprising in combination means for causing a blade and its carrying element to approach and be pressed together, means for leading current to and from the welding point, means for removing metal from said carrying clement in advance of the welding point together with means for setting the blade carrying element in position for the rext weld, substantially as described.
4. A machine adapted to electrically weld turbine blades to their carrying elements comprising in combination a rotatably mounted blade carrying element stool, a blade clamp, a slidably mounted welding head carrying said blade clamp, together with means for causing sald blade clamp to approach said stool, substantially as described.
5. A machine adapted to electrically weld turbine blades to their carrying elements comprising in combination, means for causing a blade and its carrying element to approach, a toggle device for producing pressure at the welding point, means for leading current to and from sald welding point together with means for setting the blade carrying element in position for the next weld, substantially as described.
6. A machine adapted to electrically weld turbine blades to their carrying elements comprising in combination a carrying element. a slidably mounted welding head, means for holding a blade therein, means for leading current to the welding point, means including a crank and a pitman for reciprocating said welding head together with means for causine said crank to ston automatically at the end of each half revolution. substantially as described.
7. A machine adapted to electrically weld turbine blades to their carrying eloments comprising in combination a rotatably mounted blade carrying element stool, a slidably mountrd welding head, means for causing said welding head to reciprocate together with means operated from said weldIng head for turning sald stool into a position for the next weld. substantially as described.
s. A machine adapted to electrically weld turbine blades to their carrying element. comprising in combination means for causing a blade and its carrying element to approach. a toggle device for producing pressure at the welding point. a switch together with means operated from said toggle for opening sald switch when the weld is completed, substantially as drescribed.
9. A machine adaptod to electrically weld turbine blades to thefr carrying elements comprising in combination a slidably mounted welding head carrying a blade holder slidable relative thereto, mons for reciprocating said welding head. aswith together with means operated from sald reciprorating means for closing said switch, substantially as described.
10. A machine adapted to electrically weld turbine blades to their carrying elements comprising in combination a
slidable mounted welding head, means for reciprocating said welding head including a main motion shaft, clutches adapted to drive said shaft in either direction together with means including a travelling nut and a screwed slidable extension of said shaft for stopping said shaft at each end of the travel of said welding head, substantially as described.
11. In combination in apparatus for welding turbine blades to their carrying elements, means for pressing a turbine blade and carrying element together including a slidable blade clamp adapted to carry electrical current, means for automatically setting the blade carrying element in position for the next weld, substantially as described.
12. In apparatus for welding turbine blades to their carrying elements, means for holding and clamping blade metal strip comprising a jaw holder having members movable for clamping purposes relatively to one another together with jaws supported by said jaw holder when viewed in a direction substantially parallel to that of said clamping movement.
13. In combination in apparatus for welding turbine blades to their elements, means for holding a blade including elec-tro-magnetically operated clamping jaws, means for causing a blade and its carrying element to approach and be pressed together and means for leading current to and from the welding point, substantially as described.
14. In combination in apparatus for electrically welding blades to their carrying elements. means for causing a turbine blade to make contact with its carrying element, means caused to operate by said contact producing means for pressing sald blade and carrying element together and means for automatically switching off the welding current when the weld is complete, substantially as described.
15. In combination in apparatus for electrically welding blades to their carrying elements, means for causing a turbine blade to make contact with its carrying element, means caused to operate by said contact producing means for pressing said blade and, carrying element together, a blade holder through which current is led to the welding point and means for automatically effecting a relative displacement of said carrying element and holder, substantially as described.
16. In combination in apparatus for electrically welding blades to their carrying elements, means for pressing a turblne blade and carrying element together Including a blade holder and means for setting the angle thereof, substantially as described.
17. In apparatus for welding turbine blades to their carrying elements, means for holding and clamping blade metal strip. comprising a jaw holder having members movable for clamping purposes relatively to one another and having also an aperture passing through from side to side thereof tofether with jaws supported by said jaw holder, said jaws having an operative clamping portion within said aperture.
18. In apparatus for elfetrically welding blades to their carrying elements, a blade holder having clamping elements. said holder being rotatably mounted for setting the angle of the blades in relation to their carrying elements, substantially as described.
19. In apparatus for welding turbine blades to their carrying elements, means for holding and clamping blade metal strip comprising a jaw holder having members movable for clamping purposes relatively to one another together with clamping jaws supported by said jaw holder, said jaws having each an operative clamping portion standing clear of said jaw holder when viewed in a direction substantially parallel to that of said clamping movement, and said operative clamping portions being disposed at a distance apart less than their own thickness.
20 In combination in apparatus for electrically welding blades to their carrying elements, a blade holder and means for causing said blade holder to approach such carrying element within a distance less than the length of said blades, substantially as described.
21. In apparatus for welding turbine blades to their carryIng elements, means for holding and clamping blade metal strin comprising a jaw holder having members movable for clamping purposes relatively to one another together with clamping jaws separated by said jaw holder, said jaws having each an operative clamping portion standing clear of said faw holder when vlewed in a direction substantially parallel to that of said clamping movement together with means for leading current to the welding point by way of said operative clamping portions, substantially as described.
22 . In apparatus for welding turbine blades to their carrying elements, means for holding and clamping blade metal strip comprising a jaw holder together with clamping jaws supported by said holder, one of said clamping jaws having an operative clamping convex area on the side thereof adjacent to said other jaw and a concave area on the side remote and the other of said clamping jaws having an operative concave area on the side thercof adjacent to said firstmentioned jaw and a convex area on the side remote, substantially as described.
23. In apparatus for electrically welding bent blades to their carrying elements, a blade holder having bent clamping
elements to laterally clear adjacent blades on either side thereof during the welding operation, substantially as described.
24. In combination in apparatus for electrically welding blades to their carrying elements, a blade holder, means for making good electrical contact between said holder and certain lateral portions of said blade and means for causing said blade and carrying element to approach and be pressed together, substantlally as described.
25. In apparatus for electrically welding blades to their carrying elements, a blade holder having elements between which said blade is adapted to be clamped, said element having respectively concave and convex areas on the sides adjacent to said blade the sum of sald concave and convex areas being greater than the cross sectional area of the blade, substantially as described.
26. In combination in apparatus for electrically welding turbine blades to their carrying elements, a blade holder and blade disposed therein, said blade having only a short length projecting from said holder in a direction towards the carry ing element and said holder having portions in good electrical contact with the portions of said blade which lie to one side of the plane in which are disposed the opposite edges of the blade, substantially as described.

\section*{No. 101,170. Production of Oxygen. Production d'oxygene.}

George François Jaubert, Paris, France, 25th September, 1906; 6 years. Filed 20th April, 1906. Receipt No. \(135,084\).
Claim-The improvement to the process for the preparation of oxygen or of gases rich in oxygen by kindling in an appropriate vessel a mixture formed substantially of a combustible material and of a large excess of perchlorate or nitrate and if desired of inert materials, which consists in mixing or kneading in the presence of water or of some other solvent, perchlorate of potash (or other perchlorate or nitrate) with a small proportion of pulverulent combustible such as carbon, and of an inert material, this kneading being succeeded by the moulding into blocks, cakes or briquettes of the paste obtained and by the drying of said blocks, cakes or briquettes.

No. 101,171. Pipe Grip. Grippe pour tuyaux.


David W. Stirling, Glade Mills, Pennsylvania, U.S.A., 25th September, 1906; 6 years. Filed 1st September, 1906. Receipt No. 139,153.
Claim.-1. A gripping device of the character described consisting of two substantially semi-circular straps hinged together, an eyelet carried by one of said straps, the other of said straps having a substantially hook-shaped end, and projections or teeth carried by the inner or confronting faces of said straps, substantially as described.
2. A gripping device of the character described consisting of two straps hinged together, an eyelet carried by one of said straps, a link carried by said eyelet and adapted to be attached to a rope, the other of said straps having a substantially hook-shaped end over which the rope is adapted to engage, and projections carried by the confronting or inner faces of said straps, substantially as described.
3. A grippling device consisting of two straps hinged together, an eyelet carried by the free end of one strap, a flexible connection attached to said eyelet, the other of said straps having a hook-shaped end, with which said fiexible connection is adapted to engage.

\section*{No. 101,172. Food Composition. Composé d'aliment.}

John Macfarlane Wilson, Peterborough, Ontario, Canada, 25th September, 1906; 6 years. Filed 2nd January 1906. Receipt No. 131,484.
Claim.-The herein described condiment composition consisting of cheese, olive oil, jersey cream, flour of celery seed, flour of mustard seed, and saltpetre in substantial proportions specified, or thereabouts.

No. 101,173. Machine for Making Wire Goods. Machine pour faire des objets en fll de fer.


The Clinton Wire Cloth Company, assignee of Herbert Lothrop Smith, both of Clinton, Massachusetts, U.S.A., 25th September, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,029.
Claim.-1. In combination with the co-operative elements of a wire fabric, means for feeding strand wires, means for feeding a stay wire, means for welding said wires at points of intersection, comprising a series of pairs of welding jaws, means for advancing half of said jaws, means for advancing the complemental jaws independently to grasp the work, a transformer and an independent connection from each pair of welding jaws to the secondary circuit of said transformer.
2. In combination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for feeding a stray wire, means for welding said wires at points of intersection, comprising a series of pairs of weld ing jaws, means for advancing half of said jaws, means for advancing the complemental jaws independently to grasp the work, and means whereby one of each pair of jaws has an independent and automatic upsetting movement.
3. In combination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for feeding a stay wire, means for welding said wires at points of intersection, comprising a series of pairs of welding jaws, a single transformer having a secemdary coil whose two terminals are each extended to form a buss bar, one-half of said jaws being each independently connected to one buss bar, the other half of said jaws being independently connected to the other of said buss bars.
4. In combination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for feeding a stay wire, means for welding said wires at points of Intersection, comprising a single transformer, having each terminal of its secondary coil extended to form a buss bar a series of welding jaws, a connection between each of said series and one of said buss bars, a complemental series of opposed welding jaws and an independent connection between each jaw of said series and the other of said buss bars.
\(\overline{5}\). In combination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for freding a stay wire, means for welding said wires at points of intersection, comprising a single transformer each secondary terminal of which is extended to form a buss bar, a scries of welding jaws, each of which is independently connected to one of said buss bars. a complemental series of welding jaws, each of which is independently connected to the other of said buss bars, means for selectively closing the primary circuit through said single transformer for each pair of welding jaws and means controlled by each pair of welding jaws for automatically breaking the circuit upon completion of the weld.
6. In combination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for fecding a stay wire, means for welding said wires at points of intersection, comprising a series of movabie welding jaws, a series of complemental movable opposed welding jaws, means for advancing the first series to grasp the work, means for selectively and independently advancing each jaw of the second series to grasp the work and close the primary circuit, and means operated by each jaw of the first series for automatically breaking the circuit upon completion of the weld.
7. In combination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for feeding a stay wire, means for welding said wires at points of intersection, comprising a series of movable welding jaws, a complemental opposed series of movable welding jaws, means for advancing the first series to grasp the work, means for advancing each jaw of the second series independently and selectively to grasp the work, and means controlled by each pair of welding jaws for breaking the primary circuit upon completion of the weld.
8. In combination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for feeding a stay wire, means for welding sald wires at points of intersection, comprising a pair of welding jaws, each of which is movable, a break switch, means controlled by one of said jaws for setting sald switch before the welding operation and means controlled by the other of said jaws to open the \(s\) witch upon completion of the welding operation.
9. In combination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for feeding a stay wire, means for welding said wires at points of intersection, comprising a transformer, having each of its secondary terminals extended to form a buss bar, a series of welding jaws and an independent laminated connection between one of the buss bars and each jaw of said series, a complemental opposed series of welding jaws and an independent laminated copper connection between each of said jows and the other of said buss bars.
10. In combination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for feeding a stay wire, means for welding sald wires at points of intersectlon, comprising a series of pairs of welding units, means for advancing half of said welding units to grasp the work, means for selectively and independently advancing the complemental half of each welding unit to grasp the work, a source of power, means for connecting that source of power with each welding unit and means controlled by each weldIng unit for automatically cutting out or disconnecting said unit from the source of power upon completion of the welding operation of that unit.
11. In combination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for feeding a stay wire, a welding unit composed of two opposed movable members, a source of power, means for connecting said unit to the source of power, an independent power interrupter device and means controlled by sald unit for automatically actuating said device.
12. In combination with the co-operative elements of a wire cabric machine, means for feeding strand wires, means for feeding a stay wire, a series of welding units each composed of two movable members, a source of power, means for automatically and selectively connecting each unit with said source of power, an independent power interrupter device for each unit and means controlled by each unit for automatically actuating the interrupter device of that unit.
13. In confination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for feeding a stay wire, means for welding sald wires at points of intersection, comprising a series of welding units, each composed of two members. or source of power, means for selectively and independently connecting each welding unit with sald source of power, an independent power interrupter device for each welding unlt, means controlled by one member of each unit for operating the interrupter device of that unit to operate the unit, and means controlled by the other nember of each unit for automatically operating said device to disconnect the power from that unit at the completion of the welding operation.
14. In combination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for fording a stay wire, means for welding sald wires at points of intersection, comprising a pair of welding members, each of which is movable, a source of power, a power !nterrupter deviere, means controlled by one of sald members for operatI: g sitid power interrupter device to connect the power and nurans eontrolled by the other of said members for operating said power device to disconnect the power upon completion of the welding operation.
15. In combination with the co-operative elements of a wire fabric machine, means for feeding strand wires, means for feeding a stay wire, means for welding sald wires at polnts
of intersection, comprising a series of welding members, power device, an independent conncction between said power device and each of said members, a complemental opposed series of welding members, a power device and an independent connection between each of said members and said device, a source of power, means for connecting the latter with said power devices, an independent power interrupter for each pair of welding units and means controlled by said unit for automatically operating the power interrupter and disconnecting the unit from the power device upon the completion of the welding operation of that unlt.

\section*{No. 101,174. Staple Blank. Blanc de crampes.}


The Grecnfield Automatic Fastener Company, New York New York, U.S.A., 25th September, 1906; 6 years. Filed 14th August, 1906. Receipt No. 138,702.
Claim.-1. As an article of manufacture a staple blank or strip embracing a series of staples interconnected only at the lateral or side edges of the back of such blank or strip.
2. As an article of manufacture a staple blank or strip embracing a series of staples united together only at the angular portions between the legs and the backs thereof and separated from each other by oblong openings.
3. As an article of manufacture a staple blank or strip embracing completed staples integrally connected only at the angles between the legs and backs thereof.
4. As an article of manufacture a staple blank or strip embracing a series of staples separated from each other by spaces between the legs and oblong openings between the backs extending to points relatively near the lateral edges of the strip.

No. 101,175. Water Closet. Latrinc d cau.


The Duner Company, Chicago, assignce of John Charles Duner, Wheaton, Illinois, U.S.A., 25th September. 1906; 6 years. Filed 30th June, 1906. Receipt No. 137,427
Claim.-1. In a water closet the combination with a bowl and means for flushing the same, of a dumping pan embracing the outlet of said bowl and provided with a double bottom containing an insulating packing between the two layers of the bottom, substantlally as and for the purpose described
2. In a water closet. the combination of a supporting cas Ing 6, a detachable upper bowl 12 therein, a cover plate on the upper bowl, and operating means comprising means for operating the dumping pan, a flushing device and means
for operating the flushing device, all mounted upon the cover plate and removable from the supporting casing 6 with the owl 12.
3. In a water closet the combination with a bowl and a dumping pan and means for flushing said pan, of a casing and valve for admitting the flushing water having means for gradually closing the valve and continuing to inject water into the bowl after the valve has closed, substantially as described.
4. In a water closet a flushing valve consisting of a casing and a stem having a valve fixed thereon, and an auxiliary plunger mounted upon said stem and spring pressed in the casing and having a loose cup valve to admit and confine the water behind the same so that as the valve closes the plunger continues its movement to inject water from the casing into the cylinder, substantially as described.
5. In a water closet the combination with a bowl and a dumping pan, of a valve for introducing water to flush the bowl and means in the valve casing to continue the injection of water after the valve is closed, and a common handle to operate the pan and to manipulate the valve, substantially as and for the purposes set forth.
6. In a water closet a flushing valve comprising a casing having inlet and outlet passages, a poppet valve opening against the inflow of water therein, and a loose auxiliary cup plunger upon the valve stem and a spring to move it in the casing, and a bleed passage in the casing behind said plunger through which the water is caused to flow as the valve is closed, by the pressure of the plunger, substantially as described.
7. In a water closet a flushing valve comprising a cylinder having an inlet valve seat, a poppet valve opening against the incoming stream of water, an auxiliary plunger upon the stem of the valve and spring pressed to push it through the casing, a loosely fitting cup valve on the plunger and a regulable bleed passage for escape of the water behind said plunger and means for adjusting the throw of the valve plunger in operating the valve, substantially as described.
8. In a water closet the combination with a supporting casing 6, of a removable upper bowl 12 therein, a handle operating the dumping pan, a flushing valve, and means for operating the flushing valve, all carried upon a portion of the bowl and removable from the supporting cising 6 with the bowl, substantially as described.
9. In a water closet the combination with a bowl and a pumping pan, of a flushing valve, and a handle operating both the dumping pan and the flushing valve, means to return the pan and the valve to normal position, and an auxiliary plunger on the valve stem provided with means for causing the water to continue to flow as the valve is closed, to flush the pan after it is returned to normal position, substantially as described.
10. In a water closet the combination with a bowl and dumping pan, of a shaft attached to said pan for dumping the same, a lever arm and link for operating the shaft. means upon said latter shaft for reciprocating the flushing valve of the bowl, and means upon the flushing valve and spindle for regulating the flow of the valve, aud closing of the pan, and automatic means to continue the water flow after the operating means is released and the pan is closed, substantially as described.
11. In a water closet the combination with a pivoted dumping pan and a handle and connections for operating it, of a flushing valve forming an immediate inlet from the feed pipe to the pan actuated by means of the handle for dumping the pan, and an escapement hook on the handle engaging part of the dumping mechanism, whereby the link is dropped automatically at a predetermined polnt as the handle is raised, so that the valve may be held open after the pan is closed.
12. In a water closet a flushing valve therefor comprising a casing having a poppet valve opening towards the infowing stream of water, a separate chamber of the valve casing having a regulable bleed passage leading therefrom, a loose plunger mounted on the stem of the valve and provided with a spring to press it into said separate chamber, whereby the flow of water to said bleed passage is independent of the movement of the valve, substantially as described.
13. In a water closet the combination with a bowl having a circumferential groove for a stream of water and a dumping pan and flushing valve. of an injecting pipe emptying into the bowl groove at the side distant from the valve and having a squirt nozzle, and means in the flushing valve for continuing the flow of water through the squirt nozzle after the valve is closed and the pan is returned to place.
14. In a water closet the combination with a bowl and a dumping pan and means for returning the dumping pan to normal position, of a nozzle in the bowl adapted to introduce a stream in gyratory direction around sald bowl, and a flushing valve including a casing having an inlet valve therein and an auxiliary piston on the valve stem with a spring for
pressing it into the valve casing, and an escapement for liquid behind said piston to the nozzle, whereby the flow of the water through the nozzle into the bowl is continued after the valve is closed, substantially as and for the purpose described.
15. In a water closet the combination of a bowl having a circumferential groove around a top portion adapted to receive a gyratory stream of water, and an injection pipe lying therein and having a squirt nozzle at the end adapted to direct the stream of water to flow in gyratory direction in said groove and to be kept up by a centrifugal force, substantially as described.
16. In a water closet in combination, a bowl, a dumping pan, means for flushing the same, a valve, spring means to close the valve, and a fluid throttling device to retard the closing movement of the valve as it is operated by the spring.
17. In a water closet in combination, a bowl, a dumping pan and a flushing device having a valve for admitting water to flush the bowl, means for storing a portion of the water admitted, and means whereby such stored water is discharged into the bowl as the valve is closed.

No. 101,176. Water Closet. Latrines d eau.


Frederick W. Delanoy, Oakland, California, U.S.A., 25th September, 1906; 6 years. Filed 17th April, 1906. Recelpt No. 134,968.
Claim.-1. In a closet, a bowl having a trap, and a conical countersunk channel at the discharge end of the trap, a sleeve having the upper end diverged to substantially fit the countersunk channel, a gasket fitting between the upper end of the sleeve and the interior of the channel, and a screw-threaded lock nut turnable upon corresponding threads on the sleeve whereby the parts are locked and sealed.
2. In a water closet, a basin having a trap. with a terminal countersunk channel, a gasket fitting the channel, a tube or sleeve threaded upon the outer side having the upper end made divergent to fit the countersunk channel of the bowl discharge, a flanged gasket fitting the channel and enclosing the upper end of the sleeve, a threaded nut turnable upon the threads of the sleeve whereby the latter is drawn downward and the gasket compressed to form a joint.
3. In a water closet, a bowl, a trap, a discharge passage, a sleeve and means for forming a joint between the sleeve and the trap, a tube into which the lower end of the sleeve extends, said tube having a stuffing box and gland at the upper end whereby a movable joint is made around the sleeve.
4. In a closet, a bowl having a trap, a discharge, a sleeve and joint forming means between the sleeve and the trap, a tube in line with the sleeve having an annular flange through which the lower end of the sleeve extends, a stuffing box and gland forming a joint between the sleeve and the pipe screw threads formed upon the exterior of the pipe, and a threaded floor flange engaging said threads, whereby the pipe may be adjusted with relation to the floor.
5. In a closet, a basin having a trap, a metal sleeve, an interlocking disengageable joint formed between the upper end of the sleeve and the discharge end of the trap, a pipe in line with the sleeve having a stuffing box and gland through which a tight and adjustable joint of the sleeve is formed, a screw-threaded floor flange engaging corresponding threads upon the exterior of the pipe whereby the latter is adjustable with relation to the sleeve, and a soll pipe havIng a socket and joint forming devices at the junction of the two.
6. In a water closet having \(a^{\circ}\) trap and a terminal discharge, a sleeve and a detachable joint forming device between the sleeve and trap, a soll pipe in line with the sleeve, and an interposed plpe section forming a fixed joint with the soil pipe. and a slidably adjustable joint with the sleeve
7. In a water closet, a bowl and trap. a sleeve and joint forming means between the sleeve and the trap, a soll pipe connection, and a slidably adjustable joint betwren said connection and the sleeve, and an opening at the rear of the bowl and trap through which access may be had to the connecting joints.

No. 101,177. Water Closet. Latrincs à eau.


David Seaman Schureman, Rockford, Illinois, U.S.A., 25th September, 1906; 6 years. Filed 6th August, 1906. Receipt No. 138.440.
Claim.-1. In a water closet, the combination of a tank, a valve for the water inlet opening, a valve for the water discharge opening, a cam lever movable with the valve for the discharge and capable of opening the inlet valve, and a float having a connection with the cam lever
2. In a water closet the combination of a tank, a valve for the water inlet opening, a valve for the water discharge opening, means movable with the valve for the discharge opening for opening the inlet valve, sald means movable independent of the valve for the discharge opening, thereby permitting the closing of the inlet valve, and a float having a connection with said means.
3. In a water closet the combination of a tank, a valve for the water inlet opening supporting a roller at its lower end, a valve for the water discharge opening, a cam lever movoble with the valve for the discharge opening and a float having a connection with the link, sald cam lever capable of movement in engagement with the roller.

No. 101,178. Mattress Tufting Machine. Machine d garnir de toufies les matelas.


George Whitfield Bent, Hyde Park, Massachusetts, U.S.A. 25th September, 1906; 6 years. Flled 16th July, 1906. Receipt No. 137,869.
Claim.-1. In an apparatus of the character described in combination a bed or support for the mattress, a plurality of rows of needles co-operating therewith. a common carrier to which all of said needles are secured means for movlige said common needle carrier toward and from the said bed or support, and means for moving said bed or support latirally with relation to the path of movement of the ra. whstantlally as and for the purpose specified.
2. In an apparatus of the character described, a bed or support for the mattress provided on its upper surface with a plurality of compressing devices having a cavity for the reception of a tuft and provided with a slot extended substantially at right angles to the said cavity, a clamping member co-operating with the said bed to secure the mattress in operative position on said bed and provided on its lower surface with a plurality of compressing devices cooperating with the compressing device secured to the bed, means to secure said clamping member to said bed in its closed or operative position, a plurality of needles, a common carricr to which all of said needles are secured, means to move said carrier toward and from the said bed, and means to move the bed and its clamping member laterally with relation to the path of movement of the said needles, substantially as and for the purpose specifled.
3. In an apparatus of the character described in combination, a bed or support for the mattress and a needle carrier comprising side, end and intermediate bars, one of said parts being bodlly movable with relation to the other in a substantially vertical plane and the other of said parts being bodily movable laterally, and a plurality of rows of needles rigidly secured to the intermediate bars of said carrier, subsubstantially as described.
4. In an apparatus of the character described in combination, a bed or support for the mattress and a needle carrier, comprising side, end and intermediate bars, one of said parts being bodily movable with relation to the other, a plurality of rows of needles rigidly secured to the bars of said carrier, and means for effecting bodily movement of the bed laterally with relation to the needles, substantially as dnscribed.
5. In an apparatus of the character described in combination a bed or support for the mattress and a needle carrier, one of said parts being bodily movable laterally with relation to the other, and a plurality of rows of needles rigidly secured to said carrier, substantially as described.
6. In an apparatus of the character described in combination a bed or support for the mattress, a clamping device or nember bodily movable toward and from said bed or support, means to raise said clamping member away from said bed, said means comprising levers 40,41 and brace bars 44, and a handle 56 connecting the levers 40 , substantially as described.
7. In an apparatus of the character described in comblnation a bed or support for the mattress, compressing devices secured to said bed or support and each provided with a cavity for the reception of a tuft and a slot extended substantially at right angles to and beyond said cavity for the passage of a needle on opposite sides of said tuft, a clamping member co-operating with said bed, compressing devices secured to said clamping member and co-operating with the compressing devices on said bed, a common needle carrier, a plurality of needles rigidly secured thereto, means to move said carrier to cause all the needles to penetrate the mattress held between said compressing devices, and means to move said bed and clamping member laterally with relation to the path of movement of said needles, substantially as described.
8. In an apparatus of the class described in combination a bed or support for the mattress, a clamping member cooperating therewith, a substantially horizontal rock shaft. substantially vertical cranks or arms on said rock shaft in engagement with said bed, and a handle attached to said rock shaft to enable the said shaft to be rocked to effect bodily movement of said bed and clamping member, substantially as described.
9. In an apparatus of the class described in combination a bed or support for the mattress, and a common needle carrier, a plurality of rows of needles rigidly attached to sald common carrier, means to effect bodily movement of one of said parts laterally with relation to the other, and means to effect bodily movement of one of said parts in a direction substantially at right angles to said lateral movement, substantially as described.
10. The combination in a tufting machinn, of compression members for the mattress, each comprising a frame and a plurality of projuctions provided with openings, the said projections extending from opposing surfaces of said frame, one of said frames being movable toward and from the other, a plurality of rows of needles arranged to be passed through the openings in said projections. and means for producing a relative movement laterally between sald compressing members and nerdles. substantially as described.
11. In an apparatus of the class described, in combination. a bed or support for the mattress. a plurallty of ruws of recillos. one for \(\cdots\) h tuft of the completed mattress, cooperating with said support and arranged to penetrate the mattress at the points where it is to be tufted by bodily movement of one of said parts toward the other, means to effect said bodily movemenl, and means to offect movement
of one of said parts laterally with relation to the other, for the purpose specified.
12. In an apparatus of the character described, in combination, a bed or support for the mattress, a common needle carrier, one of said parts being bodily movable with relation to the other in a substantially vertical plane. and one of said parts being bodily movable laterally with relation to the other, and a plurality of of rows of needles, one for each tuft of the completed mattress, secured to said common carrier, substantially as and for the purpose specified.
13. In an apparatus of the class described, in combination, a bed or support upon which the mattress is placed; a plurality of rows of needles co-operating with said bed and arranged in penetrate the mattress at the different points over its surface where it is to be tufted, one of said parts being bodily movable laterally with relation to the other, and one of said parts being movable bodily substantially at right angles to said lateral movement, and means to clamp the mattress on its bed or support against movement thereon and to compress the same at the points where it is to be tufted, substantially as described.
14. The combination of a tufting machine, of a bed or support for the mattress, a plurality of compressing devices secured to said bed or support and arranged in rows over the surface thereof at the points where the mattress is to be tufted, a clamping member co-operating with said bed to firmly hold the mattress on said bed against movement thereon, a plurality of compressing devices secured to said clamping member and arranged in rows over the surface thereof to register with the compressing devices of the bed and thereby firmly compress the mattress on its opposite surfaces at the points where it is to be tufted, and a plurality of rows of needles one for each tuft co-operating with said bed or support and arranged to penetrate the mattress at the points under compression, substantially as described.

No. 101,179. Window Blind Fastener.
Attache de store de fenêtre.


Michael J. Coogan, Port Chester, New York, U.S.A., 25th September, 1906; 6 years. Filed 12th July, 1906. Receipt No. 137,743.
Claim.-1. In a window blind, a bar having pivotal connection with the upper and lower sets of slats, a crank shaft mounted to swing on the lower end of the blind and having a horizontal portion engaging in said bar, a handle on said crank shaft, and a spring yielding plate having channels on its outer face for recelving said handle.
2. In a window blind, a bar consisting of sections, the upper section being pivotally connected to the upper slats of the blind, while the lower section is pivoted to the lower slats of the blind, a metal plate connecting the sections and having a cut-away portion for recelving the parting strip of the blind, a plate secured to the lower end of the blind. a crank shaft mounted to swing in said plate and having pivotal connection with the lower section of said bar, a handle on said shaft, and a spring yielding plate having channels for receiving said handle.

\section*{No. 101,180. Couch. Canapé.}

John Frindale, Chicago, Illinois, U.S.A., 25th Septecber, 1906; 6 years. Filed 18 th June, 1906. Receipt No. 137.044.
olaim.-1. An article of furniture comprising a frame having
thereon a seat. a back rest mounted in said frame and adjustable to a plurality of different positions relatively of the seat, and means for clamping sald back rest in each of said positions of adjustment through pressure on said seat.
2. An article of furniture comprising a frame having thereon a seat, a back rest adjustable along said seat, and means whereby a downward pressure on the seat will secure said back rest against shifting.
3. In an article of furniture the combination of a frame, a seat on said frame, a back rest slldable in sald frame longi-
tudinally of the seat, said back rest having thereon a part opposed to said seat and adapted to be engaged thereby for

locking said back rest against movement when a downward pressure is exerted on the seat.
4. In an article of furniture the combination of a frame, a seat on said frame, a back rest slidable in said frame longitudinally of the seat, said back rest having thereon a part opnosed to said seat and adapted to be engaged thereby for locking said back rest against movement when the seat is occupied and a spring normally holding said seat out of contact with said part.
5. In an article of furniture the combination of a frame, a seat mounted in said frame, a spring supporting sald seat. a back rest adjustable along said seat and adapted to be engaged by said seat through the yielding of said spring when the seat is occupied and thereby lock said back against movement, said spring being adapted to lift the seat out of contact with said part and permit of adjusting said back. when the seat is not occupled.
6. In an article of furniture the combination of a horizontally disposed supporting frame, a seat-frame mounted on said supporting frame and adapted to be tilted at an angle thereto, a seat yleldingly suported on said seat frame, a back adjustable along said seat frame, a part secured to sald back adapted to receive the weight of said seat when occupied thereby locking said back against movement with respect to said seat and a spring normally urging said seat out of engagement with said part.
7. In an article of furniture the combination of a frame, a member mounted on said frame and adapted to be tilted at an angle thereto, a pair of racks secured at opposite sides of said member and disposed transversely thereof and in parallel relation to each other, said racks having teeth on relatively opposite edges thereof, a locking bar pivotally mounted between said racks and adapted to simultaneously engage corresponding teeth of each rack, a spring normally urging said bar into such engagement and a lever for releasing said bar to permit of angular adjustment of said member.
8. An article of furniture comprising a frame having thereon a seat and a back rest mounted in said frame and adapted to be tilted angularly of sald seat, said back rest comprising a support, having a horizontally disposed cross plece near the top, a plurality of vertically disposed springs secured to said cross plece, horizontal slats connecting said springs and a cushion mounted on said springs and being free from said support and adapted to bend to fit the back of an occupant through the yielding of said springs.
3. In an article of furniture the combination of a seat and a back rest comprising a frame adapted to be tilted angularly with respect to said seat. a horizontally disposed crosspiece rigidly secured near the top of said frame, a slat below said cross piece and connected therewith by one or more vertically disposed flat springs, a pluralty of slats below said first slat and parallel herewith, a plurality of verti(ally disposed fiat springs extending across and securing said slats together to form a yielding support said springs extending upwardly across said cross plece but being not directly connected thereto, and a cushion secured to said slats. all arranged to permit the lower end of the cushion to yield rearward and the upper end to yleld forward.

No. 101,181. Upholstery. Tapisscric


Edwin M. Hulse. Columbus, Ohio, U.S.A., 25th September, 1906; 6 years. Filed 16th July, 1906. Recelpt No. 137,859.
Claim.-1. In upholstery the combination with a spring work structure, of a top or dad therefor, a stiffening strip for the edge of said top or pad secured thereto independently of the spring work structure and metallic buttons or fastening devices constituting the means securing said strip to said edge.
2.The combination with a top or pad for application to upholster spring work, of a strip of stiff material provided with openings for the passage of fastening devices, and said fastening devices passed through said openings to secure the strip to the pad, said strip being adapted and arranged to fit next to and engage the wall of the spring work structure, substantially as described.
3. A pad for spring work upholstery comprising in combination a padded portion proper having a pliable under covering, a metallic stiffening strip provided with openings for the passage of fastening devices, fastening devices passed through said openings and securing said strip along the edge of the padded portion and a flexible fastening plece beyond the stiffening strip to secure the pad with reference to the spring work structure.
4. A pad for spring work upholstery comprising in combination a padded portion proper having a pliable under covering, a stiffening strip provided with openings secured along the edge of said padded portion in a position substantially at right angles to the plane of said padded portion and a flexible fastening piece beyond the stiffening strip to secure the pad with reference to the spring work structure.
5. The combination with a spring work structure including a frame as 7, of a pad for the spring work structure comprising a padded body proper having a pliable under covering, a stiffening strip at the edge thereof, a flexible fastening piece beyond the stiffening strip and fastening to said frame, said stiffening strip lying adjacent the corner of the wall of the spring work.
6. The combination with a spring work structure, of a pad for said structure comprising the padded body proper, a stiffening strip having holes therein along the edge of the body of the pad and staple-like fastening devices located end to end on said stiffening strip and having contiguous prongs passed through the same hole in said stiffening strip.

No. 101,182. Curtain Bracket. Console de rideau.


Willard Jones, Auburn, Maine, U.S.A., 25th September, 1906 ; 6 years. Filed 21st July, 1906. Receipt No. 138,016.
Claim.-1. The combination bracket comprising a base, prolonged supporting arms integral therewith, a roller shade
bracket struck from said base, a guide extending at right angles and integral with the base, said guide terminating at i:s outer end in a brace permanently secured to the base, said base and the parts integral therewith being formed in a single sheet of metal and a pole bracket adjustably mounted upon the guide.
2. The combination with a base having an integral guide struck thereform and terminating in a brace permanently secured to the base, of a pole and bracket adjustably mounted upon the gulde.
3. A combination bracket form in two pieces of sheet metal one of sald pieces comprising a base, angular pronged arms at one end of the base, a guide extending from between the arms and terminating in a brace and a shade roller bracket struck from the base, sald brace being permanently connected to the base adjacent the bracket and the other piece comprising a hooked slde and opositely disposed ears integral therewith and embracing the guide.

No. 101,183. Safety Deposit Receptacle.
Réceptacle de dépôt de sûreté.


Arabella A. Nees, New Orange, New Jersey, U.S.A., 25th September, 1906; 6 years. Filed 28th June, 1906. Receipt No. 137,371.
Claim.-The combination with a supporting board having keepers, of oppositely disposed latches or bolts controlling the terminals of an electric circuit and adapted to engage said keepers to lock a receptacle onto said supporting board. springs for holding sald latches in locked relation to said receptacle, a push button to release said latches from the receptacle and an electric alarm appliance and its battery conections and said terminals and controlled by said latches or bolts, substantially as set forth.

No. 101,184. Bed Spring. Sommier éalatinuc.

onas F. Dixon and Thomas J. Ridgway, both of Carthage Missouri, U.S.A., 25th September, 1906; 6 years. Filcd 7th June, 1906. Receipt No. 136,632.
Claim.-The combination with a spring element having its lower whorl provided with a terminal upstanding toe within the adjacent whorl, of a longitudinal intermediately kinked brace wire disposed above the whorl and in engagement with the toc, said wire being kinked to arch over the whorl and to bind the toed end of the element against the adjoining whorl to prevent lateral displacement and a normally straight spring brace wirc extending transversely over the
first-mentioned wire and under opposite portions of the whorl and exerting a constant upward tension upon said whorl to bind it upon the kinked wire, said lower whorl being disposed to hold in a plane parallel with the two wires.
No. 101,185. Bedistead. Bois de lit.


William A. Moore, Canton, Michigan, U.S.A., 25th September, 1906; 6 years. Filed 7th July, 1906. Receipt No. 137,603.
Claim.-1. In a bed bottom in combination, a frame having side posts at the middle thereof which stand upon the floor, a commode box and seat swingingly hung form the posts, a head section hinged to the box and adjustable to various angles.
2. A bed bottom comprising a irame, a cominode box supported therein and forming the middle section of the bottom, a head section hinged to the box and having means to support the same in an upright position and a loot section having a hinged part detachably engaged at one end to the box and hinged at its other end to the other part of the fook section and adapted to be swung down and away from the box.
3. A bed bottom comprising a frame having cleats at the head and foot and posts on each side at the middle, a commode box hung from said posts, a head section hinged to the tup of the box and adapted to rest upon the cleat at the head of the frame and a foot section formed of parts hinged together and resting upon the cleats at the foot of the frame and detachably connected to the box.

No. 101,186. Bed. Lit.


Walter B. Sterling. Wellsburg, West Virginia, U.S.A., 25th September, 1906; 6 years. Filed 19th July, 1906. Receipt No. 137,976.
Claim-1. A bed of the character described embodying tubular posts, end bars, side ralls, a revoluble shaft supported by said end bars, gear wheels loosely mounted upon said shaft, clutches carried by said shaft and adapted to engage sald gear wheels, an end frame slidably mounted in some of sald posts, a head frame slidably mounted in some of said posts, two-part hinged rails carried by said frames, depending racks carried by said frames and adapted to engage said gear wheels, means to maintain said two-part hinged rails in a horizontal position. and means to revolve sald shaft, substantially as described.
2. A bed of the character described embodying tubular posts. an end frame slidably mounted in some of sald posts, a had frame slidably mounted in the other of sald posts, twofart hinged rails connecting said frames, means to simultanrously raise said frames, and means to independently raise said frames, substantially as described.

No. 101,187. Bed Bottom. Fond de lit.


Gilbert Bezanger, Boston. Masschusetts, U.S.A., 25th September, 1906 ; 6 years. Filed 11th June, 1906. Receipt No. 136,787.
Claim.-1. A device of the class described comprising a frame having a section jointed thereto, and means for holding one end of said section in an elevated position.
2. A device of the class described comprising a trame having a section jointed thereto, and an adjustable support consisting of a double toggle adapted to hold sail section in a plurality of position.
3. A device of the class described comprising a frame havlng a jointed section, said section having a plurality op jointed members supported thereon, means for holling said scetion in a plurality of positions, and means for holding said members in a plurality of positions with reference to said section.
4. A device of the class described comprising a frame having a section jointed thereto. means for elevating the fren end of said section, a member supported upon said section and jointed thereto, a second member supported upon sald section and jointed to said first member, and means for elevating said members at the joint connecting the same.
5. A device of the class described comprising a frame hav ing a scction jointed thereto, said section comprising sldes and transverste bars, adjustable means for holding said section \(\ln\) a plurality of elevated positions, a member having flexible slate and supported upon said sides, said member further having a hinged connection with a transverse bar of said section, a second member having flexible slats sup ported upon said sides and jointed to said first member, and adjustable means for elevating the said members at the joint conncting them.
6. A device of the class described comprising a frame having a section jointed thereto at one end of the same, sais scction having sides, a longitudinal slat intermediate between said sides and transverse bars, a double toggle mounted at the free end of said section and adapted to support the same in a plurality of elevated positions, a plurality of jointed members having slats and transverse bars projecting beyond said sides and adapted to rest thereupon and upon said longitudinal slat, and means for elevating said members at the joints connecting them.
7. In a device of the class described, sections having slats and transverse bars adapted to rest upon a supporting frame. said sections having a hinged connection, a removable rod mounted upon the transverse bars near the ends thereof and near the end of one of said sections at an angle with the normal position of said member, said rod affording means for clevating said member, a block slidably mounted on the rod, said block being adapted to rest upon the supporting frame and to hold said member in a plurality of positions.
8. A device of the class described comprising a frame, a section having sides, a slat intermediate between said sides and transverse bars, one of said transverse bars being hinged to said frame, a transverse bar remote from said hinged bar having an upwardly projecting flange, a double toggle pivotally mounted upon said flange and having a bar tdapted to rest upon a support, said double toggle being adapted to hold the end of said section in a plurality of elevated positions, a plurality of hinged members having flexible slats and transverse bars adapted to rest upon said sides and said in termediate slat of sald section, one of said members having
a hinged connection with said section, a removable rod mounted upon the transverse bars of one of said members and at an angle with the normal horizontal position thereof, said rod affording means for the elevating of said member, and a slidable block upon sald rod having a curved extension adapted to rest upon the side of said section and to hold said member in a plurality of positions.

No. 101,188. Bed Bottom.
Fond de lit.


Gilbert Bezanger, assignce of John A. Stewart, both of Hallfax. Nova Scotia, Canada. 25th Srptember, 1906; 6 years. Filed 14th June, 1906. Receipt No. 136,912.
Claim.-1. A structure of the character specified comprising a frame, a plurality of flexible elastic bars assoclated therrwith, a head rest supporting the end of like portions of the bars, means for adjdsting the head rest to impart brlges to said portions, and means for adjusting fother like portions of said bars to also impart bulges thereto.
2. A structure of the character specifled comprising a frame, a plurality of flexible elastic bars associated therewith, and means for drawing the ends of the bars toward and from each other whereby to impart bulges to said bars.
3. A structure of the character specifled comprising a plurality of parallely disposed fiexible elastic bars, and means for drawing the ends of the bars toward and from each other whereby to impart bulges thereto.
4. A structure of the character specified comprising a frame, a connecting member for the sides thereof, a plurality of parallely disposed flexible elastic bars secured to sald member. and means for drawing the ends of the bars toward tach other whereby to impart bulges thereto.
5. A structure of the character speciffed comprising a frame having side strips and a member connecting the latter intermediate of their ends, a plurality of parallely disposed llexible elastir bars secured to said member. means for imparting bulges to portions of the bars at one side of said member, and means for also imparting bulges to the portions of the bars at the other sille of said member.
6. A structure of the charactor specified comprising a plurality of parallely disposed fiexible elastic bars, and means for imparting bulges thercto. said bars having a member connecting them together at rach of the ends thereof.
7. A structure of the character specified comprising a frame, a connecting memer for the sides thereof, a plurallty of parallely disposed flexible ciastic bars secured to sald member. and means for imparting bulges thereto, sald bars having a member connecting them together at each of the ends thereof.
8. \(\Lambda\) structure of the character specified comprising a frame having side strips and a member connecting the latter intermediate of their ends, a plurality of parallely disposed flexible elastic bars secured to said member, means for imparting bulg's to portions of the bars at one side of said mombor, and means for also imparting bulges to the portions of the bars at the other side of said member, said hars being connected together at each of the ends thereof.
9. A structure of the character sperified comprising a plurality of parallely disposed flexible rlastic bars. and means for imparting bulges thereto.: including a winding device.
10. A structure of the character specified comprising a plurality of parallely disposed flexible elastic bars. and mans for imparting bulg's thereto including a chain. a winding device therefor and a slidable rod having connection with the bars.
11. A structure of the character specified comprising a frame. a pluraliy of flexible elastic bars assoclated therewith,
a head rest supporting the ends of like portions of the bars. means for adjusting the head rest to impart bulges to said portions, and means for adjusting other like portions of said bars to also impart bulges thereto, said head rest embodying movably connected bars having bracket members.
12. A structure of the character specifled comprising a frame, a plurality of flexible elastic bars assoclated therewith, a head rest supporting the ends of like portions of the bars, means for acjusting the head rest to impart bulges to said portions. means for adjusting other like portions of sald bars to also impart bulges thereto. said first-named means embodying a screw, a plate movable up and down thereon and a pawl and ratchet for holding the screw in different positions.
13. A structure of the character specified comprising a plurality of parallely disposed flexible elastic bars, and means for imparting bulges thereto including a chain, a winding device therefor and a slidable rod having connection with the bars, said rod being provided with a guide pulley for said chain.
14. A structure of the character specifled comprising a frame having side strips and connecting strips therefor at the ends, one of said strips being provided with a vertical member having a bracket formed with a slot and having a branch, and the other with short strips, a plate having a pin projecting through said slot, movable arms supported by the plate and having inturned bracket members at one of their ends and formed with slots at the other ends thereof. pins extending through said slots from said vertical member, a strip connecting said bars at one end and resting uponsaid bracket members. still another strip connecting said bars at the other end and slidable on the side strips and said short strips, and means for imparting bulges to said bars.
15. A structure of the character specifled comprising a frame having side strips and connecting strips therefor at the ends, one of sald etrips being provided with a vertical member having a bracket formed with a slot and having a branch and the other with short strips, a plate having a pin projecting through said slot, movable arms supported by the nlate and having inturned bracket members at one of their ends and formed with slots at the other ends thereof, pins extending through said slots from said vertical member, a strip connecting said bars at one end and resting upon said bracket members. still another strip connecting said bars at the other end and slidable on the side strips and said short strips, and mrans for imparting bulges to said bars, embodying a slidable bar having diverging members having connection with the flexible elastic bars at one of their ends.

No. 101,189. Fence Post. Poteau de clôture.


Thomas Patterson, Henry Buckel and James Pitt Mabee, each an assignce of a third interest, all of Toronto, Ontario, Canada, 25th September, 1906; 6 years. Filed 27th July. 1906. Receipt No. 138,213.
Claim.-1. In a fence post the combination with the post, of the top and bottom encompassing brackets provided with lugs. a brace bracket and a base extending between the base bracket and one of the lugs, and a rod adjustably connected at one end to the base bracket and at the other end to one of the lugs of the lowermost bracket, as and for the purpose specified.
2. In a fence post the combination with the tubular post. of the top and bottom divided encompassing brackets provided with lugs, and bolts for clamping the brackets on the post. and supplemental lugs carrying pins for supporting or forming part of the hinges of the gate, as and for the purpose specified.
3. In a fence nost the combination with the tubular post. of the top bracket suitably supported thereon and provided with a lug, and the bottom bracket provided with a lug. a base ground plate provided with lugs, a double brace ex tending between the lug on the upper bracket and the lugs on the lower bracket and bolted thereto, and a rod having a hooked end extending into a lug in the lowermost bracket and the other end extending through the lug of the base bracket and adjustably held thereln, as and for the purpose snecified.
4. In a fence post the combination with the base and concrete ground socket, of the upper and lower brackets secured to the base, the concrete base block for the brace, the base plate located thereon, the double brace extending between the base plate and the upper bracket, and the rod connected to the lower bracket and adjustably connected to the intermediate lug of the base plate, as and for the purpose snecified.

No. 101,190. Cork Extractor. Tirc-bouchon.


Walter Frederick Goodnough, New York City, New York, assignee of Harry William Noyes, New Haven, Connecticut, U.S.A., 25th September, 1906 ; 6 years. Filed 15th June, 1906. Receipt No. 136,922.
Cluim.-1. A cork extractor comprising a loop-like handle having substantially parallel sides contracted at their outer ends, a cork screw pivoted between the said outer ends and adapted to foid into the handle, and a plate pivoted to one end betpeen the sides of the said handle within the loop. said plate corresponding in width to the width of said loop and formed on opposite sides with ears adanted to bear on opposite edges of the loop and form a fulcrum to bear upon the neck of the bottle.
2. A cork extractor comprising a loop-like handle havIng substantially parallel sides contracted at their outer ends, a cork screw pivoted between sald outer ends and adapted to fold into the handle, and a plate pivoted at one end between the sides of the said handle within the loop, said plate corresponding in width to the width of the loop and transversely bowed and formed on opposite sides with bowed ears adapted to bear upon opposite edges of the lood when in a closed position and to form a fulcrum adapted to bear upon the neck of the bottle, substantially as described.

\section*{No. 101,191. Method of Forming Woven. Pile Fabrics. \\ Méthode de faire des tissus à poils fins.}

Nazar Costikyan, assignee of James Karmi Dalkranian, both of New York City, New York, U.S.A., 25th September, 1906; 6 years. Filed 12th June, 1906. Receipt No. 136,824.
Claim.-1. The herein described method for forming woven pile fabrics having Persian knots, consisting in passing the pile thread in the same direction twice between the warp threads and shifting the warp threads laterally.
2. The herein described method for forming woven pile fabrics having Persian knots, consisting in passing the pile thread supported at one end between the warp threads, shifting the warp threads laterally and passing the supported end of the pile thread between the warp threads.
3. The herein described method for forming woven pile fabrics having Persian knots, consisting in passing the pile thread supported at one end between crossed warp threads, then uncrossing the ground warp threads and passing the supported end of the pile thread between the uncrossed warp threads.
4. The herein described method for forming woven pile fabrics having Persian knots, consisting in passing the pile

thread supported at one end between the warp threads. shifting the warp threads laterally, passing the supported end of the pile thread between the warp threads, and then cutting off the supported end of the plle thread.
5. The herein described method for forming woven pile fabrics having Persian knots, consisting in passing the pile thread supported at one end between crossed warp threads, then uncrossing the ground warp threads and passing the supported end of the pile thread between the uncrossed warp threads and then cutting off the supported end of the pile thread.
6. The herein described method for forming woven pile fabrics having Persian knots, consisting in alternately crossing and uncrossing a pair of warp threads and passing a pile thread twice in the same direction between the said warp threads, that is, once while the warp threads are in a crossed condition and a second time while the warp threads are in an uncrossed position.
7. The herein described method for forming woven pile fabrics having Persian knots, consisting in passing one end of a pile thread between a pair of warp threads, shifting the warp threads laterally and then passing that portion of the pile thread which is to form the other end between the warp threads.
8. The herein described method for forming woven pile fabrics having Persian knots, consisting in passing one end of a pile thread between a pair of crossed ground warp threads into an uncrossed position and passing the other end of the pile thread between the uncrossed ground warp threads.
9. The herein described method for forming woven pile fabrics having Persian knots. conslsting in crossing the ground warp threads of a pair of ground warp threads, inserting a pile thread between the crossed ground warp threads, uncrossing the ground warp threads. and passing one end of the pile thread between the uncrossed ground warp threads.
10. The herein described method for forming woven pile fabrics having Persian knots, consisting in extending a pile thread between a pair of crossed ground warp threads at angles thereto, uncrossing the ground warp threads, and passing one end of the plle thread between the ground warp threads to completely loop a portion of the pile thread around one of the ground warp threads.
11. The herein described method for forming woven pile fabrics having Persian knots, consisting in alternately crossing and uncrossing a pair of ground warp threads. with a pile thread between the ground warp threads to bring each end of the pile thread to the outside of the corresponding ground warp thread, and then passing one end of the pile thread between the ground warp threads.
12. The herein described method for forming woven pile fabrics having Persian knots. consisting in uncrossing a pair of crossed ground warp threads having a pile thread between them to extend the ends in onposite directions on the outside of the ground warp threads, and then passing one end of the pile thread between the uncrossed ground warp threads, and in the direction of the other end of the pile thread.
13. The herein described method for forming woven pile fabrics having Persian knots, consisting in crossing a pair of ground warp threads, passing a plle thrrad between the
ground warp threads of the said pair of ground warp threads and at angles thereto, uncrossing the said ground warp threads, and passing one end of the pile thread between the ground warp threads of the said pair of ground warp threads and in the same direction in which the pile thread was first passed between the ground warp threads.
14. The herein described method for forming woven plle fabrics having Persian knots, consisting in crossing a pair of ground warp threads, then passing a pile thread between 'he ground warp threads of the said pair of ground warp threads, one end of the pile thread being loose and the other being supported, then uncrossing the ground warp threads, and passing the supported end between the uncrossed ground warp threads.
15. The herein described method for forming woven pile fabrics having Persian knots, consisting in crossing a pair of grannd warp threads, then passing a pile thread between the ground warp threads of the said pair of ground wiarp threads, ont end of the pile thread being loose and the other being supported, then uncrossing the ground warp threads, passing the supported end between the uncrossed ground warp threads, and finally cutting the supported end of the pile thread.
16. The herein described method for forming woven pile fabrics having Persian knots, consisting in crossing a pair of ground warp threads passing a pile thread between the ground warp threads of the said pair of ground warp threads and at angles thereto, uncrossing the said ground warp threads, passing one end of the plle thread between the ground warp threads of the said pair of ground warp threads and in the same direction in which the pile thread was first passed between the ground warp threads and interweaving a plurality of weft threads with the said ground warp threads.
17. The herein described method for forming woven plle fabrics having Persian knots, consisting in crossing a pair of ground warp threads, passing a pilc thread between the ground warp threads of the sald pair of ground warp threads adjacent to the crossing and at angles to the ground warp threads, uncrossing the said ground warp threads, and passing one end of the plle thread between the ground warp. threads of the said pair of ground warp threads and in the same direction in which the pile thread was passed between the ground warp threads.

No. 101,192. Electric Smelting. Fonderic ílectrique.


La Soclété Electro-Metallurgique Francaise Froges, Isere, assignee of Paul Louls Toussaint Heroult, La Praz, Savoic, both in France, 25th September, 1306 ; 6 years. Filed sth June, 1906. Receipt No. 136,709.
Claim.-1. In the smelting of iron ore in an electric furnace having an electrode from which the current passes to the base of the furnace, the process which consists in feeding a charge of ore and carbon in such proportion that the carbon forms a magma below the electrode and the ore is fused above the column and is reduced in passing therethrough and the molten iron collects at the bottom, and adding lime to the charge in quantities sufficlent to form a scale of desired thickness at the sides of such column, diminishing the cross section of the column and thus concentrating the energy of the current through such cross section. and raising the electrode so as to increase the length of the column and to increase the rate of reduction.
2. In the smelting of iron ore in an electric furnace, the process of restricting the cross section of the zone of fusion which consists in introducing with the charge a sufficient quantity of the most refractory material thereof to form a srate of desired thickness.
3. In the smelting of ore in an clectric furnace, the procoss of restricting the cross section of the zone of fusion which consis:s in introducing with the charge a refractory matrial in sufficient quantity to form a scale of desired thichaess on the walls of the furnace.
4. The process of smelting in an electric furnace which minsits in maintaining a column of carbon between the electroles and through which the molten material passes and varying the length of sald column.
5. The process of regulating the operation of an electric furnace which consists in forming a scale on the walls of the furnace and varying the thickness of such scale.
6. The process of regulating the operation of an electric furnace which consists in varying the cross section of the zone of fusion.
7. In the smelting of iron ore in an electric furnace, the process of varying the quality of the product which consists in introducing with the charge a varying quantity of lime in excess of that required by the slag.
8. In the smelting of iron ore in an electric furnace, the process of varying the quality of the product which consists in introducing with the charge a varying quantity of refractory material to form a scale of varying thickness upon the sides of the crucible.

No. 101,193. Ground Anchor. Ancre.


William J. Gallagher, Detroit, Michigan, U.S.A., 25th September, 1906; 6 years. Filed 26th July, 1906. Receipt No. 138,180.
Claim.-1. A ground anchor consisting of blades pivoted together and a craft rod attached to sald blades at their pivot.
2. A ground anchor consisting of blades pivoted together and formed with shoulders at one side of the pivot to limit the turning of said blades, and a drait rod attached to the blades and extending from the opposite side of said pivot.
3. A ground anchor consisting of blades, ears on sald blades at the adjacent ends thereof projecting from one side of said blades and sald ends forming abutting shoulders to limit the turning of the blades, a bolt extending through said ears to pivotally connect said blades and a draft rod attached to said bolt.
4. In a ground anchor the combination of blades together forming a concave convex anchor plate having oppositely curved outer ends, ears projecting from the concave side of said blades near their adjacent ends, a pivot bolt extending through said ears, stops formed by the abutting ends of the blades and a draft rod attached to the bolt between sald ears.
5. In a ground anchor the combination of blades pivoted together at their adjacent ends, a draft rod attached to said blades at their pivot, and means attached to sald blades and engaging said rod to hold said blades and rod in a certain relation to each other.
6. In a ground anchor the combination of blades pivoted together at the adjacent ends, a draft rod attached to said blades at their pivot, and means connecting said blades to prevent one from turning independently of the other.
7. In a ground anchor the combination of blades pivoted together, the yielding means interposed between said blades to normally hold the same extended in opposite directions.
8. In a ground anchor the combination of blades pivoted together, and yielding means attached to sald blades and adapted to resist the turning of said blades toward each other.
9. In a ground anchor the combination with blades pivoted logether. of a draft rod, a spring lonp attached at its ends i) the blades and slidingly engaging the rod intermediate its ends.
10. In a ground anchor the combination of blades having ears, a pivot bolt extending through said ears to pivotally connect the blades, a draft rod attached to sald bolt, and a spring loop attached at its ends to the blades and slidingly engaging the rod intermediate its ends.
11. In a ground anchor the combination of blades having ears extending from one side thereof near one end and said ends forming shoulders, a pivot bolt extending through said ears, a draft rod having a loop at one end to engage said bolt teeth on the outer ends of said blades, and a spring loop attached to the rod intermediate its ends to slide thereon and pivotally attached at its ends to the blades.
12. In a ground anchor the combination of concavo-convex blades the inner ends of which form abutting shoulders and having outwardly curved outer ends formed with teeth, ears extending from the concave side of the blades, a pivot bolt extending through said ears, a draft rod having a loop through which said bolt extends, a spring loop pivotally attached at its ends to the blades intermediate their ends at their concave sides, and means for securing the loop intermediate its ends to said draft rod to slide longitudinally of suid rod.

No. 101,194. Pipe. Tuyau.


Ryerson D. Gates; Oak Park, Illinois. U.S.A, 25th September, 1906; 6 years. Filed 3rd July, 1906. Rece:pt No. 137,482.
Claim.-1. In a pipe the combination of a tobacco receptacle having a tubular portion, a stem leading from said receptacle and a platform slidingly mounted in the tubular portion of said receptacle for being raised and lowered therein, said receptacle being open at the bottom whereby the user may have direct access to sald platform for elevating it with his thumb or finger.
2. In a pipe the combination of a tobacco receptacle having a tubular portion, a stem leading from said receptacle and a platform slidingly mounted in the tubular portion of the receptacle for being raised and lowered therein, said receptacle teing open at the bottom for affording direct access to said piatiorm from beneath and said platform having vertically extended sides of a height approximately equal to the radius of the receptacle whereby all the necessary guiding effect is inherent in the platform itself.
3. In a pipe the combination of a tobacco receptacle having a tubular portion which is open at the bottom, a platform slidingly mounted in the tubular portion of said receptacle for being raised and lowered therein, a stem leading from the side of sald receptacle and a trap located at the foot of said stem, all substantially as shown and described.

\section*{No. 101,195. Tobacco Pipe Cleaner.} Nettoyeur de pipe \(d\) tabac.
Alexander Marr, West Norwood, near Manchester, England, 25th September, 1906; 6 years. Filed 28th July, 1906. Receipt No. 138,238.
Claim.-1. An apparatus for cleaning a tobacco pipe, comprising in combination a continuous air exhausting device and a nozzle communicating with the contlinuous air exhausting device and so formed that the bowl or other part of the pipe may make an air tight joint therein or thereon, substantially as described.
2. An apparatus for cleaning a tobacco pipe, comprising in combination a water jet ejector and a nozzle communicating therewith and so formed that the bowl or other part of the pipe may make an air tight joint therein or thereon, substantially as described.
3. An apparatus for cleaning a tobacco plpe, comprising in combination a water jet ejector. a nozzle communicating therewith and so formed that the bowl or other part of the pipe may make an air tight joint therein or thereon, and a water supply control valve, substantially as described.
4. An apparatus for cleaning a tobacco plpe, comprising in combination a water jet ejector, a nozzle communicating 2-31
therewith and so formed that the bowl or other part of the pipe may make an air tight joint therein or thereon, and

a water supply control valve operable by pressure upon the nozzle, substantially as described.
5. An apparatus for cleaning a tobacco plpe, comprising in combination a continuous air exhausting device, a nozzle communicating therewith and so formed that the bowl or other part of the pipe may make an air tight joint therein or thereon, and a receptacle for a cleansing substance into which may dip the end of the pipe which is not applied to the nozzle, substantially as hereinbefore described. 6. An apparatus for cleaning a tobacco pipe, comprising in combination a water jet ejector, a nozzle communicating therewith and so formed that the bowl or other part of the pipe may make an air tlght joint therein or thercon, and a receptacle for a cleansing substance into which may dip the end of the plpe which is not applied to the nozzle, substantially as described.

No. 101,196. Cramp Plate. Plaque.


Peter Paxton Kee, Brandon, Manitoba, Canada, 25th September, 1906; 6 years. Filed 6th July, 1906. Receipt No. 137,571
Claim.-1. A cramp plate comprising a rounded bent portion, and having a slot at a right angle to its length, and having flanges on its opposite sides.
2. A cramp plate comprising a plate having a rounded channel central portion. and having a slot at a right angle to its length, and having flanges provided with rounded corners on its opposite sides.
3. A cramp plate comprising a rounded bent portion, and having a slot at a right angle to its length, and having flanges on its opposite sides bent at an angle of 45 degrees to the plate.

\section*{No. 101,197. Gate. Barridre.}

John Marcus Millican, Brazos, Texas. U.S.A., 25th September. 1906; 6 years. Filed 21st July, 1906. Receipt No. 138,013.
claim.-The combination with a swinging gate and a slidable latch mounted thereon, of a latch post. a latch supporting pin extending horizontally from the post, a lower pin extending horizontally from the post and in vertical alignment with the latch supporting pin, a keeper centrally fulcrumed upon the latch supporting pin and tapered toward its ends,
said keeper when the gate is closed being disposed at right angles thereto and its ends adapted to swing in a vertical
2. A thread guide having its shank turned back along itself, a clamping pate provided with a rounded projection

plane, there being a rectangular notch in the upper surface of the keeper constituting a seat adapted to snugly receive the latch, a coll pivotally mounted on the lower pin and spring loops diverging upwardly from the coil and bearing upon the keeper adjacent its ends to hold the notch normally in vertical alignment with the pins.

No. 101,198. Thread Guide. Guide-fl.


Isaac Emerson Palmer, Middleton, Connecticut, U.S.A., 25th September, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,099.
Claim.-1. A thread guide having an opening in its shank. a bearing plate or washer provided with a projection on its face extending into the opening in the shank, and means for securing the guide in position in the desired longitudinal and swinging adjustment.
2. A thread guide support, a thread guide having its shank back along itself to form a loop, a fastening device passing through the loop and leaving the guide free to be adjusted bodily thereon in a longitudinal and swinging direction. and a bearing plate or washer interposed between the thread guide and its support and provided with a projection extending between the sides of the loop.
3. A thread guide comprising a wire having a return bend in its shank, a washer froming a bearing for the shank and provided with a lug struck up from its face in position to engage the said return bend, a clamping plate and a screw for forcing the clamping plate toward the washer to lock the guide in position.

\section*{No. 101,199. Thread Guide. Gillidr-fl.}
isaac Emerson Palmer, Middleton. Connecticut. U.S.A., 25th September, 1906; 6 years. Filed 23rd July, 1906. Rereipt No. 138.100.
Claim.-1. A thread guide having its shank turned back along itsolf, a clamping plate provided with a projection -rhaging the parts of the crank, and means for fastening the clamping plate to the finger board.

adapted to engage the parts of the shank of the guide and means for fastening the clamping plate to the finger board.

No. 101,200. Greel. Panier.


Isaac E. Palmer, Middleton, Connecticut, U.S.A., 25th September, \(1906 ; 6\) years. Filed 23rd July, 1906. Recelpt No. 138,101.
Claim.-1. A creel comprising racks set at an angle to each other, spool carrying bars pivotally secured to the racks, and means for swinging a spool carrying bar from a position for holding the spools directed outwardly from the rack to a position for holding the spools directed inwardly from the rack.
2. A creel comprising racks set at an angle to each other. spool carrying bars pivotally secured to the racks, and means for simultaneously rocking the several spool carrying bars of a rack from a position to present the spools cutwardly from the rack into a position to present the spools inwardly from the rack.
3. A creel comprising racks set at an angle to each other, spindle bars provided with socket pieces at their opposite ends plvotally secured in series between the top and bottom of the rack, arms leading from the socket pleces and a bar connected with several arms for rocking the spindle bars.
4. A creel comprising racks set at an angle to each other, series of spindle carrying bars pivotally secured between the bottoms and tops of the racks, means for simultaneously rocking the spindle carrying bars of a rack and a stop for limiting the swinging movement of the bars both outwardly and inwardly.
5. A creel comprising racks set at an angle to each other, spindle carrying bars pivotally secured to the racks, arms projecting laterally from the spindle carrying bars at the top and bottom, rods connecting the sald arms to form guides for the yarn or thread, and means for swinging the said spindle carrying bars together with the guide rods and thereby maintaining the tension on the yarn or threads.

\section*{No. 101,201. Grid for Openerm, Bontchers, Etc.}

\section*{Porte pour ouvertures, tillottes, etc.}

Robert Schaellibaum, Providence, Rhode Island, U.S.A., 25th September, 1906: 6 years. Filed 9th June, 1906. Receipt No. 136.747.
Claim.-1. In an opener, scutcher and the like machine, a grid in combination with a comb, the said grid comprising bars each of which has a lateral projection \(V\)-shaped at its free end and terminating at the back in a shoulder, the said projection forming the working edge, all substantially as and for the purpose set forth.
2. In an opener, scutcher and the like machine, grid bars each of which has a lateral projecting \(V\)-shaped at its free

end and terminating at the back in a shoulder, segmental brackets engaging the ends of the said bars, projections on the said brackets between the said bars supporting them at the said shoulder and means jointly engaging the outer edges of the said bars and capable of circular adjustment, all substantially as and for the purpose set forth.
3. In an opener, scutcher and the like machine, a comb having a pin foundation with corrugations in each side and rows of pins secured into every alternate side of each corrugation to pass through two opposite sides thereof, substantially as and for the purpose set forth.

\section*{No. 101,202. Loom Machinery.}

Machine pour métiers.


William J. Stewart, Webster, Massachusetts, U.S.A., 25th September, 1906; 6 years. Flled 11th June, 1906. Receipt No. 136,775.
Claim.-1. A thin place detector for looms comprising a feeler bearing on the cloth so as to change its position in case of derangement of flling, a throw-out for stopping the loom, an electro-magnet and armature attached to control the action of the throw-out, and an electric circuit connected to the magnet and to be opened and closed by the feeler.
2. A thin place detector for looms comprising a feeler bearing on the cloth so as to change its position in case of derangement of filling, a throw-out for stopping the loom. an electro-magnet and armature attached to control the action of the throw-out, an electric circuit connected to the magnet and to be opened and closed by the feeler, and a switch in said circuit which is opened when the loom is thrown out of operation.
3. A thin place detector for looms comprising a feeler bearing on the cloth so as to change its position in case of derangement of fllling, a controlling handle for the loom, a throw-out for stopping the loom, an electro-magnet and armature attached to control the action of the throw-out, an electric circuit connected to the magnet and to be opened and closed by the feeler, and a switch controlled by the starting handle.
4. The combination of a loom, a feeler arranged thereon so as to engage the loom temple and normally held out of engagement therewith by the flling in the cloth, a throw-out for stopping the loom, an electro-magnet and armature attached to control the action of the throw-out, and an electric circuit connected to the magnet to be closed and opened by the feeler engaging and disengaging the loom temple.
5. A thin place detector for looms comprising a feeler bearing on the cloth so as to change its position in case of derangement of filling, a throw-out for stopping the loom, a dog pivoted on the throw-out, a bunter carried by the lathe, an electro-magnet, an armature connected to the pivited dog, and an electric circuit connected to the magnet to be opened and closed by the feeler.
6. A thin place detector for looms comprising a feeler bearing on the cloth so as to change its position in case of derangement of filling, a throw-out for stopping the loom, a controlling handle, an electro-magnet and armature attached to control the action of the throw-out, an electric circuit connected to the magnet and to be opened and closed by the feeler, and a switch in said circuit comprising a slotted pivoted arm which the controlling handle engages.
7. A thin place detector for looms comprising an insulated bearing carried by the looms, a feeler pivoted on the insulated bearing and bearing on the cloth so as to change its position in case of derangement of filling, a throw-out for stopping the loom, an electro-magnet and armature attached to control the action of the throw-out, and an electric circuit connected to the magnet to be opened and closed by the feeler.

\section*{No. 101,203. Apparatug for Draving Ont Blectric Ares.}

Appareil pour le tirage des arcs-électriques.


Johan J. Thoresen, Christiania, and Filip Tharaldsen, Meraker, near Trondhjeur, both in Norway, 25 th September, 1906 ; 6 years. Filed 5th June, 1906. Receipt No. 136,571.

Claim.-1. The improvement in deviating electric arcs or electric discharges as hereinbefore described which consists in producing such deviation by means of a rotary magnetic fleld, the electrodes being parallel to the axis of rotation and the fleld perpendicular thereto, for the purpose specifed.
2. The method or process of deviation of electric arcs or electric discharges, which consists in producing such deviation by means of rotary magnetic fluid, in the manner that electrodes in pairs producing the said arcs are placed parallel to the axis of rotation between two cylindric iron cores and perpendicular to the said rotating magnetic field, in order to obtain cylindric surfaces of arcs for the purpose specified.
3. The method or process of deviation of electric arcs or electric discharges, which consists in producing such deviation by means of a rotary magnetic field, the electrodes being placed parallel to the axis of rotation both the field as well as the arc being suppl!ed with alternating current or with current induced by the rotary fleld, or from a separate transformer, or from a source of direct current as hereinbefore described with reference to figures 1, 2, 3 and 4 of the annexed drawings.
4. The method or process of deviation of electric arcs or electric discharges which consists in producing such deviation by means of a rotary magnetic field in the manner that une or more pairs of electrodes producing sald arcs are placed between iron cores parallel to the axis of rotation and perpendicular to said rotary magnetic field, said electrodes connected in series with the coils producing the magnetic field. such coils being fed either with alternating or with direct current.
5. The method or process of deviation of electric arcs or electric discharges, which consists in producing such devi-
ation by means of a rotary magnetic fleld in the manner that one or more pairs of electrodes producing said arcs are placed parallel to the axis of rotation between iron cores and perpendicular to said rotary magnetic fleld, the latter being directly connected to the source of power and fed with direct current as described with reference to figure 5 of the annexed drawings, the arcs being fed from the induced current on the circular iron core.
6. Apparatus to be used in the chemical decomposition and combination of gases by means of electric arcs or discharges deviated by means of a rotary magnetic fleld in the manner that pairs of electrodes producing said ares are placed parallel to the axis of rotation between circular iron cores and perpendicular to the said magnetic fleld, said pairs of electrodes arranged at suitable intervals forming circular rows, the primary and secondary cores mounted on circular concentric walls having apertures for the inlet and outlet of the gases and being separated from the electrodes by means of partition walls of fireproof insulating material, the wall on the inlet side being perforated directly opposite the arcs, substantlally as shown and described.
No. 101,204. Acetylene Machine. Machine d acétylènc.


Arthur E. Blanchard, Toronto, Ontario. Canada, 25th September, 1906; 6 years. Filed 6th November, 1905. Receipt No. 129,834.
Claim.-1. In an acetylene generator the combination of a generating chamber, a superimposed gasometer chamber, a carbide feed chamber communicating with the generating chamber and extending up through the gasometer chamber, and a bell-shaped cover for the carbide feed chamber dipping down into the gasometer chamber, substantially as described.
2. In an acetylene generator the combination of a carbide holder having a discharge aperture in its bottom, a valve controlling said aperture, a stem extending up from said valve. a cover sultably supported over the valve and a tubular guide for the stem extending up from the cover and closed at its upper end, substantially, as described.
3. In an acetylene generator the combination of a carbide holder having a discharge aperture in its bottom, a valve controlling sald aperture, a rod adapted to operate the valve, a gasometer, a rod vertically fournalled on the gasometer, a projection on the rod adapted to engage the valve operating rod, a cap for the carbide chamber and a bent end on the gasometer rod which when the projection is in engagement with the valve operating rod lies over the cap but which may be swung to one side to free the cap and disengage the rods, substantially as described.
4. In an acetylene gas generator the combination of a generating chamber, a superimposed gasometer chamber, a surge box located in the bottom of the gasometer chamber, a pipe extending from the bottom of the surge box into the generating chamber to a point below the water level in the same, and a pipe leading from the upper part of the surge box to the atmosphere, substantially as described.
5. In an acetylenc generator the combination of a generating chamber, a superimposed gasometer chamber, a surge box located in the bottom of the gasometer chamber, a pipe extending from the bottom of the surge box into the generating chamber to a point below the water level in the same. a guard plate suitably held below the mouth of the said pipe, and a pipe leading from the upper part of the surge box to the atmosphere. substantially as described.
6. In an acetylene generator the combination of a generating chamber, a superimnosed gasometer chamber, a surge box located in the botten of the gasometer chamber. a pipe extending from the botiom of the surge box into the genvrating chamber to a point below the water level in the same, a pipe leading frum the upper part of the surge box to thi atmosphere, a gasometer in the gasometer chamber. a hlow-off pipe extending from the surge box up into the
gas space within the gasometer, a tube or cover flxed to the gasometer and extending down about the upper end of the blow-off pipe, and a trapped pipe leading from the gas space of the gasometer into the interior of the said pipe or cover, substantially as described.
7. In an acetylene gencrator the combination of a gasometer chamber, a gasometer therein, a blow-off pipe exlending from the gas space of the gasometer down and out through the gasometer chamber, a tube or cover fixed to the gasometer and extending down about the upper end of the blowoff pipe, and a trapped pipe leading from the gas space of the gasometer into the interior of the said pipe or cover, substantially as described.
\&. In an acetylene generator the combination of a generating chamber, a superimposed gasometer, a plpe connecting the two and extending up to the water level in the gasometer chamber and a trapped overflow for the generator chamber, substantially as described.
9. In an acetylene generator the combination of a generating chamber, a superimposed gasometer, a pipe connecting the two and extending up to the water level in the gasometer chamber and below the water level in the generating chamber and a trapped overflow for the generator chamber, substantially as described.
10. In an acetylene generator the combination of a generatling chamber, a superimposed gasometer, a plpe connecting the two and extending up to the water level in the gasometer chamber, a trapped overfiow for the generator chamber, a cover for the gasometer chamber and a funnel formed therein, substantially as described.
11. In an acetylene generator the combination of a generating chamber, a sludge outlet connection communicating therewith at the bottom and having a sludge outlet therein, a tube communicating with the connection and extending up therefrom, a plug closing the outlet, a rod connected to the plug and extending up through the tube, a sleeve surrounding the rod, and an agitator connected to the lower end of the sleeve, substantially as described.
12. In an acetylene generator the combination of a gasometer chamber, a gasometer therein, a blow-off plpe extending from the gas space of the gasometer down and out through the gasometer chamber, a tube or cover fixed to the gasometer and extending down about the upper end of the blow-off plpe, a trapped pipe leading from the gas space of the gasometer into the interior of the said pipe or cover, an external pipe connccting the gas space of the gasometer with the top of the cover tube and a cock in the said pipe, substantially as described.
\(1^{1} 3\). In an acetylene generator the combination of a generating chamber, a superimposed gasometer chamber, a carbide feed chamber communicating with the generating chamber and extending up through the gasometer chamber, an annular flange of greater diameter than the opening of the carbide feed chamber secured to the bottom of the gasometer chamber and extending down below the water level in the generator chamber, substantially as described.

\section*{No. 101,205. Acetylene Gas Machine.}

Machine d gaz acétylène.


Frederick P. Cave, Los Angeles, California, U.S.A., 25th September, 1906 ; 6 years. Filed 11th July, 1906. Receipt No. 137,732.
Claim.-1. In an acetylene gas machine, a water tank, a gas bell vertically movable therein, guides for said gas bell, \(a\) carbide hopper upon the top of the bell and having a delivery tube projecting into the bell, a tubular valve having an npen top, a port in the side thereof and a closed bottom vertically movable within said delivery tube, a weight connected to the bottom of said valve, levers carried by the bell and operatively connected to said valve, and weights operatively connected to the outer ends of said levers.
2. In an acetylene gas machine, a water tank, a gas bell vertically movable therein, guides for said gas bell, a carbide hopper upon the top of the bell and having a delivery tube projecting into the bell, a valve on said delivery tube comprising a tube open at the upper end and vertically movable in said delivery spout, said tube being closed at its lower end and having an opening in one side thereof, a stem secured to the lower end of said tube, supports secured to the top of the gas bell and projecting downwardly therefrom, one on each side of said delivery spout, levers having slots in the ends thereof pivotally secured to said supports, a pin passing through said slots and through the stem secured to said valve, weights secured to the outer end of said levers, a weight secured to said valve stem, and a stop to hold the inner ends of said levers against too great downward movement.

No. 101,206. Acetylene Gas Machine. Machine d gam aoétylìne.


Frederick William Moore and Albert Joseph Moore, coinventors, both of Bradford. Ontario. Canada, 25th September, 1906 ; 6 years. Filed 26th January, 1906. Receipt No. 121,964.
Claim.-1. In a machine of the class described the combingation with the generator tank. of an interior supplemental tank located in the generator tank and designed to receive the carbide, as and for the purpose specified.
2. In a machine of the class described the combination with the generator tank and bell of an interior tank located in the generator tank and extending up into the bell and extending up into the bell and designed to receive the carbide, as and for the purpose specified.
3. In a machine of the class described a tank, a blow-off pipe and service pipe extending thereinto, a connecting pipe between the blow-off pipe and service pipe and a controlling valve in the said connecting pipe, as and for the purpose specified.
4. In a machine of the class described a carbide chamber having top and bottom openings, a closing cap for the top opening of the carbide chamber, a valve provided with a lever handle and valve chamber communicating with the bottom opening of the said chamber, a stem extending from the top of the closing cap, a crossbar through which the stem loosely extends and links connecting the ends of the bar with the lever handle of the valve, as and for the purpose specified.

\section*{No. 101,207. Sliding Door. Porte glissante.}

John Sebastian Schlosser. Chicago, Illinois, U.S.A., 25th September, 1906; 6 years. Filed 25th July, 1906. Receipt No. 138,165 .
Claim.-1. In combination a door frame, a guide attached thereto and adapted to swing outwardly from said door frame, a door hung from said guide, rollers carried by said
decor, rolling on said door frame, and holding said door out of contact with said frame, said door frame having recesses

lying opposite said rollers when said door is closed, whereby said door may come against said door frame.
2. In combination a door frame, a guide consisting of a hood extending longitudinally of said door frame and attache thereto above, a track formed beneath said hood, a door having a hanger running on said track, rollers carried by said door, running on the face of said door frame and holding said door out of contact therewith, said door frame having recesses receiving said rollers to permit said door to come against said door frame.

\section*{No. 101,208. Artificial Stone, Brick, Etc.}

Pierre et brique artificiclles.
August Deidesheimer and Franz Jurschina, Wurzburg, Bavaria, Germany, 25th September, 1906; 6 years. Filled 3rd August, 1906. Receipt No. 138,383.
Claim.-1. A proces for the manufacture of burned and fire resisting blocks, bricks and like articles from materials of the kind herein specified, the distinguishing feature of said process being that the raw material is intimately mixed in suitably ground condition with about 1 to 4 per cent of clay, only so much water being used as to effect a complete coating of the individual grains by the clay whilst nevertheless obtaining a mass capable of being efficiently dry pressed in moulds or dies into bricks, blocks or the like and then immediately burnt without shrinking, substantially as disscribed.

No. 101,209. Crate. Mane.


The Milwaukee Brewers' Specialty Company, assignee of Frank Sochurek, Sr., all of Milwaukee, Wisconsin, U.S.A., 25th September, 1906; 6 years. Filed 19th January, 1906. Receipt No. 132.040 .

Claim.-1. In a bottle crate the combination with a box or receptacle consisting of an upper and a lower section, the
lower section provided with a bottom piece and the upper section turned upwardly at its lower edges and extending horizontally to form an integral horizontal partition, the said partition provided with openings for the passage of the bottles therethrough, and the upper edge of the lower secsection of the box being fitted against and secured to the upturned bend at the lower edges of the upper section, of means within the box for supporting the lower ends of the bottles.
2. In a bottle crate the combination with a box or receptacle consisting of an upper and a lower section, the lower section provided with a bottom piece and the upper section turned upwardly at its lower edges and extended horizontally to form an integral horizontal partition, the said partition provided with openings for the passage therethrough of the bottles, and the bordering edges of said openings having spring fingers depending therefrom and the upper edge of the lower section of the box being fitted against and secured to the upturned bend at the lower edge of the upper section, of means within the box for supporting the lower ends of the bottles.
3. A bottle crate consisting of a box or receptacle comprising an upper and a lower section, the lower section having its lower edges bent upwardly and extended horizontally to form an integral raised bottom piece adapted for supporting the lower ends of bottles, and the upper section turned upwardly at its lower edges, and extended horizontally to form an integral horizontal partition, the said partition provided with openings for the passage of the bottles, and the upper edge of the lower section of the box being fitted against and secured to the upturned bend at the lower edge of the upper section.

No. 101,210. Carbureting Machine. Carburateur.


Samuel S. Poole and Samuel H. Hellen, Nebrose, Massachusetts, U.S.A., assignee of half of the interest, 25 th September, 1906 ; 6 years. Filed 16th July, 1906. Receipt No. 137,838
Claim.-1. The combination of a carbureter, a series of measuring buckets for supplying hydro-carbon liquid thereto, an air supplying device provided with a reciprocating member for supplying a measured quantity of air to the carbureter, and connections between the series of buckets and reciprocating member for moving the buckets during the air supplying movement of said member.
2. In a gas machine the combination of a carbureter, an endless chain for measuring buckets for delivering hydrocarbon liquid thereto, an air supplying device having a gravitating bell, and connections between said bell and said chain for operating said chain by the dowrward movement of the bell.
3. The combination of a carbureter, a vertically moving chain of buckets for supplying hydro-carbon liquid through which the chain passes during the lower part of its travel, a recciving plate unon which the liquid is discharged, a conduit therefrom to the carbureter, an air supplying bell for delivering a measured quantity of air to the carbureter. and direct connertions between the bell and chain of buckets for moving the buckets in unison with the air supplying moverment of the bell.
4. The combination of a carbureter. a series of measuring buckits for supplying hydro-carbon liquid to the carbureter, an air bell for supplying a measured quantity of air to the carbureter. and deviees for directly connerting the bell with the series of buckets to move the buckets in unison with the air supplying movement of the bell.
5. The combination of a carbureter, a measuring device for delivering hydro-carbon liquid thereto. an air supplying device having a gravitating bell, and connections between said bell and said measuring device for directly operating said device by the downward movement of the bell.

No. 101,211. Culvert. Ponceau.


William Q. O'Neal, Edgar H. O'Neal and Frank McCalip. all of Crawfordsville, Indiana, U.S.A., 25th September, 1906; 6 years. Filed 7th October, 1904. Receipt No. 119,009.
Claim.-1. A culvert constructed of corrugated sheet metal and comprising connected cylindrical sections, the outer ends of the last sections being reinforecd with a ring having a flange entering the end of said last section and a flange approximately at right angles to said first flange extending outside of and against the end of said culvert and means for securing the inserted flange to the culvert section.
2. A culvert constructed of sheet metal and comprising connected cylindrical sections provided with circumferential corrugations extending to the extremes of the sections. and an angle iron reinforcing ring having a flange inserted within the outer end of each end section of said culvert, and means for securing it to said culvert section.
3. A culvert constructed of sheet metal and comprising connected cylindrical sections provided with circumferential corrugations extending to the extremities of the sections, each section terminating at one end in a flared and at the other end in a contracted portion of a corrugation. whereby the contracted extremity of one section is adapted to fit into the flared extremity of the adjoining section to interlock the terminal corrugation, means engaging the overlapping extremities of the corrugations for securing the sections together and an annular flange entering the end of the outside section and secured to said sections said annular flange having an outwardly extended integral flange which bears against the end of the culvert section.
4. A culvert constructed of sheet metal and comprising connected cylindrical sections provided with circumferential corrugations extending to the extremities of the sections, each section terminating at one end in a flared and at the other end in a contracted portion of a corrugation. whereby the contracted extremity of one section is adapted to fit into the flared extremity of the adjoining section to interlock the terminal corrugations, and means, as bolts, engaging the overlapping extremities of the corrugations for sacuring the sections together, and end reinforcing rings having a flange entering the end of each end section and a flange at right angles to said entering section extending outwardly and for an appreciable distance past the end of said section and means as bolts for securing the said entering flange to the section which it enters.

No. 101,212. Spirit Level. Nivau.
Thomas O. Sharp and Eugene J. Tucker, assignee of a half interest, both of Roxboro, North Carolina, U.S.A., 25th Septumber, 1906; 6 years. Filed 17th July. 1906. Recelpt No. 137.915 .
Cloim.-In a device of the character described, a stock having a longitudinal recess, the bottom thereof being on a horizontal plane. a tube within the recess, the under surface of the tube being flattened and adapted to contact with the bottom surface of the recess. the upper surface of said tube being curved, said tube being provided with gradua-
tions, a strip arranged above the recess, said strip having graduations coinciding with the graduations of the tube,

and means arranged at each end of the longitudinal recess of the stock to hold the tube within said recess.

\section*{No. 101,213. Propelling and Eteering Apparatus for Bonts.}

Appareil de propulsion et d gouverner pour bateaux.


Ethel Post, assignee of Charles Wesley Post, both of Zion City, Illinois, U.S.A., 25th September, 1906; 6 years. Filed 31st July, 1906. Receipt No. 138,29u.
Claim.-The combination of a shell provided with a passageway therethrough, a shoulder at the lower end of the passageway, said passageway being enlarged to form a chamber and said shell being provided with an aperture therethrough communicating with the chamber, a plug rotatably mounted in the shell and extending below it, said plug provided with a shoulder corresponding with and resting on the shoulder in the shell, and said plug provided with a passageway communicating with the chamber in the shell and with the water below the shell, the discharge of said passageway directing the water flowing therethrough in a substantially horizontal plane, and a steering wheel at tached to the rotatable plug, substantially as described.

\section*{No. 101,214. Wall Bracket. Console pour murs.}

Frank W. Chickering Irvine, A. Norcross and Olin M. Rowell, all of Hardwick, Vermont, U.S.A., 25th September, 1906 ; 6 years. Filed 26th June, 1906 . Receipt No. 137,303.
Claim.-1. In a wall bracket the holders each comprising a vertical plate \(c\) formed with the inwardly extending lips \(6^{112}\) and a central channel or groove \(c^{1}\), the shelf supports. each comprising the leg \(d\) formed with the raised and slotted slideway or guide \(d^{1} d^{11}\) and the horizontal portions \(g\), each provided with the downward extension \(g^{\prime}\) and means for adjustably securing said legs to the holders and said horizontal portlons of the shelf supports to the legs, substantially as described.
2. In a wall bracket the shelf supports or brackets proper, each comprising a horizontal portion and a vertical portion adjustably connected at their adjacent ends, and braces \(k\) rigidly secured at their lower ends to said vertical portions and loosely connected at their upper ends with said horizontal portions, whereby said horizontal portions and the shelf supported thereby may have their rear edges swung vertically and the angle of the shelf changed for levelling purposes with relation to said vertical portions, substantially as set forth.
3. In a wall bracket the shelf supports or brackets proper, ach comprising the horizontal portion \(g\) provided with the

hole \(g^{11}\) and the vertical portion \(d\), said horizontal and vertical portions being adjustably connected at their adjacent ends, and the braces \(k\) supported at their lower ends by said vertical portions and formed at their lower ends with the curved or rounded edges \(k^{1}\) and the projections \(k^{111}\) extending loosely into said holes \(g^{11}\) whereby a certain amount of play or relative movement is provided at that point, substantially as and for the purpose set forth.
4. In a wall bracket vertical holders adapted to be rigidly secured to the wall, shelf supports or brackets proper. each comprising a horizontal portion and a vertical portion adjustably connected at their adjacent ends, said shelf supports being adapted to be supported by slide vertically in. and adjustably secured to the holders and braces extending from the vertical to the horizontal portions of the shelf supports and connected therewith in such a manner as to allow a certain degree of adjustment as to the angle of the horizontal portion with relation to the vertical portion, substantially as described.

No. 101,215. Milking Machine. Machine pour traire.

D. H. Burrell and Company, assignee of Loomis Burrell, all of Little Falls, New York, U.S.A., 25th September, 1906; 6 years. Filed 16th February, 1906. Receipt No. 132,966. Claim.-1. In a milking machine, the combination of a milk receiving vessel, a pulsator on the same, a condult by which suction is applied to the vessel, and a separating chamber in said conduit for intercepting particles which are carried on the air which passes through the suction conduit, substantially as set forth.
2. In a milking machine, the combination of a milk receiving vessel. a pulsator on the same, a conduit by which suction is applied to the vessel, and a filter in said conduit for separating objectionable particles from the air, substantially as set forth.
3. In a milking machine, the combination of a milk recelving vessel having a suction opening in its cover, a pulsator arranged on sald cover, a separating chamber provided at opposite ends with a nipple which communicates with said opening and with a nipple to which the suction pipe is attached, and a filter arranged in sald chamber, substantially as set forth.
4. In a milking machine, the combination of a pulsator valve having an air port, and a valve cyllider having an air irlet port and a milk port, the air port in the valve being arranged to place the air inlet port of the cylinder in communication with said milk port, and the air inlet port of the cylinder having a restricted inlet which communicates directly and without the intervention of a valve with the milk port of the cylinder through the air port of the pulsator valve, substantially as set forth.
5. The combination of a milk vessel provided with a valve cylinder having a milk port and having in its side a restricted air inlet which communlcates directly and without the intervention of a valve with the outer alr, and a pulsator valve which is provided with an air port arranged to place the air inlet of the cylinder in communication with said milk port, substantially as set forth.
6. In a milking machine, the combination of a milk receivIng vessel having a removable cover, a pulsator valve and cylinder arranged upon said cover, a milk pipe connected with said valve cylinder, teat cups connected with said milk pipe, and a restricted air inlet formed on sald valve cylinder, substantially as set forth.
7. In a milking machine, the combination of a pulstaor valve, an inlet for admitting the external air to the milk passage, and a filter which covers said inlet and through which the alr is compelled to pass, substantially as set forth.
8. In a milking machine, the combination of a pulsator valve, a cylinder in which the same is arranged and which is provided with an air inlet for admitting the external air through said valve to the milk passage, and a filter which covers said inlet, substantially as set forth.
9. In a milking machine, the combination of a milk receiving vessel having a removable cover, a pulsator valve and cylinder arranged upon said cover, said cylinder being provided with an inlet for admitting the external air, and a filter which is secured to said inlet, substantially as set forth.

No. 101,216. Alarm Fuse for Telephone Exchanges.
Fusée-acertiscur pour échange téléphonique.


The Bell Telephone Company of Canada. Montreal, Quebec, Canada, assignee of Edward B. Craft, Chicago, Illinois, U.S.A., 25th September, 1906; 6 years. Flled 9th May, 1906. Recelpt Nc. 135,707.
rlaim.-1. A protective device comprising an insulating mounting strip and terminal plates therefor, a spring secured to one of said terminals, a fuse wire electrically connceted with the other terminal and united with said spring to mainlain the same under tonsion, and a target carricd by said spring, said spring when under tension holding said target in ar inconspicuous position, but being adapted upon the part-
ing of the fuse to move said target into a position of display.
2. In a protective device for electric circuits, the combination with an insulating supporting strip and terminal plates carried at the ends thereof, of a coiled spring, a support therefor mounted upon one of said plates, one end of said spring being electrically connected with the aforesaid terminal plate, an extension arm formed by the other end of said spring, a target carried by said arm, a fuse wire electrically connected with the other terminal plate and united with said arm between the target and coil to maintain said spring under tension, said arm being adapted to be moved by the spring to bring the target into a position of display when the fuse wire is parted.
3. A protective device comprising an insulating mounting strip and terminal plates therefor, a spring secured to one of said terminal plates, a fuse wire completing the electrical connection between said plates, and maintaining the spring under tension, an arm carried by said spring, and a tubular glass target carried by an angular portion of said arm, said arm when the spring is under tension maintaining the target inconspicuous, and being adapted upon the parting of the fuse to move sald target into a position of display.
4. A protective device comprising an insulating mounting strip \(e\) and terminal pieces \(e^{1} e^{2}\) therefor, a coiled spring \(t\), a support \(e^{3}\) therefor, one end of said spring being electricaily cennected with the terminal \(e^{1}\), an extension arm \(f^{1}\) formed by the other end of said spring, an opaque glass target \(g\) of distinctive colour carried by an angular portion \(f^{2}\) of sald arm, and a fuse wire \(f^{1}\) maintaining said spring under tension and electrically connected with the terminal plate \(e^{z}\), said fuse wire being united with the arm \(f^{1}\) between the target and coll, whereby when the fuse is parted the target is rioved into a position of display by the recoll of said spring.
5. A protective device comprising an insulating supporting strip, terminal plates carried at the ends thercof, a colled spring, a metallic supporting plate for said spring mounted upon one of said terminal plates at right angles thereto, one end of said spring being secured to said plate, an extension arm carled by the other end of sald spring, a leaf spring secured at one end to the other terminal plate and extending parallel to the insulating strip on the side thereof opposite said coiled spring, a fuse passing through said strip and connecting said leaf spring and extension arm to maintain the coiled spring under tension, and a target of distinctive colour carried by an angular portion of said extension arm and adapted to be moved into a position of display by said arm when the fuse is parted.
6. A protective device comprising an insulating supporting strip, terminal plates carried at the ends thereof, a colled spring supported by one of said plates, one end of said spring being connected with said plate, an extension arm carried by the other end of said spring, a leaf spring connected with the other terminal plate and extending parallel to said insulating strip on the side thereof opposite said coiled spring, a fuse passing through said strip and connecting the ends of said springs to maintain the coiled spring under tension, and a target carried by an angular portion of said extension arm independent of the current carrying portion thereof, said target being adapted to be moved into a position of display by said arm when the fuse is parted.
7. A protective device adapted to be mounted in a vertical plane, comprising an insulating supporting strip, terminal plates carried at the ends thereof, a colled spring supported by one of said plates, one end of said spring being connected with said plate, an extension arm carried by the other end of said spring, a portion of said arm being bent to lie at right angles, a fuse wire electrically connected with the other terminal plate and united with said extension arm between the angular portion thereof and the colled spring to maintain said spring under tension, and a tubular target carried by said angular portion and normally maintained in an inconspicuous position with its small end alone visible, said target being adapted to be moved by said arm to display its side suriace when the fuse is parted.

\section*{No. 101,217. Electro-Magnetic Wheel.}

\section*{Roue électro-aimante.}

Hugo Behan, Seattle, Washington, U.S.A., 25th September,
1906; 6 years. Filed 8th September, 1906. Recelpt No. 139,337.
Claim.-1. In apparatus of the class descrlbed the combination with the track rail, the wheel, and the electric conducting wires, of a plurality of electro-magnets having their cores extending through the rim of said wheel and the coils terminating in an annular piece of metal and a serics of contact segments secured to said wheel, a terminal oi the said conducting wires which makes continuous contact with said annular piece, another terminal of the conducting wires engaging with the sald contact segments, and means for adjusting said last-named terminal so as to
cause it to engage with certain predetermined of said contact segments, substantially as described.

2. In an apparatus of the class described the combination with a wheel, electro-magnets mounted radially on the wheel, an annular rotary contact, segregated contacts revoluble with the wheel, an adjustable contact adapted to engage said segregated contacts, whereby, through the movement of said adjustable contact, an electric magnet may be energized in front of or in rear of the bearing point of the wheel.

\section*{No. 101,218. Bottle. Bouteille.}


Walter D'Esmond Chappelle, Wyoming, Ontario, Canada, 25th September, 1906; 6 years. Flled 15th June, 1906. Recelpt No. 136,942.
Claim.-1. A position guard for bottles comprising a band having a movable connection with the bottle and of greater diameter and height than the portion of the cork projecting beyond the bottle.
2. A poison guard for bottles comprising a band arranged to encircle the cork and of greater height than the projecting portion thereof, the upper edge of the band being formed with a plurality of spur projections.
3. A poison guard for bottles comprising a clip to engage the bottle neck, a band arranged to encircle the cork and of greater height than the projecting portion thereof, said band having a hinge connection with the clip.
4. A polson guard for bottles comprising a clip to engage the bottle neck, a band arranged to encircle the cork and of greater height than the projecting portion thereof, said band having a hinge connection with the clip. and means for secting the band in operative relation with the cork.
5. A poiscn suard for bottles comprising a bottle engaging clip, a band having hinge connection with the clip, the upper end of the band being formed with vertically arranged spur points, and a locking strip depending from the band.

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No. 101,219. Box for Blectric Mouldings.
Boite pour moulage électrique


John L. Gleason, Jamaica Plain, Massachusetts, U.S.A., 25th September, 1906; 6 years. Filed 14th May, 1906. Receipt
No. 135,880.
Olaim.-1. A reduction box for electrical mouldings comprising in its construction two end plates joined together by a curvilinear front plate, integral therewith, said front plate provided in each of its opposite edges respectively with a recess, one of said recesses being larger than the other, said recesses each having two ends connected by a longitudinal side, and a bevelled corner connecting each of said ends to said sides at opposite ends thereof respectively
2. A reduction box for electrical mouldings comprising in its construction two end plates joined together by a curvilinear front plate integral therewith, said front plate provided in each of its opposite edges respectively with a recess, one of said recesses being larger than the other, sald recesses each having two ends connected by a longitudinal side, and a bevelled corner connecting each of said ends to said sides at opposite ends thereof respectively. an a \(V\)-shaped projection extending into the larger of said recesses from said longitudinal side midway between said corners.
3. A reduction box for electrical mouldings comprising in its construction two end plates joined together by a curvilinear front plate integral therewith, said front plate provided in each of its opposite edges respectively with a recess, one of said recesses being larger than the other, and tlanges projecting from the longitudinal edges of said front plate substantially at right angles to each other.
4. A reduction box for electrical mouldings comprising in its construction two end plates joined together by a curvilinear front plate integral therewith, said front plate provided in each of its opposite edges respectively with a recess, and flanges projecting from the longitudinal edges of said front plate substantially at right angles to each other.
5. A reduction box for electrical mouldings comprising in its construction two end plates joined together by a curvilinear front plate, integral therewith, said front plate provided in each of its opposite edges respectively, with a recess, one of said recesses being larger than the other, sald recesses each having two ends connected by a longitudinal side, and a bevelled corner connecting each of said ends to sald sides at opposite ends thereof respectively, and fianges projecting from the longltudinal edges of said front plate, substantially at right angles to each other and fastened to two supporting walls at an angle to each other, in combination with mouldings projecting into said recesses and caps for each of said mouldings, said bevelled corners bearing against the edges of said caps, whereby said caps are clamped against said mouldings, and said mouldings are clamped against said supporting walls.

\section*{No. 101,220. Ewitch Receptacle.}

\section*{Réceptacle de commutatcurs.}

George H. Metheany, Lima, Ohio, U.S.A., 25th September,
1906; 6 years. Filed 18th May, 1906. Recelpt No. 136,052.
Claim.-1. A device of the character described comprising an inverted cup-shaped casing, said casing provided with an internal screw-threaded surface formed near its lower edge, an annular extension formed upon the inner face of said casing, said screw-threaded surface terminating short of said annular extension, a removable base member positioned within said casing, and contiguous to said annular extension, said base member provided with an upper concaved surface and with a central aperture, said member provided with a conical depending portion, said depending portion provided with a concaved recess, a standard formed integral upon said base

Digitized
member, ribs extending in opposite directions from said standard and formed integral with said base member, a block

formed upon the upper end of said standard, spring terminals carried by said block, and an annular locking member posithoned within said casing, for securing said base member in a fixed position, said locking member provided with an outer screw-threaded surface and with inwardly projecting extenslons.
2. A device of the character described comprising an inverted, cup-shaped casing, a removable member of the same diameter as the diameter of the interior of said casing positioned within said casing, means for securing said member within said casing, said member provided with an aperture, a ball valve positioned within said casing and normally closing said aperture, and terminal carrying means formed upon said member.
3. A device of the character described comprising a casing closed at its top and open at its bottom, a removable member positioned within and closing the bottom of said casing, said member provided with a depending guiding portion and an aperture, a ball valve closing said aperture, and terminal supporting means carried by sald member.
4. A device of the character described comprising a casing open at its bottom and closed at its top, a removable member of the same dimensions as the dimensions between the irner walls of said casing, said member positioned within said casing, said member provided with a series of apertures and with terminal carrying means, and valve means for closing one of sald apertures.
5. A device of the character described comprising a casing closed at its top and open at its bottom, a removable member closing said bottom, said member provided with an apercure, a ball valve for closing said aperture, and terminal carrying means formed upon said member.
6. A device of the character described comprising a casing, a removable member positioned within said casing, means for securing said member within said casing, guiding means carried by sald member, valve means carried by said member. and terminal carrying means carried by said member.
7. A device of the character described comprising a casing closed at its top and open at its bottom, a removable member positioned within the lower portion of said casing, means for securing said removable member within said casing, depending gulding means formed upon said member, terminal carrying means formed upon sald member within said casing, sald member provided with an aperture, and a ball valve for closing said aperture.
8. In a device of the character described, the combination of a casing closed at its top and open at its bottom, a removable bottom of substantially the same width as the interior of said casing, positioned within the same, a revoluble locking member threaded into said casing and in engagement with the said bottom, terminal carrying means supported by sald bottom, conical guiding means formed upon sald bottom, said bottom provided with an opening, and valve means for closing said opening.
9. In a device of the character described. the combination of a casing closed at its top and open at its bottom, an extension formed interiorly of said casing, a removable bottom positioned within said casing and in engagement with said extension, a removable, annular locking member threaded into said casing and in engagrment with said bottom, and terminal carrying means positioned within said casing.

\section*{No. 101,221. Outlet or Junction Boz.}

Sortie de boite de jonction.
Clarence C. Sibley and George Augustus Lutz, co-inventors, both of Ni•w York City. New York, U.S.A., 25th September, 1906; 6 years. Filed 4th May, 1:36. Receipt No. 135.524.

Claim.-1. An electrical outlet or junction box provided with holes, channel like members entering satd holes to em.
brace the end portions of correspondingly shaped conduits. means to detachably receive conduits in said members, and

means for detachably connecting said members with said box, said members being provided with prongs bent into connection with a conduit to hold the members and conduits together.
2. An outlet or junction box provided with holes. combined with members entering said holes to connect with conduits, said members having extensions passing into the loox along its bottom, and means for detachably connecting said extensions with the bottom of the box.
3. An electrical outlet or junction box provided with holes, and members entering said holes and provided with prongs bent into connection with conduits through slots in said conduits to hold the members and conduits together.
4. A bond-like member for holding a conduit to an outlet ur junction box comprising a channel-like piece having a bottom and sides provided with opposed grooves to recelve a conduit and provided with lugs adapted to be bent against the inner wall of a junction box.
5. A bond for connection with a condult comprising a channel-like plece having a bottom and sides provided with grooved portions, and a prong adapted to be bent through a slot in a conduit, substantially as described.

\section*{No. 101,222. Conduit for Electrio Wire. \\ Conduil pour flls électriques.}

Clarence C. Sibley and George Augustus Lutz, New York City, New York, U.S.A., 25th September, 1906; 6 years. Filed 4th May, 1906. Receipt No. 135,525.
Claim.-1. An elbow for condults comprising a pair of members having channels and provided with opposed arooves and movably connected together, and independent sections within said members provided with grooved port.ons entering the grooves of said members adapted to align with the grooves of corresponding conduits and to receive the covers therefrom.
2. An flbow for conduits comprising members movably connected together, means for closing the openings adjacent to the adjacent ends of said members, and sections located in satd members and having their outer ends at a distance from the chis of the members to permit the entrance of the ends of comluits into said members.
3. An clbow for conduits comprising a pair of channellike members movably connected together and adapted to receive correspondingly shaped conduits, sald members having means for flrmly connecting them with said conduits to prevent movement of the condults in a longitudinal direction.
4. An elbow for conduits comprising a pair of channellike members movably connected together and adapted to

receive correspondingly shaped conduits, sald members being provided with prongs adapted to enter slots in the conduits and to be bent to lock the conduits to the members.
No. 101,223. Speed Indicating and Alarm Device. Indicateur de vitesse et avcrtisscur.


John Ellwin Parrish and Richard Hale Smith, co-inventors, both of Springfield, Massachusetts. U.S.A., 25th September, 1906; 6 years. Filed 30th July, 1906. Receipt No. \(138,265\).
Clatm.-1. In a speed indicating device the combination With a casing, having a centrifugal governor therein provided with a hollow upwardly open spindle, and having at its top a supplemental slotied facewise indicator casing having a slot through the wall thereof, and which casing is constructed also for the reception of interchangeable cards, of a stem within the hollow spindle, subject to vertical movement on the operation of the governor and having ing its upper end located in the indicator casing and having a part movable closely to and registering on the indicator, and means connected with the governor for imparting its rotation thereto.
2. In a speed Indicating device the combination with a circular enclosed casing having upper and lower central journal bearings, and made with a socket about the upper journal bearing, and a centrifugal governor in said casing provided with a hollow upwardly open spindle and mounted for rotation in said journal bearings, of a supr plemental downwardly open indicator case having a hollow lower part fitted and detachably confined in sald socket and having an indicator scale, a stem within the hollow spindle subject to vertical movement by the operation of the governor, extended upwardly within the indicator case and having an externally visible part movable closely to and registering on the indicator scale.
3. In a speed indicating device the combination with a circular enclosed casing having upper and lower central journal bearings, and made with a socket about the upper
journal bearing and a centrifugal governor in said casing provided with a hollow upwardly open spindle and mounted for rotation in said journal bearings, of a supplemental endwise open indicator case having a hollow downwardly open boss at its bottom fitted and detachably confined in said socket, and having a vertically slotted front wall made with opposite endwise open grooves. and a vertically slotted indicator scalc card on the front wall of the indicator case, and marginally engaged in said grooves, a stem within the hollow spindle subject to vertical movement by the operation of the governor extended upwardly within the indicator case and carrying a pointer at its upper portion extended through the slots of the indicator case and scale card, and arranged closely to, and registering on, the card.
4. In a speed indicating device the combination with the main governor casing supporting at its top an indicator casing having a slotted front and a slotted scale card thereat, and a centrifugal governor in the main case provided with a hollow upwardly open spindle, of a stem within the hollow spindle connected with the governor. rotatable in unison therewith. and endwise movable independently of the governor spindle, and having at its upper end an indicator head bodily movable with the stem and relatively to which the stem is indenendently rotatable, and sald head having the lateral stud projecting through the slots of the indicator casing and scale card. and a polnter carried, adjacent the face of the scale card by the outer extremity of said stud.
5. In a speed indicating device in combination the main governor casing of circular form, and enclosed. having journal bearing holes through its top and bottom, and having about the upper journal hole an upwardly open socket \(f\), the surrounding wall of said socket depending within the top of the casing, and said main casing being constructed of the upper and lower matching sections \(b\) and \(c\), the indicator casing having a downwardly open depending boss fitting in said socket, and having a vertically. slotted front wall provided with an indicator scale detachably connected thereat. a set sernw engaging said hollow boss through the wall of the socket therefor, a centrifugal governor having the spindie thereof hollow. upwardly open and longitudinally slotted through its sides, the indicator stem vertically movable within the indicator spindle and connected with a movable member of the governor. and a head carried at the upper end of the stem within the indicator casing. provided with the lateral stud projecting through the slot in the indicator case and having the externally located nointer.
6. In a speed indicating device, the combination with an enclosed governor casing having at its top a supplemental endwise open indicator case. having a vertically slotted front wall with side wall extensions forwardly projecting beyond the slotted front wall and having within their inner sides the opposing pairs of grooves 10.10 and 12, 12, the slotted indicator card engaged in the grooves 10 and the glass forward thereof marginally engaged in the grooves 12. of the governor, having an indicator stem endwise movable relatively thereto and actuated therehy, provided at its upper end within the supplemental case with a part projecting through the front wall slot and provided with a pointer to registor on the card.
7. In a spect indicating device, a governor casing having at the top thereof an indicator scale. a governor in sald case and a stem actuated by the governor and having a pointer registering on the scale, an electric lamp supported on the case adjacent and to illuminate the scale, normally open circuit connections for the lamp including a battery, and means comprised in the lamp circuit and movably controlled by the governor for automatically closing the lamp circuit under predntormined speed conditions, and additional and non-automatic means for closing the lamp circuit at pleasure.
8. In a speed indicating device, a governor casing having at the top thereof an indicator scale, and an adjacent integrally formed aperturcd hood. a governor in sald case, and a stem actuated by the governor and having a pointer registering on the scale, an electric lamp supported by the case within said apertured hood, normally open circuit connections for the lamp, having a battery connected therein, and means for closing the lamp circuit.
9. In a speed indicating and alarm device, a governor casing having at the top thereof an indicator scale, a governor it said case and a stem actuated by the governor, a pointer carricd by the stem and registering on the scale, an electric audible alarm device carricd by the case, normally open circuit connections for the alarm device having a battery connected thereln, and automatic means actuated by the governor for closing the alarm circuit.
10. In a speed indicating device, a governor casing having at the top thereof an indicator scale, a governor in said case and a stem actuated by the governor and carrying a pointer having a reciprocatory movement and registering on the scale, an electric lamp supported on the case adjacent and to llluminate the scale, and an audible electrically operable
signaling device, normally open circult connections comprising a generator, and connecting the lamp and the signalling device, and a movable part controlled by the governor for closing the lamp and signal circuits, for simultaneously lighting the lamp and sounding the alarm under predetermined speed conditions, and additional non-automatic means for closing the lamp circuit at pleasure.
11. In a speed indicating device, a governor casing having at the top thereof a supplemental casing having an externally visible indicator scale, and having a vertically slotted wall, a governor in said case and a stem actuated by the governor and having a head in the supplemental case provided with a pointer registering on the scale, an electric audible alarm device, normally open circuit connections for the alarm device including the battery, the head of the indicator stem and an adjustably movable contact relatively to which the head of the governor controlled stem moves, and a screw stud projected through the slot in the casing, and having a confining nut and controlling the position of said adustable contact, for the purposes set forth.
12. In a speed indicating device. a governor casing having at the top thereof a supplemental casing having an externally visible indicator scale, and having a vertically slotted wall, a governor in said case and a stem actuated by the governor and having a head in the supplemental case provided with a pointer registering on the scale, an electric audible alarm device, normally open circult connections for the alarm device, including a battery, the head of the indicator stem, and an adjustably movable contact relatively to which the head of the governor controlled stem moves, a screw stud projected through the slot in the casing. and having a confining nut, and controlling the position of said adjustable contact, a numbered scale on the side of the casIng adjacent said slot. and a pointer engaged with the screw stud and movable therewith along said slot and for registry on the numbered scale, for the purposes set forth.
13. In a speed indicating device, a governor casing having at the top thereof a supplemental casing having an externally visible indicator scale, and having a vertically slot ted wall, a governor in said case and a stem actuated by the governor and having a head in the supplemental case provided with a pointer registering on the indicator scale, an electric audible alarm device, and an electric lamp adjacent the indicator, normally open circuit connections for the alarm device, and for the lamp including a battery, the head of the indicator stem, and an adjustably movable contact relatively to which the head of the governor controlled stem raoves, and means for connecting and disconnecting the circuit connectlons pertaining to the lamp from those pertaining to the alarm device.
14. In a speed indicating device, a governor casing having at the top thereof a suppemental casing having an externally visible indicator scale, and having a vertically slotted wall, a governor in said case and a stem actuated by the governor and having a head in the supplemental case provided with a pointer registering on the indicator scale, an electric audible alarm device, and an electric lamp adjacent the indicator, normally open circuit connections for the alarm device, and for the lamp, including a battery, the head of the indicator stem, and an adjustably movable contact relatively to which the head of the governor controlled stem moves, and means for connecting and disconnecting the circuit connections pertaining to the lamp from those pertaining to the alarm device, and additional and nonautomatic means for closing at pleasure the lamp circuit.
15. In a speed indicating device, a governor casing having at the top thereof a supplemental casing provided with externally visible indicator scale, and having a vertically slotted wall, a governor in said case and a stem actuated by the governor and having a head in the supplemental case provided with a pointer registering on the indicator scale, an electric audible alarm device and a battery, a metallic plate mounted on an insulating support having connection with the electric alarm device and having an upstanding member within the supplemental casing adjacent the indicator stem, a contact vertically movable on said upstanding member and having an insulated stud projecting through the slot of the supplemental casing, a wire connecting said plate and the battery, a wire connecting the battery with the metallic governor casing, and metallic connections between the governor casing and the contacting head of the ndicator stem.
16. In a speed indicating device, a governor casing having at the top thereof a supplemental casing provided with an externally visible indicator scale, and having a vertically slotted wall, a governor in said case and a stem actuated by the governor and provided with a pointer registering on the indicator scale, an electric lamp and an insulating support secured within the casing having a metallic plate 42 thereon, and on which the metallic socket of the lamp is in contact, and an independent metallic plate 92 . 93 , secured to said support and with which one terminal of
the lamp is in metallic connection, the battery, wire connected to said metallic part 92, 93, and wire connected to the metallic governor casing. and a tongue adjacent and normally separated from the metallic plate 42 , and in connection with the electrically conducting governor case, and means for forcing said tongue against plate 42, for the purposes set forth.
17. In a speed indicating device, a governor casing having at the top thereof a supplemental casing provided with externally visible indicator scale, and having a vertically slotted wall, a governor in said case and a stem actuated by the governor and having a head in the supplemental case provided with a pointer registering on the indicator scale, an electric lamp, and an insulating support therefor secured within the casing having a metallic plate 42 thereon, and on which the metallic lamp socket is in contact, an independent metallic plate 92,93 , secured to said support and with which one terminal of the lamp is in metallic connection, the metallic part 48 having the upstanding member 50 , and the tongue 49, extending to overlap, normally separated from the plate 42, a contact supported by and adJustable on the member 50 in electrical connection with the part 48, and also connected to the metallic governor casing. metallic connections through the governor between the governor casing and the indicator stem and head, and means for placing the tongue 49 in contact against the plate 42. for the purposes set forth.
18. In a speed Indicating device, a governor casing having at the top thereof a supplemental casing provided with an externally visible indicator scale, and having a vertically slotted wall, a governor in said case and a stem actuated by the governor and having a head in the supplemental case provided with a pointer registering on the indicator scale an electric lamp and an insulating support secured within the casing having a metallic plate 42 thereon, and on which the metallic lamp socket is in contact, an independent metallic plate 92,93 , secured to said support and with which one terminal of the lamp is in metallic connection, the plate 48 having the tongue 49 and the member 50 provided with an adjustable contact adjacent the indicator stem head, the battery wire connected to said metallic part 92 93, and wire connected to the metallir governor casing, me tallic connections through the governo: between the gover nor casing and the indicator stem and head, and connections between the plate 48 and the battery, means for forcing said tongue 49 against said plate 42, and the tongue 60 in electrical connection with the case and arranged to be forced at pleasure against the sald plate 42, for the purposes set forth.
19. In a speed indicating device, a governor casing having at the top thereof a supplemental casing provided with an externally visible indicator scale, and having a vertically slotted wall, a governor in said case and a stem actuated by the governor and having a head in the supplemental case provided with a pointer registering on the indicator scale an electric lamp and an insulating support secured within the casing having a metallic plate 42 thereon, and on which the metallic lamp socket is in contact, an independent metallic plate 92,93 , secured to said support and with which one terminal of the lamp is in metallic connection. an elec irically operable audible alarm device, the plate 48 having the tongue 49 and the member 50 provided with an adjustable contact adjacent the indicator stem head, the battery, wire connected to said metallic governor casing, and wire connected with the audible alarm device and connections between said alarm device and the plate 48, metallic connections through the governor casing and the indlcator stem and head, and means for forcing sald tongue 49 against said plate 42.
20. In a speed indicating device, a governor casing having at the top thereof a supplemental casing provided with an externally visible indicator scale, and having a vertically slotted wall, a governor in sald case and a stem actiated by the governor and having a head in the supplemental case provided with a pointer registering on the indicator scale, an clectric lamp and an insulating support secured within the casing having a metallic plate 42 thereon, and on which the metallic lamp socket is in contact, an independent metallic plate 92, 93, secured to sald support and with which one terminal of the lamp is in metallic connection, an elec trically operable audible alarm device, the plate 48 having the tongue 49 and the member 50 provided with an adjustable contact adjacent the indicator stem head, the battery, wir connected to said metallic part 92, 93, wire connected to said metallic governor casing, and wire connected with the audible alarm device and connections between sald alarm de vice and the plate 48, metallic connections through the rovernor between the governor casing and the indicator stem and head. means for forcing said tongue 49 against said plate 42, and the tongue 60 in electrical connection with the case and arranged to be forced at pleasure against the said plate 42.
21. In a speed indicating device, a casing having a governor therein, an indicator and a pointer actuated by the governor for registering on the indicator, and an electric lamp, adjacent the indicator, and said casing made with the pockets \(d\) and \(e\) and having a battery and an audible electrically operable alarm device respectively therein, circuit connections comprising the battery and the alarm device, and automatic means controlled by the governor for closing the circuit for the alarm device.
22. For a speed indicator the combination with an indicator having a speeding governor, of a gear wheel and detachable means for its confinement on a traction wheel of the vehicle. consisting of a cllp having its intermediate portion looped to encircle a wheel poke and having its extremities adjoined and extended through the gear wheel. screw-threaded, and having a confining nut setting against the gear wheel, a pinion in mesh with the gear wheel, and a flexible shaft connecting the pinion and the governor of the indicator.
23. In transmission connections for a speed indicator device of the character described, a traction wheel-carried gear wheel, a pinion to mesh therewith and having an arbour to be flexible shaft-connected with the indicator, and a support for the pinion arbour, and relatively to which such arbour is adjustable in the line of its axis.
24. In a speed indicating apparatus in combination a casing carrying an indicator scale and having therein a governor controlled stem provided with a pointer co-acting with the scale, a traction wheel provided with a gear wheel, a pinion ir. mesh with said gear wheel having an arbour, a flexible shaft connecting said arbour and the governor and a journal support for said arbour which is adjustable bodlly in a direction transverse of the axis thereof.
25. In a speed Indicating apparatus in combination, a casing carrying an indicator scale and having therein a governor and a governor controlled stem provided with a pointer co-acting with the scale, a traction wheel provided with a gear wheel, a pinion in mesh with said gear wheel having an arbour, a flexible shaft connecting said arbour and the governor, and a journal support for said arbour which is adjustable for a swinging movement about an axis perpendicular to the axis of the arbour.
26. In transmission connections for a speed indicator device of the character described, a traction wheel-carried gear wheel, a pinion to mesh therewith and having an arbour to be flexible shaft-connected with the indicator and a support for the pinion arbour and relatively to which said arbour is adjustable on the line of its axis, adjustable bodily transversely of its axis and capable of a swinging movement on an axis perpendicular to the axis of the said arbour.
27. For a speed indicating device of the class described, the combination with a gear wheel and a pinion having an arbour, of a supporting appliance and a stem vertically adjestable relatively thereto, and provided with a journal bearing head in which the arbour of the pinion is rotatably supported and through which such arbour is endwise adjustable and a flexible shaft secured to the pinion arbour and for connection with the speeding portion of the indicating device.
28. For a speed indicating device of the class described, in combination with the indicating device and the vehicle wheel having a spur gear \(K\), the separable clip \(Q\) having the upstanding socketed portion 190, the stem 193, adjustably confined in sald socketed portion and having the journal bearing head 194, the pinion having the arbour rotatable in, and arially adjustable through said bearing head, the adjustable collars 95, 95 , and means for adjustably confining them on the arbour at opposite ends of the journal bearing head and the flexible shaft connected to the arbour and to the speeding portion of the indicating device.

No. 101,224. Electrical Gnn. Fusil éleotrique.
Martin E. Thomas, Batavia, Iowa, U.S.A., 25th September, 1906; 6 years. Filed 19th July, 1906. Receipt No. 137,956.

Claim.-1. In a gun the combination with a stock having a chamber therewithin and having a longitudinal slot in its upper portion communicating with the chamber, of contact piece disposed at opposite ends of the slot, a plate slidably mounted for movement into and out of position to contact with both of the first-named plates simultaneously, a shank secured to the slidable plate and extending outwardly through the slot, means for holding the sliding plate yleldably out of operative position, a make-and-break, electrical connections between one of the stationary plates and a member of the make-and-break, a battery, electrical connections between said battery, and the other of the stationary plates, an induction coil carried by the stock, electrical connections between said coll and the battery, electrical connections between said coll and the other member of the make-andbreak, means for operating the make-and-break, a metallic breech block for the gun, an insulating body in the breech tlock, a contact plece in the insulating body and extending
through the forward face of the breech block, electrical connections between the contact piece and the induction coll,

and electrical connections betweeen the breech block and the irduction coll.
2. In a gun the combination with a stock having a chamber therewithin and having a longitudinal slot in its upper portion communicating with the chamber, of contact plates disposed at opposite ends of the slot, a plate slidably mounted for movement into and out of position to contact with both of the first-named plates simultaneously, a shank secured to the slidable plate and extending outwardly through the slot, means for holding the sliding plate yieldably out of operative position, a make-and-break, electrical connections between one of the stationary plates and a member of the make-and-break, a battery, electrical connections between said battery and the other of the stationary plates, an induction coil carried by the stock, electrical connections between said coil and the other battery electrical connections between said coll and the other member of the make-andbreak, a metallic breech block for the gun, an insulating body in the breech block, a contact plece in the insulating body extending through the forward face of the breech block, electrical connections between the contact piece and the induction coil, electrical connections between the breech block and the induction coil, a cartridge disposed against the breech block, sald cartridge including a metallic heelplece contacting the breech block, and having a passage formed therethrough communicating with the interior of the shell, an insulating core in the passage, an electrode in the insulating core, said electrode contacting the contact piece and extending into the shell, and a second electrode disposed with one end in the shell and in spaced relation to the first-named electrode, said second electrode being electrically connected with the heel-piece.
No. 101,225. Trolley. Trollé.


William Freman Thompson, Corospolis, Pennsylvania, U.S.A., 25th September, 1906; 6 years. Filed 1st May, 1906. Receipt No. 135,420.
claim.-1. The combination with a trolley pole, and a trolley wheel, of a harp, spring arms carried by said harp and
adapted to overlie said trolley wheel, means for partially rotating said arms, means for vertically reciprocating said trolley wheel within said harp, substantially as described.
2. The combination with a trolley pole, of a harp, an adjustable spindle mounted in said harp, a wheel journalled tuon said spindle, arms carried by sald harp and adapted to overlie said wheel, means to partially rotate sald arms, and means to adjust said wheel, substantlally as described.
3. The combination with a trolley pole, of a harp, a spindle mounted in sald harp, a wheel journalled upon said spindle means carried by said harp to automatically adjust sald trolley wheel, arms carried by said harp and adapted to overlie said trolley wheel, and means to move said arms out of vertical alignment with said trolley wheel, substantially as described.
4. The combination with a trolley pole, and a trolley wire, oi a harp, a spindle adjustably mounted in said harp, a wheel journalled upon said spindle and adapted to engage said trolley wire, arms overlying said trolley wire, means to move said arms out of alignment with said trolley wire, means to return said arms to their normal position, and means to normally hold said trolley wheel in engagement with said trolley wire, substantially as described.

No. 101,226. Bow Facing Oar. Rames.


Charles Henri Wessot, Ottawa, Ontario, Canada, 25th September, 1906; 6 years. Filed 29th June, 1906. Receipt No. 137,426.
Claim.-1. An improved bow facing oar comprising two overlapping members and means for communicating the movement of one member to the other reversed in direction, as and for the purpose specifled.
2. An improved bow facing oar comprising two overlapping members, pivoting means extending between and means for communicating the motion of one member to the other reversed in direction, as and for the purpose specified.
3. An improved bow facing oar comprising two circular dises, pivoting means for extending between each, means for communicating the rotation of one disc to the other, reversed in dircction, a handle secured to one disc and an oar blade secured to the other, as and for the purpose specified.
4. An improved bow facing oar comprising two circular discs having grooved peripheries, pivoting means extending between the same, two pulleys, means for flxedly supporting the same, a cord extending partially around the periphery of each disc and over the pulleys, a handle secured to one disc and an oar blade secured to the other, as and for the purpose specified.
J. An improved bow facing oar comprising two circular dises having grooved peripheries, a spider interposed between the two discs, pivoting means extending through the dises and the spider, means for non-rotatably supporting the spider, two pulleys secured on the splder, a cord extending around the groove in each dise and around the pulleys, a handle secured to one disc and an oar blade secured to the cther, as and for the purpose sprecified.
6. In a bow facing oar the combination with the two discs, two pulleys and cords extending around the same, of
means for tightening the cord, as and for the purpose specified.
7. In a bow facing oar the comblnation with the two discs placed one above the other, of friction wheels having contact with the surface of both discs, as and for the purpose specified.
8. In a bow facing oar the combination with the two discs, pivoting means extending between the same, the oar blade and the handle of connecting brackets extending between the discs, handle, oar blade and friction rollers secured on said brackets bearing an said discs, as and for the purpose specified.
9. An improved bow facing oar comprising two overlapping members, pivoting means extending between the same, means for communicating the motion of one member to the opposite reversed in direction and means for applying foot power to rotate one member, as and for the purpose specifled.
10. In a bow facing oar the combination with the two disc and means for communicating the rotation of one disc to the other reversed in direction, of a cord extending around the periphery of one disc, a movable foot rod and connecting means extending between the foot rod and the cord, as and for the purpose specifled.
11. In a bow facing oar the combination with the two discs, pivoting means extending between and means for communicating the motion of one disc to the other, of a movable foot rod and means for communicating the motion of the foot rod to one of the discs, as and for the purpose specified.
12. In a bow facing oar the combination with two pivoted members. means for communicating the motion of one member to the other reversed in direction. of means for feathering the oar at the end of each stroke, as and for the purpose specifled.
13. In a bow facing oar the combination with means for onerating the oar blade in a reverse direction to the handle, of means for automatically feathering the oar, as and for the purpose specified.
14. In a bow facing oar the combination with the blade. handle and means for giving the blade a motion reversed in direction to that of the handle, of means for locking the oar blade in predetermined positions, means for unlocking the same at the end of each stroke and means for turning it when unlocked, as and for the purpose specifled.
15. In a bow facing oar the combination with the rotatably supported oar blade, of means for locking the same in predetermined positions and means for releasing the locking moans and rotating the oar at the end of each stroke, as and for the purpose specifled.
16. In a bow facing oar the combination with the rotatably supnorted oar blade, of lorking dogs on the end thereof. a fixed ring having a slot therein adanted to be alternately engaged by the locking dogs. means for alternately releasing the lorking dogs and moving the oar to bring them alternately in engagement with the slot in the fixed ring. as and for the purpose snecified.
17. In a bow facing oar the combination with the rotatably sunported oar blade. of means for locking the same in predetermined positions. a lug on the end thereof. stops adanted to engage said lug and turn the oar at each end of the stroke. and means for releasing the locking dogs prior to the engagement of the lug with the stop, as and for the purnose specifled.
18. In a bow facing oar the combination with a rotatably supported car blade, a pulley slidably supported in the end thercof, means for resiliently pressing the same upwardly. a fixed ring having a slot therein adapted to be engaged alternately by the pulley, cam surfaces on the bolt, fixed stops adapted to engage each of said cam surfaces alternately at each end of the stroke of the oar and operating the release sald bolt. and means for turning the oar blade after the bolt has been released until the other bolt comes in engagement with the slot, as and for the purpose specified.
19. In a bow facing oar the combination with a rotatably supported oar blade, a bolt slidably supported in the end thereof, means for resiliently pressing the same upwardly, a flxed ring having a slot therein adapted to be engaged alternately by the bolt, cam surfaces on the bolt, fixed stops adapted to engage each of said cam surfaces alternately at each end of the stroke of the oar and operating to release said bolt, a projecting lug secured to the end of the oar blade, a fixed cam surface co-operating with said lug to turn the oar at each end of the stroke after the bolts have been unlocked, as and for the purpose specificd.
20. In a bow facing oar the combination with the oar blade, and means for feathering the same, of means for adjusting the length of the stroke, as and for the purpose specifled.
21. In a bow facing oar the combination with the rotatable supported oar blade, a projecting lug secured to the end thereof, of adjustably held stops adapted to engage said
lug at the end of each stroke and co-operating therewith to turn the oar, as and for the purpose specifled.
22. An improved bow facing oar comprising a handle, an oar blade, an overlapping joint connecting the same, pivoting means extending through the joint, means for communicating the motion of the handle to the oar blade reversed in direction, means for automatically feathering the oar blade, means for adjusting the length of stroke, as and for the purpose secified.
23. An improved bow facing oar comprising a handle, an oar blade, an overlapping joint connecting the same, pivoting means extending through the joint, means for communicating the motion of the handle to the oar blade reversed in direction, means for automatically feathering the oar blade, means for adjusting the length of stroke, and means for applying foot power to the oar blade, as and for the purpose specified.
24. An improved bow facing oar comprising a handle, two circular discs having grooved peripheries, a bracket extending between the handle and one disc, a bracket rotatably supporting the handle and secured to the other disc, a spider extending between the two discs, two pulleys secured to the same, a cord extending partially around the periphery of the discs and around the pulleys, means for locking the oar blade in two predetermined positions, means for releasing the locking means at each end of the stroke, and means for turning the oar automatically after the locking means has been released, as and for the purpose specified.

No. 101,227. Discharge Pipe. Tuyau de décharge.


Frederick W. Delanoy, Alameda, California, U.S.A., 25th September, 1906 ; 6 years. Filed 14th April, 1906. Receipt No. 134.899.
Claim.-1. A stand pipe having branches for basin connecticns at intervals between top and bottom, said branches having annular interiorly screw-threaded enlargements at the outer ends, a circular disc adapted to seat upon the interior shoulder of the enlargement, and a tubular exteriorly screw-threaded gland, the inner end of which seats upon and compresses the disc between itself and the shoulder, substan tially as described.
2. In a basin and like connection, a discharge pipe or stack having branches for the connection of the basin pipe, said branches having an enlarged screw-threaded outer end and an annular seat, a disc fitting upon said seat to close the opening for testing purposes, and a screw-threaded gland having the inner end bevelled whereby the disc is forced upon its seat and a tight joint maintained.

\section*{No. 101,228. Machine for Shrinking Cold Tires. Machine à rétrécir les bandages froids.}

Henry Mayers, St. Louls, Missouri, U.S.A., 25th September, 1906 ; 6 years. Filed 29th August, 1906. Receipt No. 139,080.
Claim.-1. In a machine of the character described the combination with slidably mounted oppositely movable blocks having recesses in their surfaces with overhanging flanges, of jaws arranged in said recesses with their outer edges extending below said flanges and means to actuate said blocks.
2. In a machine of the character described the combination with slidably mounted oppositely movable blocks, of jaws arranged on the upper surfaces of said blocks, sald jaws having inwardly extending lugs. for the purpose specified, and means to actuate said blocks.
3. In a machine of the character described the combination with slidably mounted oppositely movable blocks hav-

Ing recesses in their upper surfaces with overhanging fianges, of jaws arranged in sald recesses with their outer edges ex-

tending below said flanges, inwardly extending lugs on the inner edges of said jaws and means to actuate said blocks.
No. 101,229. Bait for Fish. Apat pour poissons.


John T. Mitchell, Seattle, Washington, U.S.A., 25th September, 1906 ; 6 years. Filed 31st July, 1906. Receipt No. 138,296.
Claim.-1. In an artificial fish bait, a substantially eggshaped body adapted to represent a fish egg.
2. In an artificial fishing bait a substantially egg-shaped clastic body adapted to represent a fish egg.
3. In an artificial fishing bait a substantially egg-shaped body adapted to represent a fish egg and formed with an ear having a hook receiving aperture.
4. In an artificial fishing bait, a body having the exterior surface shaped in conformity with that of a fish egg and corresponding thereto in colour.
5. In an artificial fishing bait, a cluster of bodies each having the exterior surface shaped in conformity with that of the egg of a salmon and corresponding thereto in colour.
6. In combination with a fish hook an artificial bait comprising an egg-shaped body having the hook passed therethrough, and a plurallty of egg-shaped bodies secured to the first-named body and being entirely free of the hook.

\section*{No. 101,230. Fire Extinguisher.}

Extinctcur d'incendic.
Beauchamp Henry Montgomery, Owen Sound, Ontario, Canada, 25th September, 1906; 6 years. Filed 6th July, 1906. Recelpt No. 137,5i2.
Claim.-1. In an automatic fire extinguisher, the nozzle consisting of the tubular portion having the dish-shaped head formed with the central concave vaive geat. the disc Htting in said head and formed with a convex faced valve registering with said valve seat, said head and disc forming a chamber between the two parts, the threaded stem extending from within the tubular portion of the head and carrylng said valve disc for regulating the play of the dise
within the head, the swinging yoke provided with the adjustable centrally disposed screw having its point bearing

against the end of the screw stem on which the disc valve is adjustable for holding the valve to its seat, and a fusible member for holding the yoke in its closed position, substantially as described.
2. In an automatic fire extingulsher, the nozzle consisting of the tubular portion having the dish-shaped head formed with the central concave valve seat and having a serrated periphery, the disc fitting in said head and formed with a convex faced valve registering with said valve seat and havIng a serrated portion lying within the serrated portion of the head screw-threaded stem adjustably supporting said disc valve within the head, a yoke pivoted at one side of the head and having a centrally disposed adjustable screw for holding the valve to its seat, and a fusible member for holding the yoke to its closed position, substantially as described.
3. An automatic fire extinguisher comprising piping for the supply of a fire extinguishing agent, a nozzle connected therewith and consisting of a tubular portion provided with a dish-shaped head formed with a central concave valve scat, the disc fitting in said head and formed with a convex faced valve registering with said valve seat, a screwthreaded stem adjustably supporting said disc valve within the head, a yoke pivoted at one side of the head and having a centrally disposed adjustable screw for holding the valve to its seat, a fusible member for holding the yoke to its closed position, and an electrical alarm having a contact point located to have the free end of said yoke when thrown to one side of the head to make contact therewith to close the circult and give an alarm, substantially as described.
No. 101,231. Eignal. Signal.


John Kith Reid. Montreal, Quebec, Canada, 25th September, 1:06: 6 years. Filed 2uth November, 1905. Heceipt No. 130,246 .
Claim.-1. A signal system consisting of a semaphore arm,
a normally inanimate key signal device mounted centrally
of the path of the semaphore arm, a series of inanimate signal devices carried by sald semaphore arm, means whereby the said signal device can be animated individually in groups or collectively, and means for swinging the said arm to different angular positions relatively to the key signal device, substantially as described and for the purpose set forth.
2. A night signal system consisting of a white key signal lamp, red code signal lamps, a semaphore arm, red white and green lamps carried by the semaphore arm, means whereby the said lamps are illuminated individually, in groups, or collectively, and means for moving the semaphore arm to different angular positions relatively to the key signal lamp, substantially as described and for the purpose set forth.
3. The combination of a standard, a semaphore arm, means pivotally connecting the semaphore arm to the standard to rotate in a vertical plane, means pivotally connecting such semaphore arm to the standard to revolve around the same in a horizontal plane, a central key signal device mounted concentrically to the first-mentioned pivotal connection of the semaphore arm, a serles of signal devices carried by the arm, means for rotating the arm in a vertical plane to different angular positions, a pair of code signal devices located one above and one below the semaphore arm, and means for anlmating the signal devices individually in groups or collectively, substantially as described and for the purpose set forth.
4. The combinaton of a standard, a semaphore arm, means pivotally connecting the semaphore arm to the standard to rotate in a vertical plane. means pivotally connecting such semaphore arm to the standard to revolve around the same in a horizontal plane, a central key signal device mounted concentrically to the first-mentioned plvotal connection of the semaphore arm, two series of signal devices carrled by opposite ends of the arm, means for rotating the arm in a vertical plane to different angular positions, a pair of code signal devices located one above and one below the semaphore arm and means for anlmating the signal devices individually in groups or collectively.
5. The comblnation of a standard, a semaphore arm, means plvotally connecting the semaphore arm to the standard to rotate in a vertical plane, means pivotally connecting such semaphore arm to the standard to revolve around the same in a horizontal plane, a central key lamp mounted concentrically to the first-mentioned pivotal connection of the semaphore arm, two series of different coloured lamps carried by opposite ends of the arm, means for rotating the arm in a vertical plane to different angular positions, a pair of code signal lamps located one above and one below the semaphore arm, and means for llluminating the lamps individually in groups or collectively.
6. A night signalling apparatus somprising a standard, a frame supported thereby and adapted to swing around the same to face different points of the compass, a semaphore arm, a pair of code signal lamps, means suporting such code signal lamps one above and the other below the semaphore arm, means pivotally connecting the latter to the frame, means whereby such semaphore arm is oscillated in a vertical plane in both directions from the perpendicular, a series of signal lamps carried by the said semaphore arm, and means for illuminating the lamps individually, in groups or collectively.
7. A night signalling apparatus comprising a standard, a frame supported thereby and adapted to swing around the same to face different points of the compass, a semaphore arm, a pair of code signal lamps, movable arms supporting such code signal lamps one above and the other below the semaphore arm, a detachable device retaining the arms in a perpendicular line, means pivotally connecting the latter to the frame, means whereby such semaphore arm is oscillated in a vertical plane in both directions from the perpendicular, a series of signal lamps carried by the said semaphore arm, and means for illuminating the lamps indlvidually, in groups or collectively.
8. A night signalling apparatus for use on ship board and comprising a portable standard, a frame supported thereby and adapted to swing around the same to face different points of the compass, a semaphore arm, a palr of code signal lamps, means supporting such code signal lamps one above and the other below the semaphore arm, means pivotally connecting the latter to the frame, means whereby such semaphore arm is oscillated in a vertical plane in both directions from the perpendicular, a series of signal lamps carried by the said semaphore arm, and means for illuminating the lamps individually, in groups or collectively, substantially as described and for the purpose set forth.
9. A night signalling apparatus comprising a standard, a frame supported thereby and adapted to swing around the same to face different points of the compass, a horizontal shaft rotatably supported in the frame, a semaphore arm mounted rigidly upon one end of the shaft. a second shaft
having a hand wheel mounted rigidly thereon, a train of gears operatively connecting such shafts together, a pair of code signal lamps, means supporting such code signal lamps one above and the other below the semaphore arm, means pivotally connecting the latter to the frame, means whereby such semaphore arm is oscillated in a vertical plane in both directions from the perpendicular, a series of signal lamps carried by the said semaphore arm, and means for illuminating the lamps individually, in groups or collectively, substantially as described and for the purpose set forth.
10. A portable electric night signalling apparatus for use aloft on ship board and comprising a series of movable signal devices mounted upon a portable carrier, and means electrically connecting such signal devices to the source of electricity, substantially as described and for the purpose set forth.
11. In a marine electric night signalling apparatus substantially as described, the combination with a movable signalling member, of means operatively connected thereto and located a distance therefrom and automatically indicating the position of said signalling member, substantially as described and for the purpose set forth.
12. In an electric signalling apparatus having an oscillatory signalling member with a series of signal lamps mounted thereon, a stationary key lamp and a pair of stationary code lamps mounted adjacent to the oscillatory member, the said oscillatory member being adapted to be swung to different angular positions relatively to the key lamp, of a plurality of switches, electrical connections between each switch and a different signal lamp, substantially as described and for the purpose set forth.
13. In an electric signalling apparatus having an oscillatory signalling member with a series of signal lamps mounted thereon, a stationary key lamp and a pair of stationary code lamps mounted adjacent to the oscillatory member, the said oscillatory member being adapted to be swung to different angular positions relatively to the key lamp, of a plurality of switches, electrical connections between each switch and a different signal lamp, and a pair of switches each electrically connected to a different pair of signal lamps, substantlally as described and for the purpose set forth.
14. In an electric signalling apparatus having an oscillatory signalling member with a series of signal lamps mounted thereon, a stationary key lamp and a pair of stationary code lamps mounted adjacent to the oscillatory member the said oscillatory member being adapted to be swung to different angular positions relatively to the key lamp, of a switch board in the form of a transparency bearing a plurality of switches, electrical conncctions between each switch and a different signal lamp, and a pair of switches each electrically connected to a different pair of signal lamps, substantially as described and for the purpose set forth.
15. In an electric signalling apparatus having an oscilla tory signalling member with a series of signal lamps mount ed thereon, means for swinging such member to different vertical angular positions and means for illuminating such device individually, in groups or collectively, of an index pictorially representing the different angular positions to which the oscillatory member may be swung and also representing the different signals to be interpreted from the member when in each position with one or more lamps illuminated, an oscillatory indicator movable concentrically of and in close proximity to the index and means for moving the indicator synchronously with the oscillatory member, substantially as described and for the purpose set forth.
16. In an electric signalling apparatus having an oscillatory signalling member with a series of signal lamps mounted thereon, means for swinging such member to different vertical angular positions and means for illuminating such devices individually, in groups or collectively, of an index in the form of a transparency pictorially representing the different angular positions to which the oscillatory member may be swung and also representing the different signals to be interpreted from the member when in each position with one or more lamps illuminated, an oscillatory indicator movable concentrically of and in close proximity to the index, and means for moving the indicator synchronously with the oscillatory member, substantially as described and for the purpose set forth.
17. A night signalling apparatus comprising a standard, a frame supported thereby and adapted to swing around the same to face different points of the compass, a horizontal shaft rotatably supported in the frame, a semaphore arm mounted rigidly upon one end of the shaft, a second shaft having a hant wheel mounted rigidly thereon, a train of gears operatively connecting such shafts together to rotate in unison a pair of code signal lamps, means supporting such code signal lamps one above and the other below the semaphore arm, a series of signal lamps carried by the said semaphore arm, and a switch board bearing a plurality of switches, electrical connections between each
switch and a different signal lamp, and a palr of switches each electrically connected to a different pair of signal lamps, an index box pictorally representing the different angular positions to which the semaphore arm may be swung and also representing the different signals to be interpreted from the said semaphore arm when in each position with one or more lamps illuminated, such index box being mounted concentrically to the second shaft, and an indicator mounted rigidly upon the said second shaft in close proximity to the index, substantially as described and for the purpose set forth.

No. 101,232. Eprinkler. Arrosotr.


George Ichabod Rockwood, Worcester, Massachusetts, U.S.A., 25 th September, 1906 ; 6 years. Filed 3rd July, 1906. Receipt No. 137,495.
Cliam.-1. In an automatic sprinkler the combination with a water nozzle and a cap closing said nozzle, of a fixed boss and a cap retaining device between said cap and said boss comprising a lever arranged parallel to said cap, a post havifg one end bearing against said cap and its opposite end bearing against one end of said lever, and a strut interposed between said post and the opposite end of said lever, sald strut consisting of attached pieces detachable by heat.
2. In an automatic sprinkler the combination with a water nozzle and a cap closing said nozzle, of a cap retaining device comprising a lever arranged parallel to the cap, a post resting upon said cap and supporting one end of said lever, a strut placed at an oblique angle to said post and interposed between said post and the opposite end of said lever, said strut consisting of attached pieces detachable by heat, and means for applying pressure to said lever between its supported ends.
3. In an automatic sprinkler the combination with a water nozzle and a closing cap for said nozzle, of a fixed boss having its axis coincident with the axis of the nozzle, a lever bearing against said boss and between its ends, a post interposed between one end of said lever and said cap, and a strut interposed between said post and the opposite end of said lever, the integrity of said strut being destroyable by heat.
4. In an automatic sprinkler the combination with a water nozzle and a closing cap for said nozzle, of a fixed boss above said cap, a lever parallel with the cap and bearing against said boss, a post bearing on said cap and supporting one end of said lever and a trust resting against a shoulder on said post and supporting the opposite end of sald lever, and means for varying the distance between said boss and said cap.
5. In an automatic sprinkler the combination with a water nozzle and a cap closing said nozzle, of a fixed boss above said cap and a cap retaining device interposed between said boss and said cap and consisting of a frame comprising an upright post, an oblique strut bearing against said post, and a lever supported upon said post and strut and bearing against said-boss, one member of said retaining device being composed of pleces attached together by solder fusible at a predetermined degree of heat.

No. 101,233. Furnace for the Manufacture of

\section*{Fournaise pour la fabrication de l'acier.}

Alexandre Tropenas, Paris, France, 25th September, 1906; 6 years. Filed 26th March, 1900. Recelpt No. 78,165.
Claim.-1. A rocking open hearth furnace having attached to and extending downwardly from that part of its floor or lining which is lowermost in normal position, a crucible or converter in which the metal is adapted to be treated by a pneumatic process, the cross sectional area of the converter being less than such portion of the floor of the open hearth furnace whereby therein left at the margin or upper edge of
    9-33
the crucible a sufficient furnace floor upon which may be placed materials to be used as described and which become

heated during the pneumatic process conducted in the crucible.
2. A rocking open hearth furnace having extending downwardly from that portion of its floor or lining which is lowermost when the furnace is in its normal position, a cruction or converter of less cross sectional area than such portion of the floor of the furnace and an upward projection from the of the floor of the furnace ant the margin or upper edge of the floor of the furnace adjacent the \&c., placed upon the floor of crucible whereby scrap, lime, \&c., placed upon the fioor of the furnace at the margin of the crucible is prevented from slipping into the crucible and is highly heated during the pneumatic operation conducted in the crucible.

No. 101,234. Insulator. Isolateur


William R. Twiggs, Sandusky, Ohio. U.S.A., 25th September, 1906; 6 years. Filed 29th August, 1906. Receipt No. 139.063.

Olaim.-1. An insulator comprising a body portion having a lepression formed in the top thereof, diametrically disposed lownwardly inclined slots radiating from said depression and adapted to receive a line wire, and removable locking members disposed within said slots for engagement with said wire.
2. An insulator comprising a body portion having a depression formed in the top thereof, a plurality of diametrically disposed downwardly tapered slots radiating from said dedisposed downwardy tapered and removable locking members disposed within said slots and adapted to engage said wire.
3. An insulator comprising a body portion the top of which is An insulator with a plurality of diametrically disposed slots is provided with a pluralined downwardly from the center thereof and adapted to inclined downwardly from the center thereol and adapted to receive a line wire, and locking members
said slots and adapted to engage said wire.
4. An insulator comprising a body portion the top of which is provided with a plurality of diametrically disposed slots inclined downwardly from the center thereof and each having a groove at its lower wall adapted to recelve a line wire. and removable locking members disposed in said slots and adapted to engage said wire.
5. An insulator comprising a body portion provided with 3 depression having a plurality of diametrically disposed slots radiating therefrom, a seating groove formed in the bottom wall off each slot for the reception of a line wire, and balls disposed in the slots and adapted to engage said wire.

No. 101,235. Display Rack. Ratelier d'étalage.


Wallace D. Wllbur, Ottawa, Kansas, U.S.A., 25th September, 1906: 6 years. Filed 8th August, 1906. Receipt No 138,477.
Claim.-1. In a display rack of the character described the combination with a display bar and depending handle rigidly connected to the bar and pulleys fixedly supported above said bar, of knotted flexible supporting devices connected to the bar extending over the pulleys and means adjustably connected to said knotted flexible portions adapted to engage and support the handle.
2. The combination with a display bar having a dependrigid handle, of pulleys above the bar, cords secured to the bar and extending over the pulleys, the ends of said cords hanging together and knotted, a shank and eye at one and adapted to engage the knotted ends, and a hook on the shank adapted to engage and support the rigid handle.

No. 101,236. Gauge, or Marker and Rule. Jauge, ou marqueur et régloir.


Anthony D. Zimmer Newburg, North Dakota, U.S.A., 25th Septem 1906: 6 years, Filed 20th August, 1906. Receipt No. 138,820.
Claim.-A gauge or marker for use in fitting baseboards to the base block of a room comprising two members 1 pivot-
ally connected together at one end and provided at their pivoted ends with inwardly extending extensions 4 provided with right angles, faces or edges, two of said faces being designed to abut against each other to hold said members in parallel relation so that the device may be conveniently straddled upon the baseboard and the latter marked at the proper point.

No. 101,237. Culvert. Ponceau.


Thomas Bardon and Charles E. Wiberg, co-inventors, both of Ashland, Wisconsin, U.S.A., 25th September, 1906; 6 years. Filed 18th August, 1906 Recelpt No. 138,809.
Claim.-1. A culvert made up of a plurality of interlocking plates each of which is formed with lugs which project outwardly from the longitudinal edges of the plate, the lugs of one plate entering between the lugs of the two adjacent plates in inter locking engagement therewith, one of said longitudinal edges in each plate being continuous and thickened and formed integral with the plate itself, the thickness of said thickened longitudinal edge being greater than that of the lugs which project outwardly therefrom whereby a supporting shoulder is formed on the inner wall of each plate along said thickened longitudinal edge.
2. A culvert made up of a plurality of interlocking plates formed with lugs which project from their longitudinal edges, the lugs of one plate entering between the lugs of the two adjacent plates in interlocking engagement therewith, a plurality of said plates being formed with a continuous thickened edge, the lugs projecting from said edge being of less thickness than sald edge whereby a supporting shoulder is formed along sald edge, said lugs being formed with an inwardly projecting tooth between which and said shoulder the edge of the adjacent plate is seated, said teeth resisting pressure from within the culvert.
3. A built up culvert made up of a plurailty of interlockIng plates having thickened longitudinal edges from which project lugs of less thickness than that of said edges whereby a supporting shoulder is formed along said edges, said lugs being formed with teeth in the groove between which and said shoulder the edge of the adjacent plate is seated, said plates being provided with flanges at one end which overlap the abutting end of the corresponding plate of the next succeeding section of the culvert and a side plate of said culvert being formed with an opening having a raised collar therearound for the connection of a house pipe.

\section*{1To. 101,238. Concrete Mizer Mélangeur de béton.}

William H. Likins and William F. Cowham, assignee of a three-fourths interest, both of Jackson, Michigan, U.S.A., 25th September, 1906 ; 6 years. Filed 31st August, 1905. Recelpt No. 128,078.
Claim.-1. In a mixing machine the combination with a casing, of a vertical shaft pasing axially therethrough, agitstor arms of rounded cross section projecting from sa!a shaft within the casing, and a blade secured to said shaft at the lower end of said casing for ejecting the material therefrom.
2. In a mixing machine the combination with a casirg and movable mixing devices therein, of means for positively


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feeding the material to be mixed to the upper end of said casing and permitting the same to be fed through said casing by gravity, an overflow connection at the upper end of said casing, and an adjustable restriction for the discharge from the lower end of the casing.
3. In a mixing machine the combination with a verticaily urranged mixing chamber, of means for feeding the materiol to be mixed into the upper end through the stirrer mechanism within said chamber, a detachable gate controlling the discharge from the lower end of said chamber, the uppen end of said chamber being provided with an overflow opening for indicating the relative volumes of the supply and discharge.
4. A mixing machine comprising a vertically arranged dry mixing chamber, a revoluble stirrer therein, and a horizontally extending wet mixing trough at the lower end of said dry mixing chamber and into which the material from the latter is discharged.
5. A mixing machine comprising a vertically arranged mixing chamber through which the material to be dry mixed is fed by gravity, stirrer mechanism within said mixing chamber, an adjustable gate at the lower end of said mixing chamber controlling the discharge of the material therefrom, a horizontally extending trough at the lower end of said chamber in which the material is discharged, stirrer mechanlsm within said trough, and a perforated nozzle extending across above sald trough, through which water is discharged into the material within the trough.

No. 101,239. Condenser. Condenscur.
The Bell Telephone Company of Canada, Montreal, Quebec, Canada, assignee of Maurice Kolb McGrath, Antwerp Belgium, 25th September, 1906 ; 6 years. Filed 30th March, 1904. Receipt No. 113,974.
Claim.-1. The herein described process of making condensers, which consists in assembling the strips of foll and insulating material in a flat roll, folding sald flat roll, treating the same with melted wax or the like, and finally subjecting the folded roll to continual pressure on all sides while allowing the wax to cool and set.
2. The herein described process of making condensers, ing the folded roll in a narrow rectangular mould and subwhich consists in assembling strips of foil and paper in a jecting the same to continued pressure while allowing the wax to cool and set.
3. An electric condenser consisting of a flat roll of alter-
 nate layers of conducting and insulating material reversely folded two times or a multiple thereof, whereby distortion of the laminae is prevented.
4. A condenser comprising a flat roll of strips of foll and paper reversely folded in a complete zigzag, parafined and pressed.
5. A condenser comprising strips of paper and tin foll, asScmbled and folded reversely into an S-shape, and inally pressed on four sides, the pressure being sufficient to produce intimate contact between the strips of foil and insulating material where the same are folded.
6. The herein described process of making condensers. which consists in rolling and folding strips of paper and tin foil reversely into an S-shape, treating the same with melted wax, and subjecting the same to pressure on all sides in a mould while allowing the wax to cool and set, the pressure being applied in such a way as to force all adjacent portions of said strips into intimate relation, whereby maxinum capacity for a given amount of material is obtained.
flat roll, reversely folding the fiat roll into an S-shape, treating the same with melted paraffin wax or the like, plac-

\section*{TRADE-MARKS}

Registered during the month of July, 1906, at the Department of Agriculture
- Copyright and Trade-Mark Branch.
11036. GEORGE ROBERTSON, Toronto, Ont. Confectionery. A portrait of Alexander Muir and the words: "Canadian Oream Tafly " and " The Maple Leaf Forever." 3rd July, 1906.
11037. THE LAKESIDE CANNING COMPANY. LIMITED. Wellington, Ont. Canned Foods, such as Fruits, Vegetables, Ketchup and Meats. Words : "Navy Brand" surmounting naval scene enclosed in an oval with flowers and two British Flags in the background. 3rd July, 1906.
11038. THE LAKBSIDE CANNING COMPANY, LIMITED, Wellington, Ont. Canned Goods, such as Frults, Vegetables, Ketchup and Meats. Words : "Riverdale Brand" surmounting a moonlight river ecene with a lit up tower on a projecting point. 3rd July, 1906.
11039. ALLIS-CHALMERS-BULLOCK COMPANY, LIMITED, Montreal, Que. Mining Machinery, such as Rock Drills, Channeling Machines, Coal Cutters, Air Compressors, \&c. Word : "Ingersoll" assoclated with the representation of a DrHLing Machine. 3rd July, 1906.
11040. WATSON GRIFFIN, Toronto, Ont. Gloves, Mitts, Gauntlets and Moccasins. Word : "Interocean." 3rd July, 1906.
11041. DDWARD M. WILCOX, Toronto, Ont. Magazine. Word : "Motoring." 4th July, 1906.
11042. FRANK MARSDOM JOHNSTON, Toronto, Ont. Hats. Crest in the form of the letter: " \(W\) " gurmounting a representation of a Garter bearing the words : "Superior Quality" and encioelng the words. "The Wilton Brand." 4th July, 1906.
11043. W. H. VOWLES \& SONS, Bristal, Gloucester Connty, Englanid. Brushes. Wond : "Kosmios." 5th July, 1906.
11044. WOOD BROTHERS, Howard Valley, Que. Native Remedies. Name : " Wood Brothers" above the representation of a Horse. 5th July, 1906.
11045. THE ALABASTINE COMPANY, PARIS, LIMITED, Paris, Ont. Material for Plastering Walls. Word : "P Pulpstane." Eth July, 1906.
11046. HENRY B. WALTON, Magnetawan, Ont. An electric Apparatus for treating Diseases. Words : "Electric Rays." Eth July, 1906.
11047. THE COLUMBIA RLOURING MILLS COMPANY, LIMITED, Enderby, British Columbia. Flour. Word: "Wheatlets." 6th July, 1906.
11048. THE COLUMBIA FLOURING MILLS COMPANY, LIMITED, Enderby, British Columbia. Flour. Word: " Alpina." 6th July, 1906.
11049. THE COLUMBIA FLOURING MILLS COMPANY, LIMITED, Enderby, British Columbia. Flour. Words : "Drifted Snow." 6th July, 1906.
11050. THE GRIFFITHS, DIXON COMPANY, LIMITED, Toronto, Ont. Druggists' Sundries of every description in rubber and other materlals. Word : "Perfecto." 6th July, 1906.
11051. THE CAPITAL CITY CANNING AND PACKING COMPANY, LIMITED, Victoria, British Columbia. Canned Salmon. Label re " Icicle Brend." 7th Juily. 1906.
11052. WALTER OLIVER HASTINGS, Boston, Massachusetts, U.S.A. Tanners' Olls, Greases and Extracts. Word: "Crescent." 7th July. 1906.
11053. WALTER OLIVER HASTINGS, Boston, Massachusetts, U.S.A. Tanners' Oils, Greases and Extracts. Representation of five pointed Star and Crescent. 7th July, 1906.
11054. B. F. ACKERMAN, SON \& COMPANY, Peterborough, Ont. Harness, Saddlery and Leather Goods. Representation of head of a curbed Horse in center of panels containing neme and address of Registrants. 7th July, 1906.
11055. EDWARD JAMES SKEANS, Toronto, Ont. Teas, Spices, Flavouring Extracts, Jelly Powder, Baking Powder, Cocoa, Chocolate, Sauces, Pickles, Jams. Words : "Club Coflee Compeny." 7th July, 1906.
11056. HENRY BIRKS \& SONS, LIMITED, Montreal, Que. Jewellery, Silverware, Silver Plated Ware, Cutlery, Glass, Watches, Clocks, Leather Goods. Stationery and Bric-a-Brac. Name: "Birks" in raised block letters in a sunk panel. 9th July, 1906.
11057. MARK FISHER, SONS \& COMPANY, Montreal, Que. Serges, Cheviots and Coatings. Word : "Klngfisher" and reprosentation of a Bird. 9th July, 1906.
11058. St. JOHN HARMSWORTH, London, England. Natural Taible Water in Bottles. Words : "Gaz Naturel-Source Perrler-Eau de Table Naturelle" printed on a green label with medals at either end. 9th July, 1906.
11059. CHARLES MARCHAND, New York, N.Y., U.S.A. Powdered Dry Beef. Word: "Meatox." 9th July, 1906.
11060. FOLEY, LOCK AND LARSON, Winnipeg, Man. Biscuite. Label bearing words: "Dainty City Soda" and representation of a number of Padlocks with words : "Ever Fresh," therean. 10th July, 1906.
11061. FOLEY, LOCK AND LARSON. Winnipeg, Man. Tea Label bearing words: "Soclety Tea" and represenations of Padlocks. 10th July, 1906.
11062. FOLEY, LOCK AND LARSON, Winnideg. Man. Biscuits. Label ro " Butter Thin," \&c. 10th July, 1906.
11063. FOLEY, LOCK AND LARSON, Winnipeg. Man. Biscuits. Label re "Shell Oyster Crackers." 10th July, 1906.
11064. FOLEY, LOCK AND LARSON, WInnipeg, Man. Ginger Snaps. Label re "New England Ginger Snaps." 10 th July. 1906.
11065. FOLEY. LOCK AND LARSON, Winnipeg, Man. Biscuits. Label re "Select Soda Crackers." 10th July, 1906.
11066. FOLEY, LOCK AND LARSON, Winnipeg., Man. Ginger Wafers. Label re " Krispo Ginger Wafers." 10 th July, 1906.
11067. FOLEY, LOCK AND LARSON. Winnipeg. Man. Vanilla Wafers. Label re "Vanilla Wiffers." reoresentation of a Padlock, words: " Ever Fresh," \&e. 10th July. 1906.
11068. FOLEY, LOCK AND LARSON. Winnipeg. Man. Saratoga Flakea. Label re " Saratnga Flakes." renresentation of a Padlock, words: "Ever Fresh." \&c. 10th July, 1906.
11069. THE WILIIAMS. GRFENE \& ROME COMPANY OF BERLIN, LIMITED, Berlin. Ont. Collars and Cuffs. Representation of a Head of an Flk. words : "Elk Brand" and inItials: " W. G. \& R." 11th July. 1906.
11070. WATSON GRIFFIN. Toronto, Ont. Leather. Word : "Interocean." 11th July, 1906.
11071. AMERICAN STOCKING COMPANY. New York. N.Y.. U.S.A. Hoslery. Words: "American Boy" and representation of a Boy's Head. 11th July, 1906.
11072. GEO. O. HAYES, Avonmore, Ont. Cataract Five Salve. Words: "Professer Geo. O. Hayes, Cataract Eye Salve." 12th July. 1906.
11073. THE COPAL VARNISH COMPANY, LIMITED. Palmerston Buildings. Old Broad Street, London, England. Chemical Substances used in manufactures, photography or philosophical research and anti-corrosives. Word : "Berrite." 12th July. 1906.
11074. THE GAS POWER PUBLISHING COMPANY. St. Joseph, Michigan. U.S.A. Publications. Words: "Gas Power." 12th July, 1906.
11075. THE JAMES MCCREADY COMPANY, LIMITED, Montreal, Que. Shoes. Word : "Carlton." 12th July, 1906.
11076. DAVID SMITH, Toronto. Ont. Safety Paper. Shleld with a Lighthouse in center, and words: "Canadian Safety Paper." 13th July, 1906.
11077. REED \& CARNRICK, Jersey City, New Jersey, U.S.A. Medical Preparation. Word : " Nephritin." 13th July, 1906.
11078. Cancelled.
11079. COMPANIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Espagne. Tabac, Cigares et Cigarettes . Etiquette re" El Ensueno (Le Rêve)," representation d'une femme assise. " l'Ecu d'Espagne," diverses méailles, etc. 14 juillet 1906.
11080. THE SEAMLESS RUBBER COMPANY, New Haven, Connecticut, U.S.A. Fine Rubber Goods and Rubber Sundries. Word : " Kantleek." 14th July, 1906.
11081. THE SEAMLESS RUBBER COMPANY, New Haven, Connecticut, U.S.A. Fine Rubber Goods and Rubber Sundries. Representation of a Fleur-de-lis on a Red Seal. 14th July, 1906.
11082. J. W. SCALES, LIMITED, Toronto, Ont. Tobacco and Tobacco Products. Word : "Kopek" and representation of a medallion bearing scales. 14th July, 1906.
11083. WALTER T. MURPHY, Halifax, Nova Scotia. Medical Remedy. Word : "Katholekon." 14th July, 1906.
11084. PETERBOROUGH SHOVEL AND TOOL COMPANY, LIMITED, Peterborough. Ont. General Trade Mark. Representation Three Scoops or Shovels grouped together with the Handle of each placed transverse the handles of the other two. 14th July, 1906.
11085. HARRIET POWELL WHEELER, Tononto, Ont. Proprietary Medicines and Kindred Articles. Words: "The Emancipator" above representation of a Roman Lamp flanked on either side by a scarab wing. 16th July, 1906.
11086. THE TILLSON COMPANY, LIMITED, Tillsonburg, Ont. Flour. Label re " Rainbow." 16th July, 1906.
11087. LEITCH BROS., Oak Lake, Man. Products of Wheat, Oats, Barley, Speltz. \&c. Words : " Happy Home." 16th July, 1906.
11088. LEITCH BROS., Oak Lake, Man. Products of Wheat, Oats, Barley, Speltz, \&c. Word : " Sovereign." 16th July, 1906.
11089. LEITCH BROS., Oak Lake, Man. Products of Wheat, Oats, Barley, Speltz, \&cc. Wond : " Wonder." 16th July, 1906.
11090. THE UNITED STATES PLAYING CARD COMPANY, East Norwood, Cincinnati, Ohio, U.S.A. Playing Cards. Wond : " Bicycle." 17th July, 1906.
11091. THE UNITED STATES PLAYING CARD COMPANY, East Norwood, Cincinnati, Ohio, U.S.A. Playing Cards. Representation of a Safety Bicycle. 17th July, 1906.
11092. J. NARCISSE DUPUIS, Montreal, Que., Trading as DUPUIS FRERES. Carsets. Words : "La Captivante." 17th July, 1906.
11093. J. NARCISSE DUPUIS, Montreal, Que., Trading as DUPUIS FRERES. Corsets. Word : " STELLA." 17th July. 1906.
11094. DUNLOP TIRE AND RUBBER GOODS COMPANY, LIMITED, Toronto, Ont. Cycse, Automabile and Vehicle Tires, and Rubber Goods of all descriptions. Words : "Welch Fabric." 18th July, 1906.
11095. DUNLOP TIRE AND RUBBER GOODS COMPANY, LIMITED, Toronto, Ont. Cycle, Automobile and Vehicle Tires and Tubes, and Tire and Tube Making Machines. Word: "Doughty." 18th July, 1906.
11096. DUNLOP TIRE AND RUBBER GOODS COMPANY, LIMITED, Toronto, Ont. Rubber Packings and Rubber Goods of all desoriptions. Words : "Ebony Black." 18th July, 1906.
11097. DUNLOP TIRE AND RUBBER GOODS COMPANY, LIMITED, Toronto, Ont. Cycle, Automobile and Vehicle Tires and Rubber Goods of all descriptions. Word : "Peerless." 18th July, 1906.
11098. DUNLOP TIRE AND RUBBER GOODS COMPANY, LIMITED, Toronto, Ont. Rubber Packings and Rubber Goods of all desoriptions. Words : " Polar Bear." 18th July, 1906.
11099. DUNLOP TIRE AND RUBBER GOODS COMPANY, LIMITED, Toronto, Ont. Cycle, Automobile and Vehiole Tires, and Rubber Goods of all descriptions. Word : "Reliance." 18th July, 1906.
11100. DUNLOP TIRE AND RUBBER GOODS COMPANY, LIMITED, Toronto, Ont. Cyale, Automobile and Vehicle Tires, and Rubber Goods of all descriptions. Word : "Recond." 18th July, 1906.
11101. J. M. FORTIER, LIMITED, Montreal, Que. Cigars, Cigazattes and Tobaccos. Label re "Chamberlain." 19th July, 1906.
11102. THE STANDARD VARNISH WORKS, New York, N.Y., U.S.A Paints and Painters' Supplies. Word: "Alko." 19th July, 1906.
11103. THE NATIONAL MALLEABLE CASTINGS COMPANY, C.eveland. Ohio, U.S.A. Car Couplers and their parts. Word : "Climax." 19th July, \(1906 . \quad\) T
11104. THE NATIONAL MALLEABLE CASTINGS COMPANY, Cleveland. Ohio, U.S.A. Car Couplers and their parts. Word : " Tower." 19th July, 1906.
11105. THE KINGSTON MILLING COMPANY, LIMITED, Kingston, Ont. Flour. Words : " Royal Gem" and representation of a Jewel in a circular scroll. 20th July, 1906.
11106. CAPITAL CITY CANNING AND PACKING COMPANY, LIMITED, Victoria, British Coiumbia. Canned Salmon. Label ro "Juan de Fuca" Brand with Map of Vancouver Island showing City of Victoria in red letters and Strait of San Juan de Fuca. 20th July, 1906.
11107. THE TILLSON COMPANY, LIMITED, Tillsonburg, Ont. Rolled Oats and all manufactured products of Oats. Label re "Thlson's Premium Rolled Oats." 21st Juiy, 1906.
11108. THE STANDARD SANITARY MANUFACTURING COMPANY OF PITTSBURG, Pittsburg, Pennsylvania, U.S.A. Bath Tubs, Wash Stands, Lavatories, Sinks, Closets, Laundry Trays, Urinals, \&c., and their attachments. Word: "Standand." 219 t July, 1906.
11109. FREDERICK HENRY ROSS, Toronto, Ont. General Trade Mark. Word: "Pinnacle." 23rd July, 1906.
1110. THE LISK MANUFACTURING COMPANY. LIMITED, Canandaigua, New York, U.S.A. Tinware, Aluminum Gaivanized Ware, Planished Copper Ware, Copper Nickeled Ware and Enamelled Steel Ware. Representation of a Maltese Cross. 23rd July, 1906.
11111. THE LISK MANUFACTURING COMPANY, LIMITED, Canadaigua, New York, U.S.A. Tinware, Aluminum Galvanized Ware, Planished Copper Ware, Copper Nickeled Ware and Enameied Steel Ware. Representation of a Maltese Cross bearing name : " Lisk." 23rd July, 1906.
11112. ANGUS WATSON \& COMPANY, 30 Cloth Market, Newcastle-on-Tyne, England. Canned Fish (other than Salmon), Canned Meats, Canned Fruits and Canned Vegetables. Label re "Sklpper." 24th July, 1906.
11113. BURROUGHS ADDING MACHINE COMPANY, Detroit, Mlchigan, U.S.A. Adding and Listing Machines. Word: "Burroughs." 24 th July, 1906.
11114. THE ONTARIO SILVER COMPANY, LIMITED, Niagara Falls. Ont. Knives and Cutlery. Words: "Butler Brand" and representation of a Stag feeding. 25th July, 1906.
11115. H. BOKER \& COMPANY, Solingen, Rhenish Prussia, Germany, Scissors, Cutlery, Razors and Hardware. Words: "H. Boker \& Co's Improved Cutlery." 25th July, 1906.
11116. AMERICAN HORSESHOE COMPANY, Philipsburg, New Jersey. U.S.A. Horseshoes and Mule Shoes. Letter: "A" in circle surrounded by name and address of Registrants. 25th July, 1906.
11117. THE MONARCH TYPEWRITER COMPANY, Syracuse, New York, U.S.A. Typewriting Machines and Supplies. Word: " Monarch." 25th July, 1906.
11118. DEFENDER PHOTO SUPPLY COMPANY, Rochester, New York, U.S.A. Photographic Paper. Word: "Argo." 26th July, 1906.
11119. DEFENDER PHOTO SUPPLY COMPANY, Rochester, New York, U.S.A. Photographic Paper. Word : "Metalotypre." 26th July, 1906.
11120. DEFENDER PHOTO SUPPLY COMPANY. Rochester, New York, U.S.A. Photographic Paper. Word: "Disco." 26th July. 1906.
11121. THE AMERICAN TOBACCO COMPANY OF CANADA, LIMITED, Montraal. Que. Tobaccos and Cigarettes. Word "Pearl"; and representation of a Shell. 26th July, 1906.
11122. McCASKILL, DOUGALL \& COMPANY, Montreal, Que. Varnishes, Fillers. Prepared Oil, Surfacers and Architectural Finishers. Word : "Wudol." 27 th July, 1906.
11123. L. AUGUSTE CARRIER, de la Maison A. CARRIER \& FILS, Levin, Que. Epiceries : The, Caft, Epices, Poudre a Pate et Tabac en Feullles. Mots : "Gold Star" avec Ecusson et une Etolie jaune. 27 julllet 1906.
11124. THE UNITED STATES GYPSUM COMPANY, Chlcago, Illinois, U.S.A. Ivory Wodd Fibre Plaster. Words : "Ivory Wood Fibre Plaster" between the representation of two Elephants' Heads, having Tusks, and facing each other. 28th July, 1906.
11125. THE UNITED STATES GYPSUM COMPANY, Chlcago, Lulinois, U.S.A. Ivory Cement Plester. Words: "Ivary Cement Plaster" in connection with the representation of four Elephants' Heads, having tusks. 28th July, 1906.
11126. THE SOLUROL (THYMIC ACID) COMPANY, LIMITED, 40 Mincing Lane, London, E.C., England. Chemical Substances prepared for use in Medicine and Pharmacy. Word : "Thyminic." 30th July, 1906.
11127. EDGAR PATOINE, Montreal, Que. Medecine. Mot : " Dr. Leo." 30 juillet 1906.
11128. BOULTER, DAVIES \& COMPANY, Toronto, Ont. Boots and Shoes. Words : "Mother Hubberd." 30th July, 1906.
11129. THE JOHN MMPPHERSON COMPANY, LIMITED. Hamilton, Ont. Boots and Shoes. Word : "Cinderella." 30th July, 1906.
11130. URBAIN VEILLET. Ste. Genevieve de Batiscan, Que. Mineral Water. Label re "Ste. Genevieve Star Water." and representation of a Star. 30th July, 1906.
11131. JOHN G. REID \& WILLIAM J. BARTLEY, Trading as BARTLEY \& REID, Montreal, Que. Tea. Words: "Gold Medal." 31st July, 1906.
11132. THE WELLS \& RICHARDSON COMPANY, LIMITED, Montreal, Que. Butter Colouring. Label rẹ " Dandelion." 31st July, 1906.
11133. THE MILLER MANUFACTURING COMPANY, LIMITED, Toronto, Ont. Custom Made Washable Clothing, consisting of Coats, Aprons, Vests and Trousers and Whitewear. Words: "The Miller Brand " and "Ahead of All" and representation of three men running. 31st July, 1906.
11134. BRITISH AMERICAN TOBAOCO COMPANY, LIMITED, CecN Chambers, 86 Strand, London, Engiand. Tobacco. Words: "Continental Cubes," and representation of a Soidier reading despatches. 31st July, 1906.
11135. THE HALL'S SAFE COMPANY, Cincinnati, Ohio, U.S.A. Fire and Burglar Proof Safes, Vault Doors, and Safe Deposit Boxes. Representation of an Eagle with outspread wings having on its breast a Safe and grasping in its claws the ends of a scroll. 31st July, 1906.

\section*{INDUSTRIAL DESIGNS}

Registered during the month of July, 1906, at the Department of Agriculture-
Copyright and Trade-Mark Branch.

\author{
2462. THE KING EDWARD COMPANY, LIMITED, Toronto, Ont. Waiterg' Check. 5th July, 1906. \\ 2463. JOSEPH AZARIE BRAULT, Montreq, Que. Emb:eme, coneistant d'un Drapeau rouge reposant sur un ancre, re'"Club Nautique Delanaudiere." 10 juillet 1906. \\ 2464. HELEN HARRIET COOKE, (as Trustee), Toronto, Ont. Sheet Metal Radiator. 16th July, 1906. \\ 2465. WM. A. ROGERS, LIMITED, Toronto, Ont. Spoon or other Handle with ornamentation of Wild Rose. 28th July, 1906.
}

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17358. I WONDER IF YOUR HEART IS STILL THE SAME. (Song.) Words by Eithel Tillson. Music by Chas. E. Hart. Jerome H. Remick and Company. New York, N.Y., U.S.A., 3rd July, 1906.
17359. BROWN OF HARVARD. Waltz. By Louie Maurice. Will Rossiter, Chicago, Ill., U.S.A., 3rd July, 1906.
17360. A NATION'S LIFE CANCER. Sermon by Rev. Frank De Witt Talmage, Los Angeles, Cal., U.S.A., 1st July, 1906. F. Diver, Toronto, Ont., 3rd July, 1906.
17361. THE MAKERS OF CANADA. Count Frontenac. By William D. Le Sueur. (Book.) Morang and Company, Limited, Toronto, Ont., 3rd July, 1906.
17362. DOWLER'S GUIDE TO THE CITY OF CALGARY AND SUBURBS. (Guide.) Leo. Dowler, Calgary, Alta., 3rd July, 1906.
17363. THE CANADIAN MUNICIPAL JOURNAL. June, 1906. (Book.) The Canadian Municipal Journal Company, Limited, Montreal, Que., 4th July, 1906.
17364. ON SAN FRANCISCO BAY. (Song.) Words by Vincent Bryan, Music by Gertrude Hoffman. Jerome H. Remick and Company, New York, N.Y., U.S.A., 5th July, 1906.
17365. THE WESTMINSTER. July, 1906. (Book.) The Westminster Company, Limited, Toronto, Ont., 5th July, 1906.
17366. THE AUERBACH SYSTEM FOR PRICING GJODS. (Book.) Marcus Auerbach, Montreal, Que., 5th July, 1906.
17367. DURHAM, FRONTENAC, HASTINGS, LENNOX, ADDINGTON, NORTHUMBERLAND, AND PRINCE EDWARD COUNTLES, DIRECTORY, 1906. Union Publishing Company of Ingersoll, Ingersoll, Ont., डth July, 1906.
17368. GRAVURE D'UN SAVANT. (Gravure.) Dr. R. Villecourt, Montreal, Que., 5 juillet, 1906.
1i369. HAPPYLAND. Waltz Song. Words by Will Miles. Music by Horace E. Dowell. W. Miles, H. E. Dowell, and Alex. Sloan, Winnlpeg, Man., 6th July, 1906.
17370. WHOSE SON ART THOU ? Sermon by Rev. Frank De Witt Talmage, Los Angeles, Cal., U.S.A., July 8th, 1906. F. Diver, Toronto, Ont., 7th July, 1906.
17371. METHODE PRATIQUE DE LECTURE-ECRITURE. Par T. Rochon. (Deuxieme Livre.) Libralrie Beauchemin, Limitee, Montréal, Qué., 7 juillet, 1906.
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17̈̈̈3. LES MINES DE QUEBEC. Guide Theorique et Pratique du Chercheur, de l'Exploitant et du Mineur, Suivi d'un Précis d'Histolre et d'un Commentaire de la Lol des Mines. Par Andre Leroy. (Livre.) Andre Leroy, (Arthur Lemont), Quebec, Que., 7 juillet, 1906.
17374. WINTRR MODELS 1906-7. (Picture.) The Lowndes Company, Limited, Toronto, Ont., 9th July, 1906.

1i375. REGISTRE ET JOURNAL D'APPEL. (Livre.) J. E. Mercier, Lévis, Que., 9 juillet, 1906.
17376. BROTHER BEAR'S BIG HOUSE. (Pictures.) Canada Newspaper Syndicate, Limited, Montreal, Que., 9th July, 1906.
17377. BUSTER BROWN, MARY JANE, AND TIGE. (Picture.) Canada Newspaper Syndicate, Limited, Montreal, Que., 9th July, 1906.
17378. ISAAC ROLLING MUD AND PAUL TWO YOUNG MAN. (Photo.) Byron Harmon, Banfi, Alta., 11th July, 1906.
17379. PAUL BIGSTONE AND SQUAW. (Photo.) Byron Harmon Banfi, Alta., 11th July, 1606.
17380. MORLEY BEAVER SQUAW, AND PAPOOSE. (Photo.) Byron Harmon, Banff, Alta., 11th July, 1906.
17381. STONEY BRAVES. (Photo.) Byron Harmon, Banff, Alta., 11th July, 1906.
17382. THE BRILLIANTS. A Caprice. (For Piano.) By Fred. C. Fisher Whaley, Royce, and Company, Limited, Toronto, Ont., 11th July, 1906.
17383. LOGIE O' BUCHAN. (For Piano. By Eugen Woycke. Op. 57. No. 1. Whaley. Royce and Company, Limited, Toronto, Ont., 11th July, 1906.
17384. ROBIN ADAIR. éFor Plano.) By Eugen Woycke, Op. 57. No. 2. Whalev, Royce and Company. Limited. Toronto, Ont., 11th July . .9C6.
17385. WITHIN A MILE OF EDINBURG TOON. èFor Piano.) By Eugen Woycke, Op. 57. No. 3. Whaley, Royce and Company. Limited, Toronto, Ont., 11th July, 1906.
17386. BONNIE LADDIE, HIGILLAND LADDIE. èFor Piano.) By Eugen Woycke, Op. 57. No. 4. Whaley, Royce and Compan.. Limited, Toronto, Ont., 11th July, 1906.
17387. THE EWE BUGHTS. (For Piano.) By Eugen Woycke Op. 57. No. 5. Whaley, Royce and Company, Limited, Toronto, Ont., 11th July, 1906.
17388. OALLER HERRIN. (For Plano.) By Eugen Wojcke, Op. 67. No. 6. Whaley, Royce and Company, Limited, Toronto, Ont., 11th July, 1908.
17389. A HIELAND LAD. (For Piano.) By. Efugen Woycke, Op. 57. No. 7. Whaley, Royce and Company, Limited, Toronto, Ont., 11th July, 1906.
17390. YE BANKS AND BRAES. (For Piano.) By Eugen Woycke, Op. 57. No. 8. Whaley, Royce and Company, Limited, Toronto, Ont. 11th July. 1906.
17391. THE CAMPBELLS ARE COMING. (For Piano.) By Eugen Woycke, Op. 57. No. 9. Whaley, Royce and Company, Limited. Toronto, Ont., 11th July, 1906.
17392. ANNIE LAURIE. (For Piano.) By Fhgen Woyake, Op. 57. No. 10. Whaley, Royce and Company, Limited, Toronto, Ont., 11th July, 1906.
17393. THE LASS O' GOWRIE. (For piano.) By Eugen Woycke, Op. 57. No. 11. Whaley, Royce and Company, Limited, Toronto, Ont., 11th July. 1906.
17394. SCOTS, WHA HAE WI' WALLACE BLED. (For Piano.) By Eugen Woycke, Op. 57. No. 12. Whaley, Royce and Company, Limited, Toronto, Ont., 11th July, 1906.
17395. I'M TRYING SO HARD TO FORGET YOU. (Song.) By Ben Jerome. Harry H. Sparks, Toronto, Ont., 12th July, 1906.
17396. FLORENTINE. Waltzes. By Josef F. Lamb. Harry H. Sparks, Toronto, Ont., 12th July, 1906.
17397. THE ENGINEERING JOURNAL OF CANADA. July, 1906. (Book.) Archd. W. Smith and Partners, Limited, Toronto, Ont., 13th July, 1906.
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17406. AUTUMN. (The Woods are Ablaze.) By Nell Morèt. (Music.) Jerome H. Remick and Company, Detrolt. Michigan, U.S.A., 16th July, 1906.
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17411. THE CIRCUIT GUIDE. No. 28. (Book.) Archibald Young Blain, Toronto, Ont., 17th July, 1906.
17412. THE LILY MAID. A cycle of seven Songs with Piano Accompaniment. Words by Gentrude Rogers. Music by Alexander Von Fielts. Op. 84. The John Church Company, Cincinneti, Ohlo, U.8.A., 17th July, 1906.
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17417. SELECTIONS FROM WORDSWORTH. Edited, with Notes, by Alexander Mowat, B.A. Morang \& Company, Limited, Toronto, Ont., 19th July, 1906.
17418. THE HEROES. Complete. By Charles Kingsley. Edited with Notes, by John C. Saul, M.A. Morang \& Company, Limited. Toronto, Ont., 19th July, 1906.
17419. TANGLEWOOD TALES. Complete. By Nathaniel Hawthorne. Edited with Notes, by John C. Saul, M.A. Morang \& Company, Limited, Toronto, Ont., 19th July, 1906.
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17421. IMPRESSIONS D'UN PASSANT (AMERIQUE-EUROPE-AFRIQUE.) Par l'Abbe V. A. Huard. (Livre.) Victor Alphonse Huand. Ptre., Québec, Que., 20 julllet 1906.
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17428. SWING HIGH AND SWING LOW. Words by Eugene Field. Music by Reginald de Koven. Op. 117. No. 2. The John Church Company, Cincinnati, Ohio, U.S.A., 23rd July, 1906.
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17430. NIGHTFALL IN DORDRECHT. Words by Eugene Field. Music by Reginald de Koven. The John Church Company, Cincinnati, Ohio, U.S.A., 23rd July, 1906.
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17432. QUILTY. (Forgiven-Reclaimed.) A Canadian Story from Real Life, By Lance Bilton. Stuart Taggart, (Lance Bilton), Ottawa, Ont., 23rd July, 1906.
17433. INVESTIGATE VANCOUVER, BRITISH COLUMBIA. (Print.) The Vancouver Hundred Thousand Club, Vancouver, British Columbla, 23rd July, 1906.
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17435. WHAT'S THE MATTER WITH OUR TEAM. Words and Music by Vincent Bryan. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 24th July, 1906.
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17437. CAYUGA. (Two-Step.) By W. H. Hodgins. (Music.) W. H. Hodgins, Toronto, Ont., 24th July, 1906.
17438. MARRIAGE CERTIFCATE AND MARRIAGE SERVICE. By James Rollins. (Book.) James Rollins, London, Ont., 24th July, 1906.
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17444. LA GRAMMAIRE. Par Eugene Labiche. Edited with Notes and Vocabulary, by John Squair, B.A. W. J. Gage \& Company, Limited, Toronto, Ont., 25th July, 1906.
17445. HISTORY OF CANADA FOR USE IN PUBLIC SCHOOLS. By Maria Lawson. Edited by A. H. Reynar, M.A., LL.D. W. J. Gage \& Company, Limited, Toronto, Ont., 25th July, 1906.
17446. ALEXANDER MUIR. (Portrait.) The Alexander Engraving Company, Toronto, Ont., 26th July, 1906.
17447. MOUNTAIN WILD FLOWERS OF CANADA. A Simple and Popular Guide to the Names and Descriptions of the Flowers that Bloom above the Clouds. By Julia W. Henshaw. (Book.) Mrs. Julia W. Henshaw, Vancouver, B.C., 26th July, 1906.
17448. THE CANADIAN MUNICIPAL JOURNAL. July, 1906. (Book.) The Canadian Municipal Journal Co., Limited, Montreal, P.Q., 26th July, 1906.
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17450. WHISPERING WAVES. (Waltzes.) By Harry J. Lincoln. Vandersloot Music Publishing Company. Williamsport, Penn., U.S.A., 27th July, 1906.
17451. THE JOKER. March Two-Step. By Abe Losch. Vandersloot Music Publishing Company, Williamsport, Penn., U.S.A., 27th July, 1906.
17452. VINGT-QUATRE JUIN. Chœur de Chant. Par Paul-Emile Prérost. (Composition musicale.) Dr. Paul-Emile Prévost, Montreal. Que., 27 juillet 1906.
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17454. ELIE'S SHORTHAND. Par Prof. William Elic. (Livre.) William Elle, Montréal, Que. 30 juillet 1906.
17455. THE HARDWARE MONTHLY OF CANADA. July, 1906. (Book.) Archd. W. Smith and Partners, Limited, Toronto, Ont., 30th July, 1906.
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17457. Le VENERABLE FRANCOIS DE MONTMORENCY-LAVAL. Premier Eréque de Québec. Par l'Abbé Auguste Gosselin. (Livre.) Auguste Gosselin, (Ptre.) St-Charles, Comte de Bellechasse, Que.. 30 juillet 1906.
17458. THE CHURCH SLEEPERS. Sermon by Rev. Frank De Witt Talmage, Los Angeles, Cal., U.S.A., 29th July, 1906. F. Diver, Toronto, Ont., 30th July, 1906.
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\section*{INVENTIONS PATENTED.}

SOTE.-Patenta are granted for 18 jears. The torm of years for which the foe ham been pald, is given after the date of the patent.

1To. 101,240. Bupplementary Vehicle Bpring.
Ressort supplémentaire de véhioule.


The Supplementary Spring Company, assignee of Samuel Fulmidge, both of St. Louis, Missouri, U.S.A., 2nd October. 1906; 6 years. Flled 4th September, 1906. Receipt No. 189,218.
Clatm.-1. A device of the character described, comprising a yielding connection with the vehicle body, a leaf spring having a disjoined leaf, said disjoined leaf having pivotal connection with said rigid connection, a helical spring member in pivotal connection with said leal spring, and also with sald disjoined leaf, the intermediate means for connecting said helical member to said disjoined leaf being in firm connection with one end of sald helical member.
2. A device of the character described, comprising a pendant from the vehicle body, a leaf spring having a disjoined
leaf, said disjoined leaf being connected to said pendant, a pair of vertical bolts also connected to sald pendant and to said disjoined leaf, a helical member connected at one end to the main body of the leaf spring and at the other end to said vertical bolts.
3. A device of the character described, comprising means for connecting same to the vehicle body, a lear spring having a disjoined leaf, and a pair of helical springs underneath sald leaf spring but so connected as to be resilient therewith.
4. A device of the character described, comprising a connection with the vehicle body, a leaf spring having a disjoined leaf, an eye turned at the end of said disjoined leaf and another eye turned at the end of the next adjoining leaf, bolts passing through said eyes, a helical member having an eye at one end, one of said bolts passing through said eye, and a third bolt having an eye through which the other of said first-mentioned boits passes, said third bolt being firmly connected to the end of the helical member opposite the end on which said eye is formed.
5. A device of the character described, comprising leal members and a helical member pivotally connected together and arranged so that the weight first tends to flatten one. of the leaf members, then to distend the hellcal member, and then finally to flatten the other leaf member.
6. A device of the character described, comprising a leat member having a disjoined leaf, a helical member at one end pivotally connected to said leaf member, and at the other end firmly united to an intermediate connecting means in pivotal relation to said disjoined leaf.
7. A device of the character described, comprising a fixed support and a firm but yielding point of resilient striain and a leaf spring interposed between said members and connected thereto, one leaf of said leaf spring being held disjoined from the remainder.
8. A device of the character described, comprising a leal spring having one disjoined leaf and a pair of hellcal springs connected to sald leaf spring and also to sald disjoined leaf and being located exterior to the space between sald leaf spring and said disjoined leaf.
9. A device of the character described, comprising a leaf spring having one disjoined leaf and a pair of helical springa connected to said leaf spring and also to said disjoined leaf, and being located exterior to the space between said leat spring and said disjoined leaf, and the resiliency of sald helical springs coming into play intermediate the fiattening of said disjoined leaf and the remainder of said leaf spring.
10. A device of the character described, comprising a lea spring having a disjoined leaf, said leaf spring being pivotally connected to a helical spring member, and said disjoined leaf pivotally connected with the vehicle body and being also connected with said hellcal member.
11. A device of the character described, comprising a leaf member having a disjointed leaf and a helical spring member in pivotal relation thereto, said helical spring member being located exterior to the leal member and its disjoined leaf, but its resilient action being intermediate same.

\section*{No. 101,241. Hame Fastener. Attache d'attelles.}

Eben Bryant Smith and James La Flamboy, each an assignee of a half interest, both of Buffalo, New York, U.S.A., 2nd October, 1906; 6 years. Filed 4th September, 1906. Recelpt No. 139,211.
Claim.-1. In a hame fastener the combination of a supporting member, a fastener member pivotally supported on maid
supporting member, and means for retaining said fastener member in locked position.

2. In a hame fastener the combination of a supporting member having means for connection to a hame, a fastener member pivotally supported on said supporting member, meang to retain sald fastener member in locked position, and means for adjusting said fastener member on the supporting member.
3. The combination with a palr of hames, of a supporting member pivotally and adjustably connected to one of sald hames, and a fastener member having means for connecting with the other of sald hames and being pivotally supported on the supparting member.
4. The combination with a pair of hames, of a supporting member pivotally connected to one of said hames, a fastener member supported on said supporting member, means tu affect an adjustment between said members, and means to affect an adjustment between one of the hames and the supporting member.
5. A. hame fastener comprising a supporting member, a fastener member, and an intermediate member pivoted to said supporting member and having the fastener member pivotally connected thereto, the relative arrangement of the pivotal points of said members being such than when the fastener member is swung into its locked postion, the pivot thereof is beyond the center of the pivotal point of the intermediate member.
6. A hame fastener comprising a supporting member provided with a threaded aperture, an adjusting screw threaded into said aperture and having means for connection to a hame, and a fastener member carried by said supporting member and adapted for connection with a hame.
7. A hame fastener comprising a supporting member provided with a threaded aperture at or near one end, an adjusting screw having an enlarged square portion and a head and being threaded into said aperture, a V-shaped clevis provided with square apertures through which the square portion of the adjusting screw passes and which is adapted for connection with a hame, and a fastener member carried by said supporting member and adapted for connection with a hame.
8. A hame fastener comprising a supporting member consisting of side bars connected at the ends and separated by an intervening space, a fastener member movable within said intervening space, and an Intermediate member pivotally supporting said fastener member and being plvotally connected to the supporting member.
9. A hame fastener comprising a supporting member having slde bars separated by an intervening space, a lock lever pivoted near its inner end to said supporting member and a fastener member pivotally connected to the inner end of said lock lever and having at its outer end a hook for connection to a hame.
10. A hame fastener comprising a supporting member having side bars separated by an intervening space, a lock lever pivoted near its inner end to said supporting member and means for locking said fastener member and lock lever together.
11. A hane fastener comprising a supporting member havnig side bars separated by an intervening space, a lock lever pivoted near its inner end to said supporting member and a fastener member having a downwardiy and pivotally curved inner extremity connected at said extremity to the inner end of said lock lever.
12. A hame fastener comprising a supporting member, a lock lever pivotally connected near its inner end to sald supporting member and having a stud projecting laterally therefrom near its outer end, a fastener member pivoted to said lock lever, and a lock spring secured to said fastener member and having an aperture into which the stud of the lock lever its when the parts are in locked position.
13. A hame fastener comprising a supoprting member having side bars separated by an intervening space and provided with aligned longitudinal slots having a plurality of L-shaped slots branching therefrom, and a lastener member pivotally supported by said supporting memebr and having its supporting plvot movable along said L-shaped slots.
14. A hane fastener comprising a supporting member provided with a longitudinal slot, and a fastener member pivotally supported by said supporting member and having its pivot movable along said slot.
No. 101,242. Cheese Cutter. Coutear d fromage.


The Anderson Computing Scale Company, assignee of Thomas C. Braskett, both of Anderson, Indiana, U.S.A., 2nd October, 1906; 6 years. Filed 7th September, 1906. Receipt No. 139,308.
Claim.-1. In a cheese cutter the combination of a rotary cheese table an operating lever for the same having a scale, a movable fulcrum for said lever, an indicator, and means carried by said lever for changing the position of said fulcrum in accordance with the adjustment of said indicator, substantially as specified.
2. In a cheese cutter the combination of a rotary cheese table, an operating lever for the same having a cheese weight scale upon said lever, an indicator for said scale, a movable fulcrum for said lever, and means for simultaneously adjusting said indicator and movable fulcrum, substantially as specified.
3. In a cheese cutter the combination of a rotary cheese table, a horizontally working operating lever for the same, a price per unit scale bar extending transversely of said lever and an adjustable stop upon said scale bar, substantially as specified.
4. In a cheese cutter the combination of a rotary cheese table, an operating lever for the same having a longitudinal cheese weight scale, a movable fulcrum for said lever, an indicator, means for simultaneously adjusting said indicator and fulcrum, a transverse price per unit scale, and an adjustable stop therefor, substantially as specified.
5. A cheese cutter having in combination a rotary cheese table, an operating lever for the same having a cheese weight scale upon said lever, an indicator for said scale, a movable fulcrum for said lever, and a longitudinal adjusting rod engaging said fulcrum and indicator, substantially as specifled.
b. A cheese cutter having in combination a rotary cheese table, an operating lever therefor having a scale, a clutch for engagement with said table at the rear end of said lever, an indicator for said scale, a movable fulcrum intermediate of the ends of the lever, and means for simultaneously adjusting said fulcrum and indicator, substantially as specifled.
7. In a cheese cutter the combination of a rotary cheese table, an operating lever therefor having a cheese weight scale at its forward end, an indicator therefor, a price per unit scale bar at the forward end of sald lever, an adjustable stop for said price per unit scale bar, and means for varying the amount of movement imparted by said lever to the cheese table upon adjustment of said cheese weight indicator, substantially as specified.
8. In a cheese cutter the combination of a rotary cheese plate, a lever for rotating the plate, a clutch between the plate and lever, an adjustable fulcrum, and means carried by the lever for adjusting the fulcrum, substantially as specifled.
9. In a cheese cutter the combination of a base frame and a rotary table mounted thereon, a vibrating lever and means actuated thercby for rotating the table varying measured distances, and means mounted on the vibrating lever for varying the distance the table may be thrown by the lever with a stroke of a given length.
10. In a cheese cutter the comblnation of a base frame, and a rotary table mounted thereon, a vibrating lever having a fixed maximum throw, means actuated thereby for rotating the table variable distances in accordance with the amount of cheese to be measured off, a total weight scale on said lever, an indicator working in conjunction therewith, and means carried by the lever for moving the indicator simultaneously with the adjustment of the table throwing devices.
11. In a cheese cutter, the combination of a base frame and a rotary table mounted thereon, a vibrating lever, a clutch operated thereby to throw the table variable distances, and means carried by the lever for varying the throw of the clutch.
12. In a cheese cutter the combination of a base frame and a rotary table mounted thereon, a clutch adapted to rotate the table variable distances, a vibratable lever connected to the clutch and pivoted to the base and having a handle portion projecting beyond the table, a total weight scale on the projecting end of the lever, a screw rod carried by the lever, an indicator actuated by this rod and means whereby the turning of this rod varies the throw of the clutch carrying arm, the varlation in throw being indicated by the scale on the lever.
13. In a device for cutting cheese and the like into portions, a rotary cheese support, a lever for actuating the rotary cheese support, a scale on said lever, and means cooperating with said scale for regulating the movement of the cheese support so as to cut uniform pleces irom various cheeses.
14. In a device for cutting cheese and the like into portions, a rotary cheese support, a lever for actuating the rotary choese support, a scale on sald lever, and means movable with reference to the scale for regulating the influence of the throw of the Iever upon the movement of the cheese support.
15. In a device for cutting cheese and the like into portions, a rotary cheese support, a lever for actuating the rotary cheese support, a stationary welght scale on the lever. and means movable on the lever with reference to the weight scale for regulating the influence of the throw of the lever upon the movement of the cheese support.
16. In a device for cutting cheese and the like into portions, a cheese support, a lever for feeding the cheese, a variable fulcrum therefor, two scales, one a price per pound scale and the other a scale for indicating the various weights of cheeses for controlling the position of said fulcrum so that the cheeses of varying weights and prices per pound may be cut into portions of uniform value
17. In a device for cutting cheese and the like into portions, a cheese support, a lever for feeding the cheese, a variable fulcrum for said lever, and a plurality of scales for indicating the desired adjustment of said lever.
18. In a device for cutting cheese and the like into portions, a cheese support, a lever for moving one of said parts toward the other and a scale controlled means for adjusting the fulcrum of said lever to modify the feeding action thereof so as to cut portions of a certain unit of value.
19. In a computing cheese cutter, the combination of a base and a rotary cheese table thereon, a lever for operating the same, a price ualt scale bar extending transversely of eaid lever, and un adjustable stop upon said scale bar, for the purpose set forth.
20. In a computing cheese cutter, the combination of a base and a rotary cheese table, an operating lever for the same, a cheese weight scale and means co-operating therewith for varying the influence of the lever upon the cheese table. a transverse price scale, and an adjustable stop therefor, for the purpose set forth.
21. In a computing cheese cutter, the combination of a base and a rotary table thereon. a vibrating lever, a clutch operated by the lever to throw the table variable distances, and means carried by the lever for varying the throw of the clutch without varying the throw of the handle end of the lerer.
22. In a computing cheese cutter, the combination of a rctary cheese table, and means for rotating the table controlled by a price scale and a total weight scale, whereby the cheese may be cut by weight or by value.
23. In a computing cheese cutter, the combination of a rotary table, an operating lever, and means for varying the Irfluence of the lever upon the table, said means embodying a scale on the base and a scale on the lever, one of sald scales being a weight scale and the other a price scale.
24. The method substantially as herein shown and described of measuring off segments of circular cheese by weight as well as by value, consisting in governing the movements of the actuating devices by a combined total weight scale and price per pound scale, whereby segments may be meacured off either by price or by weight by the same actuating means, substantially as set forth.

No. 101,243. Eettle. Chaudron.


Herman L. Smith, assignee of John E. Longhenry, both of Gloversville, New York, U.S.A., 2nd October, 1906; 6 years. Filed 8th September, 1906. Recelpt No. 139,349.
Claim.-1. A steamer comprising an upper section adjustable in diameter, a telescoping section adapted to move vertically within the first-mentioned section, means for suspending the first-mentioned section within the kettle, and means for locking the telescoping section in its adjusted position within the first-mentioned section.
2. A steamer comprising upper and lower sections, the upper section being split longitudinally, the lower section telescoping within the split section, means for suspending the split section within a kettle, and means for locking the telescoping section in its adjusted position within the upper section.
2. A device of the kind described comprising a steamer divided into two sections, the upper section being split longitudinally, and the lower section being reticulated and movable within the upper section, perforated bars carried by the inner sides of the upper section, said bars being angled at their upper ends, an inverted bail adapted to support the lower movable section, and pins carried by the bail adapted to engage the perforations of the bars.
4. A device of the kind described comprising a steamer formed in the upper and lower sections, vertical bars carried upon the inner sides of the upper section, angled plates connected to the upper ends of the bars and projecting over and beyond the upper edges of the upper section, an inverted spring bail having its free end portions turned inwardly, said bail being adapted to move vertically within the upper section, pins carried by the bail adapted to engage the perforations of the bars, and a lower reticulated section supported within the bail, as and for the purpose set forth.

No. 101,244. Can. Bidon.


Wllliam Bohemier, Montreal, Quebec. Canada, 2nd October, 1906; 6 years. Flled 11th September, 1906. Receipt No. 139,419.
Claim.-1. A can comprising an open ended body, closures for the ends, and a bottom intermediate of the ends of the body.
2. A can comprising an open ended body, a screw-threaded closure for one end, a bottom intermediate of its ends, and a receptacle disposed in the opposite end.
3. A can comprising a body havingea crimp therein intermediate of its ends, a bottom disposed in the body and abutting against said crimp, a receptacle adapted to be inserted within one end of the body and provided with a flange adapted to abut against the lower edge of the body, and a screwthreaded closure for the opposite end of the body.

No. 101,245. Stovepipe Thimble.
Doullle de tuyau de poêle.


Thomas W. Bright, Elk, West Virginia, U.S.A., 2nd October, 1906; 6 years. Filed 10th September, 1906. Receipt No. 139,377.
Claim.-1. A stovepipe thimble having its inner surface cylindrical and face convex from end to end, said thimble being provided with an angular rebate in one end, and at its other end with an angular extension the edges of which are disposed at right angles to each other and parallel with the edges of the rebate, and a flange extending laterally from the edges of the extension.

No. 101,246. Jointer for Stubble Plougha. Oroolet pour charrucs a chaume.


Don Henry Dickinson, Parkers, Oregon, U.S.A., 2nd October, 1906; 6 years. Filed 12 th September, 1906. Recelpt No. 189,464.
Claim.-1. In a jointer for stubble ploughs, a frame mounted to turn beneath the plough beam, a revoluble disc cutter carried by the sald frame, and means for holding the cutter at an inclination in direction of the mould board side of the plough.
2. In a plough, a bracket secured to the beam, a standard carried by said bracket, a frame mounted to turn on said standard below the beam, the sald frame conslsting of a socket member and arms rearwardly extending therefrom, the land side arm being the longest, a spindle journalled in the sald arms, a dished disc cutter secured to the said spindle, and means for attaching the frame to the beam of the plough in a manner to bring the disc cutter at an inclination in direction of the mould board side of the plough.
3. In a plough, a beam, a bracket secured to the beam, a standard carried by the bracket, a frame mounted to turn on the standard, a disc cutter mounted to turn in the frame, having its mould board side dished, and means for adjustably holding the said cutter diagonally with respect to the forward edge of the plough share and inclined in dircction of the mould board side of the plough.
4. In a plough the combination with the beam thereof, a bracket secured to the beam, a standard carried by sald bracket, and a locking device for the standard also carried by the bracket, of a frame consisting of a socket section mounted to turn on the standard below the beam, and opposing arms extending rearwardly from the said frame, the land side arm being the longest, a spindle journalled in said arms, a disc cutter secured to said spindle dished at its mould board side, means for adjustably connecting the cutter to the beam, and mould board supported by the frame and acting in conjunction with the dished face of the cutter.
5. The combination with a plough, of a frame pivotally mounted below the beam therof, a cutter mounted to revolve in the said frame, means for holding the sald cutter in a diagonal position with respect to the forward edge of the plough share and at an inclination in direction of the mould board side of the plough, the mould board side of the cutter being dished, and a mould board supoprted by the said frame and held at an angle to the dished face of the sald cutter.

No. 101,247. Underouttor Eupport for Saws. Support pour scies.


Frank H. Lamb, Hoquiam, Washington, U.S.A., 2nd October, 1906; 6 years. Filed 10th September, 1906. Receipt No. 139,397.
Claim.-1. An undercutter support comprising a dog adapted for insertion in the material to be sawed, a supporting arm provided with a saw bearing thereon at one end. and means for mounting said arm upon said dog to permit the reversal of the arm to bring the saw bearing either above or below the dog.
2. An undercutter support comprising a dog adapted for insertion in the material to be sawed, a supporting arm provided at one end with a saw bearing, and means for mounting suid arm upon said dog to permit the adjustment and reversal of the arm and bearing relative to the dog.
3. An undercutter support comprising a dog adapted for insertion in the material to be sawed, a supporting arm provided at one end with a saw bearing, and clamping means for supporting said arm at one side of said dog to permit its reversal and adjustment without interference with the dog.
4. An undercutter support comprising a dog, a supporting arm mounted thereon for vertical adjustment and provided at one end with a saw bearing, a supporting bolt through which arm passes, and a clamping washer mounted upon said bolt and provided with a recessed face to engage one side of sald arm.
5. An undercutter support comprising a dog, a supporting arm mounted thereon for vertical adjustment and provided at one end with a saw bearing, a supporting bolt through which said arm passes, a clamping washer mounted upon said bolt and provided with a recessed face to engage one side of sald arm, an extended threaded shank from sald bolt, a co-operatIng washer mounted upon said shank to engage the clamping washer and provided upon one face with a recess to seat upon said dog, and a holding nut mounted upon the shank of the supporting bolt at the opposite side of the dog from said washers.
6. In an undercutter support, a dog having an aperture at its outer end, a supporting belt having a threaded shank extending through said aperture, a supporting arm adjustably carried by said bolt. means for clamping said arm and bolt to sald dog, and a supporting roller disposed upon a laterally extending lug at one end of said arm.
7. In an undercutter support. a supporting member. an arm carried thereby and provided with a saw hearing. a clamping bolt through which sald arm passes. a clamping washer mounted upon said bolt and provided upon one face with a recess to receive a portion of sald arm and upon its opposite
face with a bevelled clamping seat, a co-operating washer having a bevelled face to enter sald seat, and means for clamping said washers together.
8. In an undercutter support, a supporting member, an arm carried thereby and provided with a saw bearing, a clamping bolt through which said arm passes, a clamping member mounted upon said bolt and provided upon one face with a recess to receive a portion of said arm and upon its opposite face with a bevelled clamping seat, a co-operating washer having a bevelled face to enter said seat, a holding dog mounted upon the outer face of the co-operating washer, and a clamping nut threaded upon the shank of the holding bolt.

No. 101,248. Beot Cultivator. Cultivateur de betteraves.


Andree Larsen, Stirling, Alberta, Canada, 2nd October, 1906; 6 years. Fhled 10th September, 1906. Receipt No. 139,372.
Claim.-1. In a beet harvester, the combination of a frame, a transverse supporting bar slidably and pivotally mounted thereon, cultivator shovels carried by the bar, beams also carried by the bar, cutting and earth throwing devices carried by each beam, and each having a shank pivotally and adjustably attached to the beam, means connecting the devices to move in unison, a pressure spring acting on the shank of the earth throwing device, locking means for holding said devices in vertically adjustable position, and means for oscillating and sliding the transverse bar.
2. In a beet harvester, the combination of a frame, a transverse supporting bar slidably and pivotally mounted thereon, beams carried by the bar, cutting and earth throwing devices carried by each beam, and each having a shank pirotally and vertically adjustably attached to the beam, a link connecting the shanks of sald devices to move in unison, a pressure spring acting on the shank of the earth throwing devices, locking means for holding said devices in adjusted position, an intermediate bar adjustably connected with the beam, a link connecting said bar with the cutting device, and means for oscillating and sliding the transverse bar.
3. In a beet harvester, the combination of a frame, a transverse supporting bar slidably and pivotally mounted thereon, a sleeve non-rotatably mounted upon the bar and provided with terminal heads, a rack yoke carried by said sleeve, a gear engaging the rack, means for actuating the gear to slide the rack and bar in either direction, means for rocking the bar, and cultivating devices supported by the bar and adjustable vertically and laterally through the action thereof.
4. In a beet harvester, the combination of a frame, a transverse supporting bar slidably and pivotally mounted thereon, cultivator shovels carried by the bar, beams also carried by the bar, cutting and earth treating devices carried by each beam, each having a shank pivotally and vertically adjustably attached to the beam, a link connecting the shanks of said devices to move in unison, a pressure spring acting on the shank of the earth throwing device, an intermediate bar vertically adjustable on the beam, a link connecting said bar with the cutting device, locking means for holding sald shanks and intermediate bar in adjusted position, means for locking the supporting bar to vertically adjust the devices, and rack and pinion mechanism for sliding said bar to laterally adjust said devices.

\section*{No. 101,249. Andiliary Fuel Box for Stoves. Boite d flamme pour poéles.}

Thomas Berry Lockley. Goulburn, New South Wales, Australia, 2nd October, 1906; 6 years. Filed 12th September, 1906. Receipt No. 139,463.
Claim.-1. Improved auxiliary fuel box for stoves and the like having a removable cover and supported in front of the
firebox of a stove, substantially as herein described and explained.

2. Improved auxiliary fuel box for stoves and the like adapted to be drawn outwardly of the stove and be supported on brackets or legs or on the stove front, substantially as hereln described and explained.
3. Improved auxiliary fuel box for stoves and the like adapted to telescope with or without operating springs and being supported in front of the firebox of a stove, substantially as herein described and explained.
4. The combination with the front of a stove or the like and a fuel box or holder of a frame having horizontal such as 8 , and diagonal such as 9 , substantially as herein described and explained and as illustrated in the drawings.
5. The fuel box and its appurtenances on the front of a stove or the like substantially as herein described and explained and as illustrated in figure 1 of the drawings.
6. The fuel box and its appurtenances on the front of a stove or the like substantially as herein described and explained and as illustrated in figure 2 of the drawings.

No. 101,250. Needle Cushion for 8pools. Ouisson d'aigutlies powr bobines.


Albert C. Loomis, West Orange, New Jersey, U.S.A., 2nd October, 1906; 6 years. Filed 10th September, 1906. Receipt No. 139.398.
Claim.-A cushion for spools comprising a disc, a sheet of fabric, the disc and the sheet of fabric enclosing a flling, and a plate having its marginal rim bent to embrace
the edges of the disc and sheet, and having a series of concentric prongs struck up from the plate, the free ends of the prongs adapted to enter the perforation of a spool.

No. 101,251. Switch. \(\Delta\) iguille.


Henry O. Marquis, Superior, Penngylvania, U.S.A., 2nd October, 1906; 6 years. Filed 23rd August, 1906. Receipt No. 138,944.
Claim.-1. In a switch throwing device, the combination With a car, a track, a switch tongue, and a spring retained hook-shaped bar carried by said car and actuated by the operator of suid car, of a casing mounted in said track and having recesses formed in its upper face, eccentrics mounted within said casing adjacent to said recesses and adapted to protrude therein, a block pivotally mounted in said casing and connected with said switch tongue, means actuated by the bar of said car to move said switch tongue, substantially as described.
2. The combination with a car, a track and a switch tongue, of a spring held hook-shaped bar carried by sald car and actuated by the operator thereof, a casing mounted in said track and having recesses formed therein, eccentrics mounted ir said casing and protruding into said recesses, a block pivotally mounted in said casing and connected to said switch tongue and links connecting the opposite ends of said block with said eccentrics, said block being actuated by said bar contacting with said eccentrics to move sald switch tongue, substantially as described.

No. 101,252. Railvas THe. Dormant de chemin defer. Arthur B. Mason, Ashland, Ohio, U.S.A., 2nd October, 1906; 6 years. Filed 10 th September, 1906. Receipt No. 139,380.
Claim.-1. In a metallic railway tie a plate, adjustable means for securing a rail thereto and means beneath the rlate for adjusting and securing said means in a plurality of positions with respect to the rall.
2. In metallic railway tie a plate, adjustable means for securing a rail thereto, and key operated means beneath the plate for adjusting the securing means to leave the rail unsecured, to partially secure the rail or to hold it tightly secured.
3. In a metallic railway tie, a top plate provided with perfcrations, the tie being adapted to be placed with the perfcrations on each side of a rail, rotatable fastening means projecting upwardly through the said plate, a means beneath the said plate for rotating the fastening means.
4. A metallic railway tie comprising a perforated plate, rotatably headed fastening means extending upwardly through said perforations, a key operatable means beneath the said plate for rotating the said fastening means.
5. A metallic tie comprising a top plate, rotatably headed fastening means projecting upwardly through sald plate, key operated means beneath the sald plate for rotating the said festening means and a channel bar secured beneath the said plate with lts web portion downward.
6. A metallic tie comprising an upper plate, rotatable lugg rrojecting upwardly through said plate, key operated means

beneath said plate for locking the lugs, a channel bar secured beneath the said plate with its web portlon downward and means on the bottom of the channel bar for holding it against longitudinal motion.
7. A metallic tie comprising a top plate, rotatable headed fastenings projecting upwardly through said plate, key operated means, and said rotating means comprising a notched bar and secured to said headed fastenings.
8. A metallic tie comprising a top plate, movable fastening means projecting upwardly through said plate, key operated means beneath the sald plate for operating the said fastening means.
9. A metallic tle comprising a top plate, rotatable lugs projecting upwardly through said plate, and adapted to hold the rail thereto, springs on the lugs beneath the said plate, cranks on the lugs beneath the springs and a notohed bar to which the ends of the cranks are pivotally connected.
10. A metallic tie comprising a top plate, means projecting from the plate to hold a rail in place thereon, means beneath the sald plate for locking the holding means in place, said means being adapted to be released by means of a key inserted through an opening in the plate.
11. A metallic tle comprising a top plate, movable rall fastening means projecting upwardly through the plate, means beneath the said plate for operating the fastening means, said means comprising a longitudinally movable bar.
12. A metallic rallway tie comprising a top plate, the said plate being provided with perforations, lugs having side wise projecting portions at their upper ends projecting through the perforations in sald plate, springs on the lower ends of the lugs. cranks beneath the springs, a bar bolted upon the lugs beneath the cranks, a bar to which the ends of the cranks are pivoted, said last-named bar being provided with notches in its side, a spring operated key releasable means for locking the last-named bar apainst longitudinal movement.
No. 101,253. Ironing Board. Planche d repasser.


Ferdinand Winthrop Moore, Montrcal, Quebec. Canada, 2nd October, 1906. 6 years. Filed 5th September, 1906. Recelpt No. 139,266.
Claim.-1. In a foldable ironing board the combination of a longltudinally slotted board, a supporting leg having a notch
or recess on its underside, near the top end thereof, an intermediate support resting on satd supporting leg intermediate its ends and engaging with a notched member to brace said ironing board.
2. In a foldable ironing board the combination of a longitudinally slotted board, a supporting leg having a notch or recess on its underside, near the top end thereof, an intermodiate support resting on said supporting leg intermediate its ends and engaging with a notched member to brace said ironing board, in combination with a leg hinged at the outer end of the board and adapted to rest on the floor.
3. In a foldable ironing board the combination with a longitudinally slotted board, an oblquely disposed notched supporting leg, a serrated casting on the upper side of said leg and a brace connected with said board at one end and resting on said casting at its opposite end.

No. 101,254. Meat Banter. Arrosor pour ofande.


John O'Connor, New York City, New York, U.S.A., 2nd October, 1906; 6 years. Filed 4th September, 1906. Receld No. 139.221.
Claim.-In a baster the combination with a pan having a substantially flat bottom and upright corner forming sides and ends, of an elongated perforated receptacle adapted to rest against the pan bottom at one side of the pan, arms extending from said receptacle and having awivelled connections with the ends of the pan, whereby by swinging the receptacle, basting mater:al may be lifted from the side of the pan and discharged over the meat.

No. 101,255. Process of Eradicatins Weeds and Insect Pests.
Procédé poutr déraciner les mauvaises herbes, etc.


FIG. 1 101236-
George Montague Bowser and Edwin Albert Bowser, co-inventors, both of Brisbane, Queensland, Australia, 2nd October, 1906; 6 years. Filed 10th September, 1906. Recelpt No. 139.415.
Cladm. -In a process for destroying vegetable growths and insect pests, exposing the same to the action of steam and hot air applled under sultable cover, from any convenient source.

\section*{No. 101,256. Carbureter. Carbureteur.}

William Brown and James Brown, co-inventors, both of Vancouver, British Columbia, Canadh, 2nd October, 1906; 6 years. Filed 16th October, 1905. Receipt No. 129,271.
Claim.-1. In a carbureter, an open-ended rectangular chamber divided by horizontal and vertical partitions into a scries of elongated passages, covers for the ends of the cham-
ber having recesses which will connect the adjacent passages to form one continuous passage from an inlet in


Fic. 3

one of the lower ones to an outlet from one of the upper ones, means for delivering atmospheric air to the inlet, and means for connecting the outlet to the lower end of an oll tank.
2. In a carbureter an open-ended rectangular chamber divided by horizontal and vertical partitions into a series of elongated passages, covers for the ends of the chamber having recesses that will connect the adjacent passages to form one continuous passage from an inlet in one of the lower ones to an outlet from one of the upper ones, said connected passages being filled with an absorbent material, means for automatically maintaining said material saturated with hydro-carbon oll from a tank adjacent, means for introducing atmospheric air to the lower end of the connected series of passages, and means for delivering into the lower end of the supply tank the hydro-carbon gas generated.
3. In a carbureter a rectangular chamber divided by horizontal and vertical partitions into a series of elongated passages which are connected by recesses in the cover to form one continuous passage which passages is charged with an absorbent material, means for introducing atmospheric air to the lower end of the series, means for delivering from the upper end of the passage the gas generated through a Hight check valve into the lower end of an oll reservoir, means for withdrawing the gas from the upper end of the oll reservoir, and a spring controlled air valve opening inward in the gas withdrawal pipe.

\section*{No. 101,257. Flashboard Holder for Dams. Ecluse pour digues.}

Wilham Lee Church, Newton, Massachusetts, U.S.A., 2nd October, 1906; 6 years. Filed 4th September, 1906. Recelpt No. 139,234.
Claim.-1. A dam having at its crest a series of guides, and flashboard supporting posts movable in sald guides.
2. A dam having at its crest a series of guides, and posts movable endwise and rotatable said guides, and provided with ears or lugs adapted to engage the upper edges of flashboards.
3. A dam having in its crest a series of guides, and pockets communicating with the upper ends of the guides, ind posts movable in said guides and provided with flashboard engaging ears or lugs adapted to occupy said pockets when the posts are retracted.
4. A dam having a chamber or cavity below its crown, guides extending from said chamber through the crown, and flashboard supporting posts movable in said guides and provided with operating means located in the chamber.
5. A dam having a chamber or cavity below its crown, guides extending from said chamber through the crown, and

flashboard supporting posts movable in said guides and provided with operating handles at their lower end within the chamber.
6. A concrete dam structure hollow below its crown, tubular metal guldes extending through the crown, and flashboard supporting posts movable in sald guides.
7. A dam having a chamber or cavity below its crown, guides extending from said chamber through the crown, flashboard supporting posts movable in said guides and extending into the chamber, and stuffing boxes surrounding said posts.
No. 101,258. Dam. Digue.

.. Illam Lee Church, Newton, Massachusetts, U.S.A., 2nd October, 1906; 6 years. Filed 4th September, 1906. Recelpt No. 139,235.
Claim.-1. A dam having means at the downstream side of its crest for deflecting overflow water backwardly.
2. A dam having means at the downstream side of its crest for deflecting overflow water backwardly, and a wear resisting bed arranged to sustain the impact of the deflected overflow water.
3. A dam comprising a deck, a wear resisting bed extending downstream from the heel of the deck, and a baffle wall located at the downstream side of the deck and adapted to direct overflow water backwardly toward the deck and upon the bed
4. A dam comprising a deck, a wear resisting bed extending downstream from the heel of the deck, buttresses between the bed and deck, and a baffle wall supported by the buttresses at the downstream side of the deck and adapted to direct overfiow water backwardly toward the deck and upon the bed.
5. A dam comprising a deck, a wear resisting bed extending downstream from the heel of the deck, and a bafle wall located at the downstream side of the deck and separate from the latter by an overfiow passage.
6. A dam comprising a deck, a wear resisting bed extending downstream from the heel of the deck, a bafile wall located at the downstream side of the deck and separated from the latter by an overfiow passage and a grind or grating in the upper portion of sald passage.
7. A dam comprising a deck, a wear resisting bed extending downstream from the heel of the deck, a baffle wall located at the downstream side of the deck and adapted to direct overfiow water backwardly toward the deck and upon the bed, the crest of the baffie wall being substantially fush with the crest of the deck and located over the bed.
8. A dam having an upstream crest, a downstream crest separated from the upstream crest by an overiow passage, and means for deflecting backwardly the overfow passing through said passage, the deflected water cushloning the verflow pasing over the downstream crest.
9. A dam having an upstream crest, a downstream crest separated from the upstream crest by an overiow pasaase, one side of which is formed by a bafle wall below the downstream crest and means for ma!ntaining a cushloning pool underneath the baffle wall.

No. 101,259. Dam for Wator Worize.
Digue pour machines hydrauligwes.


William Lee Church, Newton, Massachusetts, U.S.A., 2nd October, 1906; 6 years. Filed 4th September, 1906. ROceipt No. 139,236.
Claim.-1. A water works dam having a screened opening in its deck, and a clear water chamber below the deck, said chamber receiving water through said opening and communicating with a water main.
2. A water works dam having an inclined aeck provided with an elongated opening, a screen partially occupying said opening, flling pieces occupying the remainder of the opening, said screen and filling pleces being adjustable to vary the height of the screen, and a clear water chamber communicating with said opening.
3. A water works dam having an inclined deck, and a clear water chamber below the deck, the deck having an elongated opening communicating with the clear water chamber, retaining members adjacent to said opening, and a screen and flling pleces occupying said opening, and confined againgt lateral displacement by said retaining members.
4. A water works dam having a screened opening in its deck, a clear water chamber below the deck communicating with said opening, a gate house adjacent to said member, and a water main constituting the outlet of the clear water chamber and provided with a gate, and a gate operating device located in the gate house.

\section*{No. 101,260. Artificial Limb. Mombre artifoicl.}

John K. S. Farris, Saltville, Virginia, U.S.A., 2nd October.
1906; 6 years. Filed 5th May, 1906. Recelpt No. 135,587.
Claim.-1. In an artificial limb, the combination of a flexible foot body, a flexible leg portion, and connecting and stiffening means consisting of side leg irons secured to said leg portion and having a transverse ankle blot connection with said foot body, substantially as specified.
2. In an artificial limb, the combination of a foot body formed of a series of straight flat longitudinal vertical layers of rubber and interlayers of thread having a cement connection to said layers of rubber, a flexible leg portion joined to said foot body, and connecting and stiffening means consisting of side leg irons secured to said leg portion and to said foot body, substantially as specined.
3. In an artificial limb, the combination of a foot body formed of a series of straight fiat longitudinal vertical layers of rubber and interlayers of thread having a cement
connection to said layers of rubber, a flexible leg portion joined to said foot body and formed of layers of felt and

leather having perforations throughout for ventilation and flexibility, the ends of said leg portion having lacing connections, and stiffening and connecting means consisting of side leg irons secured to said leg portion and having a transverse ankle bolt connection with sald foot body, substantially as specified.
4. An artificial limb, the combination with longitudinal vertical flexible layers connected together and forming a foot body. of side leg irons having forward terminal bends, and an ankle bolt passing through said layers and connecting said irons, substantially as specified.
5. In an artificial limb, lateral leg irons having forward terminal bends at their lower ends, a flexible foot body having an ankle recess, a transverse ankle bolt, a transverse bracing bolt, side pads and recess padding, and a foot form covering, substantially as specified.

No. 101,261. Respirator or Inhaler.
Respirateur ou inhalateur.


John L. Hively, Elkhart, Indiana, U.S.A., 2nd October, 1906 ; 6 years. Filed 10th May, 1906. Receipt No. 135,756.
Claim.-1. In an inhaler or respirator the combination of a mask adapted to flt over the nose and mouth of the wearer,
a receptacle \(B\) arranged in said mask in position to be supported beneath the nose of the wearer. sald receptacle having perforations in the top and bottom thereof, the perforditions in the top being arranged in a zigzag manner in relation to those at the bottom, a door having perforations therein hinged at its top opening bencath said receptacle \(B\), a receptacle carried by said door having perforations in the top thereof adapted to be brought into register with the perforations in the bottom of said receptacle \(B\) when said door is in its closed position, a spring adapted to retain said door in its open and closed positions and suitable fllling material for said receptacles, for the purpose specifled.
2. In an inhaler or respirator the combination of a mask adapted to fit over the nose and mouth of the wearer, a receptacle \(B\) arranged in said mask in position to be supported beneath the nose of the wearer, said receptacle having perforations in the top and bottom thereof, the perforations in the top being arranged in a zigzag manner in relation to those in the bottom, a door having perforations therein hinged at its top opening beneath said receptacle \(B\), a receptacle carried by said door having perforations in the top thereof adapted to be brought into register with the perforations in the bottom of said receptacle \(B\) when said door is in its closed position and sultable flling material for said receptacle, for the purpose specified.
3. In an inhaler or respirator the combination of a mask adapted to fit over the nose and mouth of the wearer, a receptacle \(B\) arranged in said mask in position to be supported beneath the nose of the wearer. said receptacle having perforations in the top and bottom thereof, a door having perforations therein hinged at its top onening beneath said rereptacle \(B\), a receptacle carried by said door having perforattions in the top thereof adapted to be brought into register with the perforations in the bottom of said receptacle \(B\) when said door is in closed position, a spring adapted to retain said door in its open and closed positions and suitable flling material for said receptacles, for the purpose specified.
4. In an inhaler or respirator the combination of a mask adapted to fit over the nose and mouth of the wearer, a receptacle \(B\) arranged in sald mask in position to be supported beneath the nose of the wearer. said receptacle having perforations in the top and bottom thereof, a door hinged at the top having perforations therein, opening beneath said receptacle B, a receptacle carried by said door having perforations in the top thereof adapted to be brought into register with the perforations in the bottom of said receptacle \(B\) when said door is in its closed position and suitable fllling material for sald receptacles. for the purpose specified.
5. In an inhaler or respirator the combination of a mask adapted to fit over the nose and mouth of the wearer, a receptacle arranged in said mask in position to be supported beneath the nose of the wearer, sald receptacle having perforations in the top and bottom thereof, the perforations in the top being arranged in a zigzag manner in relation to those in the bottom, a door having perforations therein opening beneath said receptacle, a spring adapted to retaiu sald door in its opening and closed positions and a suitable fllling material for sald receptacle, for the purpose specifled.
6. In an inhaler or respirator the combination of a mask adapted to fit over the nose and mouth of the wearer. a receptacle arranged in said mask in position to be supported beneath the nose of the wearer, said receptacle having perforations in the top and bottom thereof, a door opening beneath said receptacle arranged in front of the mouth of the wearer, a spring adapted to retain said door in its open and closed positions and a suitable flling material for said receptacle, for the purpose specified.
\(\boldsymbol{7}\). In an inhaler or respirator the combination of a mask adapted to fit over the nose and mouth of the wearer. a receptacle arranged in said mask in position to be arnanged beneath the nose of the wearer, said receptacle having perforations in the top and bottom thereof, a door having perforations therein, opening beneath said receptacle arranged in front of the mouth of the wearer and suitable filling material for said receptacle, for the purpose specified.
8. In an inhaler or respirator the combination of a mask adapted to fit over the nose and mouth of the wearer. a perforated receptacle arranged in said mask in position to be supported beneath the nose of the wearer. a door in said mask opening beneath said receptacle and arrangerl in front of the mouth of the wearer and a suitable filling material for sa!d receptacle, for the purpose specified.

\section*{No. 101,262. Pastenrizing Apparatus.}

Appareil a pasteuriser.
Charles H. Loew, Lakewood, Ohio, U.S.A., 2nd October, 1906 ;
6 years. Filed 7th May, 1906. Receipt No. 135,648.
(laim.-1. An apparatus for pasteurizing beer in bottles comprising a pasteurizing chamber, a spraying mechanism within the chamber, means for supplying water thereto and means for gradually heating the water so supplied without interrupting its flow.
2. An apparatus for pasteurizing beer in bottles comprising a pasteurizing chamber, a spraying mechanism within

the chamber, means for supplying water thereto and means for gradually heating the water so supplied without interrupting its flow, consisting of a water tempering chamber provided with a steam supply pipe.
3. An apparatus for pasteurizing beer in bottles comprising a pasteurizing chamber. a spraying mechanism within the chamber, means for supplying water thereto and means for gradually heating the water so supplled without interrupting its flow, consisting of a water tempering chamber provided with a steam supply pipe, and means, as a thermostat, adapted to control and regulate the steam supply.
4. An apparatus for pasteurizing beer in bottles, compris ing a pasteurizing chamber, a spraying mechanism within the chamber, means for supplying water thereto and means for gradually heating the water so supplied without interrupting its flow, until a predetermined temperature for the spray is arrived at and means for maintaining said temperature a suitable length of time.
5. An apparatus for pasteurizing beer in bottles, comprising a pasteurizing chamber, a spraying mechanism within the chamber, means for supplying water thereto and means for gradually heating the water so supplied without interrupting its flow, until a predetermined temperature for the spray is arrived at and means for maintaining said temperature a suitable length of time, consisting of a water iempering chamber, a steam supply pipe and a thermostat rcgulated by the temperature within the water tempering chamber and controlling the steam supply accordingly.
6. In apparatus for pasteurizing beer in bottles comprising a pasteurizing chamber, a spraying mechanism within the chamber, means for supplying water thereto, means for gradually heating the water so supplied without interrupt ing its flow. means for collecting the said water after use, and means for restoring its temperature and returning it to the spraying mechanism.
7. An apparatus for pasteurizing beer in bottles, comprisIng a pasteurizing chamber, a spraying mechanism within the chamber, means for supplying water thereto, means for gradually heating the water so supplied, without interrupt Ing its flow, means for collecting the said water after use. and means for restoring its temperature and returning it to the spraying mechanism consisting of a drip tank, a pump, a water tempering chamber provided with a steam pipe.
8. An apparatus for pasteurizing beer in bottles comprising a pasteurizing chamber, means for supporting bottles therein, a plurality of spraying devices each arranged above a suitable number of bottles, a common means for supplying the spraying devices with heated water, and means for heating the water.
9. In an apparatus of the kind described, a pasteurizing chamber, a plurality of spraying devices arranged one above another within the chamber, means intermediate for supporting the bottles under each spraying device, each support being adapted to allow the water to pass through the same, a drip tank at the bottom of the chamber and means whereby the water from the drip tank is conveyed to the spraying devices under pressure.
10. An apparatus for pasteurizing beer in bottles, comprising a pasteurizing chamber, a spraying mechanism within the chamber, means for supplying water thereto and means for gradually heating the water so supplied without interrupting its fow until a predetermined temperature for the spray is arrived at and means for maintaining said temperature a suitable length of time, and means for finally reflicing the temperature.

No. 101,263. Post Retaining Band.
Bande de retenue pour poteatur.


Olof Olson. Bancroft, Iowa, U.S.A., 2nd October, 1906: 6 years. Filed 13th September, 1906. Receipt No. 139,469. Claim.-1. In a device of the class described a post engaging member, a handle pivoted thereto, a rope passing around one end of the handle secured at one end to the post retaining member and secured at its other end to the handle, a ratchet secured to the post retaining member on the opposite side of the handle from it, and a pawl secured to the handle for retaining the handle against movement in one direction.
2. In a device of the class described a post engaging member, a handle pivoted thereto, a rope passing around one end of the handle secured at one end to the post retaining member and secured at its other end to the handle. a ratchet secured to the post retaining member on the opposite side of the handle from it, a spring actuated pawl secured to the handle for retaining the handle against movement in one direction.
3. In a device of the class described a post engaging mem ber, a handle having a series of openings extending through it, a rounded head having a groove in it at one end of the handle, means for pivotally securing the curved head of the handle to the post retaining member, and a cable secured to the post engaging member passing around the curved head and detachably secured to the handle.
4. In a device of the class described a post engaging mem ber, a handle having a series of openings extending through it, a rounded head having a groove in it at one end of the handle. means for pivotally securing the curved head of the handle to the post retaining member, a cable secured to the post engaging member passing around the curved head, and a hook on the free end of the cable designed to be ingerted into any one of the openings in the handle.
5. In a device of the class described a post engaging member, a handle having a series of openings extending througl it, a rounded head having a groove in it at one end of the handle, means for plvotally securing the curved head of the handle to the post retaining member, a cable secured to thr post engaging member passing around the curved head, a hook on the free end of the cable designed to be inserted Into any one of the openings in the handle, a ratchet wheel non rotatably secured to the post engaging member, and a spring actuated pawl mounted on the handle and designed to engage the ratchet for maintaining the handle in position against the drawing force of the rope when it is shown tight around a post.
6. A post engaging member having a concave surface designed to engage a post and a convex outer surface, a bearing extending outwardly from the convex surface, a handle plvot ally mounted on the bearing, a squared member extending outwardly from the bearing, a ratchet wheel secured to the squared member, a spring actuated pawl pivoted to the handle designed to engage the ratchet, a rope secured to one side of the post engaging member and passing through the other side of the handle and passing around the end of the handle adjacent to the ratchet wheel, and a hook secured to the free end of the rope designed to enter any one of tho openings in the handle, for the purposes stated.
7. A post engaging member having a concave surface designed to engage a post and a convex outer surface, a bearing extending outwardly from the convex surface, a handie pivotally mounted on the bearing, a squared member extending outwardly from the bearing, a ratchet wheel secured to the squared member, a spring actuated pawl pivoted to this handle designed to engage the ratchet, a rope secured to one side of the post engaging member and passing through th other side of the handle and passing around the end of the handle adjacent to the ratchet wheel, and a hook detachably secured to the free end of the rope designed to enter any one of the openings in the handle.

No. 101,264 . System of Electric Train Control. Système électrique de contrôle des convois.
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August Sundh and Axel Magnuson, New York City, New York, U.S.A., 2nd October, 1906; 6 years. Filed 29th May, 1905. Receipt No. 125,586.
Claim.-1. The combination with two connected cars adapted to carry goods or passengers, electrical circuits on the cars, an inductive apparatus associating the circuits on the two cars, and a chain for flexibly supporting the inductive apparatus.
2. In combination with two cars, a two part inductive apparatus, one part of which is flexibly connected to one of the cars by means of a chain and the other part of which is flexibly connected to the other of the cars by means of another chain.
2. In combination with two cars, a two part inductive apparatus, one part of which is on one of the cars and the other part of which is on the other of the cars, and means for uniting and rigidly holding the two parts together.
4. In combination with two cars, a two part inductive apparatus, one part of which is on one of the cars and the other part of which is on the other of the cars, and means for uniting and rigidly holding the two parts together under usual conditions but allowing them to be pulled apart when subjected to an undue strain.
5. In combination with two cars, an inductive apparatus comprising two parts, each enclosed in a waterproof casing, one of which parts is supported by one of the cars and the other of which is supported by the other of the cars.
6. In combination with a plurality of cars, a plurality of alternating current circuits on each of the cars, a plurality of inductive devices between the cars adapted to operatively associate the circuits, and a switch arranged to control said circuits.
7. In combination with a plurality of cars, a plurality of alternating current circuits on each of the cars, a plurality of inductive devices between the cars adapted to operatively associate the circuits, and switches on each car for controlling the circuits.
8. In combination with a plurality of cars, a plurality of alternating current circuits on each of the cars, a plurality of inductive devices between the cars adapted to operatively associate the circuits, and switches on each car any one of which may be used for controlling the circuits.
9. In combination with a plurality of connected cars, a plurality of alternating current circuits on each of the cars, a plurality of inductive devices between the cars adapted to operatively associate the circuits and arranged to render such circuits inoperative should the cars become separated.
10. The combination with a plurality of cars, of a motor and a controlling circuit therefor on each car and inductive means for operatively associating the controlling circuits.
11. The combination with a plurality of cars, of a motor and a controlling circuit therefor on some of the cars, and inductive means for operatively associating the controlling circuits.
12. The combination with a plurality of cars, of motors and controlling circuits therefor, inductive means for operatively associating the circuits between the cars and a switch in the controlling circuit.
13. The combination with a plurality of cars, of a motor and a controlling circuit therefor on each car. inductive means for operatively associating the controlling circuits and a switch on each car in the controlling circuit.
14. The combination with a plurality of cars, of a motor and a controlling circuit therefor on each car, inductive means for operatively associating the controlling circuits, and means for controlling the motors from any selected car.
15. The combination with a plurality of cars, of a motor and a controlling circuit therefor on each car, inductive means for operatively associating the controlling circuits, and means for controlling the motor from any selected car whereby the motor may be started in either direction.
16. The combination with a plurality of cars, of motors and controlling circuits on the cars, inductive means for associating the controlling circuits between the cars, master switches at both ends of each car, and means for operatively assoclating the master switches with the controlling circults.
17. The combination with a plurality of cars, of motors and controlling circuits on the cars, means for inductively associating the circults between the cars, master switches on the cars connected in the controlling circuits, and means for rendering any desired master switch or switches inoperative.
18. The combination with a plurality of cars, of a motor and a controlling circuit therefor on each car, inductive means for operatively associating the controlling circuits a master switch and a compensating switch on each car for controlling the circuits.
19. The combination with a plurality of cars, of a motor and a controlling circuit therefor on each car, inductive means for operatively associating the controlling circuits, a master switch on each car for controlling the circuits, and a compensating switch for varying the current in the controlling circuits.
20. The combination with a plurality of cars, of a motor and a controlling circuft therefor on each car, inductive means for operatively associating the controlling circuits, a master switch on each car for automatically controlling the circults, and a compensating switch for varying the current in the controlling circuits in proportion to the number of cars.
21. The combination with a plurality of cars, of a source of alternating current motors, circuits adapted to connect the motors to the source of supply, and controlling circuits therefor on each car, and inductive means for operatively associating the controlling circuits between the cars.
22. The combination with a plurality of cars, motors on some of the cars, an external source of alternating current electrical supply connected to one of the cars. and inductive devices between the cars arranged to establish current in the other cars.
23. The combination with a plurality of cars of a motor and a controlling circuit therefor on each car, and inductive means for associating the circuits so that they will be mutually operative when the cars are together.
24. The combination with a plurality of cars, of a motor and a controlling circuit therefor on each car, and inductive means on the end of each car for associating the circuits So that they will be mutually operative only when the cars are together.
25. In combination with an electric train. controlling circuits therefor adapted to carry a single phase alternating current, a master switch for controlling the circuits, and means for regulating the amount of current in the circults.
26. In combination with an electric train, motors for driving the train. controlling circuits for the motors. said circuits adapted to carry a single phase alternating current. and a master switch for controlling the controlling circuits.
27. In combination with an electric train, motors for driving the train. controlling circuits for the motors, said circuits adapted to carry a single phase alternating current. a motor switch for controlling the controlling circuits, and means for regulating the amount of current in the circuits.
28. In combination with an electric train. a source of mult!phase alternating current supply, multiphase motors for hauling the train, and single phase controlling circuits for the motors.
29. In combination with a plurality of cars, a source of multiphase alternating current supply. multiphase motors for hauling the cars, single phase controlling circuits for the motors, and means for controlling the circuits from any selected car.
30. In combination with an electric train. a source of multiphase alternating current supply, multiphase motors for hauling the train, single phase controlling circuits for the motors. and means for inductively associating the controlling circuits between the cars of the train.
31. In combination with a plurality of cars, a source of multiphase alternating current supply, multiphase motors for hauling the cars. single phase controlling circuits for the motors means for inductively associating the controlling circuits between the cars of the train, and means for controlling the circuits from any selected car.
32. In combination with an electric train, alternating current motors thereon, controlling devices for the motors, said controlling devices being artuated by the single phase alternating current controlled from any selected platform of the train.
33. In combination with an electric train. multiphase altornating current motors thereon, electrically operated controlling devices for the motors, single phase controlling circuits for actuating the controlling devices, and means for inductively associating the controlling circuits between the cars.
34. In combination with an electric train, multiphase alturnating current motors thereon, electrically operated controlling devices for the motors. single phase controlling circults for actuating the controlling circuits between the cars and means for controlling the controlling circuits from a selected platform of the train.
35. The combination with a car having an electric motor, a wurality of controlling circuits therefor and a switch arranged to send a single phase alternating current through onf- or more of the controlling circuits, of another car also having an electric motor and a plurality of similar controlling circuits, and an inductive device between the cars arranged to send a single phase current through such of the circults on the second car as correspond to the circuits of the first car through which current is being sent.
36. The combination with a car having an electric motor, a plurality of controlling circuits therefor and a switch arranged to send a single phase alternating current through one or more of the controlling circuits, of one or more cars cach having an electric motor and a plurality of similar controlling circuits, and inductive devices between the cars arranged to send a single phase current through such of the c!rcuits on the other cars as correspond to the circuits of the first car through which current is being sent.
37. In combination with an electric train, a source of alternating current, an alternating current motor for driving the train, and a direct current generator driven by the movement of the train and arranged to control the acceleration of the motor.
38. In combination with an eiectric train, a source of alternating current, a plurality of motors for driving the train, and a direct currant generator driven by the movement of the train, and a direct current generator driven by the movement of the train, and arranged to control the acceleration of the motors.
39. In combination with an electric train. a source of alternating current. a plurality of motors for driving the train, controllers for the motors, and a direct current generator driven by the movement of the train and arranged to control the acceleration of the motors.
40. In combination with an electric train. an alternating current motor for driving the train. a direct current generator driven by the movement of the train, an electro-responsive device actuated by the direct current for controlling the acceleration of the motor.
41. In combination with an electric train, an alternating current motor for driving the train, a direct current generator driven by the movement of the train, an electro-responsive device comprising direct current magnets actuated by the current from the generator for controlling the acceleratlon of the motor.
42. A car. an alternating current motor for driving the car. a direct current generator driven by the movement of the ear and arranged to control the acceleration of the motor and controlling eircuits. combined with another car having a similar motor, gencrator and controlling circuits and inductive means for operatively associating the controlling circuits on the two cars.
43. The combination of a plurality of cars each having an alternating current motor, a direct current generator driven by the movement of the cars and arranged to control the acceleration of the motor and controlling circuits and inductive means between the cars for operatively associating their controlling circuits.
44. The combination of a plurality of cars each having an alternating current motor. a direct current generator driven by the movement of the car. an electro-responsive device actuated by the current from the generator for controlling the acceleration of the motor and controlling circults and inductive means between the cars for operatively associating the controlling circuits.
45. The combination of a plurality of cars each having an alternating current motor, an opposition element in the motor circuit, a direct curreut generator driven by the movement of the car. an electro-responsive device for removing the opposition element from the motor rircuit, and controlling circuits and inductive means between the cars for operatively associating the controlling circuits.
46. The combination of a plurality of cars each having an alternating current motor, an opposition element in the motor circuit, a direet current generator driven by the movement of the car, an electro-responsive deviee comprising magnets for removing the opposttion element from the motor circuit and controlling circuits and inductive means between the cars for operatively associating the controlling circuits.
47. The combination of a plurality of cars each having an alternating current motor, an opposition element in the motor circuit, a direct current generator driven by the movement of the car, an electro-responsive device comprising magnets for removing the opposition element from the motor circuit step by step and controlling circuits and inductive means between the sars for operatively assoclating the controlling circuits.
48 The combination of a plurality of cars each having an alternating current motor, a direct current generator driven by the movement of the car and arranged to generate a variable voltage in proportion to the speed of the car, an electroresponsive device connected to the generator, said electro-responsive device comprising magnets actuated one by one as the voltage increases, and controlling circuits and inductive means between the cars for operatively associating the controlling circuits.
49. In combination with a car, an alternating current motor, a direct current generator driven by the movement of the car and arranged to generate a.variable voltage, an electro-responsive device connected to the generator for controlling the acceleration of the motor, said electro-responsive device comprising magnets arranged to be acuated one by one, and means for rendering the magnets inoperative.
50. In combination with a car, an alternating current mo tor, a direct current generator driven by the movement of the car and arranged to generate a variable voltage in proportion to the speed of the car, an electro-responsive device connected to the genrator, for controlling the acceleration of the motor. said electro-responsive device comprising magnets arranged to be actuated one by one as the voltage increases. and means for rendering the magnets inoperative.
51. In combination with a car, an alternating curret mo tor, a direct current generator driven by the movement of the car and arranged to generate a variable voltage in proportion to the speed of the car, an electro-responsive device connected to the generator, for controlling the acceleration of the motor, said electro-responsive device comprisions magnets arranged to be actuated one by one as the voltage increases, and means for rendering one or more of the magnets inoperative.
52. In combination with a car, an alternating current motor, a direct current generator driven by the movement o the car and arranged to generate a variable voltage in proportion to the speed of the car, an electro-responsive device connected to the generator for controlling the acceleration of the motor, said electro-responsive device comprising magnets arranged to be actuated one by one as the voltage increases, and manually operated means for rendering one or more of the magnets inoperative.
53. The combination of a plurallty of cars each having an alternating current motor, a direct curren generator driven by the movement of the car and arranged to generate a variable voltage in proportion to the speed of the car, an electro responsive device connected to the generator, said electroresponsive device comprising magnets automatically actuated one by one as the voltage increases, means for rendering said magnets inoperative and controlling circuits, and inductive means between the cars for operatively associating the controlling circults.
54. The combination of a plurality of cars each having an alternating current motor, a direct current generator driven by the movement of the car and arranged to generate a variable voltage in proportion to the speed of the car, an elec tro-responsive device connected to the generator, said elec tro-responsive device comprising magnets automatically actuated one by one as the voltage increases, manually operated means for rendering one or more of the magnets inoperative and controlling ctrcults, and inductive means be tween the cars for operatively associating the controlling ercuits.
55. In combination with a car an alternating current motor for driving the car, a direct current generator driven by the movement of the car, an electro-responsive device actuated by the direct current for automatically controlling the acceleration of the motor, and manually controlled means for controlling the speed of the motor.
56. The combination of a plurality of cars each having an alternating current motor, a direct current generator driven by the movement of the cars and arranged to autumatically control the acceleration of the motor and controlling circuits, inductive means between the cars for operatively as soclating their controlling circuits, and means for controlling the cars from any selected platform of the train.
57. The combination of a plurality of cars each having an alternating current motor, a direct current generator driven by the movement of the cars and arranged to automatically control the acceleration of the motor and controlling cir. cuits, inductive means between the cars for operatively as sociating their controlling circuits, manually controlked means for starting, stopping and controlling the speed of the cars. and means for controlling the cars from any selected platform of the train.
58. In combination with a plurality of cars. alternating motors for the cars, controlling circuits. electrically operated switches in the circuits, said switches comprising alternating and direct current magnets. inductive means between the cars for operatively associating the operating circuits.
59. In combination with a plurality of cars, alternating current motors on the cars, starting switches in the motor circuits, single phase controlling circuits arranged to close the starting switches, and inductive means between the cars for operatively associating the controlling circuits.
60. In combination with a plurality of cars. a source of alternating current supply, altemating current motors on the cars. direct current generators connected to run with the cars, starting switches for the motors primarily closed by the alternating current and held in closed position by the direct current and inductive means between the cars arranged to cause the starting switches to be closed simultaneously.
61. In combination with a plurality of cars a source of alternating current supply, alternating current motors on the cars, direct current generators connected to run with the cars, starting switches for the motors primarily closed by the alternating current and held in closed position by the direct current. inductive means between the cars arranged to cause the starting switches to be closed simultaneously. and means for controlling the switches from a selected point.
62. In combination with a plurality of cars, alternating current motors for starting the cars, a source of direct current controlled by the motors, electrically operated starting switches for the motors, electro-responsive devices actuated by the direct current for controlling the acceleration of the motors, alternating current magnets and direct current magnets for actuating the starting switches, controlling circuits and inductive means for operatively associating the controlling circuits on the several cars.
63. In combination with a plurality of cars, alternating current motors for driving the cars, direct current generators connected to run with the cars, electrically operated starting switches for the motors, electro-responslve devices comprising accelerating magnets actuated by the direct current for automatically controlling the acceleration of the motors. speed controlling switches for controlling the accelerating magnets, alternating current magnets and direct current magnets for actuating the starting switches and the speed controlling switches. controlling circuits and inductive means for operatively associating the controlling circuits.
64. In combination with a plurality of cars, alternating current motors for driving the cars. direct current generators connected to run with the cars, electrically operated starting switches for the motors, electro-responsive devices comfrising accelerating magnets actuated by the direct current for automatically controlling the acceleration of the motors, speed controlling switches for controlling the accelerating magnets, alternating current magnets and direct current magnets for actuating the starting switches and the speed controlling switches, controlling circuits anyl inductive means for operatively associating the controlling circuits. and master switches on the cars for controlling the said starting and speed controlling switches.
65. In an electricetrain the combination of two or more nistor cars, one or more cars without motors, controlling circuits for the motors, and inductive means between all of the cars for operatively associating the controlling circuits. 66. In an electric train the combination of two or more motor cars, one or more cars without motors, controlling circuits for the motors and inductive means between all of the cars for operatively associating the controlling circuits and means for controlling the motors from a selected platform of any of the motor cars.
67. In combination with an electric train, a plurality of controlling circuits therefor adapted to carry alternating currents, a master switch for controlling the circuits, and a plurality of inductive devices between the cars for operatively associating the controlling circuits.
68. In combination with an electric train, a plurality of controlling circuits therefor adapted to carry alternating currents. a master switch for controlling the circuits, a plurality of inductive devices between the cars for operatively assoclating the controlling circuits, and means for controlling the circuits from any selected car.
69. In combination with an electric train, alternating current motors thereon, electrically operated controlling devices for the motors, alternating current circuits for actualing the controlling devices, and means for inductively as sociating the controlling ctrcuits between the cars.
70. In combination with an electric train, alternating current motors thereon, electrically operated controlling devires for the motors, alternating current circuits for actuating the controlling devices, means for inductively assoriating the controlling circuits between the cars, and means for controlling the controlling circuits from a selected platform of the train.
71. In combination with a plurality of cars, alternating current motors on the cars. starling switches in the motor circuits, alternating current controlling circuits arranged to close the starting switches, and inductive means beween the cars for operatively associating the controlling circuits
i2. In combination with two connected cars, electrical circuits on the cars. an inductive apparatus associating the circuits on the cars, flexible conductors to the inductive apparatus and flexible supports for the Inductive apparatus.
73. In combination with two connected cars, electrical circuits on the cars. a ino-part inductive apparatus between the cars associating the circuits, flexible conductors connecting the circuits to the inductive apparatus, and flexible supports for the inductive apparatus connecting one part of the inductive apparatus to one of the cars and the other part to the other car and so arranged that they take all tensile strain between the parts if the cars become separated.
74. In combination with a plurality of cars, alternating current motors for the cars, controlling circuits therefor, electrically actuated switches in the circuit, and alternatink current magnets and direct current magnets, circuits for the magnets. said magnets arranged to operate said switches.
75. In a train system the combination of a motor or motors for hauling the train, and controlling circuits therefor, inductive means for operatively associating the controlling circuit, and means in the controlling circults to weaken and strengthen the current at will.
76. In combination with an electric train, a motor or motors for hauling the train, electrically operated controlling devices for the motor or motors, circuits therefor, and inductive means connected to the cars for associating the controlling circults.
77. In an electric train, a motor or motors for hauling the train electrically operated controlling devices for the motor or motors, controlling circults therefor, means for regulating and means for controlling the circuits from any selected car of the train, and inductive means for associating the circuit between the controlling devices on the several cars.
78. In an electric train, a motor or motors for hauling the train, a source of electric supply conducted to the motor or motors, an electric generator driven by the train and arranged to control the acceleration of the motor or motors.
79. In combination with a plurality of cars, alternating current motors for driving the cars, a source of direct current controlled by the motors. electrically operated starting switches for the motors, electro-responsive devices actuated by direct current for controlling the acceleration of the motors, alternating current magnets and direct current magnets arranged to actuate the starting switches and the speed controlling switches.
80. In combination with a plurality of cars, alternating current motors for driving the cars. direct current generators connected to run with the cars, electrically operated starting switches for the motors. electro-responsive devices comprising accelerating magnets actuated by the direct current for automatically controlling the acceleration of the motors. speed controlling switches for controlling the accelerating magnets, alternating current magnets and direct current magnets arranged to actuate the starting switches and the speed controlling switches.
81. In a train system the combination of two sources of electric energy, one of which is conducted to the train the other of which is on the train and is propontional in strength to the speed of the train, both of which are arranged to control the movement of the train.
S2. In a train system the combination of two sources of current supply, one of which is pulsating and of practically constant value, the other of which is on the train and varies from zero to a maximum in proportion to the speed of the train, both of said supplies arranged to control the train.
83. In a train system, two sources of electrical energy, one of which is generated by the movement of the train and is proportional in strength to the speed of the train, the other of which is conducted to the train and a master switch arranged to control the latter supply from a selected car of the train.
84. In a train system, two sources of current supply, one of which is conducted to the train and is pulsating but practically constant in strength, the other of which is direct and is generated by the movement of the train and is variable, from zero to a maximum, and a controlling circuit on the train and magnetic means in the controlling circuit for controlling the starting, reversing. acceleration and stopping of the train and additional means on the cars to control the current in the controlling circuits.
\(\mathbf{8 5}\). In combination with a plurality of cars, motors fo. driving the cars. an external source of pulsating current conducted to the cars and adapted to control and to drive the motors, controlling switches for the motors actuated by said current, a second source of current supply obtained from a gencrator mechanically connected to the running
mechanism of the cars and driven thereby when the cars are in motion, said second source of supply arranged to automatically control the acceleration of the cars and to cooperate with the first source of supply to operate the controlling switches.
86. The combination of a plurality of cars each having an alternating current motor, an opposition element in the motor circuit, an electric generator driven by the movement of the cars and electro-responsive devices comprising magnets for removing the opposition element from the motor circuit.
87. The combination of a plurality of cars each having an alternating current motor, an opposition element in the motor circuit, an electric generator driven by the movement of the car and an electro-responsive device comprising magnets for removing the opposition element from the motor circuit step-by-step in proportion to the speeding up of the cars.
88. The combination of a plurality of cars each having an alternating current motor, an electric generator driven by the movement of the car and arranged to generate a variable voltage in proportion to the speed of the car, an elec-tro-responsive device connected to the generator, said elec-tro-responsive device comprising magnets actuated one by one as the voltage increases.

89 In a train system, a motor or motors for hauling the train, an electric generator driven by the movement of the car and arranged to generate a variable voltage, an electroresponsive device connected to the generator for controlling the acceleration of the motor. said electro-responsive device comprising magnets arranged to be actuated one by one, and means for rendering the magnets inoperative.
90. In combination with a plurality of cars, alternating current motors for the cars, controlling circuits therefor, alternating and direct current magnets, circuits for the magnets, electrically actuated switches in the motor circuits, said swithces arranged to be operated by the alternating and direct current magnets
91. The combination of a plurality of cars each having an alternating current motor, a direct current generator driven by the movement of the car, an electro-responsive compising magnets actuated by the current from the generator for controlling the accelcration of the motor and controling efrcuits and inductive means between the cars for operatively assoclating the controlling circuits.
92. In combination with two cars, an inductive apparatus comprising two parts each inclosed in a waterproof casing one of which parts is supported by one of the cars and the other of which is supported by the other of the cars.

No. 101,265. Clamp for Afinding Heels.
Mordache pour assujetir les roucs.


Carl C. Schmidt, St. John, New Brunswick, Canada, 2nd October, 1906; 6 years. Filed 28th May, 1906. Receipt No. 136,321.
Claim.-1. As an article of manufacture, a metallic clamp for attaching a heel to a boot or shoc, composed of a metallic strip having a flange on one edge, the strip inade with a bevel or curve around the sides and back of the
heel, and having the ends bent at the front of the heel, connected by a screw or bolt and nut, substantially as and for the purposes hereinbefore set forth.
2. As an article of manufacture, a metallic clamp for attaching a heel to a boot or shoe, composed of a metallic strip having a flange on one edge, and having the ends bent and connected by a screw or bolt and nut, substantially as and for the purposes hereinbefore set forth.

No. 101,266. Piano. Piano.


Roland Montague Squire, Montreal, Quebec, Canada, 2nd October, 1906; 6 years. Filed 8th August, 1906. Receipt No. 138,484.
Claim.-1. In a piano the combination with a rall, a key, a hammer, the butt of the hammer, a part movable with the key and means including a member effecting a direct and temporarily rigid connection between the said part movable with the key and the hammer, such means being permanently pivotally connected to both the butt and the said part movable with the key, of movable means carried by the rail and the path of movement whereof intersects the said first-mentioned means, and the sald movable means being constructed and arranged to be impinged upon and moved by the first-mentioned means and the said rigid connection broken, substantially as described.
2. In a piano the combination with a rail, a hammer, a key, and a jointed jack the members whereof co-act to retain each other against movement in one direction upon their joint, of a movable member carried by the stationary part of the piano and disconnected from the jointed jack and adapted to be impinged upon the jointed jack to cause the members of the latter to turn on their joint, substantially as described.
3. In a plano action the combination with a hammer. a key, a rail and a jointed jack, of an arm pivoted to the rall adjacent to and disconnected from the jointed jack adapted to be impinged upon by the jointed jack to cause the members of the latter to turn on their joint, substantially as described.
4. In a plano the combination with a rail, a hammer, a key, and a jointed jack the members whereof overlap each other to prevent movement in one direction upon their joint, of a movable ylelding member carried by the stationary part of the piano and disconnected from the jointed jack and adapted to be impinged upon by the jointed jack to cause the members of the latter to turn on their joint, substantially as described.
5. In a plano actioqn the combination with a hammer, a key, a rail and a jointed jack, of an arm pivoted to the rain and disconnected from the jointed jack, a member secured to the free end thereof by a screw adjustable into and out of such end, such member being adapted to be impinged upon by the jointed jack to cause the parts of the latter to turn on their jonnt, substantially as described.
6. In a piano action the combination with a hammer, a key, and a jointed jack, of a duplex rail, an arm extending between the parts of the rail, means pivotally connecting the rear end of the arm to the rear side of the upper part of the rail, the forward end of such arm being in position to be impinged upon by the jointed jack, substantially as described.
7. In a plano action the combination with a hammer. \(a\) key, and a jointed jack, of a duplex rail, an arm extending between the parts of the rail. means pivotally connecting the rear end of the arm to the rear side of the upper part of the rail. the forward end of such arm being in position to be impinged upon by the jointed jack. and a damper lever having a portion thereof curved to accommodate the rear end of the pivoted arm, substantially as described.

\section*{No. 101,267. Leach Tamls Reorvoir.}


James D. Wood, Cheboygan, Michigan, U.S.A., 2nd October. 1906; 6 years. Filed 1st May, 1906. Receipt No. 135,427.
Claim.-1. The combination with a leach tank, of rotatable arms carrying cutters and gravity operating means for controlling the speed of descent of the cutters into the tank.
2. The combination with a leach tank, of rotatable arms carrying cutters and gravity operating means for controlling the speed of descent of the cutters into the tank, and means carried by the arms to regulate the dip of the cutters.
3. The combination with a leach tank of rotatable arms carrying rotatable cutters, an overhead truck carrying means for driving the arms, and gravity controlled counterbalancing devices supported by the truck and operatively connected with the cutting mechanism.

No. 101,268. Gas Burner. Braleur d gaz.


The Michigan Stove Company, assignee of W. J. Keep and Henry C. Maul, all of Detroit. Michigan, U.S.A., 2nd October, 1906 ; 6 years. Filed 5th May, 1906. Receipt No. 135,568.
Claim.-1. In a gas mixer and burner in combination with a base provided with a mixing chamber, a cap provided with rows of holes extending along radial elevations on said cap
and having depressions between consecutive rows of holes which depressions extend from the outside of the cap inward, a chamber under sald cap and a centrally perforated diaphragm separating the two chambers, substantially as described.
2. A burner cap for gas burners provided with two rows of holes crossing at the center and with each row branching into a multiple of sows at points intermediate the center and the circumference, substantially as described.
3. A burner cap provided with a plurality of intersecting rows of holes in the central portion of its surface, and with other rows of holes extending from points adjacent to the ends of said first-mentioned rows toward the outer edge of cap, there being air conveying channels in the surface of sald cap intermediate the several rows of holes, substantially as described.
4. A burner cap having a plurality of rows of holes in the central portion and other rows of holes leading from one of said first-mentioned rows toward the outer edge, there being air conveying channels in the surface of said cap between adjacent rows, substantially as described.
5. In a gas burner in combination with a mixing chamber, a chamber under the gas exit holes, a plate forming a diaphragm between said chambers and provided with an opening for the escape of gas therefrom, a cap seat concentric with the center of said opening, a cap provided with gas exit holes on elevated portions thereof and with depressions of the cap wall between the holes, said depressions of the wall dividing the chamber under the cap radially, substantially as described.
6. A burner having in combination with a base plate provided with a seat, a cap having its under and inner surface provided with a member of radial depressions dividing the chamber beneath the cap into radially arranged chambers, a mixing chamber beneath the radial chambers and a centrally perforated diaphragm between the radial chambers and the mixing chamber, substantially as described.
7. In a gas burner a cap provided on its under side with radial hanging parts, a seat for said cap and a perforated diaphragm forming the underside of a chamber beneath sald cap, the said radial depressions stopping short of the plate whereby there is formed a separate chamber extending over said plate with high parts radiating from the center thereof. substantially as described.
8. A burner cap having in combination a mixing chamber, a diaphragm thereover perforated at its central portion and a plurality of radially extending supply chambers communicating at their inner ends with each other and with the perforation in said diaphragm, the cap being perforated with burner holes over each branch of said supply chamber, substantially as described.
9. In a gas mixer and burner in combination with a mixing chamber, a supply chamber for the burners and an intervening perforated diaphragm, the upper surface of sald supply chamber being provided with rows of holes extending along radial elevations on said surface and having depressions beiween consecutive rows of holes, said depressions extending from the outside of said surface inward, substantially as described.
10. In a gas burner in combination with a mixing chamber and a supply chamber, an intervening perforated diaphragm and rows of holes extending along radial elevations in the upper surface of said mixing chamber, there being intervening depressions in said surface between the rows of holes adapted to provide a free supply of air to all of sald holes, substantially as described.
11. In a gas burner a cap provided on its underside with radial hanging parts, a seat for said cap and a perforated diaphragm forming the underside of a mixing chamber and the top side of a supply chamber, said mixing chamber extending radially over said diaphragm, substantially as described.
12. A burner cap having in combination with a mixing chamber and a centrally perforated diaphragm across the top thereof, elevated burner openings with depressions between them extending radially from the center, substantially as described.

\section*{No. 101,269. Condinit for Flectric Wires. \\ Conduit pour als électriqucs.}

The Conduits Company, Toronto, Ontario, Canada, assignee of Daniel Hayes Murphy, Newcastle, Pennsylvania, U.S.A., 2nd October. 1906; 6 years. Filed 6th March, 1906. Receipt No. 133.585.
Claim.-1. As a new article of manufacture, a metal pipe having a metallic coating on one surdace and a fiexible enamel coating applied directly to the other surface, substantially as described.
2. As a new article of manufacture, a metal pipe having a metallic coating on its outer surface and a flexible en-
amel coating applited directly to its inner surface. substantially as described.

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3. As a new article of manufacture, a metal pipe having an electro-galvanized metallic coating on its outer surface and a flexible enamel coating applied directly to its inner surface, substantially as described.
4. A iube of iron, electro-plates on the outside with zine and having a flexible inside coating of enamel applied directly to the iron of the lube. substantially as described.

No. 101.270. Bale Band Tie.
Attache de courroies de ballots.


The Southern Bale Tie Company, assignee of Edward L. Pence, both of Memphis, Tennessee, U.S.A., Ind October, 1906; 6 years. Filed 29th June. 1906. Receipt No. 137,398.
Claim.-1. A bale band tle formed of a sheet metal plate provided with an opening, and a plurallty of tongues or spurs, one of which is arranged to be driven through the opening into the material, while the other is arranged at the end of the plate and is also adapted to engage with the material.
2. A bale band tie formed of a sheet metal plate liaving means at one end for engagement with a wire band and provided near its opposite end with an opening, and a pair of tongues or spurs for engagement with the opposite end of the wire and with the material to be bundled.
3. A bale band tie consisting of a plate having spaced apertures, and a tongue extending from one end of the plate with its terminal bent at an angle to the same. said tongue being adapted to be bent over the plate and its bent terminal passed through the adjacent aperture and into the material being bundled.
4. A bale band tif consisting of a plate having spaced apertures, and a tongue and a spur extending from one end of the plate, the terminal of the tongue being bent at an angle thereto to form a prong, said spur being arranged to engage with the material being bundled, and the tongue
forming a wire attaching means, the terminal prong of the tongue extending through the adjacent aperture and into the material.
.7. A balu band tie consisting of a plate bent intermediatr of its ends to form angularly related members, and provided with an aperture in each of said members, and a tongue projecting from one end of one of said members and provided with a terminal prong. said tongue forming a wire engnging member, and the prong being arranged to pass through the adjacent aperture and into said material being bundled.
6. A bale band tie having an opening, a tongue, and a spur projecting from one end of the tie. the spur being bent transversely of the tie in one direction, and the tongue bent back across the tie in the other direction and overlapping the opening, the free extremity of the tongue being formed into a transversely disposed prong capable of being driven through the opening.
7. A blank for a bale band tie having an opening, a tongue projecting from one end of the blank in alignment with the opening, and a spur projecting from the same end of the blank, the tongue being of a length to overlap the opening when bent back across the blank, and the free extremity of the tongue being pointed to form a prong.

No. 101,271. Milling Machinery.
Machine de moulin.


James W. Kennedy, assignee of Edward Grotz, both of Chicago. Illinols. U.S.A., 2nd October, 1906: 6 years. Filed th September, 1:06. Receipt No. 139.226.
Claim.-1. The combination of a revoluble member for supforting the work, a movable tool holder. means for advancing said tool holder comprising a cam secured to said revoluble member outside of the work and in close proximity thereto, an arm which engages said cam and connection between said arm and said tool holder.
2. The combination of a revoluble member for supporting the work, a movable tool holder, means for advancing said tool holder comprising a cam secured to sald revoluble member outside of the work and in close proximity thereto, an arm which engages said cam in substantially the same axial plane of the revoluble member as the cutting tool and connection between sald arm and said tool holder.
3. The combination of a revoluble member for supporting the work, a movable tool holder, means for advancing said tool holder comprising cams secured to rotate with sald revoluble member, one at each side of the work and in close proximity thereto, arms which engage said cams and connection between said arms and said tool holder.
4. The combination of a revoluble member for supporting the work, a movable tool holder, means for advancing said tool holder comprising a cam or cams secured to sald revoluble member, an arm or arms which engage sald cam or cams, connection between said arm or arms and aid tool cams, connection between sald arm or arms and sald tool holder, and a spring applied to said tool holder which malatains the same normally retracted and operates to take up all lost motion under all conditions of use.
5. The combination of a revoluble member, a tool holder. means to maintain soid tool holder normally retracted and means for advancing said tool holder comprising a cam or cams secured to rotate with said revoluble member. an arm or arms which engage saixl cam or cams and rods which directly connect said arm or arms with said tool holder.

\section*{No. 101,27\%. Can Lifter.}

Appareil à soulever les bidons.
Emily A. Austin, Bethel, New York, U.S.A., 2nd October. 1906; 6 years. Filed 8th August. 1906. Recelpt No. 138,480.
Claim.-1. A device for lifting jars consisting of a disc a standard rising therefrom, a bail pivotally mounted upon
said standard and adapted to encircle the jar resting upon said disc, one end of said ball being bent to form an arm

with an eye at the end thereof, and a hook upon the standard adapted to be engaged by said eye whereby said bail may be held in an elevated position, as set forth.
2. A device for lifting jars comprising a disc, a wire bent at its longitudinal center to form an eye, the ends of sald wire secured to said disc, each leg of said wire being bent to form an eye, a ball made of a single piece of wire and adapted to encircle a bar resting upon said disc, portions of said wire forming the bail having bearings in the eyes of said standards, a hook upon the standards and a portion of the wire forming said ball bent to form a resllient arm with an eye at the end designed to engage sald hook, as set forth.

\section*{No. 101,273. Rubber Printing Stamp. Etampe de caoutchouc.}


Lawrence R. Blackmore, Arlington, New Jersey, U.S.A., 2nd October, 1906; 6 years. Flled 18th June, 1906. Receipt No. 137,028.
Claim.-1. In a hand stamp the combination with a stamp block, of a rubber type base attached thereto consisting of an integral strip of rubber formed with intersecting grooves with hollow columns between them, said hollow columns being united at the bottom of the said intersecting grooves by thin narrow webs of less width than the thickness of the side walls of said bollow columns, said webs consisting of the skin at the bottom of said intersecting grooves, and all surfaces of the bank being formed with a smooth continuous surface together with a rubber type plate attached to the rubber type base.
2. In a hand stamp the combination with a stamp block, of a rubber type base attached thereto consisting of an integral strip of rubber formed with intersecting grooves with hollow columns between them, said hollow columns being united by a web consisting of the skin at the bottom of said intersecting grooves, the sides of which latter extend down to said skin where they intersect each other, so as to form sharp and well defined lines of severance for the purpose described, together with a rubber type plate attached to the said rubber type base.
3. As an article of manufacture, a hand stamp consisting of a rubber type plate mounted tpon a hollow flexible rubber cushion formed with a series of adjoining cells having irdependent side walls, the opposed sides of said adjoining cells being united by the thin narrow webs consisting of the 10-3
skin at the base of the cells, said webs being of less width than the thickness of the cell walls and the edges of satd walls being attached to the stamp block together with suid stamp block for the purpose described.
4. A base plate for hand stamps consisting of an integral strip of rubber formed with parallel series of independent hollow columns united by webs or ligatures of less width than the thickness of the walls of the hollow columns, for the purpose described.
5. A base plate for hand stamps consisting of an integral strip of rubber formed with parallel series of hollow columns which are quadrangular in cross section united by webs or ligatures of less width than the thickness of the walls of said hollow columns, for the purpose described.
6. A moulded blank for rubber type bases consisting of an integral strip of rubber formed with two series of parallel severing grooves, one series intersecting the other with hollow columns united by thin narrow webs of less width than the thickness of the walls of the columins, sald webs consisting of the skin at the bottom of the said intersecting grooves.
7. A moulded blank for rubber type bases consisting of an integral strip of rubber formed with two series of parallel severing grooves intersecting each other at right angles, with hollow quadrangular columns united by thin narrow webs of less width than the thlckness of the walls ol said hollow quadrangular columns, said webs consisting of the skin at the bottom of said intersecting grooves.
8. A moulded blank for rubber type bases consisting of ar: antegra strip of rubber formed with a series of longltudinal parallel severing grooves and a series of transyerse parallel severing grooves, with square hollow columas between them united by thin narrow webs of less width than the thickness of the walls of said square hollow columns, said webs consisting of the skin at the bottom of said intersecting grooves.
9. A moulded blank for rubber type bases consisting of an integral strip of rubber fromed with two series of parallel severing grooves, one series intersecting the other with hollow columns between them united by webs consisting of the skin at the bottoms of sald intersecting grooves the sides of which extend down to said skin where they intersect each other to form sharp well defined lines of severance, for the purpose described.
10. A moulded blank for rubber type bases consisting of an integral strip of rubber formed with two series of parallel grooves, one serles intersecting the other with columns between them united by webs consisting of the skin at the bottom of said intersecting grooves the sides of which latter extend down to said skin and intersect it and each other to form sharp well defined lines of severance, for the purpcse described.

No. 101,274. Method of Making Boiler Flues. Méthode de faire des tuyaue de chaudieres.


John M. Crozler, Minneapolis, Minnesota, U.S.A., 2nd October, 1906; 6 years. Filed 7th August, 1906. Recelpt No. 138,463.
Claim.-The process of forming a flue with an enlarged tapered end having a wall of increased thlckness, which consists, first, in reducing the end of the flue both in internal and external diameter, and second, in upsetting the reduced end of sald flue to thicken up the wall thereof and increase the external diameter thereof, substantially as described.

No. 101,275. Apparatus Por Oleaning and Separat-
Apparefl d nettoyer et séparer les graines.


Frederick Malcolm Dossor. Doncaster, England, 2nd October, 1906; 6 years. Filed 26th June, 1906. Receipt No. 137,320.
Claim.-1. In an apparatus for cleaning and separating sceds the combination of a main feed hopper, a series of inclined overlapping upwardly travelling endless belts or bands of velvet, velveteen or like fabric, a series of adjustable rollers carrying the sald belts or bands, and a series of smaller hoppers each having a fine transverse discharge slit so as to feed the seed in a single evenly distributed line across the entire width of each successive band or belt for the purpose of receiving and passing on the seed over the entire width of each successive band or belt for the purpose of receiving and passing on the seed over the entire series of belts or bands, continuously extracting the weed seed and forelgn matter therefrom during such passage, and separately and continuously discharging and delivering the cleaned seed and the extracted matter, substantially as shown and described.
2. In an apparatus for cleaning and separating seeds and the like, the combination of a feed hopper dellvering to a sccond hopper, inclined upwardly travelling endless belts, one overlapping the other, and supporting boards, covers, and guides, all carried on a suitable frame capable of adjustment as to its angle or slope, and constructed and operuting substantially as shown and described.

\section*{No. 101,276. Dough Cutter. Couteau d pate.}

William Vincent Heinz, La Salle, Illinois, U.S.A., 2nd October, 1906 ; 6 years. Filed 30th April, 1906. Recelpt No. 135,379.
Claim.-1. The combination of a frame, a spindle carried by the frame, a serles of cutting discs mounted on the spindle, and a series of washers interposed between the; discs, and having projecting cutting portions extending toward the peripheries of the discs.
2. The combination of a frame, a spindle carried by the frame, a serles of cutting discs mounted on the spindle, washers interposed between the discs, sald washers being of less diameter than the discs but having cutting portions extending to the peripheries of the discs, the discs being arranged with their cutting portions in alignment, and a retaining member on each end of the spindle.
3. The combination of a frame, a spindle carried by the frame, a series of cutting discs mounted on the spindle. washers interposed between the discs, the washers being of less diameter than the discs, and having cutting portions extending to the peripheries of the discs, and a stripping member having teeth disposed between the discs and arranged to have the ends of the teeth in constant engagement with the peripheries of the washers.
4. The combination of a frame, a spindle carrled by the frame, a series of discs mounted on the spindle, washers

interposed between the discs, each washer being of a diameter less than that of the discs and having cutting portions extending to the peripherles of the discs, a retaining means on each end of the spindle, and an elastic stripping member having teeth projecting into the spaces between the discs, the ends of the teeth being in constant engagement with the peripheries of the washers.
5. The combination of a frame, a spindle carried by the frame, a series of cutting discs mounted on the spindle, and a series of radially projecting cutters arranged between the said discs.

No. 101,277. Machine for Cutting Railway Ties. Machine pour couper les dormants de chemins de fer.


Enos W. Hogan, Kashabowie, Ontario, Canada, 2nd October, 1906 ; 6 years. Filed 27 th June, 1906. Receipt No. 137,343.
Claim.-1. A machine for cutting ties and the like comprising a bed adapted to hold a log, a frame hinged at one end on the bed, a steam cylinder and its piston rod operating connections between the piston rod anl the frame, and two longitudinal parallel knives carried by the frame and spaced apart the thickness of a tie, substantially as described.
2. A machine for cutting ties and the like comprising a bed adapted to hold a log, a frame hinged at one end on the bed, means for drawing down the frame, and two longitudinal parallel knives carried by the frame and spaced apart the thickness of a tie, substantially as described.
3. In a machine for cutting ties and the like comprising a bed adapted to hold a log. longitudinal guides secured to the bed, a slide movable therein, a longitudinal knife hinged at one end on the slide, an arm hinged on the bed and having the knife hinged thereon intermediate its ends, a steam cylinder and its piston rod, and a connecting rod pivotally connected with the arm and the piston rod, substantially as described.
4. A machine for cutting ties and the like comprising a bed adapted to hold a log. longitudinal guides secured to the bed, sloping downwardly toward the log. a slide movable therein, a longitudinal knife hinged at one end on the slide. an arm hinged on the bed and having the knife hinged thereon intermediate its ends, a steam cylinder and its piston rod, and a connecting rod pivotally connected with the arm and the piston rod, substantially as described.
5. A machine for cutting ties and the like comprising a bed adapted to hold a log, longitudinal guides secured to the bed, sloping downwardiy toward the log, a slide movable therein, a longitudinal knife hinged at one end on the slide, an arm hinged on the bed and having the knife hinged thereon intermediate its ends, and means for operating the arm, substantially as described.

No. 101,278. Ladder and Trap Door Mechanism. Echelle et mécanisme de trappe.


Thomas Marcus Houghton, London, England, 2nd October, 1906; 6 years. Filed 15th August, 1906. Recelpt No. 138,707.

Claim.-1. A ladder and trap door mechanism, comprising a ladder and actuating means connecting said ladder and said traj door to oden an close said trap door upon lowering and raising the ladder.
2. A ladder and trap door mechanism comprising a ladder, actuating means connecting said ladder with said trap door to open and close same, and means securing said trap door in its open and closed positions.
3. A ladder and trap door mechanism comprising a ladder, actuating means connecting said ladder with said trap door, means securing said trap door in its open and closed positions, and a handrail device.
4. A ladder and trap door mechanism comprising a ladder, actuating means connecting said ladder with the trap door, means securing said trap door in its opened and closed positions, a handrail device, and means hiding said ladder and mechanism from view when closed.
5. A ladder and trap door mechanism comprising a ladder and levers and links connecting said ladder with said trap door adapted to open and close said trap door upon the ladder being lowered and raised respectively.
6. A ladder and trap door mechanism comprising a ladder, levers and links connecting said ladder with the trap door to. open and close the same, and means securing said trap door in its open and closed positions.
7. A ladder and trap door mechanism comprising a ladder, levers and links conneoting said ladder with the trap door, means securing said trap door in its open and closed positions, a hand rail device and actuating means for said hand rail device.
8. In a ladder and trap door mechanism a collapsable ladder hinged or pivoted withdn the well hole and adapted to be shortened to accupy a position wholly within said well hole and extended so as to reach to the floor, and levers and links connecting said ladder with said trap door to open and close the same by lowering and ralsing said ladder.
9. In a ladder and trap door mechanism a collapsable ladder hinged or pivoted within the well hole and adapted to be shortened to occupy a position wholly within sald well bole and extended so as to reach to the floor, levers and links connecting said ladder with said trap door to open and close the same by lowering and raising said ladder and a disposition of the pivotal connections of said levers and links adapted to secure the trap door in the opened and closed positions.
10. In a ladder and trap door mechanism a collapsable ladder hinged or pivoted within the well hole and adapted to be shortened to occupy a position wholly within said well hole and extended to reach to the floor, levers pivoted within sald well hole door lunks connecting said levers with trap door, ladder links connecting said levers with the ladder, and radius links connecting said ladder links with the end wall o? the well hole.
11. In a ladder and trap door mechanism a collapsable ladder of the lazy tongs description comprising members having dished positions, stops formed with end flanges, concave recesses in said end flanges to fit the convexity of the inner members, bolts passing through said flanges and sald members at the points of intersection, lock nuts locking the inner members to said flanges, sleeves intermediate the bolts and the outer members and means securing the whole in positlon.

\section*{No. 101,279. Lid Lifter.}

Apparetl d soulever les couvercles.


Albert G. Kountz, Mount Oliver, Pittsburg, Pennsylvania, U.S.A., 2nd October, 1906 ; 6 years. Filed 8th August, 1906. Recelpt No. 138,478.

Claim.-1. On attachment for utensils comprising a spring supporting clip, a cover engaging clip mounted thereon and a handle extending from the cover engaging clip.
2. A device of the character described comprising a utensil engaging clip consisting of a base and clamping fingers adfacent thereto, a pivot pin supported by said cllp, a cover engaging clip comprising integral overlapping \(U\)-shaped portions pivoted upon the pin and a handle extending from said cover engaging clip.
3. An attachment of the character described comprising a supporting clip formed in a single length of spring wire bent to form a base, eyes and spring fingers for clamping an object upon the base, a cover engaging clip consisting of a single length of spring wire bent to form overlapping \(U\) shaped clamping portions, a handle and eyes integral with said clamping portions and a pivot pin extending through the eyes of the two clips.

\section*{No. 101,280. Manufacture of Paint, Fuel, Eitc. Fabrication de peinture, combustible, eto.}

Rene Adolphe Le Maitre, Brussels, Belgium, 2nd October,
1906; 6 years. Filed 13th June, 1905. Receipt No. 125,998.
Claim.-1. The process of manufacturing an aggultinant consisting in producing sulpho-nitrated of chloro-nitrated compounds by the action of a mixture of nitric and sulphuric acids, or of a hydrochloric and nitric acids or organic substances, and in causing the sulpho-nitrates or chloro-nitrates obtained to act on a hevy hydro-carbon in the presence of an energetic condensation agent, such as baryta, calcium hydrate, sodium hydrate, chlorlde or zinc or chloride of aluminlum
2. The process of manufacturing an agglutinant consisting in utilizing for the production of complex sulpho-nitrated or chloro-nitrated compounds organic substances of animal origin, such as blood, excremental substances, suint, chlos-
terine, raw lanoline or residues and products of purificetion of the residual waters from wool washing establishments.
3. The process of manufacturing an agglutinant consisting In treating 100 parts by weight of suint with two parts by weight of a mixture containing two-fifths of sulphuric acid and three-fifths of nitric acid, stopping the re-action at the desired moment by the addition of alkaline water, extracting the water and drying the sulpho-nitrates obtained, introducIng them into 1,000 parts by weight of heavy mineral olls in the presence of 10 parts of baryta or equivalent substances, and allowing the re-action to take place in a closed vessel at a high temperature until resinification of the mass takes place, substantially as desoribed.
4. As a new product an agglomerate in the form of a compressed briquette moulded block or loose material consisting of a mixture of coal dust or the like, and an agglutinant obtained by the molecular condensation of a hydro-carbon, substantially as described.
5. As a new product, an agglomerate consisting of a mixture of coal dust or charcoal dust saturated with a combustible gas with an agglutinant obtained by the molecular condensation of a hydro-carbon, substantially as described.

No. 101,281. Wire Coiler. Apparell denrouler le 11.


Charles F. Leonard, Nampa, Idaho, U.S.A., 2nd October, 1906; 6 years. Filed 21st July, 1906. Receipt No. 138,038.
Claim.-A wire fence machine comprising a main frame, upright and frames rising from sald main fra:ie, each end frame being composed of side standards and top and bottom crossbars, the bottom orossbar of the front end frame being formed at its forward edge with a concavity and sald bar and the co-operating upper crossbar with bearing recesses arranged in rear of the plane of said concavity and in series on opposite sides of the vertical center of the end frame, a reel mounted upon the main frame between the front and rear end frames and provided with operating means, wheeled supports for the forward end of the maln frame arrangei between the front end frame and reel, a roller at the rear of the main frame having supporting and steering means supported by the rear end frame, a horizontal guide roller disposed in the concaved portion of the bottom crossbar of the front end frame and fournalled at its ends in the standards of said frame, and a pair of vertical guide rollers on the front end frame and adapted to be journalled in any cooperating pairs of the aforesaid sets of bearing recesses, whereby said vertical rollers may be relatively adjusted to co-operate with the reels of different lengths, substantially as described.

\section*{No. 101,282. Wire Fence Making Machine. Machine d fairo les clotures on all de fer.}

Charles F. Leonard, Nampa, Idaho, U.S.A., 2nd October, 1906; 6 years. Filed 21st July, 1906. Receipt No. 138,039. Claim.-In a steering and break mechanism for wire fence machines, the combination with a frame provided at the rear with supporting wheels, and in advance thereof with a reel, said reel being provided with an actuating device, of a supporting and steering wheel at the front of the frame, a steering post journalled vertically in the frame and carrying said steering wheel, a steering lever extend-

Ing rearwardly from the post toward the reel and provided at its rear or free end with a handle, whereby the

reel actuating device and lever are arranged in relative position to be simultaneously controlled, a guide upon the steering post, a rod slidable vertically in said guide at the rear of the steering post, a brake shoe connected at the lower end of the rod and adapted to engage the steering wheel, a brake lever extending rearwardly with the steering lever and parallel therewith and intermediately fulcrumed thereto, said brake lever being pivotally attached at its forward end to the upper end of the prod and provided at its rear end with a handle arranged to be simultaneously gripped with the handle of the steering lever. whereby both levers and the reel are adapted to be conveniently controlled by a single operator, and a spring arranged between the levers to normally spread their handles apart, substantially as described.

No. 101,283. Brooder. Couveuse.


Nils A. Lybeck, Brooklyn, New York, U.S.A., 2nd October, 1906; 6 years. Filed 31st July, 1906. Recelpt No. 138,291.
Claim.-1. A brooder comprising a coop, and a guard arranged within the coop and provided with a curved passage or space for the chicks, sald guard being also provided with means for preventing the chicks from crowding upon one another in the passage or space.
2. A brooder provided with a guard consisting of inner and outer concentric rings, and slats extending across and forming a top for the guard, said slats being arranged at a height to prevent one chick from standing upon another, and being also spaced apart to provide intervening openings through which chicks are adapted to fall to prevent them from crowding upon the top of the guard.
3. A brooder provided with a removable guard comprising a rectangular frame adapted to fit the interior of the brooder, and inner and outer concentric rings located withing the frame and forming an intervening circular passage, said frame being also provided with an opening forming an entrance to the passage.
4. A brooder provided with a guard comprising a frame, inner an douter rings forming an intervening circular passage and arranged within the frame, the latter being provided with an entrance opening communicating with the passage, and slats secured to the frame at the top thereof and extending across the circular passage and spaced apart to provide openings through which chicks are adapted to fall to prevent them crowding one another upon the top of the guard.
5. A brooder comprising a coop, a frame fitting within the coop, curved walls located within the frame and spaced apart to provide an intervening passage, slats mounted upon the frame and extending across the said passage and spaced apart to provide openings through which chicks are adapt-
ed to fall, and roost bars or perches mounted within the coop above the said slats.
6. A brooder comprising a casing open at the bottom and provided with an entrance, a guard removably fitted within the coop and having a circular passage, said guard being also provided with an entrance communicating with the entrance to the coop, and a bottom fitted within the coop and removably receiving the guard.

ITo. 101,284. Air Brake Hose. Boyau de froin dair.


Frank Allan Magowan, New York City, New York, U.S.A., 2nd October, 1906; 6 years. Filed 4th August, 1906. Receipt No. 138,427.
Claim.-1. A flexible air brake hose comprising an inner tube formed of an oll-proof compound of rubber and inclosed by a layer of caoutchouc, said layer inclosed by a woven copper wire tube of fine mesh upon which is an outside layer of caoutchouc, plies of duck wound upon the lastmentioned layer, a second woven copper wire tube of fine mesh inclosing said duck, and a sultable cover of oll-proof rubber.
2. A tlexible air brake hose comprising an interior tube formed of an oll-proof compound of rubber and inclosed by a layer of caoutchouc, said layer inclosed by windings of wire upon which is an outside layer of caoutchouc, plies of duck wound around the last-mentioned layer, and a sultable cover of rubber.
3. A flexible air brake hose comprising an inner tube, windings of duck, a cover, and a layer of caoutchouc formed in the wall of the hose for preventing access of deletorious substances to the duck.
4. A flexible air brake hose comprising an inner tube, windings of duck, a cover, and layers of caoutchouc inside and outside of the duck for preventing access of deleterious substances thereto, said layers formed between said tube and said cover.
5. A fiexible air brake hose comprising an interior oilproof rubber tube, layers of caoutchouc and woven copper wire thereon, windings of duck upon sald layers, layers of caoutchouc and woven copper wire upon said duck, and an oll-proof cover.
6. A flexible air brake hose comprising an interior oilproof rubber tube, a layer of caoutchouc thereon, windings of iriction muslin upon said caoutchouc, a woven wire tube upon said muslin, windings of duck, and a cover.
7. A flexible air brake hose comprising an interior oilproof rubber tube, a layer of caoutchouc thereon, windings of friction muslin upon said caoutchouc, a woven copper wire tube of fine mesh upon said muslin, windings of duck upon said wire tube, a layer of caoutchouc upon said duck, windings of friction muslin upon the last-mentioned layer, a woven copper wire tube upon the last-mentioned muslin, and a suitable cover.
8. A flexible air brake hose comprising an interior oilproof rubber tube, a layer of caoutchouc thereon, windings of friction muslin upon said caoutchouc, a wire tube upon said muslin, a layer of caoutchouc upon said wire tubes windlags of duck upon the last-mentioned layer, a layer of
caoutchouc upon said duck, windings of friction muslin upon the last-mentioned layer, a wire tube upon the last-mentioned musin, a layer of caoutchouc upon the last-mentloned wire tube. and a suitable oll-proof cover.

No. 101,285. Wrench for Threshing Cylinders.
Cle de écrou pour cylindre d battre.


Martin Mahlen, Osakis, Minnesota, U.S.A., 2nd October, 1906 ; 6 years. Filed 4th July, 1906. Recelpt No. 137,512.
Claim.-1. A wrench of the class described comprising in combination a center presenting a pair of oppositely disposed plates having concavely cut extremities constituting bearings, rotatable heads mounted in said bearings, a socket carried by one of said heads and adapted to be applied to a nut, a spindle for rotating the other of said heads, and a chain passing around said heads to transmit rotation therebetween and lying between sald plates, said chain affording means for retaining said heads.
2. In a wrench of the class described in combination, a center presenting a pair of oppositely disposed plates the extremities whereof are cut concavely so as to constitute bearings, heads rotatably mounted in said bearings, one of said heads constituting a socket to recelve a nut, a spindle attached to the other of said heads and adapted to rotate the same, said heads comprising oppositely disposed spur wheels, and a chain passing around said heads between said plates and retaining said heads, said chains having projecting pins engaging between the spurs of said spur wheels.
3. In a wrench of the class described in combination, a center comprising a centrally disposed block and oppositely disposed plates, rotatable heads mounted at the extremity of said center, said block and sald plates having their extremities concavely cut constituting bearings for said heads, an endless chain passing around sald heads between said plates and adapted to transmit rotation therebetween. said chain affording means for retaining said heads, a spindle attached to one of said heads, and a socket formed at the other of sald heads.
4. In a device of the class described in combination, a center comprising a block and a pair of oppositely disposed side plates, said plates presenting oppositely disposed shoulders formed near the inner faces thereof, said center having concavely cut extremities constituting bearings, rotatable heads mounted at the extremities of said center, one of sald heads comprising oppositely disposed spur wheels, a sprocket chain having pins projecting laterally therefrom and lying in the space above said shoulders, sald chain affording means for driving said spur wheels through the medium of said pins, and a casing surrounding said heads and said center.

\section*{No. 101,286. Ladder. Echelle.}

Samuel B. Martin, Dalton. Ohio, U.S.A., 2nd October, 1906 ; 6 years. Filed 30th August, 1906. Receipt No. 139,114.
Claim.-1. Two ladders spaced apart and connected near their ends by horizontally disposed platforms, a guide cable suspended from a ceiling contiguous to a line of shelving and parallel therewith, a guide track for attachment to said shelving and extending longitudinally thereof. a mast extending from the outer side of said ladder and terminating in a giude pulley for movement on said cable, and glude pulleys for movement on said track and connected to the inner sides of said ladder members.
2. Two arched frames connected by spaced steps to form two ladders spaced apart and connected by their side members at one end and with horizontal platforms connecting the ladders near the ends.
held in a bearing at the central part of one of the heads of the chamber, a fuel supply device connected to the sliding

part of the slip foint, adapted to supply fuel to the chamber while it is rotated, a chimney also connected to this sliding part of the slip joint, and affording means for the escape from the furnace of the products of combustion, and means for holding the sliding part of the slip joint and devices carried by it stationary relative to the rotation of the chamber and causing them to be otherwise moved with the chamber.
2. In combination, a heating chamber, means for rotating it, a slip joint, comprising a part fitted to slide and held in a hollow or chambered bearing at the central part of one of the heads of the chamber, water supply and discharge pipes connected to the chamber of the bearing, a fuel supply device connected to the sliding part of the slip joint, adapted to suply fuel to the chamber while it is rotated, a chimney also connected to this sliding part of the slip joint, and affording means for the escape from the furnace of the products of combustion, and means for holding the sliding part of the slip joint and devices carried by it stationary relative to the rotation of the chamber and causing them to be otherwise moved with the chamber.
3. In combination, a heating chamber provided with a central opening at each end a fuel supplying device and a chimney located at the opening of one end of the chamber, a slip foint comprising a part fitted to slide and held in a bearing at the central part of this end of the chamber and to which is secured the fuel supplying device and the chimney, a door for closing the opening at the other end of the chamber, and means for rotating the chamber.
4. In combination, a heating chamber provided with a central opening at each end, a fuel supplying device and a chimney located at the opening of one end of the chamber, a slip joint comprising a part fitted to slide and held in a bearing at the central part of this end of the chamber and to which is secured the fuel supplying device and the chimney, a muffle door for closing the opening at the other end of the chamber, a door for closing the muffe opening of the mufle door, and means for rotating the chamber.
5. In combination, a heating chamber provided with a central opening at each end, a fuel supply device and a chimney located at one end of the heating chamber, a door for closing the opening of the other ead of the heating chamber, two or more tapping holes formed through this end of the chamber, perforated bricks for closing said tapping holes, means for rotating the chamber, and means for setting the chamber in different angular positions.
6. In a metallurgical heating chamber, in combination, two cylindrical end sections, a cylindrical middle section, twio circular supporting rails, each composed of two parts which are secured to the adjacent edges of the ends and middle sections, means, as bolts, for securing the parts of the two ralls together, ends with central openings secured to the outer edges of the end sections, a refractory lining, as fire bricks, applied to the interior of the chamber, and a frame provided with rollers upon which the chamber by its circular rails rests.
7. In combination, a beating chamber, means for rotatlas it, means for setting it in different angular positions, a trame
in which the chamber is held and rotated, a glip joint connection attached to one end of the chamber, a burner nozzlo extending through this slip joint connection, an air pipe carried by the frame and supplying air to the nozzle, and means whereby said nozzle may be removed from the slin joint connection and set away from the end of the chamber.
8. In combination, a heating chamber, means for rotating it, means for getting it in different angular positions, a slip foint connection attached to one end of the chamber, a frame in which the chamber is held and rotated, a burner nozzle extending through this slip joint conenction, an air pipe carried by the frame and supplying air to the nozzle, a fuel nozzle carrled by and entering the burner nozzle, a fuel pipe carried by the frame and connected to the fuel nozzle, and means whereby said burner, including the air supply connection and the fuel nozzle, may be removed from the slip joint connection and set away from the end of the chamber.
9. In combination, a heating chamber, means for rotating it, means for setting it in different angular positions, a slip joint connection attached to one end of the chamber, a burner nozle extending through this slip joint connection an air pipe supplying air to the nozzle, an oll nozzle carried by and entering the burner nozzle, an oll pipe for supplying oil to the ofl nozzle, a slip joint conencting the burner nozzle to the alr pipe, and a slip joint in the oll pipe. Whereby the burner and oil nozzle may without disarrangement of parts be swung away from the end of the chamber.
10. In combination, a heating chamber provided with a fuel supplying device comprising a compressed air and fuel nozzles at one of its ends, a frame provided with trunnions and in which the chamber is longitudinally rotatably supported. means for rotating the chamber, means for rocking the frame, an alr pipe extending from one of the trunnions of the frame to the fuel supplying device. a slip joint in the air pipe line with the axis of the trunnions, and another slip foint in said pipe adjacent to the nozzle, whereby said nozzle may be swung away from the end of the chamber.
11. In combination, a heating chamber, means for rotating it, a fuel supplying device connected to one end of the chamber and adapted to supply fuel thereto while it is rotated and a chimney aliso connected to this end of the chamber for the escape of the products of combustion therefrom. and a sliding connection foining the fuel supplying device and chimney with the chamber, an air pipe connected to the fuel supply device, and sllp joint in said pipe adjacent to the fuel supplying device. whereby it may be swung away from the end of the chamber.
12. In combination, a heating chamber, means for rotating it, a fuel suppliyng device connected to one end of the chamber and adapted to supply fuel thereto while it is rotated, and a chimney also connected to this end of the chamber for the escape of the products of combustion therefrom, and a hollow or chambered sliding connection foining the fuel supplying device and chimney with the chamber, water supply and discharge pipes connected to said chambered connection, an air pipe and an oil supply pipe conthected to the fuel supplying device, and slip joints in alignment in said air and oil pipes, whereby the fuel supplying device may without disarrangement of parts be swung away from the end of the chamber.
13. In combination, a heating chamber, means for rotating it, means for setting it in different angular positions, a slip joint comprising a part fitted to slide and held in a tearing at the central part of one of the heads of the chamber, a burner nozzle extending through the sliding part of the sllp joint, an air pipe for supplying air to the burner nozzle and adapted to move with the chamber as it assumes Cifferent angular positions, a slip joint in the air pipe arranged so that the burner nozzle may be set away from the end of the chamber, a fuel supply pipe connected to the fiel nozzle, and a sliding detachable connection in the fuel supply pipe.
14. In combination, a heating chamber, means for rotatlog it, means for setting it in different angular positions, a slip joint connection at one end of the chamber, a burner nozale extending through this slip joint connection, a chimney also located at thls end of the chamber and extending through the slip joint connection, an air pipe supplying air to the burner nozzle, a fuel nozzle carried by and entering the burner nozzle, means whereby the sald burner may be removed from the slip joint connection and set away from the end of the chamber, a stationary source of fuel supply. a pipe therefrom connected to the fuel nozzle, and a sliding detachable connection in this plpe.

\section*{No. 101,288. Hydro-Carbon Generator and Carbureting Apparatue. \\ Générateur d hydro-carbone et appareil d carburer.}

Daniel Millior, Paris, France, 2nd October, 1906; 6 years Filed 27th March, 1906. Receipt No. 134,327.
Claim.-1. A generating and carbureting apparatus producing gas by means of kerosene and other hydro-carbons,
comprising a burner having a suitable lid and gas outlets, a carbureter connected with sald burner and having a suit-

able nozzle, and cup suitably hooded and covering in said carbureter and forming a compressing reservoir having a feed opening connected to a suitable vapourizer and a discharge opening into said carbureter, as and for the purpose specifled.
2. A generating and carbureting apparatus producing gas by means of kerosene and other bydro-carbons, comprising a burner having emission holes of suitable dimensions, a cylindrical carbureter secured to one side of said burner and communicating therewith, a nozzle centrally arranged and extending downwardly in sald cylinder, and a cup suitably capped surmounting said carbureter and having a feed opening thereinto connected to a suitable oll supply and a discharge opening, as and for the purpose specifled.
3. A generating and carbureting apparatus producing gas by means of kerosene and other hydro-carbons, comprising a burner having emission holes of suitable dimensions, a eylindrical casing forming a carbureter and secured to one side of said burner and communicating therewith, a plurality of nozzles in said casing forming conical shaped chambers therein having suitable air holes through the walls thereof, adjusting rings encircling said nozzles and having hcles registering with the aforesaid holes and a cup suitably capped surmounting the upper of sald nozzles and havirg a discharge opening thereinto and a feed opening connected to a suitable oil supply, as and for the purpose specifled.
4. A generating and carbureting apparatus producing gas by means of kerosene and other hydro-carbons, comprising \& burner having emission holes of suitable dimensions, a cylindrical casing forming a carbureter and secured to one side of said burner and communicating therewith, a nozzle extending downwardly into said casing having suitable alr holes therethrough, and a cup sultably capped forming a compressing chamber and having a blast nipple leading from an outlet in its lower side into said nozzle and a screen in the interior at the bottom thereof and a feed opening concected to a suitable oll supply, as and for the purpose specifled.
5. A generating and carbureting apparatus producing gas by means of kerosene and other hydro-carbons, comprising a burner having emission holes of suitable dimensions, a cylindrical casing forming a carbureter and secured to one side of said burner and communicating therewith, a nozzle fcrming a conical shaped chamber within said casing, a nozzle correspondingly formed and extending downwardly into the said conical chamber, said nozzles having air holes therethrough, adjusting rings encircling said nozzles and having holes registering with the aforesaid hole, and a cup suitably capped having a screened outlet opening in the lower side and a nipple secured thereover and directing the blast through said nozzles and a feed opening into said cup chamber connected to a suitable oil supply, as and for the purpose specifled.
6. A generating and carbureting apparatus producing gas by means of kerosene and other hydro-carbons, comprising a burner having emission holes of suitable dimensions, a cylindrical casing forming a carbureter and secured to one
side of said burner and communicating therewith, a nozzle in said casing, a cup surmounting sald nozzle having a discharge opening thereinto and a feed opening, a revoluble cap having cam formations on the upper side thereof, and a stirup extending over sald cup and pivotally secured to said casing at its lower ends and engaged by said cam formalions to tighten said cap, as and for the purpose specified.
7. A generating and carburetting apparatus producing gas ly means of kerosene and other hydro-carbons, comprising a burner having suitably dimensioned emission holes through the lid thereof and mixing grate in the interior thereof, a casing secured to one side of sald burner and forming a carburetting chamber having a compressing chamber suitably formed at the upper end thereof and a vapourizer formed of a pipe connected with a suitable oil supply and having a filter in an enlarged part thereof intermediate of the distance between said supply and said burner, and a coll directly over said burner, said coll leadIng to said feed opening of the compressing chamber, as and for the purpose specifled.
8. A generating and carburetting apparatus producing gas by means of kerosene and other hydro-carbons, comprising a burner having suitaby dimensioned emission holes in the lid thereof, a casing forming a carburetting chamber secured to one side of said burner, a nozzle extending into said chamber having air holes therethrough, an adjusting ring having holes registerable with the aforesald holes and handles extending laterally therefrom, a cup surmounting said nozzle, a cap covering sald cup and having a handle projecting laterally therefrom and cam formation on the upper side thereof and a stirrup extending over said cap and engaged by said cam formation on the turning of sald cup, as and for the purpose specifled.

No. 101,289. Chip Breaker for Wood-working Machines.
Brise-copcau pour machines a travailer le bois.


Louls John Nelson, Chicago, Illinois, U.B.A., 2nd October, 1906; 6 years. Flled 16th July, 1906. Recelpt No. 137,872.
Claim.-1. A chip breaker comprising a number of breaker sections arranged in series and loosely assembled and supported from an axis common to all alike, one or more sections being capable of an independent action in accordance with the width of the work.
2. A chip breaker comprising a series of sections loosely assembled on a support common to all, means for retalning the same in thelr relative working position and permit of each section having an independent yielding movement in accordance with the contacting surface of the work.
3. A chip breaker comprising a head plate, a series of breaker sections loosely suspended therefrom and capable of a swinging movement, means for retaining the sections in contact with the work and means for limiting the down movement thereof.
4. A chip breaker comprising a head plate, a series of breaker sections having a hinged or pivotal connection therewith, the free ends swinging in the path of the work, means for excrting a continuous ylelding pressure on said sections, and means for preventing a lateral displacement thereof.

5 In a chip breaker, a supporting head plate having a channel or depression in one edge, and a rib formed on the other edge, a series of breaker sections having parts loosely engaging said channel and rib parts and providing for a swinging hinged movement, an elastic bar recessed in said head plate and having a continuous ylelding bearing on the hinged end of said sections, and meaus for preventing a lateral displacement of said sections.

No. 101,290. Ladder. Uchelle.


John Irving Thompson, Elk Grove, Callfornia, U.S.A., 2nd October. 1906; 6 years. Filed 8th September, 1906. Receipt No. 139,351.
Claim.-1. A ladder comprising a top step, a step section fixedly secured thereto and having side rails converging from the top step, connected brace rails hinged to the step section adjacent to and overlapped by the top step.
2. A ladder comprising a top step, a step section fixedly secured thereto, and having side rails converging from the top step, brace rail hinged adjacent the top step and a reinforcing block interposed within the contracted end of the step section.
3. A ladder comprising hinged sections having the opposite rails of opposite sections substantially parallel and wedge-shaped bearing blocks carried by each section and producing contact surfaces substantially parallel each with the other.

No. 101,291. Borew Driver. Tournoots.


Simon H. Wiessedeppe, Olympia, Washington, U.S.A., 2nd October, 1906;6 years. Filed 21st July. 1906. Recelpt No. 138,020 .
Claim.-1. In a screw driver, a driving head, a spring pressed screw receiver surrounding the head, and a tubular guide within which the screw receiver slides during the operation of the screw driver.
2. In a screw driver, a screw driving head, a shank carrying the same, a handle member in which the shank is secured, a tubular screw recelver fitting around the driving head and having an inturned flange bearing against the shouldered Inner end of the head, a spring encircling the shank and bearing at one end against the lange and at the other end against the handle, a tubular gulde for the screw receiver. said guide forming a housing for the spring and its outer end forming a ferrule for the handle, a locking screw extending through the ferrsle,the handle and the shank.
3. In a screw driver, a driving head, a shank carrying the same, a handle through which the shank extends, the outer end of said shank being of non-circular form, a washer surrounding the non-circular end of the shank and secured to the handle, a screw receiver mounted on the head and having an inturned flange surrounding the shank, a compression spring between said flange and the inner end of the handle. and a tubular guide forming a housing for the spring and rigidly secured to the handle and the shank.

No. 101,292. Stair Routing Machine.
Kachine d rainure pour escaliers.


Silas Paul Woolf, Omaha, Nebraska, U.S.A., 2nd October, 1906; 6 years. Filed 30th July, 1906. Receipt No. 138,247. Olaim.-1. In a stair routing machine and in combination a plurality of rectangular frames comprising the longitudinal and crossbars, screw-threaded bolts at the corners of the lower frame and traversing the opening in the upper frame, wing nuts engaging the bolts, the longitudinal bars of the upper frame being provided with grooves, a carriage mounted in the grooves and provided with an inwardly extending bracket, an incline spindle journalled in the bracket and provided at its upper end with a squared portion, a gear wheel on the lower end of the spindle, a vertical shaft journalled in the carriage, a bevel gear on the upper end thereof and meshing with the bevel gear on the spindle, and a bit on the lower end of the vertical shaft.
2. In a stair routing machine, the combination with upper and lower rectangular frames for engaging the stringer, and means for securing the frames together, of a carriage slidably mounted in the upper plate, a vertical shaft journalled in the carriage, a cutting bit on the lower end of the shaft, means fot driving the shaft, said driving means being inclined from the direction of travel of the carriage.
3. In a stair routing machine, the combination with uprand lower rectangular frames for engaging the stringer and means for securing the frames together, of a carriage slidably mounted on the frame, a vertically arranged cutting bit on the carriage, and means for driving the cutting bit said driving means belng inclined from the direction of cravel of the carriage.
4. In a stair routing machine, the combination with a carriage and a support therefor, of a cutting bit journalled vertically in the carriage, and means for driving the bit, said driving means being inclined upwardly and away from the direction of travel of the carriage whereby pressure applled to said driving means will hold the cutter to its work and move the carriage forward.
5. In a stair routing machine, the combination with a sliding carriage, of a cutting bit journalled vertically therein, and means for driving the cutting bit, said driving means being inclined upwardly and away from the direction of travel of the carriage.

\section*{No. 101,293. Soldering Iron. Fer d souder.}

Albert R. Fraser and Wilfred Leroux, co-inventors, Weburn, Saskatchewan, Canada, 2nd October. 1906; 6 years Filed 14th June, 1905. Receipt No. 126.029.
Claim.-1. In a device of the class described the combination of a reservoir section, a small chamber formed within the reservoir. and secured thereto, a burner section detachably connected to the reservoir section and provided with a fuel pipe adapted to project within the said chamber, substantially as described.
2. In a device of the class described the combination of a soldering point having a sleeve extending back from the same and having openings therein adjacent to its rear end, a burner and vapourizer having a tube extending forward
within the sleeve to a point near its forward end and provided with apertures through its sides, and means for longi-

tudinally adjusting the sleeve on the vapourizer, substantially as described.
3. In a device of the class described the combination of a soldering point having a sleeve extending back from the same and having openings therein adjacent to its rear end, a burner and vapourizer having a tube extending forward within the sleeve to a point near its forward end and provided with apertures through its sides, and means for longitudinally adjusting the sleeve on the vapourizer, the reservoir and air pump, substantially as described.

\section*{No. 101,294. Third Rail Protector.}

Protccteur de troisieme rails.


William H. Kober, and Charles E. Watler, both of Lancaster, Ohio, U.S.A., 2nd October, 1906; 6 years. Filed 21st March, 1906. Receipt No. 134,127.
Claim.-In a third rail system, a shleld member formed of a plurality of transversely curved metallic strips, each having an insulating lining, the ends of the strips and the linings overlapping, and the lining of the outer strip serving to insulate the strips from each other, insulated securing bolts connecting said strips, and supporting brackets extending over the strips and rigidly secured thereto to form strengthening braces for the shield.

\section*{No. 101,295. Electric Heater. Ohauffeur bleotrique.}

Louls P. Brown and Frank J. Holmes, both of Chicago, Illinols, U.S.A., 2nd October, 1906; 6 years. Filed 27th March, 1906. Receipt No. 134,343.

Claim.-1. In an electric heating device, a heating coil wound in a double spiral and having its turns closer together near its loop than at a point more remote from the loop, for the purpose of reducing the danger of short circuiting.
2. In an electric heating device, a heating coll wound in a double cylindrical spiral backward from a loup therein, the distance between the turns gradually increased toward the terminals of the coll.
3. In an electric heating device, a metallic heating tip and a resistance coll for heating the same, said coil being wound
in double cylindrical spiral from a return loap therein and said coil having its turns closer together near the sald loop

than at a point more remote therefrom for the purpose described.
4. In an electric heating device, a metallic heating tip, a resistance coll for heating the same, said coll being wound in double cylindrical spiral from a return loop therein, and means at said loop for maintaining the same in fixed relationship with the remaining parts of the coil, said coil having its turns closer together at said loop than at the parts more remote therefrom for the purpose of reducing the danger of short circuiting, the loop part of said codl jying nearest to the operative portion of said tip.
5. In an electric heating device, a heating coin, a central body around which the coil is wound in double spiral, and a strip for holding the coil at the looped extremity thereof, said strip being held in position upon the central body by means of the turns of the coll itself.
6. In an electric heating device the combination of a heating coil, a central body around which the coll is wound in double spirat, and a strip of insulating material for holding the coll at the loop therein, the turns of the coll adjacent to the loop passing over said strip for firmly retaining the same in position upon the said central body.
7. In an electric heating device the combination of a heating coll, a central body around which the coll is wound in double spiral, and a strip of insulating material for holding the coil at the loop therein, the turns of the coll adjacent to the lopp passing over said strip for firmly rotating the same in position upon said central body, and the distance between the turns of the coll becoming greater as the distance from the loop increases.
8. In an electric heating device the combination of a tube, an insulating web therein and an electric conductor mounted upon ald web out of contact with said tube.
9. In an electric heating device the combination of a tube, a web of insulating material in sald tube having a width approximately equal to the inside diameter thereof and an electric conductor mounted upon said web and passing from one surface thereof to the other at suitable intervals, to thereby remein out of contect with said tube.
10. In an electric heating device the combination of a tube, a web of insulating zaterial extending approximately along the center thereof, said web having perforations at sultable intervals theroin, and a conductor threaded through said apertures so as to pass from one surface of the web to the other for remaining out of contact with sald tube.
11. In an electric heating device the combination of a tube, a web of insulating material extending approximately along the center thereof, sald web having perforations therein. substantially in pairs occurring at suitable intervals therein. and a pair of conductors threaded through eaid apertures from one surface of the web to the other and lying on opposite surfaces of the web at any given point therein whereby sald conductors are kept out of contact with each other.
12. In an electric heating device the combination of a metallic tip for heating the object to be heated, sald tip hav-

Ing an annular bevelled shouldar thereon betwren its ence, means for heating said tip, a tube for supporting said tip. and an imperforate diaphragm within gald tube between the ends thereof, said tube having a bevelled surface at its mouth whereonto the bevelled shoulder on sald up may be wedged for sealing said tube.
13. In an electric heating device the combination of a metallic tip for heating the object to be heated, said tip having an anular bevelled shoulder thereon between its ends, means for heating sadd tip, a tube for supporting said tip, an imperforate diaphragm within said tube between the ends thereof, said tube having a bevelled surtace at Its mouth and means for tightly forcing the bevelled shoulder of sald tip down onto the bevelled surface of said tube for gealing the mouth thereof.
14. In an electric heating device the combination of a heating tube having an annular bevelled shoulder thereon, means for heating said tube, and a casing for inclosing said heating means, said casing having a bevelled surface whereby sald casing may be wedged against the bevelled shoulder on sadd tube.
15. In an electric heating device the combination of a heating tube having an annular bevelled shoulder thereon, a heat generating resistance medum upan said tube, a casing for inclosing said resistance medium, said casing having a bevel at one end for contracting the shoulder on sald tube, and means at the rear end of caid casing for forcing and holding it against the said shoulder on said tube.
16. In an electric heating device the combination of an electric heat generator, a terminal block, conductors leading from said block to said heat generator, and binding posts on said block making contact with said conductors and adapted to be connected to suitable supply wires, said binding posts being arranged in tandem upon said terminal block for the purpose desoribed.
17. In an electric heating dovice, the combination of a heat generator, a tube supporting the same, a torminal block secured to said tube at the rear extremity thereof, conductors leading from said heat generator to the terminal block, and binding posts on said blook making obotrteal contact with said conductors and adapted to be conmected to auitable supply wires, said bindiag peats beling arranged in tandem upon said terminal blook, for the perrpose dee cribed.
18. In an electric heater, the comblation of a tube, a resistance medium mounted on said tube for generating heat, a terminal block supported on said tube, conduotors leadins to said terminal block and fastened thereto, other contuctors leading from said terminal block to said resistance medium, said terminal block and all of matd conductors being supported on said tube, and a lonsitudinally worva handle rigidly secured to said tube, satd handie adapted to circumferentially inclose sald terminal block and a portion of said conductors and betns indepsadent of aild terminal black and conductors.
19. In an electric heater, the combination of a tube, a rosistance medium mounted on said tube for generatins hoat. a terminal block supported on said tube, conductors leading to said terminal block and fastened thereta, other conductors leading from sald terminal block to sald realstance medium, said terminal block and all of said canductors boing supported on said tube, a longitudinally bored handie adapted to circumferentially incloge aaid medium black and a portion of said conductors and being independent of taid terminal block and conductors, asid handle sarewing onto said tube from the rear end thereof, and locking means for proventing the accidental unscrewing of sald hasde.
20. In an electric heater, the combination of a stingle an plece tube constituting the foundational structure of the wo vice, a resistance medium wound upon one and thereof, far senerating heat, conductors leading into the other and of said tube for supplying electric current to said resiatance medium, and a longitudinally bored, one piece bandie atting over the rear end of said tube and adapted to be alld thoreunto from the rear thereon.
21. In an electric heater, the combination of a tabe constituting the foundational structure of the device, a resistance medium near one end thereof for genanatiag heat a terminal block lying partialty Fithin said tube and projecting out of the rear end thereof, supply coaductors leading from the source of energy to raid terminal block. ether conductors leading from said termban Wook to said heat generating medium, and a langitudinally bored one piece handle fitting over the rear end of sald tube and adapted to be slid thereonto from the rear thareaf, said handle thereby inclosing said terminal block.
22. In ad. electric heater, the comblimation of a tube, a metallic tip rigidly secured at the forward and thereof. a heating coil upen said tube adjacent to aald tip, aad a handle rigidly secured to sald tube at the rear end thoreof. said tip and coll and handle being all mounted an the mame plece whereby the device is rigid from end to end.
23. In an electric hoater, the combination of a tube having perforations in the side thereof, a metallic tip at the fecwerd end of waid tube, a heat generating resistance lecated upoa the outside of gaid coil adjacent to said tip. conductors within said tube from the rear end thereof and pessing through the said perforations therein to join said beat generating medium, and a wob of insulating material locatod within said tube and supporting said conductors.
24. In an electrical heater, the combination of a tube having perforations in the side thereof, a metallic tip at the forwand end of sald tube, a heat generating resistance medium lecated upon the outside of said coil adjacent to said tip, cenductors leading within said tube from the raar ead thereof and passing outward through the said perforations therein to join sald heat generating medium, and a web of insulating material located within said tube and supporting said conductors to insulate the same, said web having suffient stiffness to carry forward the free forward eads of the sald conductors during assemblage, whereby the said ends many be threaded out through the apertures in said tube to be joined with said heat generating medium.
25. In an electrical heater. the combination of a tube, a handie sorewing onto the rear end thereof, a metallic tip smpported by sald tube at the front end thereof, a heat - generating medium located on the outside of said tube adjacent to said tip. a casing outside of said heating generating medium sildable lengthwise of said tube, a rigid longitudinally slotted collar upon said tube, and an inward projection upon said casing for entering the slot in said collar whereby the casing may be moved longitudinally but is prevented from turning, said casing thereby affording means Whereby the device may be gripped in screwing the handle on or off.

No. 101,896. Telephone. Téléphone.


John H. Boyd, Vaiden, Miesissippl, U.S.A., 2nd October, 1906; 6 years. Filed 21st March, 1906. Recelpt No. 134,123.
Clasm.-1. In e telephone the combination with a box, of a transmitter mounted exterior to the box and including a diaphragm, a wine passed through the box and attached to the diaphragm, a shaft rotatably mounted in said box, a disc carried by the shaft, fingers carried by the disc and projeotIng at an acute angle therefrom and rearwardly from the direction of rotation of said dics, and arranged to engage said wire to vibrate the same when the said shart is rotated.
2. A telephone comprising a box, a transmitter carried by the box and including a diaphragm, a wire passed through the box and attached to the dlaphragm, a spring arm disposed transversely of the wire and normally out of contact therewith, and adapted when vibrated to strike the said .wire, a shaft mounted for rotation in said box, a hub carried by said shaft, fingers carried by said hub, sald fingers having their end portions bent to extend rearwardly from the direction of rotation of the said hub and guides associated with said box and with sald spring arm.

\section*{No. 101.297. Enob for IEetallic Coverw. \\ Bouton pour cowvercles métalliques.}

Thomas Charles Davidson, Montreal. Quebec, Canada, 2nd October, 1906; 6 years. Filed 9th May, 1906. Recelpt No. 115,163.
Claim.-1. The combination with a sheet metal cover having a series of slits in the body thereof, of a sheet metal knob having a series of teeth ingerted in the slits and bent over for the purpose of retaining the knob in place, substantially as deecribed and for the purpose set forth.
2. The cambination with a sheet metal cover having a seriee of shts in the body therof, of a ventilated sheet metal knob having a series of teeth inserted in sald slits and bent
over for the purpose of retaining said knob in place, substantially as described and for the purpose set forth.

3. The combination with an unventilated cover or other sheet metal object, of a ventilated sheet metal knob carried rigidly by said cover or other object, and a single intact coating of enamel covering both cover and knob, subatantially as described and for the purpose set forth.

No. 101,298. Trelley Pole and Stand.
Perche et plateforme de trolle.


William W. Hallenbeck, Burrville, Connecticut, U.S.A., 2nd October, 1906 ; 6 years. Filed 13th September. 1906. Recelpt No. 139,491.
Claim.-1. In a base ar stand for trolley poles. the combination of a base, a pivot mounted upon sald base, a head mounted upon the pivot, the base being provided with a seat concentric of the pivot, a bearing ring in the seat aforesaid, and anti-friction bearings interposed between the bearing ring and the head.
2. In a base or stand for trolley poles, the combination of a base, a pivot mounted upon sald base, a head mounted upon the pivot, the base being provided with a seat concentric of the pivot, a bearing ring in the seat aforesaid, a eecond bearing ring above the first-mentioned bearing ring, anti-friction bearings interposed between the said rings, and an interlocking connectign between the upper ring and the head.
3. In a base or stand for trolley poles the combination of a base, a pivot mounted upon said base, a head mounted upon said plvot, said head comprising a body and an attaching plate, and anti-friction bearings between the attaching plate and the base.
4. In a base or stand for trolley poles the combination of a base having a tubular extension projecting from its underside, a pivot mounted in sald tubular extension, means for preventing displacement of the plvot from the tubular extension, anti-friction bearings between the pivot and the base, a head mounted upon the pivot, and anti-friction bearIngs between the head and the base.
5. In a base or stand for trolley poles the combination of a base having a tubular extension, a sleeve affixed to the base within the tubular extension aforesald, a pivot mounted in the sald sleeve, anti-friction bearings between the sleeve and the plvot, a head mounted upon the pivot anl comprising a body and an attaching plate secured thereto, the base being provided with a seat concentric of the pivot aforesaid, bearing rings disposed in said seat, and anti-friction bearings between said rings, the attaching plate of the head co-operating with rings aforesaid, as specified.

No. 101,299. Vapourizer. Vaporisateur.


Emil Hubert, Budapest, Hungary, 2nd October, 1906; 6 years. Filed 9th May, 1906. Receipt No. 135,722.
Claim.-1. In a vapourizer for liquid combustibles, in combination a spindle fitted in the interior of the vapour tube, a filter formed of a number of gauzes one over the other and placed over the end of the spindle opposite to the outlet aperture, substantially as described and shown in the drawing.
2. In a vapourizer a casing, a tube 2 screwed on to the casing 1 and made hollow for the formation of a preheating chamber 3 and the reception of the spindle 4, a fiter 13 provided at the end of the spindle opposite to the outlet aperture, a needle spindle 6 extending through the vapour tube and connected to an evapourating device in the casing 1 for cleaning the outlet aperture formed in the cap 11, substantially as described and shown in the drawing.
3. In a vapourizer a vapour tube, having the interior of spiral form or the like and a smooth spindle fited within the tube which bears against the edge of the threads, substantially as described and shown in the drawing.
4. In a vapourizer a smooth spindle wound with strips of wire \(n\) the like and bearing with these strips against the interior of tho tube fitted within the smooth vapour tube, substantially as dsecribod and shown in the drawing.
No. 101,300. Telephone Signal Apparatus. Apparetl de sional de téléphone.


David F. Laughlin, Clyde, Kansas, U.S.A., 2nd October, 1906; 6 years. Filed 19th September, 1906. Recelpt No. 139,631.
Claim.-1. In a signalling apparatus, a pair of superposed contact members, a receiver hook having its inner end arranged to form a support for the upper member, the removal of the receiver from the hook permitting such upper members to descend into engagement with the lower member, and the replacing of the receiver serving to separate
said members, and an electro-magnetically controlled petdulum for moving the upper member from the support.
2. In signalling apparatus, a pair of superposed contact members. a pivotally mounted receiver hook having at its inner end a support for the upper member and provided with an inclined arm extending below the support to permit reengagement with said upper member after a circult closing operation, and an electro-magnetically controllod pendulum for moving the upper member from the said support.
3. In signalling apparatus, a pair of superposed contact members, a receiver hook having at its inner end an insulated support for the upper member and provided with a perfect pendent arm arranged in a plane oblique \(t o\) the vertical plane of said upper member, and an electro-magnetically controlled pendulum for moving said upper member from its support.
4. In a signalling apparatus, a lower contact member in the form of a bar having an inturned arm at one end, a second contact member arranged above the first and adapted to engage said arm to close a circuit. a pivotally mounted receiver hook having at its inner end a support for said member, and provided with a pendent inclined arm to permit reengagement with sald upper member after a circult closing operation, and an electro-magnetically controlled pendulum for moving said upper member from its support.

No. 101,301. Trolley Wheel. Rove de troits.


George Lofl, Garrett, Indiana, U.S.A., 2nd October, 1906; 6 year. Filed 17th September, 1906. Receipt No. 189,559.
Claim.-In a trolley, the trolley wheel having a lateral hub, bearings engaging the opposite ends of said hub and supporting an axle extending through the same, said harrings having converging arms united at their extremities and formed into a longitudinal bearing, a pole socket for recelving said longitudinal bearing and provided with spaced ears extending in advance of the longltudinal socket, a pin disposed through said ears and a spring bearing terminally against sald pin and the longitudinal bearing.
No. 101,302. Electro-Magnetic Apparatus. sppareil eleotro-magnttique.


John McIntyre, Jersey City, New Jersey, U.S.A., 2nd October. 1906; 6 years. Filed 27th January, 1906. Recelpt No. 132,331.
Claim.-1. A means for treating live animal, live vegetable or other objects, comprising a pliable cable coil, and a frequency source of electrical energy in circuit with the said coil.
2. A means for treating live animal, live vegetable or other objects, comprising a frequency source of electrical energy, and pliable cable coils arranged in series and in circuit with the said frequency source of electrical energy.
3. A means for treating live animal, live vegetable or other objects. comprising a frequency source of electrical energy, and multiple cable coils in circuit with the said frequency source of electrical energy.
4. A means for treating live animal, live organic vegetable or other objects, comprising a frequency source of electrical energy, a primary circult connected with the said frequency source of electrical energy, and a scicondary circuit induced by the said primary circuit, the conducting cables of the said circuits being arranged in colls for surrounding the object, the cables being flexible to allow any portion thereof being brought nearer to or farther from the object.

No. 101,303. Ruhmlorfi Coils. Serpentin.


John McIntyre, Jersey City, New Jersey, U.S.A., 2nd October, 1906; 6 years. Filed 19th March, 1906.' Receipt No. 134,010.
Claim.-1. A ruhmkorif coil provided with a spring armature lever carrying a contact portion, a bar arranged at an angle to the said armature lever and carrying a contact portion for engagement by the said armature contact portion, and a bearing for the said bar to slide in and for holding the bar against turning to maintain the faces of the said contact portions at all times in the same straight line registering position.
2. A ruhmkorfi coll provided with a spring armature lever carrying a contact portion for engagement by the said armature contact portion, a bearing for the said bar to slide in and for holding the bar against turning to maintain the faces of the said contact portions at all times in the same straight line registering position, and a fastening device for securing the bar in place in the said bearing after the resired adjustment is made.
3. A ruhmkorff coil provided with a spring armature lever carrying a contact portion, a bar carrying a contact portion for engagement by the said armature contact portion, a bearing for the said bar to slide in and for holding the bar against turning, and a spring pressing against the bar at the end opposite the one carrying the contact portion.
4. A ruhmkorff coll comprising a coll cylinder carrying the primary and secondary wires and the core, a spring armature lever fixed at one end and carrying at its free end an armatnre located opposite the said core, a contact portion on the said armature lever, intermediate the fixed end and the said armature, a bar slidable at an angle toward and from the said armature lever and carrying a contact portion opposite the said armature lever contact portion, and means for the bar to slide in and to hold it against ro-
tation to maintain the faces of the said contact portions at all times in the same straight line registering position.
5. A ruhmkorff coil comprising a coil cylinder carrying the primary and secondary wires and the core, a spring amature lever fixed at one end and carrying at its free end an armature located opposite the said core, a contact portlon on the sald armature lever, intermediate the fixed end and the said armature, a bar slidable at an angle toward and from the said armature lever and carrying a contact portion opposite the sald armature lever contact portion, means for the bar to slide in and hold it against rotation to maintain the faces of the said contact portions at all times in the same straight line registering position, and means for holding the said armature and armature lever in position while adjusting the sald bar in the direction of its length.
6. A ruhmkorff coil comprising a coll cylinder carrying the primary and secondary wires and the core, a spring armature lever fixed at one end and carrying at its free end an armature located opposite the said core, a contact portion on the said armature lever, intermediate the fixed end and the said armature, a slidable bar carrying a contact portion opposite the said armature lever contact portion, means for the bar to slide in and to hold it against rotation, a spring pressing the said bar in the direction of its length, and retaining means engaging the sald armature and armature lever for holding the armature lever in position while adjusting the bar.
7. A ruhmkorfif coil comprising a coil cylinder carrying the primary and secondary wires and the core, a spring armature lever fixed at one end and carrying at its free end an amature located opposite the said core, a contact portion on the said armature lever, intermediate the fixed end and the said armature, a slidable bar carrying a contact portion opposite the said armature lever contact portion, means for the bar to slide in and to hold it against rotation, a spring pressing the said bar in the direction of its length, and retaining means engaging the said armature and armature lever, for holding the armature lever in position while adjusting the bar, the said retaining means consisting of a lever fulcrumed in the end of the coll cylinder and adapted to be swung into position between the said cylinder and the inner face of the armature and armature lever.
8. A ruhmorfi coil having an armature lever contact portion and a contact portion opposite the sald armature lever contact portion, and non-rotatable to maintain the faces of the said contact portions at all times in the same straight line registering position, the said non-rotatable contact portion being adapted to be moved at a right angle toward and from the sald armature lever contact portion.
No. 101,304. Game Apparatus. Appared do jou.


Livingston B. Pennell, Stevens Point, Wisconsin, U.S.A., 2nd October, 1906 ; 6 years. Filed 27th February, 1906. Receipt No. 133,381.
Claim.-1. A game apparatus comprising a board with a long main track across the same, a shorter single continuous
curved track or siding, communicating at each end with said main track, and three groups of movable pieces, representing cars, with two pieces representing engines, each of the said groups of cars comprising three pieces, those in one of the groups being wholly detached and those in the two other groups being united together, and each end of each engine being adapted to couple with either end of the two groups of united cars, the described siding being capable of holding only three cars and one engine at any one time.
2. A game apparatus comprising a board with a long main track across the same, a shorter single continuous curved track or siding communicating at each end with said main track, pivoted guards or guides for opening and closing communication between eatd main track and said siding at proper times, a group of three wholly detached movable pleces representing railroed cars, two other groups of similar pieces, three in each group, inseparabiy united together, and two other pleces representing railroad engines, the said engines. and the two last-named groups of cars being provided with coupling deutces for engagement when described, and all of the movable pleces being in engagement with said tracks, the sald siding being capable of holding only one engine and three cars at any time.

Lev 101,805. Dtoan Taxbime. Turbine d vapewr.


Uel Alvin Rutledge, Berkley, Virginia, U.S.A., 2nd October, 1906; 6 years. Filed 10th Auugst, 1906. Receipt No. 138,567.
Claim.-1. In a turbine, a rotating piston, a collar surrounding and receiving said piston and fitting snugly about the entire periphery of the same, said collar having a fluid medium pressure compartment with a channel leading therefrom to the inner periphery of the collar, said collar also having a medium conveying compartment with a channel leading thereto from the inner periphery of the collar.
2. In a turbine, a rotating piston, a collar surrounding and receiving said plston, said collar having a fluid medium pressure compartment with a channel leading therefrom to the inner periphery of the collar, sald collar also having a medium conveying compartment with a channel leading thereto from the inner periphery of the collar, the capacity of the last said channel being greater than the first said channel.
2. In a turbine, a rotating piston, a collar surrounding and recelving said piston and fitting snugly around the entire periphery of the same, said collar having a fluld medium pressure compartment with a channel leading therefrom to the inner periphery of the collar, sald collar also having a medium conveying compartment with a channel leading thereto from the inner periphery of the collar, the capacity of the last said channel being greater than that of the first said collar.
4. In a turbine, a serles of rotating pistons, a collar recelving each piston, each said collar having a fluid medium pressure compartment with a channel leading therefrom to the inner periphery of the collar, each said collar also having fluid medium conveying compartment with a channel leading thereto from the inner periphery of the collar, the pressure wmpartments of one collar being located in allgnment with the conveying compartment of the next adjacent collas
throughout the series and a means for pasaing the fuld medium from the conveying compartment of one collar to the pressure compartment of the next adjacent collar, and 00 on throughout the series.

\section*{No. 101,306. Elactic Fluid Turtime. \\ Turbinc d fuide élastique.}


James Wilkinson, Providence, Rhode Island, U.S.A., 2nd October, 1906; 6 years. Filed 4th September, 1906. Recelpt No. 139,189.
Claim.-1. An elastic fluld turbine operating by tage expansion and having a warking passage which onlarges across stages, the provision therein of successive nozzles formed in stationary elements and disposed at increased angles across stages to the plane of bucket rotation, and buckets of decreasing concavity co-operating with said nozsles.
2. In a multiple stage turbine, buckets rotatable within the several stages, and nozzle passages discharging fiuid pressure against sald buckets, the nozzle passages for supplying motor fluid to the low pressure stage or stages having a greater angle of inclination than the nozzles for the other stage or stages, substantially as and for the purpose described.
3. In a multiple stage turbine, buckets rotatable within the several stages, nozzle passages discharging fluid pressure against said buckets, the nozzle passages for the low pressure stage or stages having a greater angle or inclination than the nozzles far the other stages, and the buckets cooperating with said nozzle passages having different angles of inclination, substantially as described.
4. In a multiple stage turbine, stationary elements between the stage compartments, nozzle passages leading through said elements and forming condults for the fluid between stages, said nozzles having relatively smaller induction ends, as proportioned to the cross sectional area of the nozsles, and relatively larger angles of inclination, for the low pressure stages than for the high pressure stages.
5. In a multiple stage turbine, partitions between stages and nozzle passages leading through said partitions and having enlarged admission openings and angularly disposed d!scharge passages leading therefrom and constituting the nozzles proper, the cross sectional area of the nozzles proper for the last stages being increased relatively to the cross sectional area of their admission openings.
6. In a turbine operating by stage expansion, nozzle passages formed in stationary elements through which the motor fluid flows in succession to act against rotatable buckets, and supply openings for the nozzles, the cross sectional area of said openings representing a decreasing percentage of the cross sectional area of their respective nozzles for the last stage as compared with the preceding stages.
7. In a multiple stage turbine, fluid supply nozsle passages comprising enlarged admission ends and nozales proper leading therefrom, the cross sectional area of the noxnles proper for the last stage or stages being Increased relatively to the cross sectional area of their admission ends by increasing their angle of inclination to the rotating buckets agalnst which they discharge fiuid.
8. In an elastic fluid turbine subdivided into stages by diaphrgas, nozzle supply openings formed in said diaphragms, nozzles leading therefrom at a determined angle, the angle of the nozzles in the last dlaphragm being greater than that of the nozzles in preceding dlaphragms, and buckcts in the several compartments which co-operate with said nozzles, the buckets for the nozzles having the greater inclination being less concave than the other buckets but having their admission edges disposed at a relatively greater angle to their plane of rotation than sald other buckets.

\section*{50. 101,207. Fienthe Fivid Trarblac. Turotive a mude clastique.}


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Charles Fix, Quincy, Massachusetts, U.S.A., 2nd October, 1906; 6 years. Filed 2nd May, 1906. Receipt No. 135,463.
Olain.-1. In an elastic flutd turbine, the combination of a sappert, a plurality of buckets, a supporting base, a device for mohoring the base with respect to the support at one polat, and one or more other devices for attaching the base to the support which permit it to freely expand and contract.
2. In an elastic fluid turbine, the comblnation of a support, a bucket supporting base, a device for anchoring the base, and one or more bolts for securing the base to the mpport which are body bound in the base and are loose in the support.
3. In an olastic fiuid turbine, the combination of a support, a backet supporting base, a screw-threaded means for searing the base and the support, and a wall for preventing the means from loomening.
4. In an elastic fuid turbine, the combination of a bucket supporting base, a holder, a means securing the base to the holder and permitting it to expand and contract, a casing. and means securing the holder to the casing which permit the said holder and casing to expand and contract independontly of each other.
5. In an elastic fiuld turbine, the con.bination of a bucket smpporting base, a holder, a means for locating the position of the base with reapeet to the holder, and a means for securing the base and holder which permit the two to expand and contract independently, a support for the holder, and means uniting the holder and support which permit the two to expand and contract independently.
6. In an elastic fluid turbine, the combination of a bucket supporting base, a holder therefor having a groove to receive the base, screw-headed means for attaching the base to the holder which are prevented from backing out by the support, a support for the holder, and a means for uniting the holder and support.
7. In an elastic fluid turbine, the combination of a bucket base, a holder therefor, screw-threaded means extending inwardly from the periphery of the holder to secure the base, a casing which supports the holder and also prevents the screw-threaded means from backing out, and means for securing the holder to the casing.
8. In an elastic fluid turbine, the combination of bucket bases situated side by side, a holder having grooves to receive the bases and prevent axial movement, radially extending screw-threaded means for uniting the base and the holder, and a support for the holder which prevents the screw-threaded means from backing out and at the same time permits the bases and the holder to expand and contract independently thereof.
9. In an elastic fluid turbine, the combination of a bucket base, a holder therefor, a bolt for securing the holder and base whioh is body bound in both parts, one or more other bolts for securing the parts which are body bound in the base only, a support, and bolts for securing the holder and support which are body bound in the holder only.
10. In an elastic fluid turbine, the combination of relatively movable parts, a casing therefor having an opening through which the clearances between the sald parts can be observed, and a removable closure for the said opening.
11. In an elastic flufd turbine, the combination of a grooved base having a plurality of buckets, and a holder therefor, the metal of which is forced into the groove to prevent the base from creeping circumferentially.
12. In an elastic fuid turbine, the combination of a bucket base having circumferential and radial grooves, with a holder therefor, the metal of which is forced into the said grooves to hold the base against radial movement and also to prevent ereeping.
13. In an elastic fluid turbine, the combination of a support, a segmental bucket base carrying a plurality of overlapping buckets, a recess in the end of one segment registering with the end bucket of the adjacent segment, so that one segmental base can be nomoved without disturbing the other, and a means for eecuring the base to the support.
14. In an elastic fluid turbine, the combination of a aupport, a segmental buoket base carrying a plurality of overlapping buckets, each having a recess in ase ond and an overhanging bucket at the other, the recess and bucket registering when the parts are assembled on the suppolt, and a bucket securing means.
15. In an elastic fluid turbine, the combination of segmental bases, each common to a plurality of overlappins buckets and provided with a recess for regiatering with a bucket on the adjacent segment at one ond and a projecting bucket on the other, and segmental covers for the buckets, the plane of division between cover segments being located between the buckets of adjacent segments.

No. 101,308. Mastic Fluid Turbime.
Turbine a tuide élastique.


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Elihu Thompson, Swampscott, Massachusetts, U.E.A., 2nd October, 1906; 6 years. Filed 15th May, 1906. Receipt No. 135,927.
Claim.- 1 . In an elastic fluid turbine, the comblnation of buckets which are relatively rotatable, an enclosing casing, and a means for balancing the thrust on one set of buckets comprising a member which is movable axially of the casing.
2. In an elastic fluid turbine, the combination of buckets which are relatively rotatable, an enclosing casing, and a means for balancing the thrust on one set of buckets which is responsive to changes in fluid pressure within the casing and is movable independently of the buokers.
3. In an elastic fluid turbine, the combination of a casing. buckets carried thereby, a bucket carrying drum, and means for balancing the thrust on the bucket drums, which is movable axially and independently of the bucket drum.
4. In an elastic fluid turbine, the combination of a casing, relatively rotatable buckets enclosed thereby, a shaft carrying one set of buckets, and a drum for balancing the end thrust on one set of buckets which is movable longitudinalIy with respect to said shaft.
5. In an elastic fluid turbine, the combination of a casing, buckets carired thereby, fluid discharging devices, a drum carrying the revolving buckets, a balancing arum 1ocated inside of the bucket drum, which is movable axially with respect thereto, and a means for taking up the thrust on the balancing drum.
6. In an elastic fluid turbine, the combination of a casing. Guid discharging devices carried thereby, a bucket carrying drum which is rotated by the fluid from sald devices, a mainshaft, a means for supporting the drum from the main shaft, a means for supporting the drum from the mam shaft, a balancing drum, a secondary shaft supporting the balancing drum, which is movable longitudinally with respect to the main shaft in response to pressure changes. and means for receiving the thrust of the secondary shaft.
7. In an elastic fluid turbine, the combination of a casing, a bucket carrying drum enclosed thereby, a shast supporting the drum, means for preventing endwise movement thereof. a balanoing drum which supports and centers the bucket drum without constraining its movements due to expansion and contraction, the said balancing drum being free to move slightly in an axial direction, and means arranged to receive the thrust of the balancing drum.
8. In an elastic fluid turbine, the combination of a casing, a bucket carrying drum, a wall carried by the casing al. supporting fluid discharging devices, the said wall co-operating with the surface of the drum to form stages, a balancing drum extending inside of the bucket drum, and means for taking up the thrust on the balance drum.
9. In an elastic fluid turbine, the combination of a casing, a bucket carrying drum, a wall carried by the casing and supporting fluid discharging devices, the said wall co-operating with the surface of the drum to form stages, a balancing drum located inside of the bucket drum and movable longitudinally thereof to a limited extent, and a fluid pressure means for taking up the thrust on the balancing drum.
10. In an elastic fluid turbine, the combination of a bucket carrying drum, a disc for supporting the drum, the opposite sides of which are balanced as to temperature, and a balancing drum which assists in supporting the bucket drum, the opposite ends which are subjected to different temperatures.

No. 101,309. Governor for Turbines.
Gouverneur de turbines.

\(\because\) e Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Oscar Junggren, Schenectady, New York, U.S.A., 2nd October, 1906; 6 years. Filed 3rd August, 1906. Receipt No. 138,393 .
Claim.-1. An elastic fluid turbine comprising relatively rotating parts working at different pressures, in combination with a stage valve automatically responding to changes In stage pressure for controlling the passage of motive fluid, a device opposing the opening of the valve, and means responsive to fluid pressure for assisting said device and thereby relieving it of a certain amount of work, as and for the purpose specified.
2. An elastic fluid turbine comprising relatively rotating parts working at different pressures, in combination with a stage valve automatically responding to changes in stage pressure for controlling the passage of motive fluid, a device opposing the opening of the valve, and a balancing piston responsive to fluid pressure which co-operates with the said device to prevent the valve from opening, as and for the purpose specified.
3. An elastic fluid turbine comprising stages wherein a difference in pressure exists, rotary buckets, and fluid discharging devices, in combination with a stage valve that opens in response to changes in pressure in one of the stages, a device opposing the action of fluid pressure on the valve, a balancing means co-operating with the said device, and a conduit for partially balancing the pressures to which the valve and balancing means are exposed, as and for the Iurpose specifled.
4. An clastic fluid turbine, comprising stages wherein a difference in pressure exists, rotary buckets, and fluld discharging devices, in combination with a stage valve that
opens in response to changes in pressure in one of the stages. a balancing piston attached to the valve and cooperating with the said device, the valve and piston being exposed to high pressure on one side and low pressure on the other, and a conduit connecting the low pressure sides of the valve and piston so that changes in pressure will correspondingly effect both, as and for the purpose specified.
5. An elastic fuid turbine which is divided into stages working at different pressures, comprising relatively rotating parts and fluid discharging devices, in combination with a plurality of successively operating stage valves controlling the passage of fluid through sald devices, each of said valves being provided with a device opposing the effect of stage pressure thereon, and a balancing means which is acted upon by the same pressure which tends at all times to open the valve, as and for the purpose specified.
6. An elastic fluid turbine of the multi-stage type, in combination with a valve which controls the passage of motive fluid from one stage to another, a balancing piston for the valve whose effective action in opposing its opening is less than the effective action of the fluid on the vaive itself, and a device which co-operates with the piston to prevent the valve from opening until the stage pressure exceeds a certain amount and assists in closing it when the pressure falls, as and for the purpose specified.
7. An elastic fluid turbine of the multi-stage type, in combination with a valve which controls the passage of motive fluid from one stage to another, a balancing platon for the valve that is exposed on opposite sides to a difference in fluid pressure, a balancing piston attached to the valve that is exposed on opposite sides to the same difference in fluid pressure, a spring opposing the opening of the valve and which assists in closing it, and a conduit which connects the low pressure sides of the balancing piston and valve, as and for the purpose epectifed.
8. A turbine in combination with a valve that controls the passage of motive fluid from one part to another, the said valve comprising a casing to receive the valve, the latter having a double area, a balancing piston attached to the valve, the effective area of the valve being greater than that of the piston, a spring co-operating with the piston to resist the action of motive fluid on the valve, and means for connecting the low pressure sides of the valve and piston with the pressure of that part of the turbine into which the fluid passing through the valve discharges, as and for the purpose specified.
9. A turbine in combination with a valve and its casing, a balancing piston in line with the valve, a stem connecting the valve and piston, a spring assisting to seat the valve, a stop for limiting the opening of the valve, an indicator to show the position of the valve within its casing, and a conduit for equalizing the pressure on opposite sides of the piston and valve, as and for the purpose specified.

\section*{No. 101,310. Governor for Turbines. \\ Gouverncur de turbines.}


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of John G. Callan, Lynn, Massachusetts, U.S.A., 2nd October, 1906; 6 years. Filed 31st August. 1906. Receipt No. 189,132.

Claim.-1. In a governing mechanism the combination of a regulator, a governor controlling it, and a device co-operating
with and assisting the governor in its action on the regulator, as and for the purpose specified.
2. In a governing mechanism the combination of a regulator, a motor for moving it, a governor for controlling the movements of the motor, and a device co-operating with the governar to reduce the load thereon as it controls the motor, as and for the purpose specified.
3. In a governing mechanism the combination of a regulator, a motor for moving it, means for controlling the motor. a governor for varying the position of said means as the load requirements change, and a device co-operating with and reducing the load on the governor, as it acts on said means, as and for the purpose specified.
4. In a governing mechanism the combination of a regulator, a hydraulic motor for moving it, a pilot valve controlHing the motor, a governor regulating the movement \(s\) of the pilot valve, and a device co-operating with the governor to move the pilot valve, as and for the purpose specifed.
5. In a governing mechanism the combination of a regulator, a motor for moving it, a speed governor controlling the motor, and a device responding to unbalanced pressures for assisting the governor, as and for the purpose specified.
6. In a governing mechanism the combination of a regulator, a hydraulic motor for moving it. comprising a piston, cylinder and pilot valve, a governor acting on the pilot valve. and a device responding to unbalanced pressure for assisting the governor in its action on the pilot valve, as and for the purpose specifled.
7. In a governing mechanism the combination of a regulator, a hydraulic motor for moving it. a speed governor, a pilot valve located in the motor piston so that the latter will follow up the movements of the valve, and a device set lato operation by unbalanced pressures created by a movement of the pilot valve, which acts on the pllot valve in conjunction with the governor, as and for the purpose specified.
8. In a governing mechanism the combination of a regulator, a motor for moving it, comprising a moving and a stationary element, a speed governor for controlling the motor, a device for asissting the governor in its action on the motor, and a spring opposing the said device that is carrled by the movable element of the motor, as and for the purpose specifed.
9. In a governing mechanism the combination of a reguIntor, a piston and cylinder for moving it, a pilot valve for governing the motor, a governor for controlling the action of the pllot valve, a device responding to fluld pressure changes for assisting the governor in its action on the pilot valve, and a spring for opposing the movements of said device which engages the piston, as and for the purpose specified.
10. In a governing mechanism the combination of a regulator. a fluld actuating motor for moving it through which the fluld continuously flows, a valve for creating an unbalanced condition as to pressure on the movable element of the motor when it is desired to move the regulator, a means for moving the pilot valve, and a fluld actuated device which cooperates with the said means, as and for the purpose specifed.
11. In a governing mechanism the combination of a regulator, a hydraulic motor for actuating it, a pilot valve for controlling the motor, which is provided with heads, ports co-operating with the valve head, the relation of parts being such that one head closes its port before another to reduce the load on the actuator, and an actuator for moving the pilot valve, as and for the purpose specified.

\section*{No. 101,311. Horse Collar. Collier de cheval.}

Alfred U. Field and Sidney William Carman, assignee of one-fourth Interest, both of Stockton, California, U.S.A., 2nd October, 1906: 6 years. Filed 28th August, 1906. Receipt No. 139.056 .
Claim.-1. A device of the character described comprising a bearing or draft portion adapted to conform to the shoulders of a horse and a curved portion outward therefrom and, adapted to clear the neck of the horse, and a spring bar? secured to said draft portion and following the periphery of said curved portion, as set forth.
2. A horse collar comprising a draft portion adapted to conform to the shape of a horse's shoulders, a curved portion outward therefrom and adapted to extend beyond and clear the neck of the horse, tongues rearward from said draft portion and adapted to be fastened to the tugs of the barness, all as set forth.
3. In a horse collar a portion conforming to the shape of the shoulders of a horse, a curved portion outward theretrom and adapted to clear the neck of the horse, a spring steel bar rivetted to said draft portion and following the periphery of sald curved portion, as set forth.
4. A device of the character described comprising a bearing or draft portion adapted to conform to the shoulders of

a horse and a curved portion outward therefrom so formed as to extend beyond and clear the neck of said horse, as set forth.

No. 101,312. Hose Coupler. Joint de boyaus.


Alexander W. Irvin and Richard John Hughes, assignee of a balf interest, both of Altoona, Pennsylvanla, U.S.A., 2nd October, 1906; 6 years. Filed 1st September, 1906. Receipt No. 139,149.
Claim.-1. In a hose coupling, the combination with the train pipes and angle cocks, of metal connections therefor sa constructed as to permit free movement in every direction, substantially as described.
2. In a hose coupling, the combination with the train pipes, of couplings therefor, each provided with a ball and socket joint, and an elbow joint made wholly of metal, substantially as described.
3. The combination with the train pipe, an angle cock, a perforated ball and socket joint connected thereto, an elbow joint connected to said ball and socket joint, and a coupler joint connected to said elbow joint, substantially as described.
4. The combination with the train pipe and angle cock, of a perforated ball and socket joint connected to said angle cock, a spring tending to force the members of said joint apart, an elbow joint, a coupler joint, and connections be, tween said elbow joint and sald ball and socket and coupler joints respectively, substantially as described.
5. In a hose coupling, the combination with the train pipes, of couplings therefor each provided with a ball and socket foint consisting of a ball member having one large perforation extending from the neck of sald member to the
center of the ball and one or more smaller perforation extending from and connecting with the larger perforation, two socket members adapted to enclose the ball of said ball member, one of said socket members containing perforations, une adapted to contain a spring, a spring adapted to press the ball member away from one of the socket members to form an air passage from the smaller perforations in said ball member through the larger socket member and a washer interposed between said ball member and said spring. substantially as described.
6. In a hose coupling, the combination with the train pipes of couplings therefor each provided with an elbow joint consisting of a male member and a female member, adapted to fit one within the other, and having their abutting ends enlarged and bevelled, and said female member having screw threads formed upon its enlarged portion, a shoulder formed upon the female member, an internally threaded connecting member provided with an inwardly extending flange adapted to engage said shoulder on said female member and to screw upon said male member. said. male member when in engagement being slightly larger than said female member, and a packing ring disposed between the shoulder of said female member and said connecting \(m \in m b e r\), substantlally as described.

No. 101,313. Selective Telephone. Téléphone.


Noble S. McKinsey, Susanville, California, assignec of An ton R. Nelson, Philadelphia, Pennsylvania, U.S.S., 2nd October, 1906; 6 years. Filed 27th August, 1906. Receipt No. 138,995.
Claim.-1. In a selective telephone system, a party line of which one wire grounds at central, a resistance therein at central greater than that of any talking circuit in the system, means for connecting at central the other wire of said line with the corresponding wire of any other party line of the system, selector magnets at each station bridging the wires of the party line, and means at each station for grounding said other wire, substantially as described.
2. In a selective telephone system, a party line of which one wire grounds at central, a resistance therein at central greater than that of any talking circuit in the system, means for connecting at central the other wire of said line with the corresponding wire of any other party line of the system, selector magnets at each station bridging the wires of the party line, and means at each station for grounding said other wire, means controlled by said magnets for throwing out all other talking circuits except that of the station 80 grounded, substantially as described.
3. In a selective telephone system, a party line of which one wire grounds at central, a resistance therein at central greater than that of any talking circuit in the system, means for connecting at central the other wire of sald line with the corresponding wire of any other party line of the system, selector magnets at each station bridging the wires of the party line, and means at each station for grounding said other wire, means, controlled by said magnets preventing grounding at any other station, substantially as described.
4. In a selective telephone system, a party line of which one wire grounds at central, a resistance therein at central greater than that of any talking circuit in the system, means for connecting at central the other wire of said line with the corresponding wire of any other party line of the system, selector magnets at each station bridging the wires of the party line, and means at each station for grounding said other wire, means controlled step-by-step by successive energizations of magnets of the other line, for closing in succession the bell cfrcuits of sald other lines. substantiany as described.
5. In a selective telephone system, a party line, one wire of which grounds at central, a resistance therein at central greater than that of any talking circult in the system, magnets at each station bridging said wire with the other wire of the line, means at each station for grounding said other wire, and means at central for connecting said other wire through an interrupter with the corresponding wire of any other party line and also for inserting in the first wire at central an interrupter whereby the magnets on either line can be intermittently energized by central, substantially as described.
6. In a selective telephone system, a party line of which one wire grounds at central, a resistance therein at central greater than that of any talking circuit in the system, magnets at each station bridging said wire with the other wire, means at each station for grounding said other wire, and means at central for inserting in said first wire an interrupter whereby the magnets can be intermittently energized, substantially as described.
7. In a selective telephone system, a party line of which one wire grounds at central, a resistance therein at central greater than that of any talking circuit in the system, magnets at each station bridging said wire with the other wire, means at each station for grounding said other wire, and means for inserting in said first wire an interrupter whereby the magnets can be intermittently energized, substantially as described.
8. In a selective telephone system, controlling mechanism comprising magnets and a rotating device advanced a short distance when a weak current passes through the magnets and a long distance in the same direction when a strong current passes therethrough, and means for throwing a resistance into the line through the magnets by taking down the receiver, substantially as described.
9. In a selective telephone system, controlling mechanism comprising magnets and a rotating device advanced a short distance in the same direction when a weak current passes through the magnets and a long distance when a strong current passes therethrough, and means operatable by the calling party for throwing a resistance into the line through the magnets, substantially as described.
10. In a selective telephone system, controlling mechanism comprising a rotating device, clock work mechanism for rotating the same, stops for the same arresting the device, the one after a long movement thereof and the other after a short movement, a magnet, means whereby the first stop is brought into action by a strong current through said magnet, and the second stop by a weak current therethrough, and means operated by taking down the receiver for throwing a resistance into circuit with the coil through the magnet, substantially as described.
11. In a selective telephone system. controlling mechanism comprising a rotating device, clock work mechanism for rotating the same, stops for the same arresting the device, the one after a long movement thereof and the other after a short movement, a magnet, means whereby the first stop is brought into action by strong current through said magnet, and the second stod by a weak current thersthrough, and means operatable by the calling party for throwing a resistance into circuit with the coil through the magnet. substantially as described.
12. In a selective telephone system, controlling mechanism comprising a rotating device, clockwork mechanism for rotating the same, arresting means therefor, a magnet for operating the latter, means for interrupting the currents through the magnet repeatedly in succession with a weak current. a circuit closed after a predetermined number of such interruptions, and means whereby a strong current through the magnet removes the arresting means to break said circuit, and arrests the rotating device in a subsequent position thereof, substantially as described.
13. In a selective telephone system, party lines, one wire of each of which is grounded at central, a resistance therein at central greater than that of any talking circult in the system and the other wire of any line can be connected al central with the corresponding wire of any other line, means for grounding said other wire at any station of the line, and means whereby central can connect the two wires at any station on any line, to form a complete talking circuit, substantially as described.
14. In a selective telephone system, a step-by-step rotating device, clock work mechanism for rotating the same, a magnet controlling the same by interrupted weak currents therethrough. means for simultaneously closing the circuit through said magnet and throwing a resistance intr said circuit to weaken the current to be subsequently so interrupted, means for shutting the resistance to pass a strong current through the magnet, means whereby sald strong current returns the rotating device to its initial position, and means for holding the line closed upon operating said shunting means until said rotating device has turned to its initial position, substantially as described.
15. In a selective telephone system, a line controller at each station, means for closing the circuit by sald line controller, means whereby the rise of the automatic noo. operates the line controller to close the circuit, means for supporting the line controller in a position to be so operthe closing of the circuit influences all the supporting means the closing of the circuit influences all the supporting means on the line to withdraw the controllers except the one alrady operated out of position to be so operated by the risc in the corresponding automatic hook, substantially as described.
16. In a selective telephone system, a line controller at each station, means for closing the circuit by said line controller, means whereby the rise of the automatic hook operates the line controller to close the circuit, neans for supporting the line controller in a position to be so operated by the rise of the automatic hook. and means whereby the closing of the circuit influences all the supporting means on the line to withdraw the controllers except the one already operated out of position to be so operated by the rise in the corresponding automatic hook, and a busy signal brought into signalling position by such actuation of the supporting means, substantially as described.

\section*{No. 101,314. Photographing Machine. Machine photographique.}


Joseph Frederick Roders, New York City, New York, U.S.A., 2nd October, 1906; 6 years. Filed 27th February, 1904. Receipt No. \(112,955\).
Claim.-1. In a machine of the character described a magazine, plates angularly aranged therein relatively to each. other, and means for effecting the edgewise discharge of the first plate by engaging the second and disengaging the first, and so forth.
2. In a machine of the character described, a magazine, plates arranged therein angularly to each other, means for holding the forward plate, and means for rotating the magauinc to cause the disengagement of the holding means from the forward plate and the engagement of said means with the immediately succeeding plate.
3. In a machine of the character described, a magazine, plates arranged therein angularly to each other, stops against which the first plate abuts, and means for effecting the relative movement between the plates and the stops, whereby said stops successively engage the second and disengage the first of said plates.
4. In a machine of the character described, a magazine, plates aranged therein in such manner that each plate is at right angles to its next plate, means for turning the magazine, stops against which the horizontally disposed first plate abuts, and means for transferring the stops from the first to the second plate as the first plate approaches vertical position and the second plate horizontal position.
5. In a magazine of the character described, a magazine, and means for turning the sald magazine to discharge a plate therefrom by the intersection of a coin.
6. In a machine of the character described, a magazine, a shutter, an operating spring therefor, and means for simultaneously effecting a partial rotation of the magazine and a rewind of the shutter spring.
7. In a machine of the character described, means for successively dellvering plates to exposure position and successively exposing and delivering said plates to developing position, and means for simultaneously developing a plurality of plates and transferring them to the fixing bath in order of immersion in the developer.
8. In a machine of the character described, a developing bath having a plurality of compartments one of which is always in register with the exposure position when the bath is at rest. and means for effecting the intermittent rotation of said bath.
9. In a machine of the character described, plate treating baths arranged concentrically one within the other, and neans for transferring a plate from one bath to the other.
10. In a machine of the character described, a ring provided with three concentric channels, containing respectively developing, fixing and washing fluids, and means for transferring a plate from one channel to the other and finally discharging the plate from the machine.
11. In a machine of the character described, a ring provided with troughs or channels, concentrically arranged, and a transferring device, means for bringing a plate supported in one of said troughs or channels to rest underneath the transferring device and means for effecting the operation of the transferring device to grip the plate, withdraw it from the first trough or channel, deposit it in the second trough or channel and subsequently move it to the first position.
12. In a machine of the character described, a ring, a transferring device operating while the ring is at rest to (1) move downward and engage a plate, (2) lift the plate clear of the ring, (3) move along a radius of the ring carrying the plate to position over the next trough or channel in said ring. (4) discharge the plate, and (5) move down and radially back to the first position.
13. A photographic machine comprising a magazine havIng means whereby each plate therein may be held at an angle to the next, means for detaining the foremost plate. and mechanism for effecting relative movement between said magazine and said detaining means, to disengage said detaining means from the foremost plate and engage said detaining means with the succecding plate.
14. A photographic machine comprising a rotatable magazine having means whereby each plate therein may be held at an angle to the next, means for detaining the foremost plate, and mechanism for rotating the magazine, sald magazine and said retaining means being so related that upon rotation of the magazine said detaining means become disengaged from the foremost plate and engaged with the succeeding plate.
15. A photographic machine comprising a magazine havIng means whereby oblong plates may be held therein each crosswise of the next. detents for engaging the four corners of the foremost plate, and mechanism for effecting such relative movement between said magazine and said detents that the latter melease the foremost plate and engage the four corners of the succeeding plate.
16. In combination a rotatable magazine having means for holding a pack of oblong plates each disposed crosswise of the next and means rendered effective through the rotation of the magazine for discharging the foremost plate in edgewise direction.
17. In combination a rotatable magazine formed for holding a pack of oblong plates standing on edge and each disposed crosswise of the next, a spring for advancing sald plates. detents against which the corners of the foremost plate ahut. sald detents and magazine being so related that upon rotation of the magazine the foremost plate is released and the surceeding plate is engaged by the detents, and a guide through which a released plate may drop.
18. In combination a rotatable magazine formed for holding a pack of plates, means for effecting the rotation of the magazine, and means for enabling a rotary movement of the magazine to cause the foremost plate to be discharged in edgewise direction
19. In combination a rotatable magazine formed for holding a pack of oblong plates each crosswise to the next, detents movably mounted upon one end of the magazine for engaging the four corners of the foremost plate, means for giving the magazine quarter revolutions, means for enabling the detents to release the foremost plate and engage the next during each quarter revolution of the magazine, and four guides upon the magazine through which the re. leased plates may drop. narrow end foremost.
20. In combination a rotatable magazine formed for holding a pack of oblong plates each crosswise to the next, and means for giving the magazine quarter revolutions and for Nischarging the foremost plate at each quarter revolution of the magazine.
21. The combination with a magazine for photographic plates. of a series of pivoted detents for engaging the foremost plate, gearing connecting sald detents, and means for operating sald gearing.
22. A combination with a rotatable magazine for holding rblong photographic plates some crosswise to others, of four detents pivoted upon said magazine for engaging the foremost plate, four gears connected to the detents, and a fised ceptral gear meshing with said four gears.
23. The comblnation with a rotatable magazine formed for holding oblong photographic plates some crosswise to Nthers, of means for giving said magazine quarter revolutlons, four two-arm detents pivoted upon said magazine lour gears one rigid with each detent, and a fixed central gear meshing with the said four gears.

\section*{No. 101,315. Method of Making Rubber Hose. \\ Méthode de faire des boyaux de caoutchnte.}

William Henry Adams. Montral, Quebec, Canada. 2nd October. 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138.059.

Claim.- 1 . The herrin described method of making fire hose, which consists in partly curing a wholly vulcanizable rubber tube. inserting the tube into a tube of fabric and causing it to adhere thereto. applying a coating of rubber to the outer surface of the tube of fabric, applying a profecting covering to the outer surface of the rubber to prevent overcuring, and fully curing the inner and outer rubber surfaces.
2. The herein described method of making fire hose, winich conslsts in partly curing a wholly vulcanizable rubber tube, inserting the tube into a tube of fabric, further curing the rubber tube and causing it to adhere to the woven tube, applying a coating of rubber to the outer surface of the tube of fabric. applying a protecting covering to the outer surface of the rubber to prevent over curing, and fully curing the inner end outer rubber surfaces.
3. The herein described method of making flre hose, which consists in partly curing a wholly vulcanizable rubber tube, inserting the tube into a tube of fabric, closing the ends of the rubber tube and admitting live steam to the interior of the rubber tube, cooling the rubber tube, inserting a cold hollow mandrel into the rubber tube, applying a coating of rubber to the outer surface of the tube of fabric, applying a removable protecting covering to the outer surface of the rubber to prevent over curing, and fully curing the inner and outer rubber surfaces.
4. The herein described method of making fire hose, which consists in partly curing a wholly vulcanizable rubber tube, Inserting the tube into a tube of fabric, further curing the rubber tube and distending the same to adhere to the tube of fabric, passing a cooling medium through the Inside of the rubber tube, inserting a cold hollow mandrel inside of the tube of rubber, applying a protecting covering to the outer surface of the rubber coating to prevent over curing, and fully curing the inner and outer rubber surfaces.
5. The herein described method of making fire hose. which consists in partly curing a wholly vucanizable rubber tube, inserting the tube into a tube of fabric, maintaining the tube of rubber and fabric in a desired shape, appying an outer coating of rubber to the tube of fabric, applying a protecting covering of fabric to the outer surface of the rubber and fully curing the inner and outer rubber surfaces.
6. The herein described method of making fire hose, which consists in partly curing a wholly vulcanizable rubber tube, inserting the tube into a tube of fabric. maintaining the tubes of rubber and fabric in a desired shape, applying an outer coating of rubber to the tube of fabric, applying a covering of continuous wet fabric to the outer surface of the rubber to prevent over curing, and fully curing the inner and outer rubber surfaces.

\section*{No. 101,316. Belt or Canvas Tightener.}

Tendeur de courroies, etc.
George Edgar Clarke, Toronto. Ontario, Canada, 2nd October, 1906; 6 years. Filed 15th March, 1906. Recejpt No. 133,916.
Claim.-1. The comblnation with an apron, belt, canvas or conveyer, of means acting under the influence of a torsional force and circulating therewith so as to automatically take up the slack therein or permit of the necessary expansion thereof.
2. The combination with a divided apron, belt, canvas or conveyer, of means acting under the influence of a torsional force and yieldingly connecting the ends together in such a manner as to automatically take up the slack therein or permitof the necessary expansion thereof.
3. The combination with a divided apron, belt. canvas or conveyer, of adjustable means acting under the influence of a torsional force and yieldingly connecting the ends together in such a manner as to automatically take up the slack therein or permit of the necessary expansion thereof.
4. The combination with a divided apron, belt, canvas or conveyer, of a member to which one end of the same is connected, a second member, a spring acting under the influence of torsional force, controlling movement of said second member, and means for connectingtsaid members together in such a manner as to permit of the slack in sald
apron, canvas, conveyer or belt being taken up or permit
of the necessary expansion of same.

5. The combination with a divided apron, belt, canvas or conveyer, of a member to which one end of same is connected, a rotatavie member, a spring acting under the influence of torsional force controlling axial movement of said rotatable member, means for connecting said members together in such a manner as to permit of the adjusting movement of said first-mentioned member so as to decrease or increase the torsional force exerted by said spring upon said rotatable member.
6. The combination with an apron, belt, canvas, or conveyer, of means circulating therwith, and a spring acting under the influence of torsional force and controlling axial movement of said means, which, being so attached or connected to said canvas, belt, apron, or conveyer automatically takes up the slack therein or permits of the necessary expansion thereof.
7. The combination with a divided apron, belt, canvas or conveyer, of a member to which one end of same is connected, a spring controlled member to which the other end of same is yieldingly secured, and means for connecting sald members together in such a manner as to permit of the slack in said apron, canvas, conveyer, or belt, being taken up or permit of the necessary expansion of same through the movement of said spring controlled member.
8. The combination with a divided apron, belt, canvas, or conveyer, of a normally non-rotating roller to which one end of same is connected, a spindle loosely mounted within said roller, a spring controlled roller to which the other end of same is yleldingly secured, and means for connecting said rollers together in such a manner as to permit of the slack in said apron, canvas, conveyer or belt being taken up or permit of the necessary expansion of same through the movement of sald spring controlled roller.
9. The combination with a divided apron, belt, canvas or conveyer, of a normally non-rotating roller to which one end of same is connected, a spindle loosely mounted within said roller, a roller to which the other end of same is yieldingly secured, a spindle mounted within this roller, a spring within said roller having one end attached to said spindle and its other end attached to said roller, threaded rods connecting said spindles together at each end, nuts threaded on sald rods, and means for locking said first-mentioned roller so as to prevent rotation of same, said second-mentioned roller being free to turn on its spiral in order to permit of



Louis V. Gadbois, Aylmer, Quebec, Canada, 2nd October, 1906; 6 years. Flled 16th June, 1906. Receipt No. 136,993.
Claim.-1. In a heating device for incubators, a tank extending practically on the whole area of the egg chamber, a portion of said tang projecting outside of the egg chamber, a heat flue in sadd extension, a regulator boiler closing the top of said flue, a heat regulator actuated by the steam generated in said boller, and means conencted to said regulator to direct the beat on or off sald regulator boller, an ege tray, a solld bottom to said egg tray, a belt on sald bottom, means for moving said belt, an egg separating rods in said tray.
2. A temperature regulator for incubators, a water tank, a regulator boiler embodied in said tank, a flue directing the heat to said boiler. a flue directing the heat off from said bofler, a double damper mounted between sald flues, a steam actuated piston in said regulator boiler, and means connecting the piston and dampers to actuate the same by a predetermined pressure in said boller, an egg tray, a solld bottom to said egg tray, a belt on said bottom, means for moving said belt, and egs separating rods in said tras.

Axel Magnuson, New York City, New York, U.S.A., 2nd October, \(1906 ;{ }^{6}\) years. Filed 1st September, 1905. Receipt No. 128,130
Claim.-1. The combination with an electric motor, of phase current aparas therefor, means for controlling singleand current to operate said motor controlling apparatus, and an electric device for holding said motor controlling apparatus in a predetermined position
2. The combination with a multiphase motor, of controlling apparatus therefor, means in a circult connected across any two of the mains of said motor, for closing a single phase circult to sald motor controlling apparatus, and electric holding means for said controlling apparatus.
3. The combination with an electric motor, of controlling apparatus therefor, holding means for said controlling apparatus, a source of single phase current, a source of direct current, and a single switch device for controlling the single phase current to operate said motor controlling apparatus and for controlling the direct current to operate said holding means.
4. The combination with an electric motor, of starting switches therefor, electro-responsive devices for closing said switches, electro- magnetic apparatus for holding sald sivitches in closed position, a source of single phase current a source of direct current and a single manual switch for controlling the single phase current to operate said electroresponsive devices and for controlling the direct current to operate said electro-magnetic holding apparatus.
5. The combination with an alternating current motor, of reversing switches therefor, single phase magnets for actuating said switches to closed position, direct current magnets for holding said switches in closed position, and means for controlling both the said single phase magnets and the said direct current magnets.
6. The combination with an alternating current motor, of two reversing switches therefor, an electro-responsive device for each of sald switches to actuate the same to closed position, an electro-magnet connected to each switch to hold the same in closed position, and a manual switch for controlling single phase current to operate either of the electro-responsive devices and for controlling direct current to operate the corresponding holding electro-magnet.
7. In combination with a motor, a source of electrical supply, a resistance in series with the motor armature, and a generator connected to the motor and arranged to control sald resistance in starting the motor.
8. In combination with a motor, a source of electrical supply, a resistance in series with the motor armature, and a generator mechanically connected to the motor and arranged to control said resistance in starting and stopping the motor.
9. In combination with an alternating current motor, a source of electrical supply, a resistance electrically connected to the motor, and a generator connected to the motor and arranged to control the movement of the motor upon starting, by controlling the resistance.
10. In combination with a motor, an opposition element in circuit with the motor and a generator mechanically connected to the motor and arranged to control the movement of the motor in starting and stopping by controlling the opposition element.
11. In combination with an alternating current motor, a resistance electrically connected to the motor, and a genfrator connected to the motor and arranged to control the resistance in proportion to the speed of the motor on starting.
12. In combination with a motor, controlling circuits therefor, electro-magnetic switches in the controlling circuits, and means for generating a variable voltage in proportion to the speed of the motor, said voltage applied to said electro-magnetic switches in the controlling circuits which are arranged to be actuated by the varlable voltage.
13. In oombination with a motor, an opposition element in circult with the motor, a generator so connected to the motor that it will generate a voltage in proportion to the speed of the motor, a plurality of electro-magnets in connection with the generator and arranged to control the opposition element.
14. The combination with an electric motor and a mechanism driven thereby, a generator mechanically connected to the driven mechanism, an electro-responsive device connected to said generator, and means electrically connected to the motor and operated by said electro-receptive device for controlling the acceleration of the motor upon starting.
15. In combination with an electric motor, \(\&\) mechanism driven thereby, an opposition element in the motor circuit, an electro-responsive device for controlling the opposition element, and a generator connected to the driven mechanism and arranged to actuate the electro-responsive device to cut the opposition element out of the motor circuit in a number of steps in proportion to the acceleration of the driven mechanism.
16. In combination with an electric motor, a starting device therefor, electric circuits to actuate the starting device, a source of electrical supply, and another source of electrical supply dependent upon the movement of the motor and arranged to co-operate with the first source of supply to hold the starting device during the rotation of the motor.
17. In combination with an electric motor, a starting device therefor, electric circuits to actuate the starting device, a source of electrical supply, and another source of electrical supply dependent upon the movement of the motor and proportional to its speed and arranged to co-operate with the first source of supply to hold the starting device during the rotation of the motor.
18. In combination with an electric motor, an electrically operated starting device therefor, electric circuits to actuate the starting device, a source of electrical supply, another source of electrical supply dependent upon the speed of the motor and proportional to its speed and arranged to cooperate with the first source of supply to hold the starting device during the rotation of the motor, and a manually operated switch to control the circuits to the starting device.
19. A starting device for motors comprising an alternating current motor, a direct current generator connected to run with the motor, and means actuated by the current from the generator to control the starting and accelerating of the motor.
20. In combination with an alternating current motor, a source of alternating current supply, an opposition element in the motor curcuit. a series of electro-magnetic responsive devices for removing the opposition element from the motor circuit, and a source of direct current supply dependent upon the movement of the motor and proportional to its speed. arranged to actuate the electro-responsive devices one by one as the speed of the motor increases.
21. In combination with an alternating current motor, a source of alternating current supply, a starting device for the motor arranged to be actuated by the alternating currcnt, means dependent upon the movement of the motor for generating a direct current, and a magnetic device operated by such direct current to hold the starting device firmly in closed position.
22. In combination with an alternating current motor, a source of alternating current supply, a starting device for the motor arranged fo be actuated by the alternating cur-
rent, a direct current generator dependent upon the movement of the motor arranged to generate a voltage proportional to the speed of the motor, a magnetic device connected to such direct current generator and arranged to hold the starting device firmly in closed position, an opposition element in the motor circuit. and a series of electro-responsive devices for removing the opposition element from the motor circuit. sald electro-responsive devices being connected to the direct current generator and arranged to be actuated one by one as the motor accelerates.
23. In combination with an alternating current motor, an clectrically operated starting device therefor, and circuits for actuating the starting device comprising an alternatiog current circuit and direct current circuit.
24. In combination with an alternating current motor, a starting device therefor, alternating current and direot current circuits, said starting device being actuated by a single phase alternating current and positively held in operative position by a direct current.
25. In combination with an alternating current motor, a starting device therefor. said starting device being actuated by a single phase alternating current and positively beld in operative position by a direct current, alternating curreat and direct current electrical circuits for the starting device. and a manually operated switch for controlling the circuits.
25. In combination with an alternating current motor. \({ }^{2}\) device for starting the motor in one direction and another device for starting the motor in the other direction. alternating current and direct current circuits, sald starting device being actuated by a single phase alternating current and positively held in operative position by a direct movement.
27. In combination with an alternating current motor. a resistance, an electrically operated reversing switch. circuits for the reversing switch for both alternatine and direct currents. a manually operated switch for controling the circuits. electro-resdonsive devices for controlling the resistance and a direct current generator connected to run with the motor arranged to supply the direct current circults for the reversing switch and to automatically actuate the elec-tro-responsive devices.
28. In combination with an alternating current motor. \({ }^{2}\) resistance. an electrically operated reversing switch. circuits for the reversing switch for both alternatine and direct currents, a manually overated switch for controlling the dircuits, electro-resnonsive devices for controlling the resiatance, and a direct current genpratnr connected to run with the motor arranced to supply the dirent current circuits for the reversing switch and to automatically actuate the elentronesnonsive devices in proportion to the acceleration of the motor.
29. In combination with an alternating current motor. a resistance an electricallv nperated reversing switch. dircuits for the reversing switch for both alternating and direct currents. \& manually oderated switch for controlling the circuits. electro-responsive devices for cutting out the resistance step-by-sten. and a direct current generator connected to run with the motor arranged to supnly the diract current circuits for the reversing switch and to automaticallv actuate the electro-responsive device one at a time in pronortion to the acceleration of the motor.
30. In comblnation with a motor, means for reversing the direction of rotation of the motor. a generator connected to run with the motor. means for keeping the direction of the current generated by the generator the same if the direction of rotation of the motor is changed. and means actuated hy the current generated by the generator for controlling the motor.
31. In combination with a motor, means for reversing the direction of rotation of the motor, a resistance for the motor circuit. a generator connected to run with the motor, moans for keeping the direction of the current generated by the generator the same if the direction of rotation of the motor is changed, and means actuated by the current generated by the generator for controlling the motor by cutting the resistance into and out of the motor circuit.
32. In combination with a motor, means for reversing the drection of rotation of the motor. a generator connected to run with the motor, means connected with the generator for keeping the direction of its generated current the same, sald generator arranged to generate a voltage in proportion to the speed of the motor, and electro-responsive devices dependent upon the generated voltage for controlling the acceleration of the motor.
33. In combination with an alternating current motor. \({ }^{\alpha}\) starting device therefor and a direct current generator coanected to run with the motor and arranged to acceleration of the motor in starting the motor.
34. In combination with an elternating current motor. \({ }^{\text {a }}\) starting device therefor actuated by alternating current. and a direct current generator connected to run with the motor and arranged to control the acceleration of the motor.
35. In combination with an alternating current motor, means for starting the motor in one direction or the other, and a direct current generator connected to run with the motor and arranged to control the acceleration of the motor. 36. In combination with an alternating current motor. means for starting the motor in one direction or the other. sald means actuated by alternating current and a direct current generator connected to run with the motor and arranged to control the acceleration of the motor.
37. In combination with an alternating current motor, means for starting the motor in one direction or the other, said means actuated by an alternating current, a manually operated switch for controlling the starting device and a direct current generator connected to run with the motor and arranged to control the acceleration of the motor.
38. In combination with an alternating current motor, a starting device therefor, alternating current and direct current circuits, said starting device being actuated by an alternating current and positively held in operative position by a direct current.
39. In combination with an alternating current motor, a starting device therefor, sald starting device being actuated by an alternating current and positively held in operative position by a direct current, alternating current and cirect current electrical circuits for the starting device, and a manually operated \(s\) witch for controlling the circuits.
40. In combination with an alternating current motor, a device for starting the motor in one direction and another device for starting the motor in the other direction, alternating current and direct current circuits, said starting derices being actuated by an alternating current and positively held in operative position by a direct current.
41. In a starting device for alternating current motors, a source of supply, a starting mechanism, alternating current and direct current circuits, means connected with said source of supply arranged to actuate the starting mechanism to start the motor, and a direct current generator mechanically connected to the motor and arranged to control the acceleration of the motor step-by-step.
42. In a system of motor control, two sources of current supply, one being pulsating and connected to the motor, the cther being a direct current generated by the movement of the motor and variable from zero to a maximum it proportion to the speed of the motor and adapted to control the acceleration of the motor.
43. In a system of motor control two sources of current supply, one of which is not variable and is connected to the motor, the other of which is generated by the movement of the motor and is variable from zero to a maximum in proportion to the speed of the motor.
44. In a system of motor control two sources of current supply, one of which is not variable and is connected to the motor, the other of which comprises a generator connected to the motor and is variable from zero to a maximum in proportion to the speed of the motor.
45. In a system of motor control two sources of current supply, one being obtainable before the motor is started. and the other being dependent upon the movement of said motos means operated by current from one of said sources for starting, reversing or stopping the motor, and means operated by current from the other source for effecting an acceleration of the motor.
46. In combination with an electric motor, an external Rource of current supply of practically constant value, a controlling device in serles with the motor, and a generator mechanically connected to the motor and arranged to control the controlling device.
47. In combination. With an electric motor, an external source of current supply of practically constant value, a starting switch for the motor, a controlling device for the motor, and a generator mechanically connected to the motor and arranged to control the controlling device.
48. In combination with an electric motor, an external source of current supply of practically constant value, an electrically actuated starting switch for the motor, a manually operated circult closer for the starting switch, a controlling device for the motor and a generator mechanically connected to the motor and arranged to control the controlling device.

\section*{No. 101,319. Telephone Switchboard. \\ Commutateur de téléphone.}

Ewing McLean, Greencastle, Indiana, U.S.A., 2nd October, 1906; 6 years. Filed 21st March, 1906. Recelpt No. 134,126.

Claim.-In a telephone switchboard, a shutter occupying a normal vertical position, said shutter being hinged at its lower end and adapted to swing down on its hinge as a signal to the operator, said shhtter having an outwardly projected extension at its hinge end, a magnet having windings connected with the telephone line wires, an armature pivot-
ally supported upon said magnet, an arm carried by said armature having a terminal hook to secure the shutter in

its normal vertical position, a connecting plug, a cord attached to an end of said plug, a weighted pulley supported on said cord, a pivoted lever having one arm contacting with the shutter extension and having the other arm forming a support for said plug when the latter is in its socket.

No. 101,320. Gas Generator. Générateur d gaz.


Jean Patoine, Quebec, Quebec, Canada, 2nd October, 1906 ;
6 years. Filed 11th May, 1906. Receipt No. 135,804.
Claim.-1.A gas generator comprising the combination of a tank having an inclined bottom merging into a T connection, a pipe leading from the \(T\) connection, a rockable pipe provided with an opening adapted to register with the pertical portion of the \(T\) connection and provided with a squared outer end, and means for automatically feeding carbide into the tank.
2. A gas generator comprising the combination of a tank provided with a horizontal partition having an opening therein, a float disposed in the tank, guideways for the float. angle irons secured to the float, a cylinder secured to the angle irons and adapted to work in sald opening in the partition, a water seal carried by the float, a carblde chamber, a cylinder depending from the carbide chamber into the water seal, a closure for the carbide chamber, and means for operating the closure by the upward and downward movement of the float.
3. A gas generating apparatus comprising the combination of a tank, a float disposed in the tank, a water seal carried by the float, a cylinder disposed in the water seal, a carbside chamber carried by the clyinder and provided with downwardly extending sleeves, a link secured to the float, a cross bar pivoted to the link, an arm secured to the carbide chamber and pivoted to the cross bar, rods pivoted to the cross bar and disposed through the sleeves, a cross bar carried by said rods, and a funnel-shaped closure for the carbide chamber carried by the iast-named cross bar.
4. A gas generating apparatus comprising the combination of a tank, a float carried by the tank, a water seal carrled by the float, a carbide chamber disposed above the water seal, a cylinder depending from the carbide chamber into the water seal, a closure for the carbide chamber adapted to be actuated by the upward and downward movement of the fioat, and links carried by one of the members of th water seal and provided with hooked ends adapted to engage a portion of the carbide chamber and lock the same.

No. 101,321. Machine Por Cutting Tubular Bodies. Machine pour tailler des corps tubulaires.


Thomas D. Miller, Woodstock, Maryland, assignee of Eugene J. Logan, Philadelphia, Pennsylvania, U.S.A., 2nd October, 1906; 6 years Filed 26th May, 1906. Receipt No. 136,272.
Claim.-1. The combination with a clamp for tubular bodies, of a circular saw adjacent to an end of said clamp, means for constantly rotating said saw about its axis, and independent means for giving said saw an orbital movement about the axis of the clamp.
2. The combination with a clamp for tubular bodies, of a circular saw adjacent to and end of sald clamp, means for constantly rotating said saw about its axis, and independent means for giving said saw an orbital movement about the axis of the clamp intermittently.
3. The combination with a clamp for tubular bodies, of a pair of circular saws arranged adjacent to the ends of sald clamp, means for constantly rotating said saws about their axis, and independent means for giving sald saws an orbital movement about the axis of the clamp.
4. The combination with a clamp for tubular bodies, of a pair of circular saws arranged adjacent to the ends of said clamp, means for constantly rotating said saws about their axis, and independent means for giving said saws an arbital movement about the axis of the clamp slmultaneously.
5. The combination with a clamp for tubular bodies, of a pair of circular saws arranged adjacent to the ends of said clamp, means for constantly rotating said saws about their axis, and independent means for giving said saws an orbital movement about the axis of the holder simultaneously and irtermittently.
6. The combination with a circular saw, and means for rotating the same about its axis, of a feeding device having one or more holders for tubular bodies thereon, means for moving said feeding devices intermittently to bring the bodies against the saw, and means for giving said saw an orbital movement about the axis of each tubular body after it has been brought into engagement with the saw.
7 The combination of a saw carrier journalled in a sultable bearing and a saw arbour journalled in said carrier at one side of the axis of the carrier, a saw mounted upon said arbour, a shaft extending axially through said saw carrier and geared to said arbour, means for rotating said. shaft, and means for intermittently rotating said saw carrier.
8. The combination of a saw carrier journalled in a suitable bearing and a saw arbour journalled in sald carrier at one side of the axis of the carrler, a saw mounted upon said arbour, a shaft extending axially through said saw carrier and geared to said arbour, means for rotating said shaft, means for rotating said baw carrier, and means for locking means for carrier against movement at the completion of each revolution of the carrier.
9. The combination of a saw carrier journalled in a suitable bearing and a saw arbour journalled in said carrier at one side of the axis of the carrier, a saw mounted upon said arbour, a shaft extending axially through said saw carrier and geared to said arbour, means for rotating said shaft, means for rotating said saw carrier intermittently, comprising a constantly driven clutch member, a co-operating clutch member secured to the carrier, means for automatically connecting said clutch members, and means for automatically disengaging said clutch members at the completion of each revolution of the carrier.
10. The comblnation of a saw carrier journalled in a suitable bearing and a saw arbour journalled in said carrier at one side of the axis of the carrier, a aw mounted upon said
arbour, a shaft extending axially through sald saw carrier and geared to said arbour, means for rotating sald shaft, means for rotating said saw carrier, intermittently, comprising a constantly driven clutch member, a co-operating clutch member secured to the carrier, means for automatically connecting said clutch members, means for automatically disengaging sald clutch members at the completion of each revolution of the carrier, and means for automatically locking the carrier against movement while the clutch members are disengaged.
11. In a machine for cutting tubular bodies the combination with a suitable bearing and a saw carrier comprising a sleeve journalled in said bearing, and having a head adapted to support a saw arbour at one end of the bearing and a clutch member fixed to sald sleeve at the opposite end of the bearing, of a constantly driven clutch member journalled upon sald sleeve, means for automatically engaging and disengaging said clutch members, a shaft extending axially through said sleeve, means for constantly driving said shaft, a saw arbour mounted in said head parallel with the shaft and having a saw thereon, and gearing connecting said shaft and arbour.
12. In a machine for cutting tubular bodies the combination with a suitable bearing and a saw carrier comprising a sleeve journalled in said bearing, and having a head at one end adapted to support a saw arbour and a clutch member secured to said sleeve at the opposite end of the bearing, of a gear forming a clutch member journalled upan said sleeve, a saw arbour journalled in sald head, a shaft extending axially through sald sleeve and geared to sald saw shaft, a countershaft, and gearing connecting sald countershaft. with the shaft extending through the sleeve and with the gear journalled upon said sleeve.
13. In a machine for sawing tubular bodles the comblnation with a saw carrier comprising a sleeve journalled in a suitable bearing, of a clutch upon said sleeve at ane end of said bearing, a collar secured to said sleeve at the opposite end of the bearing, a clutch lever and a locking lever pivoted adjacent to said bearing, said clutch lever being adapted to engage and operate the clutch and sald lock-1 ing lever being adapted to form a locking engagement with the collar, a rod connected to the free ends of sald levers, and a shaft having a cam thereon adapted to operate sald rod.
14 In a machine for sawing tubular bodies, a rotatable saw carrier, a saw carried thereby at one slde of the axis of the carrier, means for rotating said saw, means for intermittently rotating sald carrier, a feed wheel having one or more holders, each adapted to hold a tubular body with its end projecting in the plane of the saw, means for operating sald feed wheel to bring the tubular body or bodies irto engagement with the saw, and means for holding sald feed wheel stationary while the saw carrier is in motion.
15. In a machine for sawing tubular bodies, a rotatable saw carrier and means for rotating the same, a saw arbour journalled in said carrier at one side of the axis of the carrier, said arbour having a saw thereon, a feeding device having one or more holders thereon each adapted to hold a tubular body, means for constantly rotating sald saw, means for holding said carrier stationery, means for moving sald reeding device to bring a holder opposite the ond of the saw carrier with the tubular body in engagement with the saw, means for automatically starting said carrler into saw, means for automatically starting said carrior the the
operation after the tubular body is in engagement with the saw, and means for automatically stopping the rotation of sald carrier after it has made a complete revolution.
16. In a machine for sawing tubular bodies, a rotatable saw carrier, and means for rotating the same, a saw arbour journalled in sald carrier at one side of the axis of the carrier,said arbour having a saw thereon, a feeding derice having a series of holders thereon each adapted to hold a tubular body, means for constantly rotating said saw, means for holding said carrier stationary, means for moving sald feeding device intermittently to bring the holders suocessively into position opposite the end of the saw carrier Tith the tubular body in engagement with the saw, means for automatically starting said carrier into operation each time a tubular body is brought into engagement with the asw, and means for automatically stopping the rotat
arrier after it has made a complete revolution.
17. In a machine for sawing tubular bodies, a rotate
17. In a machine for sawing tubular bodies, a rotatable saw carrier, and means for rotating the same, a saw arbour journalled in said carrier at one side of the axis of the car rier, said arbour having a saw thereon, a feed wheel tubular one or more holders thercon each adapted to hold a tus for body, means for constantly rotating said saw, means leed holding said carrier stationary, means for moving sald feed whel to bring a holder opposite the end of the saw carrler with the tubular body in engagement with the sam, moaner for automatically starting said carrier into operation anans the tubular body is in engagement with the saw, and mafter for automatically stopping the rotation of said carrier alce it has made a complete revolution.
18. In a machine for sawing tubular bodies, a rotatable saw carrier, and means for rotating the same, a saw arbour journalled in said carrier at one side of the axis of the carrier, said arbour having a saw thereon, a leed wheel having a series of holders thereon each adapted to hold a tubular body, means for constantly rotating said saw, means for holding said carrier stationary, means for moving said feed wheel intermittently to bring the holders successively into position opposite the end of said carrier with the tubular body in engagement with the saw, means for automatically starting said carrier into operation each time a tubular body is brought into engagement with the saw, and means for automatically stopping the rotation of the carrier after it has made a complete revolution.
19. In a machine for sawing tubular bodies, a saw, means for rotating the same upon its axis, a feed wheel having one or more holders thereon each adapted to hold a tubular body transversely to the plane of the saw, means for rotating said feed wheel to bring the tubular body into engagement with the saw, means ior holding the feed wheel stationary waile the tubular body is in engagement with the saw, and means for giving the saw an orbital movement about the axis of the tubular body when the feed wheel is at rest.
20. In a machine for sawing tubular bodies, a saw, means for rotating the same upon its axis, a feed wheel having a series of holders thereon each adapted to hold a tubular body transversely to the plane of the saw, means for rolating said feed wheel intermittently to bring the tubular body into engagement with the saw, means for holding the feed wheel stationary each time a cubular body is brought into engagement with the saw, and means for giving the saw an orbital movement each time the feed wheel is stopped.
21. In a machine for sawing tubular bodies, a pair of saws arranged in parallel planes, meaus for rotatiag said saws about their axis, a feed wheel having one or more holders thereon each adapted to hold a cubular body with its end portions projecting beyond the holder into the planes of the saws, means for rotating said teed wheel to briug the cubular body or bodies into contact with the saws, means lor holding the feed wheel stationary while the tubutar body is in engagement with the saws, and moans for giving sald saws a simultameous orbital movement abouc the axis of the tubular body engaged by the sans while the feed wheel is at rest.
2. In a machine for sawing tubular bodies, a saw, means for rotating the same upon its axis, a leeding device having a series ot holders thereon, each adapted to hold a tubular body transversely to the plane of the saw, means for rotating said teed wheel intermittently to bring said tubular bodies successively into engagement with the saw, means tor holding tae teed wheel sationary while each tubular body is in eugagement with the saw, and means for giving sala saw an ordital movement while the feed wheel is stationary.
23. In a machine for sawing tubular bodics, a saw, means for operating the same to sever the tubular bodies, a fecding device having a series of holders thereon each adapted to hold a tubuiar body in the plane of the saw, means for intermittently operating said feeding device to bring suecessive holders opposite the saw, a cleaning device and means for moving said cleaning device into and out of the interior of each holder after it has passed the saw and while the leeding device is at rest.
24. In a machine for sawing tubular bodies, a pair of saws, means for operating the same to sever the tubular bodies, a feeding device having a series of holders thereon each adapted to hold a tubular body with its ends projecting beyond the end of the bolder into the planes of the saws, means ior intermittently operating said feeding device to bring successive holders opposite the saws, a cleaning device and means for moving said cleaning device into and out of the interior of each holder after it has passed the saws and while the feeding device is at rest.
25. In a machine for sawing tubular bodies, a pair of saws arranged in parallel planes, a feed wheel having a series of holders thereon each adapted to hold a tubular body with its end portions projecting transversely of the planes of the saws, means for intermittently moving said feed wheel to bring successive holders between the saws, a longitudinally movable shaft or spindle having a cleaning device thereon arranged in the rear of the saws, and means for giving said spindle a longitudinal reciprocating movement each time the feed wheel is stopped.
26. In a machine for sawing tubular bodies, a pair of saws and means for operating the same to cut said bodies transversely, a feed wheel having a series of holders thereon each holder having a hinged outer jaw and being adapted to hold a tubular body with its ends projecting into the planes of the saws, means for rotating said feed wheel intermittently, a curved gulde extending around the upper and rear portions of the feed wheel and adapted to hold said hinged jaws
closed while the tubular bodies are being cut-off, a cleaning device at the rear of the saws, means for moving said device into and out of the holders while the jaws are closed by said guide and the feed wheel is at rest.
27. In a machine for sawing tubular bodies the combination with a pair of saws arranged in parallel planes, means for constantly rotating said saws about their axes, and means for giving said saws an intermittent orbital movement, of a feed having a series of holders thereon, mechanism for intermittently operating said feed wheel and means for automatically throwing said feeding mechanism out of action after each movement of the feed wheel.
28. In a machine for sawing tubular bodies the combination with a pair of saws arranged in parallel planes, and means for constantly rotating said saws about their axes, of a feed wheel, means for intermittently operating said feed wheel, mechanism for giving said saws an intermittent orbital movement, and means for automatically throwing sald mechanism out of action after each movement of the feed wheel.
29. In a machine for cutting off the heads of sheet metal cans the combination with a pair of saws arranged in parthel planes and means for constantly rotating said saws about their axes, of a clamp arranged to hold a can body with its end portions in ensagement with the saws, and independent means for giving said saws and clamp a complete orbital movement relatively to one another during the engagement of the saws with the can body to cause the severance of the cans heads.
30. In a machine for sawing tubular bodies the combination with a saw, and means for constantly rotating sald saw about its axis, of a clamp arranged to hold a tubular body transversely to the plane of the saw and in engagement with the saw, and independent means for giving sald saw and clamp a complete orbital movement relatively to one another during the engagement of the saw with the tubular body to cause the severance of the tubular body.
31. In a machine for sawing tubular bodies the combination with a saw and means for constantly rotating said saw about its axis, of a feeding device having a c!amp thereon adapted to hold a tubular body transversely to the plane of the saw, means for automatically moving said feeding device to bring said tubular body into engagement with the saw, means fo. automatically locking said feeding device in stationary posltion while the tubular body is engaged by the saw, and means for automatically moving said clamp and saw relatively to oue another while the feeding device is stationary to cause the saw teeth to cut circumferentially around the tubular tody from the interior of the tubular body outwardly.
32. In a machine for cutting off the heads of sheet metal cans the combination with a pair of circular saws arrangel in parallel planes, and means for rotating said saws about their axis. of a feeding device having a holder thereon, said holder being arranged in a plane between the saws and adapted to hold a can body with its end portions projecting into the planes of the saws, means for moving said feeding device to bring the can body into engagement with the saws, means for locking said feeding device in stationary position while the can body is engaged by the saws, and means for moving said holder and saws relatively to one another while the freding device is stationary to cause the feeth of the saws to cut circumferentially around the can body from the interlor of the can outwardly.
33. In a machine for sawing tubular bodies, a circular saw and means for constantly rotating the same about its axis, a clamp adapted to hold a tubular body transversely to the plane of the saw, means for giving the saw and the clamp a relative feeding movement to cause the saw to make an initial cut through the walls of the tubular body at one side thereof, means for stopping this feeding movement after this initial cut has been made, and means for moving safd saw and clamp relatively to one another after the feed movement has ceased to cause the saw teeth to cut circumferentially around the tubular body from the interior outwardly.
34. In a machine for cutting off the heads of sheet metal cans the combination with a pair of circular saws arranged in parallel planes and means for rotating satd saws about their axes, of a holder arranged in a plane between said saws and adapted to hold a can body with its end portions projecting into the planes of the saws, means for giving the saws and holder a relative feeding movement to cause the saws to make initial cuts through the wall of the can body at one side thereof, means for stopping this feeding movement after the initial cuts have been made, and means for moving sald pair of saws and the holder relatively to one another after the feed movement has ceased to cause the teeth of both saws to cut circumferentially around the can body from the interior outwardly.
35. A machine to cut the heads and bottoms from can bodies having in combination a plurality of clamps to stationarily clamp can bodies between their ends, means for intermittently moving sald clamps to bring them successively
to the operative position, and means to simultaneously make position, where each end around the clamped can body in removed while the body remains held will be severed and 36. In a machine of the remains held in the clamp.
a crank, a cutter shaft carriss described the combination of volving said cutter shaft continy satd crank, means for resaid crank intermittently, and a can body means for revolving ter is colncldent with the axis of the cutter clamp whose cen-
37. In a machine of the class de cutter shaft.
a orank, a cutter sbaft carried by said the combination of with a pinion, a shaft at carried by said crank and provided with a pinion, a shaft at the axis of said crank and carrying revolve the latter, means for revolving said gears and cutter shaft continuously, means for revolving sald crank intermittently and thereby move the revolving cutter shaft in a circular path, and a can body clamp whose center is coincident with the axis of the cutter shaft.
38. In a machine of the class described the combination of a stationary table, a bearing supported above said table, a revoluble sleeve extending through said bearing and carrying a crank, means for revolving said sleeve, a cutter shaft carried by said crank, a shaft extending through said sleeve, means for transmilting motion from sald latter shaft to the cutter shaft, and a can body clamp whose center is coincident with the axis of the cutter shaft.
39. In a machine of the class described the combination of a crank, a cutter shaft carried by sald crank, means for revolving sald cutter shaft, means for revolving said crank intermittently whereby to move the cutter shaft in a circular path, a plurality of can body clamps and means for successively moving said clamps into operative position with respect to said cutter shaft.
40. In a machine of the class described the combination of a crank, a cutter shaft carried by said crank, means for revolving said crank to move the cutter shaft in a circular path, a revoluble head carrying a plurality of can body clamps, and means for intermittently revoliving said head to successively bring the clamps into position opposite the crank axis and hold them at rest while the cutter shaft is moved in a circular path.
41. In a machine for cutting can bodies the combination of two cranks confronting each other but spaced apart, a rotary cutter carried by each crank, a plurality of movable clamps each adapted to clamp a can body between its ends, means for successively miving the said clamps to a position in the space between the said two cranks with their centers coinicdent with the axis of the cutter shaft, and means for intermittently revolving both cranks to cause the cutters to sever and remove the head and bottom while the body remains held in the clamp.

\section*{No. 101,322. Extraction of Nickel and Cobalt. Extraction de nickel et cobalt.}

The Metals Extraction Corporation, assignee of Ralph Waldo Emerson MacIvor, all of London, England, 2nd October. 1906; 6 years. Filed 11th June, 1906. Receipt No. 136,769.
Claim.-1. The treatment of recovering nickle and cobalt form ores of oxidized mattes consisting in finely grinding the same and digesting them with or without pressure in a solution of chloride of magnesium at a sultable temperature, drawing off the resulting solutions of cobalt and nickel chlorides as formed and treating the same by known means for the recovery of the metal contents, substantially as described.
2. The manner of separating cobalt from nickel by digesting the finely ground nickel cobalt ores or roasted mattes in a solution of chloride of magnesium at a sultable temperature in such manner that the cobalt is first dissolved and separated as a solution of cobaltous chloride from the ore, the digesting being then continued for the similar removal of the nickel, substantially as described.
3. In the treatment of cobalt and nickel ores or roasted mattes forming the same into a paste with chloride of magmattes iorming, and after drying heating the mass to a temperature of about 300 degrees centigrade and subsequently wasting out the cloride of cobalt and nickel.

\section*{Nn. 101,323. Production of Nickel and Cobalt. Production de nickel et cobalt.}

The Metals Extraction Corporation, assignee of Ralph Waldo Emerson MacIvor, all of London, England, 2nd October, 1906 ; 6 years. Filed 16th June, 1906. Receipt No. 136,959.
Claim.-In the production of mattes from sulphide nickel and cobalt ores, mixing with such ores an alkali or alkaline earth-poly-sulphide together with a small quantity of carbon. for the purpose and in the manner substantially as described.

No. 101,324. Milking Machine.

D. H. Burrell and Company, assignee of Frederic A. Lane, both of Little Falls, New York, U.S.A.S 2nd October, 1906: 6 years. Filed 16th February, 1906. Receipt No. 132,965 .
Claim.-1. In a milking machine the combination with teat cups and a milk pipe, of an interposed connecter comprising a body which is open at the bottom, a bottom remorably secured in the bottom opening of the body, a lateral attaching device for the milk pipe formed on said body above the bottom opening thereof, and individual attaching devices for said cups formed on the top of said body, the interior of said attaching devices being directly accessible upon removing said bottom, substantially as described.
2. In a milking machine the combination of a milk pipe, reat cups and a connector interposed between sald plpe and said cups and provided with a restricted air inlet through which air is constantly admitted to the connector and the milk passages connected therewith, substantially as set forth.
3. In a milking machine the combination of a milk vessel, a pulsator on the same, a milk pipe connected with the pulsator, teat cups connected with the milk pipe, an air inlet which is placed periodically in communication with the milk pipe by the pulsator and an air inlet whlch admils air constantly to the milk pipe, substantially as set forth.
4. In a milking machine the combination of a milk vessel, a milk plpe connected therewith, teat cups connected with the milk pipe and air inlet devices adapted to admit air to both ends of the milk pipe, substantially as set forth.
5. In a milking machine the combination of a milk vessel, a milk pipe connccted therewith, teat cups, a connector interposed between the cups and the pipe and provided with an alr inlet which is constantly open, and a pulsator provided with an air inlet which is periodically placed in communication with the milk pipe, substantially as set forth.
6. A teat cup comprising a rigid tapering body shaped to receive and support the teat and having at its large end an enlargement forming an internal annular cavity which extends outwardly and upwardly from the large end of the tapering body, and a flexlble mouthpiece having an outer wall by which it is attached to sald enlargement and an inver depending packing wall which is located in sald carity above the large end of the tapering body and capable of sidewise movement in sald cavity, substantially as set forth.

No. 101,325. Electric Switch. Commutateur électrique. W. J. O'Leary and Company, assignee of William Coonan, all of Montreal, Quebec, Canada, 2nd October, 1906
years. Filed 3rd August, 1904. Receipt No. 117,443.
years. Filed 3rd August, 1904. Receipt No. 117,44. plate, a gravity actuated erame plvotally mounted thereon-. a pivotally supported locking member, and locking mesns carried by said bed plate in position to engage the respective ends of said pivoted locking member, substantially as described.
2. In an electric switch the combination of a bed plate, a gravity actuated frame pivotally mounted thereon, a locking
member pivotally connected to sald irame and provided with catches at its respective ends, and locking means carried

by the bed plate in position to engage sald catches, substantially as described.
3. In an electric switch the combination of a bed plate, a gravity actuated frame pivotally mounted thereon, a locking member pivotally secured to said frame and provided with catches at its respective ends, a fixed member carried by the frame in position to engage one of said catches and a movable member carried by said frame in position to engage the other of said catches, substantially as described.
4. In an electric switch the combination of a bed plate, a gravity actuated frame plvotally mounted thereon, a locking member pivotally secured to said frame and provided with catches at its respective ends, a fixed member adjustably carried by the frame in position to engage one of said catches, and a movable member carried by said irame in position to engage the other of sald catches, substantially as described.
5. In an electric switch the combination of a bed plate, a gravity actuated frame plvotally mounted thereon, a locking member pivotally connected to sald irame and provided with catches at its respective ends, an adjustable means carried by said frame in position to engage one of said catches. an armature plate carried by sald bed plate for engagement with the other of said catches, and a magnet for actuating sald armature plate, substantially as described.
6. In an electric switch the combination of a bed plate, a gravity actuated frame plvotally mounted thereon, a locklog member pivotally connected to said frame, a gravity actuated armature plate arranged to lockingly engage sald plroted locking member, a magent for actuating said armature plate, a stop arranged to limit the movement of said armature plate and provided with means for limiting the swing of said pivoted locking member, substantially as described.
7. In an electric switch the combination of a bed plate, circult terminals electrically insulated on said bed plate, a gravity actuated frame pivotally mounted on the bed. plate, electric conducting members carried by said pivoted frame and adapted to complete the circuit between said circuit terminals, a locking member pivotally connected to said frame, and locking means carried by the bed plate in position to engage the resyective ends of sald pivoted locking member, substantially as described.
8. In an electric switch the combination of a bed plate, circuit terminals electrically insulated on said bed plate, a gravity actuated frame plootally mounted on the bed plate. electric conducting members resiliently supported on sald pivoted frame and adapted to complete the circuit between said circult terminals, a locking member plvotally connected to said frame. and locking means carried by the bed. plate in position to engage the respective ends of said pivoted locking member; substantially as described.
9. In an electric switch the combination of a bed plate. circuit terminals electrically insulated on said bed plate, a gravity actuated frame pivotally mounted on the bed plate, flexible contacts carried by said pivoted frame, and adapted to complete the circuit between sald circult terminals, a locking member pivotally connected to said frame, and locking means carried by the bed plate in position to engage the respective ends of said pivoted locking member, substantially as described.

No. 101,326. Feed Mechanism for Magaxinen. Mécanisme d'alimentation pour magasine de fusils.


Charles Owens and Dwight P. Montague, assignee of a half interest, both of Chattanooga, Tennessee, U.S.A., 2nd October, 1906; 6 years. Filed 13th July, 1906. Recelpt No. 137,787
Claim.-1. In combination in a machine of the class described, a feed drum, a hopper or support for the magazine or other articles whereby the forward portions of the sald magazine are supported upon the said feed drum, means carried by the feed drum for engaging the magazines, and controlling means between which and the feed drum the magazines must pass, substantially as described.
2. In combination a feed drum arranged to support the forward portion of the magazines, means carried by the feed drum for engaging the magazines, controlling means engaging the pile of magazines and arranged opposite the feed.' drum with a space between for the passage of the magazines, said controlling means consisting of a wheel having teeth or projections thereon and adjustable releaser means to cover more or less of said teeth or projections and shield them from the pile of magazines, substantially as des-1 cribed.
3. In combination a feed drum having means to engage the magazines, a controlling ratchet arranged opposite the feed drum, means for rotating the ratchet step-by-step, and releaser means to shield more or less of the ratchet teeth in respect to the pile of magazines, substantially as described.
4. In comblation the feed drum, carrying means to engage the magazine, a ratchet wheel arranged opposite the drum with a space betwren for the passage of the magazines, said ratchet wheel having its teeth adapted to obstruct the forward movement of the magazines. means engaging the said ratchet teeth for operating the ratchet, and releaser means to cover more or less of the ratchet teeth in respect to the pile of magazines, substantially as described.
5. In combination the feed drum, carying means to engage the magazine, a ratchet wheel arranged opposite the drum with a space between for the passage of the magazines, said ratchet wheel having its teeth adapted to obstruct the forward movement of the magazines, means engaging the said ratchet teeth for operating the ratchet, and releaser means to cover more or less of the ratchet teeth in respect to the pile of magazines, said releaser means being adjustable about the axis of the ratchet, substantially as described.
6. In combination a feed drum, an adjustable support for the rear portion of the plle of magazines, a ratchet wheel arranged opposite the feed drum and between which the feed drum the magazines pass, means for operating the ratchet and a releaser adapted to shield more or less of the ratchet teeth in respect to the pile of magazines, substantially as described.
7. In combination a feed drum adapted to receive the magazines thereon, means carried by the feed drum to engage the magazines to feed them forward, and feed controlling means arranged opposite the feed drum with a space therebetween for the passage of the magazines, sald controlling means being adanted to provide a contracting space to make the plle of magazines at the feeding point assume a pyramid-like formation with the magazines in advance of tho one next above, substantially as described.
S. In combination with the feed drum, a rotary device opposite the peripheral surface of the feed drum for controlling the feed of the magazines and a releaser assoclated with sald rotary device and an adjustable stop carried thereby, substantially as described
9. In combination with the feed drum, a toothed wheel opposite the peripheral surface of the drum, a releaser, and means for adjusting the slze of the space between sald releaser and the surface of the feed drum, substantially as described.

No. 101,327. Electric Furnace. Fournaise ćlectrique.


La Soclête Electro-Metallurgique Françals, Forges, assignee of Paul Toussaint Héroult, La Praz, France, 2nd October, 1906; 6 years. Flled 8th June, 1906. Receipt No. 136,708.
Claim.-1. An electric furnace having an electrode, a protecting jacket therefor and means for cooling said jacket.
2. An electric furnace having an electrode, an outer protecting jacket therefor and an inner cooling jacket between the electrode and the outer jacket.
3. An electric furnace having an electrode and a protecting jacket therefor having passages for a cooling fluid therethrough.
4. An electric furnace having an electrode, an outer jacket of heat insulating material and an inner jacket of heat conducting material between the electrode and the outer jacket, and having passages for a cooling fluid therethrough.
5. An electric furnace having an electrode, an outer jacket \(M\) of heat insulating material surrounding the same, and an inner jacket \(N\) of heat conducting material, said inner jacket comprising plates \(\mathbf{P}\) and \(\mathbf{Q}\) with blocks between them forming passages \(R\) for the circulation of a cooling fluid.
6. An electric furnace having an electrode and a protecting jacket therefor adapted to extend down into the furnace, the electrode belng adapted to be adjusted through said jacket.
7. An electric furnace having means for injecting alr thereto comprising an annular space in the furnace wall open to the interior, and a ring surrounding and discharging ints said space.
8. An electric furnace having means for injecting air thereinto comprising an annular space in the furnace wall open to the interior and a ring surrounding and discharging into said space, the wall above said space overhanging the edge of the wall below the space.
9. The combination with an electrode for an electric furrace, of a protecting jacket adapted to extend into the furnace to protect the electrode. and a stuffing box supporting said jacket, the electrode being adapted to be fed through the stuffing box and jacket.
10. The combination with an electrode for an electric furnace, of a stuffing box \(W\) surrounding the electrode, said stuffing box being provided with a gland \(d\) and graphite packing 0.
No. 101,328. Method of Producing Nitrogen Composition.
Methode de production de compose dazote.
Oscar Frederick Carlson, Stockholm, Sweden, 2nd October, 1906 ; 6 years. Filed 18th July, 1906. Receipt No. 137,935. Claim. -1 . The hereln described method of producing nitrogen compositions by heating carbides of alkaline earths in a current of nitrogen gas consisting in adding to the carblde before the heating, one or more fluorides of an alkall or an a!kaline earth, substantially for the purpose set forth.
2. The herein described method of producing nitrogen compositions by heating carbides of alkallne earths in a current of nitrogen gas, consisting in adding to the carbide before the heating, one or more flourides of an alkali or an alkaline earth and a sulphate of an alkaline earth or an alkall, substantially for the purpose set forth.

No. 101,329. Electro-Chemical Process for Producing Nitrogen Compounds.
Procédé élcctro-chimique pour la production de composé d'azote.


John Wilerid Wood, Moulton, Iowa, U.S.A., 2nd October, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,175.
Claim.-1. An electro-chemical process for making nitrogen compounds which consists in continuously charging a liguld electrolyte with air under pressure to furnish it with an excess of nitrogen, and subjecting the liquid to the action of an electric current to dissociate the liquid and removing the nitrogen and other compounds thus formed.
2. An electro-chemical process for making nitrogen compounds which consists in preparing an aqueous solution of nitrogen, continuously charging the solution with air under pressure and subjecting the solution to the action of an electric current to dissociate the solution and removing the nitrogen and other compounds thus formed.
3. An electro-chemical process for making nitrogen comrounds which consists in causing a liquid electrolyte to continuously absorb gaseous nitrogen, sending an electro current through the electrolyte at ordinary temperature for the purpose of dissociating the liquid and liberating the products of electrolysis, and firmly carrying off the nitrogenous compounds.
4. An electro-chemical process for making nitrogen compounds which consists in continuously charging water with air under pressure, to provide it with an excess of altrogen sending an electric current through the water to dissociate the water and to liberate the nitrogen and other products. and finally carrying off at the anode and cathode respectively the nitrogen and other compounds formed.

No. 101,330. Telegraphic Alphabet.
Alphabet télégraphique.


Isidor Kitsee, Philadelphia, Pennsylvania, U.S.A., 2nd October, 1906: 12 years. Filed 17th May, 1:06. Receipt No. 136,023.
Claim.-1. In a telegraphic alphabet, one symbol consisting of two curves opposite as to each other, and the second symbol consisting of two curves opposite as to each other, a zero line between said curves.
2. A telegraphic alphabet comprising two symbols, one consisting of two marks opposite as to each other, the
second symbol consisting of two marks opposite as to each other, and a third mark between sald two marks.
3. A telegraphic code comprising a different grouping of two symbols, one symbol consisting of one mark at one side of the imaginary zero line followed by a second mark at the other side of said zero line, and the second symbol consisting of one mark on one side of the zero line, and one mark at the other side of the zero line.
4. A telegraphic Morse alphabet in which the dash is symbolized by two curves opposite as to each other and connected with each other by a straight line, and in which the dot is symbolized by two connected curves opposite each other.
5. A telegraphic alphabet comprising two characters, one character consisting of two elements, one above and one below an imaginary zero line and the second character consisting of three elements, one above, one at, and one below an imaginary zero line.

No. 101,331. Line Clamp. Frein pour cables.


John E. Baechler, Sarnia, Ontario, Canada, 2nd October, 1906; 6 years. Filed 29th May, 1905. Receipt No. 125,588.

Claim.-1. In a line clamp, the combination with a brass plate formed with apertures, of a boss extending transversely across the plate near one end and provided with a hole extending longitudinally through the same, said boss being cut away at the center to form a bearing at each side, a clamping lever consisting of a short arm and a long arm provided at their junction with an apertured ear on one side adjacent to the plate and curved outwardly toward each end away from the plate and extending through the ear on the lever, a transverse portion formed integral with each end of said lever, arms integral with the ends of said transverse portions and extending at right angles thereto. a serrated transverse rib on the long end of the base plate, the transverse portion of the short arm of said lever being adapted to co-operate with said rib, and a lug at each end of said rib.

No. 101,332. Overahoe Fastener. Attache de galoches. Watson O. Brockway, Chicago, Illinois, U.S.A., 2nd October 1906; 6 years. Filed 25th June, 1906. Receipt No. 137, 247.

Claim.-1. The herein described clamp having means to attach it to a shoe and comprising the stationary jaw member 4 having the offset portion at its center, the swinging jaw member having its inner end pivotally connected to the offset portion of the stationary jaw member, and the spring plate 10 pivotally connected to the upper end of the stalionary jaw member for lateral movement to enable the free
end of the spring plate to bear on the free end of the swinging jaw member, to press the latter toward the stationary


Jaw member, or to be disengaged from the sald swinging: jaw member.
2. The herein described clamp comprising a socket member for attachment to a shoe, a resilient head for engagement with the socket member, a pivot projecting outwardly from said head, the stationary jaw member secured on the plvot and having the offset portion at its center, the swinging jaw member having its inner end pivotally connected to the off set portion of the stationary jaw member, and the spring plate mounted in the pivot for lateral movement with reference to the stationary jaw member to engage and disengage the swinging jaw member.

No. 101,333. Holder for Cartridges. Porte cartouchcs.


John Joyce Burnett and Charles Bubear, both of Wellington, Somerset, England, 2nd October, 1906; 6 years. Filed 14th July 1906. Receipt No. 137,815.
Claim.-1. The combination of a conical spring holder formed of spring metal, bent into a circle with bands of metal near the top and bottom riveted thereto on each side of the joint, and having means for attachment to a band, belt or clothing, substantially as described.
2. As a new article of manufacture a holder for cartridges of spring metal slightly larger than the diameter of the head of the cartridge and having a serles of tongues projecting from it in a straight line without a bead but slightly bent inward so as to form a narrower circle than the cartridge, whereby the cartridge bead rests on the top of the tongue, but can be forcibly withdrawn from the tongues.
3. The combination of a cylindrical portion at top having spring clips \(B\) stamped out of it, and a series of tongues continuing therefrom in a substantially straight line, somewhat smaller but continually lessening in diameter whereby the cartridge rests on the tongues, and is prevented from being shaken out of the cartridge holder in an upward direction by the spring clips.
4. A spring metal holder for cartridges formed of sheet metal having a series of vertical slots \(D\) D and means for supporting the bead of the cartridge near the top of the tongues formed by the slots.
5. A cartridge holder formed of a spring metal body having spring tongues, resilient means for supporting the head o: the cartridge, and spring clips stamped out of the body, whereby the cartridge is prevented from being shaken out in an upward direction.
3. In a base or stand for trolley poles the combination of a base, a plvot mounted upon said base, a head mounted upon said pivot, said head comprising a body and an attaching plate, and anti-friction bearings between the attaching plate and the base.
4. In a base or stand for trolley poles the combination of a base having a tubular extension projecting from its underside, a pivot mounted in sald tubular extension, means for preventing displacement of the pivot from the tubular extension, anti-friction bearings between the pivot and the base, a head mounted upon the pivot, and anti-friction bearings between the head and the base.
5. In a base or stand for trolley poles the combination of a base having a tubular extension, a sleeve affixed to the base within the tubular extension afinesaid, a pivot mounted in the said sleeve, anti-friction bearings between the sleeve and the pivot, a head mounted upon the pivot and comprising a body and an attaching plate secured thereto, the base being provided with a seat concentric of the pivot aforesaid, bearing rings disposed in said seat, and anti-friction bearings between sald rings. the attaching plate of the head co-operating with rings aforesaid, as specified.

No. 101,299. Vapourizer. Vaporisateur.


Emil Hubert, Budapest, Hungary, 2nd October, 1906; 6 years. Filed 9th May, 1906. Receipt No. 135,722.
Claim.-1. In a vapourizer for liquid combustibles, in combination a spindle fitted in the interior of the vapour tube, a filter formed of a number of gauzes one over the other and placed over the end of the spindle opposite to the outlet aperture, substantially as described and shown in the drawing.
2. In a vapourizer a casing, a tube 2 screwed on to the casing 1 and made hollow for the formation of a preheating chamber 3 and the reception of the spindle 4, a filter 13 provided at the end of the spindle opposite to the outlet aperture, a needle spindle 6 extending through the vapour tube and connected to an evapourating device in the casing 1 for cleaning the outlet aperture formed in the cap 11, substantially as described and shown in the drawing.
3. In a vapourizer a vapour tube, having the interior of spiral form or the like and a smooth spindle fited within the tube which bears against the edge of the threads, substantially as described and shown in the drawing.
4. In a vapourizer a smooth spindle wound with strips of wirc \(n\) the like and bearing with these strips against the interior of the tube fitted within the smooth vapour tube, substantially as dsecribed and shown in the drawing.

\section*{No. 101,300. Telephone Signal Apparatus.} Apparell de signal de téléphone.
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David F. Laughlin, Clyde, Kansas, U.S.A. 2nd October, 1906; 6 years. Filed 19th September, 1906. Recelpt No. 139,631.
Claim.-1. In a signalling apparatus, a pair of superposed contact members, a recelver hook having its inner end arranged to form a support for the upper member, the removal of the receiver from the hook permitting such upper members to descend Into engagement with the lower member, and the replacing of the receiver serving to separate
said members, and an electro-magnetically controlled petdulum for moving the upper member from the support.
2. In signalling apparatus, a pair of superposed contact members. a pivotally mounted receiver hook having at its inner end a support for the upper member and provided with an inclined arm extending below the support to permit reengagement with sald upper member after a circuit closing operation, and an electro-magnetically controllad pendulum for moving the upper member from the said support.
3. In signalling apparatus, a pair of superposed contact members, a receiver hook having at its inner end an insulated support for the upper member and provided with a perfect pendent arm arranged in a plane obllque 10 the vertical plane of said upper member, and an electro-magnetically controlled pendulum for moving said upper member from its support.
4. In a signalling apparatus, a lower contact member in the form of a bar having an inturned arm at one end, a second contact member arranged above the first and adapted to engage said arm to close a circuit, a pivotally mounted receiver hook having at its inner end a support for sald member, and provided with a pendent inclined arm to permit reengagement with said upper member after a circuit closing operation, and an electro-magnetically controlled pendulum for moving said upper member from its support.

No. 101,301. Trolley Wheel. Rove de trout.


George Loffl, Garrett, Indiana, U.S.A., 2nd October, 1906; 6
year. Filed 17th September, 1906. Receipt No. 189,559.
Claim.-In a trolley, the trolley wheel having a lateral hub, bearings engaging the opposite ends of said hub and supporting an axle extending through the same, said harings having converging arms united at their extremities and formed into a longitudinal bearing, a pole socket for receiving said longitudinal bearing and provided with spaced ears extending in advance of the longitudinal socket, a pin disposed through sald ears and a spring bearing terminally against said pin and the longitudinal bearing.

No. 101,302. Electro-Magnetic Apparatus. Appareil éleotro-magnótsque.


John McIntyre, Jersey City, New Jersey, U.S.A., 2nd October, 1906; 6 years. Filed 27th January, 1906. Receipt No132,331.
Claim.-1. A means for treating live animal. live vegetable or other objects, comprising a pliable cable coll, and a irequency source of electrical energy in circuit with the said coll.
2. A means for treating live animal, live vegetable or other objects, comprising a frequency source of electrical energy, and pliable cable coils arranged in series and in circuit with the sald frequency source of electrical energy.
3. A means for treating live animal, live vegetable or other objects. comprising a frequency source of electrical energy, and multiple cable colls in circuit with the said frequency source of electrical energy.
4. A means for treating live animal, live organic vegetable or other objects, comprising a frequency source of electrical energy, a primary circuit connected with the said frequency source of electrical energy, and a scicondary circuit induced by the said primary circuit, the conducting cables of the said circuits being arranged in coils for surrounding the object, the cables being fiexible to allow any portion thereof being brought nearer to or farther from the object.

No. 101,303. Rnhmkoff Coils. Serpentin.


John McIntyre, Jersey City, New Jersey, U.S.A., 2nd October, 1906; 6 years. Filed 19th March, 1906. Receipt No. 134,010.
Claim.-1. A ruhmkorff coll provided with a spring armature lever carrying a contact portion, a bar arranged at an angle to the said armature lever and carrying a contact portion for engagement by the sald armature contact portion, and a bearing for the said bar to ellide in and for holding the bar against turning to maintain the faces of the said contact portions at all times in the same straight line registering position.
2. A ruhmkorif coil provided with a spring armature lever carrying a contact portion for engagement by the said armature contact portion, a bearing for the said bar to slide in and for holding the bar against turning to maintain the faces of the said contact portions at all times in the same straight line registering position, and a fastening device for securing the bar in place in the said bearing after the resired adjustment is made.
3. A ruhmkorif coil provided with a spring armature lever carrying a contact portion, a bar carrying a contact portion for engagement by the said armature contact portion, a bearing for the said bar to slide in and for holding the bar against turning, and a spring pressing against the bar at the end opposite the one carrying the contact portion.
4. A ruhmkorif coil comprising a coil cylinder carrying the primary and secondary wires and the core, a spring armature lever fixed at one end and carrying at its free end an armatnre located opposite the said core, a contact portion on the said armature lever, intermediate the fixed end and the said armature, a bar slidable at an angle toward and from the said armature lever and carrying a contact portion opposite the said armature lever contact portion, and means for the bar to slide in and to hold it against ro-
tation to maintain the faces of the said contact portions at all times in the same straight line registering position.
5. A ruhmkorff coil comprising a coil cylinder carrying the primary and secondary wires and the core, a spring amature lever fixed at one end and carrying at its free end an armature located opposite the sald core, a contact portion on the said armature lever, intermediate the fixed end and the said armature, a bar slidable at an angle toward and from the sald armature lever and carrying a contact portion opposite the said armature lever contact portion, means for the bar to slide in and hold it against rotation to maintain the faces of the said contact portions at all times in the same straight line registering position, and means for holding the said armature and armature lever in position while adjusting the said bar in the direction of its length
6. A ruhmkorfif coil comprising a coll cylinder carrying the primary and secondary wires and the core, a spring armature lever fixed at one end and carrying at its free end an armature located opposite the said core, a contact portion on the said armature lever, intermediate the nxed end and the said armature, a slidable bar carrying a_contact portion opposite the said armature lever contact portion, means for the bar to slide in and to hold it against rotation, a spring pressing the said bar in the direction of its length, and retaining means engaging the sald armature and armature lever for holding the armature lever in position while adlever for holding
justing the bar.
7. A ruhmkorif coil comprising a coll cylinder carrying the primary and secondary wires and the core, a spring armature lever fired at one end and carrying at its free end an amature located opposite the said core, a contact portion on the said armature lever, intermediate the fixed end and the said armature, a slidable bar carrying a contact portion opposite the said armature lever contact portion, means for the bar to slide in and to hold it against rotation, a spring pressing the said bar in the direction of its length, and retaining means engaging the said armature and armature lever. for holding the armature lever in position while adjusting the bar, the said retaining meang consisting of a lever fulcrumed in the end of the coll cylinder and adapted to be swung into position between the said cylinder and the inner face of the armature and armature lever
8. A ruhmorff coll having an armature lever contact portion and a contact portion opposite the said armature lever contact portion, and non-rotatable to maintain the faces of the said contact portions at all times in the same straight line registering position, the said non-rotatable contact portion being adapted to be moved at a right angle toward and from the said armature lever contact portion.
No. 101,304. Game Apparatus. Appared do jeu.


Livingston B. Pennell, Stevens Point, Wisconsin, U.S.A., 2nd October, 1906 ; 6 years. Filed 27th February, 1906. Recelpt No. 133,381.
Claim.-1. A game apparatus comprising a board with a long main track across the same, a shorter single continuous
curved track or siding, communicating at each end with said main track, and three groups of movable pieces, representing cars, with two pleces representing engines, each of the said groups of cars comprising threo pieces, those in one of the groups being wholly detached and those in the two other groups being united together, and each end of each engine being adapted to couple with either end of the two groups of united cars, the desoribed siding being capable of holding only three cars and one engine at any one time.
2. A game apparatus comprising a board with a long main track aoross the same, a shorter single continuous curved track or siding communicating at each end with said main track, pivoted guards or guides for opening and closing communication between said main track and said siding at proper times, a group of three wholly detached movable pleces reprosenting railmasd cars, two other groups of similar pieces, three in each group. inseparably united together, and two other ploces representing railroad engines, the said engines. and the two last-named groups of cars being provided with coupling dewices for engagement when described, and all of the movable pleces being in engagement with said tracks, the said siding being capable of holding only one engine and three cars at any time.

IVE 101,806. Atean Texblio. Turbinc d vapeur.


Uel Alvin Rutledge, Berkley, Virginia, U.S.A., 2nd October,
1906; 6 yeare. Filed 10th Aurgst, 1906. Receipt No. 138,567.
Claim.-1. In a turbine, a rotating piston, a collar surrounding and receiving said piston and fitting snugly about the entire periphery of the same, said collar having a fluid medium pressure compartment with a channel leading therefrom to the inner periphery of the collar, said collar also having a medium conveying compartment with a channel leading thereto from the inner periphery of the collar.
2. In a turbine , rotating piston, a collar surrounding and receiving said piston, said collar having a fluid medium pressure compartment with a channel leading therefrom to the inner periphery of the collar, said collar also having a medium conveying compartment with a channel leading thereto from the inner periphery of the collar, the capacity of the last said channel belng greater than the first said channel.
2. In a turbine, a rotating piston, a collar surrounding and receiving said piston and fitting snugly around the entire periphery of the same, said collar having a fuld medium pressure compartment with a channel leading therefrom to the inner periphery of the coltar, sald collar also having a medium conveying compartment with a channel leading thereto from the inner periphery of the collar, the capacity of the last said channel being greater than that of the first sald collar.
4. In a turbine, a series of rotating pistons, a collar recelving each piston, each sald collar having a fluid medium pressure compartment with a channel leading therefrom to the inner periphery of the collar, each said collar also having fluid medium conveying compartment with a channel leading thereto from the inner periphery of the collar, the pressure compartments of one collar belng located in alignment with the conveying compartment of the next adjacent collas
throughout the series and a means for passing the fuid medium from the conveying compartment of one collar to the pressure compartment of the next adjacent collar, and to on throughout the series.

No. 101,306. Elactic Fivid Terwimo. Turbinc d tuide élastique.


James Wilkinson, Providence, Rhode Island, U.S.A., 2nd October, 1906; 6 years. Filed 4th September, 1906. Receipt No. 139,189.
Olaim.-1. An elastic fluid turbine operating by stage expansion and having a warking pasaage which enlarges across stages, the provision therein of successive nozzles formed in stationary elements and disposed at increased angles across stages to the plane of bucket rotation, and buckets of decreasing concavity co-operating with said nozzles.
2. In a multiple stage turbine, buckets rotatable within the several stages, and nozzle passages discharging fluid pressure against said buckets, the nozzle passages for supplying motor fluld to the low pressure stage or stages having a greater angle of inclination than the nozzles for the other stage or stages, substantially as and for the purpose described.
3. In a multiple stage turbine, buckets rotatable within the several stages, nozzle passages discharging fluid pressure against said buckets, the nozzle passages for the low pressure stage or stages having a greater angle or inclination than the nozzles for the other stages, and the buckets cooperating with sald nozzle passages having different angles of inclination, substantially as described.
4. In a multiple stage turbine, stationary elements between the stage compartments, nozzle passages leading through said elements and forming conduits for the fuld between stages, sald nozzles having relatively smaller induction ends, as proportioned to the cross sectional area of the nosales, and relatively larger angles of inclination, for the low pressure stages than for the high pressure stages.
5. In a multiple stage turbine, partitions between stages and nozzle passages leading through said partitions and having enlarged admission openings and angularly disposed d!scharge passages leading therefrom and constltuting the nozzles proper, the cross sectional area of the nozzles proper for the last stages being increased relatively to the cross sectional area of their admisaion openings.
6. In a turbine operating by stage expansion, nozzle passages formed in stationary elements through which the motor fluid flows in succession to act against rotatable buckets, and supply openings for the nozzles, the cross sectional area of said openings representing a decreasing percentage of the cross sectional area of their respective nozzles for the last stage as compared with the preceding stages.
7. In a multiple stage turbine, fluid supply nozzle passages comprising enlarged admission ends and nozzles proper leading therefrom, the cross sectlonal area of the noxzles proper for the last stage or stages belag increased relatively to the cross sectional area of their admission ends by increasing their angle of inclination to the rotating buckets against which they discharge fuld.
8. In an elastic fluid turbine subdivided into stages by diaphrgas, nozzle supply openings formed in said diaphragms, nozzles leading therefrom at a determined angle. the angle of the nozzles in the last diaphragm being greater than that of the nozzles in preceding diaphragms, and buckets in the several compartments which co-operate with said nozzles, the buckets for the nozzles having the greater inclination being less concave than the other buckets but havirg their admission edges disposed at a relatively greater angle to their plane of rotation than sald other buckets.

\section*{20. 101,807. Mantie Finid Trarblne. Turotive d Aurde clastique.}


The Canadian General Blectric Company, Toronto, Ontario, Canada, assignee of Charles Fix, Quincy, Magaachusetts, U.S.A., 2nd October, 1906; 6 years. Filed 2nd May, 1906. Recelpt No. 135,463.
Oloim.-1. In an olastic fluid turbine, the combination of a suppert, a plurality of buckets, a supporting base, a device for arohoring the base with respect to the support at one polnt, and one or more other devices for attaching the base to the support which permit it to freely expand and contract.
2. In an elastic flutd turbine, the combination of a support, a bucket aupporting base, a device for anchoring the base, and one or more bolts for securing the base to the mpport which are body bound in the base and are loose in the support.
3. In an edastic finid turbine, the combination of a support, a bucket supporting base, a screw-threaded means for seenring the base and the support, and a wall for preventing the means from loceening.
4. In an elastic fluid turbine, the combination of a bucket supporting base, a holder, a means securing the base to the hokder and permitting it to expand and contract, a casing. and means securing the holder to the casing which permit the said holder and casing to expand and contract independontly of each other.
6. In an elastic fluid turbine, the con.bination of a bucket snpporting base, a holder, a means for locating the position of the base with reapect to the holder, and a means for securing the base and holder which permit the two to expand and contract independently, a support for the holder, and means uniting the holder and support which permit the two to expand and contract independently.
6. In an elastic fluid turbine, the combination of a bucket supporting base, a holder therefor having a groove to receive the base, screw-headed means for attaching the base to the holder which are prevented from backing out by the support, a support for the holder, and a means for uniting the holder and support.
7. In an elastic fluid turbine, the combination of a bucket base, a holder therefor, screw-threaded means extending inwardly from the periphery of the holder to secure the base, a casing which supports the holder and also prevents the screw-threaded means from backing out, and means for securing the holder to the casing.
8. In an elastic fluid turbine, the combination of bucket bases situated side by side, a holder having grooves to receive the bases and prevent axial movement, radially extending screw-threaded means for uniting the base and the holder, and a support for the holder which prevents the screw-threaded means from backing out and at the same time permits the bases and the holder to expand and contract independently thereof.
9. In an elastic fluid turbine, the combination of a bucket base, a holder therefor, a bolt for securing the holder and base whioh is body bound in both parts, one or more other bolts for securing the parts which are body bound in the base only, a support, and bolts for securing the holder and support which are body bound in the holder only.
10. In an elastic fiuid turbine, the combination of relatively movable parts, a casing therefor having an opening through which the clearances between the said parts can be observed, and a removable closure for the said opening.
11. In an elastic fluid turbine, the combination of a grooved base having a plurality of buckets, and a holder therefor, the metal of which is forced into the groove to prevent the base from creeping circumferentially.
12. In an elastic fiuld turbine, the combination of a bucket base having ctrcumferential and radial grooves, with a holder therefor, the metal of which is forced into the said grooves to hold the base against radial movement and also to prevent ereeping.
13. In an elastic fluid turbine, the combination of a support, a segmental bucket base carrying a plurality of overlapping buckets, a recess in the end of one megment raistering with the end bucket of the adjacent segment, so that one segmental base can be removed without disturbing the other, and a means for eecuring the base to the support.
14. In an elastic fluid turbine, the combination of a upport, a segmental bucket base carrying a plurality of overlapping buckets, each having a recess in ane end and an overhanging bucket at the other, the recens and bucket registering when the parts are assembled on the suppoft, and a bucket securing means.
15. In an elastic fluid turbine, the combincsion of sagmental bases, each common to a plurality of overlappins buckets and provided with a recess for registering with a bucket on the adjacent segment at one end and a projecting bucket on the other, and segmental covers for the buchets, the plane of division between cover segments being located between the buckets of adjacent segments.

No. 101,308. Flastic Fluid Turbine.
Turbine d Auide élastique.


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Elihu Thompson, Swampscott, Massachusetts, U.E.A., 2nd October, 1906; 6 years. Filed 15th May, 1906. Receipt No. \(135,927\).
Claim.-1. In an elastic fluid turbine, the combination of buckets which are relatively rotatable, an enclosing casing, and a means for balancing the thrust on one set of buckets comprising a member which is movable axially of the casing.
2. In an elastic fluld turbine, the combination of buckets which are relatively rotatable, an enclosing casing, and a means for balancing the thrust on one set of buckets which is responsive to changes in fluid pressure within the casing and is movable independently of the buckers.
3. In an elastic fluid turbine, the combination of a casing. buckets carried thereby, a bucket carrying drum, and means for balancing the thrust on the bucket drums, which is movable axially and independently of the bucket drum.
4. In an elastic fluid turbine, the combination of a casing, relatively rotatable buckets enclosed thereby, a shaft carry. ing one set of buckets, and a drum for balancing the end thrust on one set of buckets which is movable longitudinalis with respect to said shaft.
b. In an elastic fluid turbine, the combination of a casing, buckets carired therebyं, fluid discharging depices, a drum carrying the revolving buckets, a balancing drum \(10-\) cated inside of the bucket drum, which is movable axially with respect thereto, and a means for taking up the thrust on the balancing drum.
6. In an elastic fiuid turbine, the combination of a casing, fluid discharging devices carried thereby, a bucket carrying drum which is rotated by the fluid from said devices, a mainshaft, a means for supporting the drum from the main shaft, a means for supporting the drum from the main shaft, a balancing drum, a secondary shaft supporting the balancing drum, which is movable longitudinally with respect to the main shaft in response to pressure changes, and means for receiving the thrust of the secondary shaft.
7. In an elastic fluid turbine, the combination of a easing, a bucket carrying drum enclosed thereby, a shalt supporting the drum, means for preventing endwise movement thereof, a balancing drum which supports and centers the bucket drum without constraining its movements due to expansion and contraction, the said balancing drum being free to move slightly in an axial direction, and means arranged to receive the thrust of the balancing drum.
8. In an elastic tuid turbine, the combination of a casing, a bucket carrying drum, a wall carried by the casing al.n supporting fluid discharging devices, the said wall co-operating with the surface of the drum to form stages, a balancing drum extending inside of the bucket drum, and means for taking up the thrust on the balance drum.
9. In an elastic fuld turbine , the combination of a casing. a bucket carrying drum, a wall carried by the casing and supporting fluld discharging devices, the said wall co-operating with the surface of the drum to form stages, a balancing drum located inside of the bucket drum and movable longitudinally thereof to a limited extent, and a fluid pressure means for taking up the thrust on the balancing drum.
10. In an elastic fluid turbine, the combination of a bucket carrying drum, a disc for supporting the drum, the opposite sides of which are balanced as to temperature, and a balancing drum which assists in supporting the bucket drum, the opposite ends which are subjected to different temperatures.

No. 101,309. Governor for Turbines. Gouverneur de turbines.

\(\because\) C Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Oscar Junggren, Schenectady, New York, U.S.A., 2nd October, 1906; 6 years. Filed 3rd August, 1906. Receipt No. 138,393 .
Claim.-1. An elastic fluid turbine comprising relatively rotating parts working at different pressures, in combination with a stage valve automatically responding to changes in stage pressure for controlling the passage of motive fluid, a device opposing the opening of the valve, and means responsive to fluid pressure for assisting said device and thereby relieving it of a certain amount of work, as and for the purpose specifled.
2. An elastic fluld turbine comprising relatively rotating parts working at different pressures, in combination with a stage valve automatically responding to changes in stage pressure for controlling the passage of motive fluid, a device opposing the opening of the valve, and a balancing piston responsive to fluid pressure which co-operates with the said device to prevent the valve from opening, as and for the purpose specilled.
3. An elastic fluid turbine comprising stages wherein a difference in pressure exists, rotary buckets, and fluid discharging devices, in combination with a stage valve that opens in response to changes in pressure in one of the stages, a device opposing the action of fluid pressure on the valve, a balancing means co-operating with the said device, and a conduit for partially balancing the pressures to which the valve and balancing means are exposed, as and for the purpose specifled.
4. An elastic fluid turbine, comprising stages wherein a difference in pressure exists, rotary buckets, and fluid discharging devices, in combination with a stage valve that
opens in response to changes in pressure in one of the stages. a balancing piston attached to the valve and cooperating with the said device, the valve and piston being exposed to high pressure on one side and low pressure on the other, and a conduit connecting the low pressure sides of the valve and piston so that changes in pressure will correspondingly effect both, as and for the purpose specified.
5. An elastic fluid turbine which is divided into stages working at different pressures, comprising relatively rotating parts and fluid discharging devices, in combination with a plurality of successively operating stage valves controlling the passage of fluid through said devices, each of eaid valves being provided with a devioe opposing the effect of stage pressure thereon, and a balancing means which is acted upon by the same pressure which tends at all times to open the valve, as and for the purpose specified.
6. An elastic fluid turbine of the multi-stage type, in combination with a valve which controls the passage of motive fluid from one stage to another, a balancing piston for the valve whose effective actlon in opposing its opening is less than the effective action of the fluid on the valve itself, and a device which co-operates with the piston to prevent the valve from opening until the stage pressure exceeds a certain amount and assists in closing it when the pressure falls, as and for the purpose specified.
7. An elastic fluid turbine of the multi-stage type, in combination with a valve which controls the passage of motive fluid from one stage to another, a balancing piston for the valve that is exposed on opposite sides to a difference in fluid pressure, a balancing piston attached to the valve that is exposed on opposite sides to the same difference in fluid pressure, a spring opposing the opening of the valve and which assists in closing it, and a conduit which conneats the low pressure sides of the balancing piston and valve, as and for the purpose specifled.
8. A turbine in combination with a valve that controls the passage of motive fluid from one part to another, the said valve comprising a casing to recelve the valve, the latter having a double area, a balancing piston attached to the valve, the effective area of the valve being greater than that of the piston, a spring co-operating with the piston to resist the action of motive fluid on the valve, and means for connecting the low pressure sides of the valve and piston with the pressure of that part of the turbine into which the fluid passing through the valve discharges, as and for the purpose specified.
9. A turbine in combination with a valve and its casing. a balancing piston in line with the valve, a stem condecting the valve and piston, a spring assisting to seat the valve, a stop for limiting the opening of the valve, an indicator to show the position of the valve within its casing, and a conduit for equalizing the pressure on opposite sides of the piston and valve, as and for the purpose specifled.

No. 101,310. Governor for Turbines.
Gouverneur de turbines.


The Canadian General Electric Company, Toronto, Ontario. Canada, assignee of John G. Callan, Lynn, Massachusetts. U.S.A., 2nd October, 1906; 6 years. Filed 31st August. 1906. Receipt No. 139,132.

Claim.-1. In a governing mechanism the combination of a regulator, a governor controlling it, and a device co-operating
with and assisting the governor in its action on the regulator, as and for the purpose specified.
2. In a governing mechanism the combination of a regu. lator, a motor for moving it, a governor for controlling the movements of the motor, and a device co-operating with the governar to reduce the load thereon as it controls the motor, as and for the purpose specified.
3. In a governing mechanism the combination of a regulator, a motor for moving it, means for controlling the motor, a governor for varying the position of said means as the load requirements change, and a device co-operating with and reducing the load on the governor, as it acts on said means, as and for the purpose specined.
4. In a governing mechanism the combination of a regulator, a hydraulic motor for moving it, a pilot valve controlling the motor, a governor regulating the movement \(s\) of the pilot valve, and a device co-operating with the governor to move the pilot valve, as and for the purpose specified.
5. In a governing mechanism the combination of a regulator, a motor for moving it, a speed governor controlling the motor, and a device responding to unbalanced pressures for assisting the governor, as and for the purpose specified.
6. In a governing mechanism the combination of a regulator, a hydraulic motor for moving it. comprising a piston, cylinder and pilot valve, a governor acting on the pilot valve. and a device responding to unbalanced pressure for assisting the governor in its action on the pllot valve, as and for the purpose specifled.
7. In a governing mechanism the combination of a regulator, a hydraukc motor for moving it, a speed governor, a pilot valve located in the motor piston so that the latter will follow up the movements of the valve, and a device set Into operation by unbalanced pressures created by a movement of the pilot valve, which acts on the pllot valve in conJunction with the governor, as and for the purpose specified.
8. In a governing mechanism the combination of a regulator, a motor for moving it, comprising a moving and a stationary element, a speed governor for controlling the motor, a device for asissting the governor in its action on the motor, and a spring opposing the said device that is carried by the movable element of the motor, as and for the purpose specified.
9. In a governing mechanism the combination of a regulator, a piston and cylinder for moving it, a pllot valve for governing the motor, a governor for controlling the action of the pilot valve, a device responding to fluid pressure changes for assisting the governor in its action on the pllot valve, and a spring for opposing the movements of said device which engages the piston, as and for the purpose specified.
10. In a governing mechanism the combination of a regulator. a fluid actuating motor for moving it through which the fluid continuously flows, a valve for creating an unbalanced condition as to pressure on the movable element of the motor when it is desired to move the regulator, a means for moving the pilot valve, and a fluld actuated device which cooperates with the said means, as and for the purpose specifled.
11. In a governing mechanism the combination of a regulator, a hydraulic motor for actuating it, a pilot valve for controlling the motor, which is provided with heads, ports co-operating with the valve head, the relation of parts being such that one head closes its port before another to reduce the load on the actuator, and an actuator for moving the pilot valve, as and for the purpose specified.

\section*{No. 101,311. Horse Collar. Collier d cheval.}

Alfred U. Field and Sidney William Carman, assignee of one-fourth interest, both of Stockton, Callfornia, U.S.A., 2nd October, 1906; 6 years. Filed 28th August, 1906. Receipt No. 139,056 .
Claim.-1. A device of the character described comprising a bearing or draft portion adapted to conform to the shoulders of a horse and a curved portion outward therefrom and adapted to clear the neck of the horse, and a spring bar: secured to said draft portion and following the periphery of said curved portion, as set forth.
2. A horse collar comprising a draft portion adapted to conform to the shape of a horse's shoulders, a curved portion outward therefrom and adapted to extend beyond and clear the neck of the horse, tongues rearward from said draft portion and adapted to be fastened to the tugs of the harness, all as set forth.
3. In a horse collar a portion conforming to the shape of the shoulders of a horse, a curved portion outward therefrom and adapted to clear the neck of the horse, a spring steel bar rivetted to said draft portion and following the periphery of said curved portion, as set forth.
4. A device of the character described comprising a bearing or draft portion adapted to conform to the shoulders of

a horse and a curved portion outward therefrom so formed as to extend beyond and clear the neck of said horse, as set forth.
No. 101,312. Hose Conpler. Joint de boyaus.


Alexander W. Irvin and Richard John Hughes, assignee of a half interest, both of Altoona, Pennsylvania, U.S.A., 2nd October, 1906; 6 years. Filed 1st September, 1906. Receipt No. 139,149.
claim.-1. In a hose coupling, the combination with the train pipes and angle cocks, of metal connections therefor sc constructed as to permit free movement in every direction, substantially as described.
2. In a hose coupling, the combination with the train pipes, of couplings therefor, each provided with a ball and socket joint, and an elbow joint made wholly of metal, substantially as described.
3. The combination with the train pipe, an angle cock, a perforated ball and socket joint connected thereto, an elbow joint connected to said ball and socket joint, and a coupler joint connected to sald elbow joint, substantially as. described.
4. The combination with the train pipe and angle cock, of a perforated ball and socket joint connected to sald angle cock, a spring tending to force the members of said joint apart, an elbow joint, a coupler joint, and connections be, tween said elbow joint and said ball and socket and coupler joints respectively, substantially as described.
5. In a hose coupling, the combination with the train pipes, of couplings therefor each provided with a ball and socket jolnt conslsting of a ball member having one large perforation extending from the neck of sald member to the
center of the ball and one or more smaller perforation extending from and connecting with the larger perforation, two socket members adapted to enclose the ball of said ball member, one of said socket members containing perforations, one adapted to contain a spring, a spring adapted to press the ball member away from one of the socket members to form an alr passage from the smaller perforations in said ball member through the larger socket member and a washe: interposed between said ball member and said spring. substantially as described.
6. In a hose coupling, the combination with the train pipes of couplings therefor each provided with an elbow jeint consisting of a male member and a female member, adapted to fit one within the other, and having their abutting ends enlarged and bevelled, and said female member having screw threads formed upon its enlarged portion, a shoulder formed upon the female member, an internally threaded connecting member provided with an inwardly extending flange adapted to engage said shoulder on said female member and to screw upon said male member, said, male member when in engagement being slightly larger than said female member, and a packing ring disposed between the shoulder of said female member and said connecting member, substantially as described.

No. 101,313. Selective Telephone. Téléphone.


Noble S. McKinsey, Susanville, Callfornia, assignce of An-
ton R. Nelson, Philadelphia, Pennsylvania, U.S.A., 2nd October, 1906; 6 years. Filed 27 th August, 1906. Receipt No. 138,995.
Claim.-1. In a selective telephone system, a party line of which one wire grounds at central, a resistance therein at central greater than that of any talking circuit in the system, means for connecting at central the other wire of said line with the corresponding wire of any other party line of the system, selector magnets at each station bridging the wires of the party line, and means at each station for grounding said other wire, substantially as described.
2. In a selective telephone system, a party line of which one wire grounds at central, a resistance therein at central greater than that of any talking circuit in the system, means for connecting at central the other wire of said line with the corresponding wire of any other party line of the system, selector magnets at each station bridging the wires of the party line, and means at each station for grounding said other wire, means controlled by sald magnets for throwing out all other talking circults except that of the station so grounded, substantially as described.
3. In a selective telephone system, a party line of which one wire grounds at central, a resistance therein at central greater than that of any talking clrcuit in the system, means for connecting at central the other wire of said line with the corresponding wire of any other party line of the system, selector magnets at each station bridging the wires of the party line, and means at each station for grounding said other wire, means, controlled by said magnets preventing grounding at any other station, substantially as described.
4. In a selective telephone system, a party line of which one wire grounds at central, a resistance therein at central greater than that of any talking circuit in the system, means for connecting at central the other wire of said line with the corresponding wire of any other party line of the system, selector magnets at each station bridging the wires of the party line, and means at each station for grounding said nther wire, means controlled step-by-step by successive energizations of magnets of the other line, for closing in succrasion the bell circults of said other lines. substantians as
5. In a selective telephone system, a party line, one wire of which grounds at central, a resistance therein at central greater than that of any talking circuit in the system, magnets at each station bridging said wire with the other wire of the line, means at each station for grounding said other wire, and means at central for connecting said other wire through an interrupter with the corresponding wire of any other party line and also for inserting in the first wire at central an interrupter whereby the magnets on either line can be intermittently energized by central, substantially as descrlbed.
6. In a selective telephone system, a party line of which onc wire grounds at central, a resistance therein at central greater than that of any taliking circuit in the system, magnets at each station bridging said wire with the other wire, means at each station for grounding said other wire, and means at central for inserting in said first wire an interrupter whereby the magnets can be intermittently cnergized, substantially as described.
7. In a selective telephone system, a party line of which one wire grounds at central, a resistance therein at central greater than that of any talking circuit in the system, magnets at each station bridging said wire with the other wire, means at each station for grounding said other wire, and means for inserting in said first wire an interrupter whereby the magnets can be intermittently energized, substantially as described.
8. In a selective telephone system, controlling mechanism comprising magnets and a rotating device advanced a short distance when a weak current passes through the magnets and a long distance in the same direction when a strong current passes therethrough, and means for throwing a resistance into the line through the magnets by taking down the receiver, substantially as described.
9. In a selective telephone system, controlling mechanism comprising magnets and a rotating device advanced a short distance in the same direction when a weak current passes through the magnets and a long distance when a strong current passes therethrough, and means operatable by the calling party for throwing a resistance into the line through the magnets, substantially as described.
10. In a selective telephone system, controlling mechanism comprising a rotating device, clock work mechanism for rotating the same, stops for the same arresting the device. the one after a long movement thereof and the other after a short movement, a magnet, means whereby the first stop is brought into action by a strong current through said magnet, and the second stop by a weak current therethrough, and means operated by taking down the receiver for throwing a resistance into circuit with the coil through the magnet, substantially as described.
11. In a selective telephone system, controlling mechanism comprising a rotating device, clock work mechanism for rotating the same, stops for the same arresting the device, the one after a long movement thereof and the other after a short movement, a magnet, means whereby the first stop is brought into action by strong current through said magnet, and the second stop by a weak current thersthrough. and means operatable by the calling party for throwing a resistance into circuit with the coll through the magnet, substantially as described.
12. In a selective telephone system, controlling mechanism comprising a rotating device, clockwork mechanism for rotating the same, arresting means therefor, a magnet for operating the latter, means for interrupting the currents through the magnet repeatedly in succession with a weak current, a circuit closed after a predetermined number of such interruptions, and means whereby a strong current through the magnet removes the arresting means to break said circuit, and arrests the rotating device in a subsequent position thereof, substantially as described.
13. In a selective telephone system, party lines, one wire of each of which is grounded at central, a resistance therein at central greater than that of any talking circuit in the system and the other wire of any line can be connected at central with the corresponding wire of any other line, means for grounding said other wire at any station of the line, and means whereby central can connect the two wires at any station on any line, to form a complete talking circuit. substantially as described.
14. In a selective telephone system, a step-by-step rotating device, clock work mechanism for rotating the same, a magnet controlling the same by interrupted weak currents therethrough. means for simultaneously closing the circuit through said magnet and throwing a resistance intr said circuit to weaken the current to be subsequently so Interrupted, means for shutting the resistance to pass a strong current through the magnet, means whereby said strong current returns the rotating device to its initial position, and means for holding the line closed upon operating said shunting means until sald rotating device has turned to its initial position, substantially as described.
15. In a selective telephone system, a line controller at each station, means for closing the circuit by said line controller, means whereby the rise of the automatic hoos operates the line controller to close the circult, means for supporting the line controller in a position to be so operthe closing of the circuit influences all the supporting means the closing of the circuit influences all the supporting means on the lime to withdraw the controllers except the one alrady operated out of position to be so operated by the rise in the corresponding automatic hook, substantially as described.
16. In a selective telephone system, a line controller at each station, means for closing the circuit by said line controller, means whereby the rise of the automatic hook operates the line controller to close the circuit, means for supporting the line controller in a position to be so operated by the rise of the automatic hook, and means whereby the closing of the circuit influences all the supporting means on the line to withdraw the controllers except the one already operated out of position to be so operated by the rise in the corresponding automatic hook, and a busy signal brought into signalling position by suah actuation of the supporting means, substantially as described.

\section*{No. 101,314. Photographing Maohino. Machine photographique.}


Joseph Frederick Roders, New York City, New York, U.S.A., 2nd October, 1906; 6 years. Filed 27th February, 1904. Receipt No. 112,955.
Claim.-1. In a machine of the character described a magazine, plates angularly aranged therein relatively to each other, and means for effecting the edgewise discharge of the first plate by engaging the second and disengaging the first, and so forth.
2. In a machine of the character described, a magazine, plates arranged therein angularly to each other, means for holding the forward plate, and means for rotating the magazine to cause the disengagement of the holding means from the forward plate and the engagement of sald means with the immediately succeeding plate.
3. In a machine of the character described, a magazine, plates arranged therein angularly to each other, stops against which the first plate abuts, and means for effecting the relative movement between the plates and the stops, whereby said stops successively engage the second and disengage the first of said plates.
4. In a machine of the character described, a magazine, plates aranged therein in such manner that each plate is at right angles to its next plate, means for turning the magazine, stops against which the horizontally disposed first plate abuts, and means for transferring the stops from the first to the second plate as the first plate approaches vertical position and the second plate horizontal position.
5. In a magazine of the character described, a magazine, and means for turning the said magazine to discharge a plate therefrom by the intersection of a coin.
6. In a machine of the character described, a magazine, a skutter, an operating spring therefor, and means for simultaneously effecting a partial rotation of the magazine and a rewind of the shutter spring.
7. In a machine of the character described, means for successively delivering plates to exposure position and successively exposing and delivering said plates to developing position, and means for simultaneously developing a plurality of plates and transferring them to the fixing bath in order of immersion in the developer.
8. In a machine of the character described, a developing bath having a plurality of compartments one of which is always in register with the exposure position when the bath is at rest, and means for effecting the intermittent rotation of said bath.
9. In a machine of the character described, plate treating baths arranged concentrically one within the other, and neans for transferring a plate from one bath to the other.
10. In a machine of the character described, a ring provided with three concentric channels, containing respectively developing, fixing and washing fluids, and means for transferring a plate from one channel to the other and finally discharging the plate from the machine.
11. In a machine of the character described, a ring provided with troughs or channels, concentrically arranged, and a transferring device, means for bringing a plate supported in one of sald troughs or channels to rest underneath the transferring device and means for effecting the operation of the transferring device to grip the plate, withdraw it from the first trough or channel, deposit it in the second trough or channel and subsequently move it to the first position.
12. In a machine of the character described, a ring, a transferring device operating while the ring is at rest to (1) move downward and engage a plate, (2) lift the plate clear of the ring, (3) move along a radius of the ring carrying the plate to position over the next trough or channel in said ring, (4) discharge the plate, and (5) move down and radially back to the first position.
13. A photographic machine comprising a magazine havIng means whereby each plate therein may be held at an angle to the next, means for detaining the foremost plate, and mechanism for effecting relative movement between said magazine and said detaining means, to disengage said detaining means from the foremost plate and engage said detaining means with the succeeding plate.
14. A photographic machine comprising a rotatable magazine having means whereby each plate therein may be held at an angle to the next, means for detaining the foremost plate, and mechanism for rotating the magazine, sald magazine and said retaining means beling so related that upon rotation of the magazine sald detaining means become disengaged from the foremost plate and engaged with the succeeding plate.
15. A photographic machine comprising a magazine having means whereby oblong plates may be held therein each crosswise of the next, detents for engaging the four corners of the foremost plate, and mechanism for effecting such relative movement between said magazine and said detents that the latter release the foremost plate and engage the four corners of the succeeding plate.
16. In combination a rotatable magazine having means for holding a pack of oblong plates each disposed crosswise of the next and means rendered effective through the rotation of the magazine for discharging the foremost plate in edgewise direction.
17. In combination a rotatable magazine formed for holding a pack of oblong plates standing on edge and each disposed crosswise of the next, a spring for advancing said plates. detents against which the corners of the foremost plate abut. said detents and magazine being so related that upon rotation of the magazine the foremost plate is released and the succeeding plate is engaged by the detents, and a guide through which a released plate may drop.
18. In combination a rotatable magazine formed for holdIng a pack of plates, means for effecting the rotation of the magazine, and means for enabling a rotary movement of the magazine to cause the foremost plate to be discharged in edgewise direction.
19. In combination a rotatable magazine formed for holding a pack of oblong plates each crosswise to the next, detents movably mounted upon one end of the magazine for engaging the four corners of the foremost plate, means for giving the magazine quarter revolutions, means for enabling the detents to release the foremost plate and engage the next during each auarter revolution of the magazine, and four guldes upon the magazine through which the released plates may drop, narrow end foremost.
20. In combination a rotatable magazine formed for holding a pack of oblong plates each crosswise to the next, and means for giving the magazine quarter revolutions and for discharging the foremost plate at each quarter revolution of the magazine.
21. The combination with a magazine for photographic plates, of a series of pivoted detents for engaging the foremost plate, gearing connecting said detents, and means for operating sald gearing.
22. A combination with a rotatable magazine for holding oblong photographic plates some crosswise to others, of four detents pivoted upon said magazine for engaging the foremost plate. four gears connected to the detents, and a fixed ceptral gear meshing with sald four gears.
23. The combination with a rotatable magazire formed for holding oblong photographic plates some crosswise to いhers. of means for giving said magazine quarter revolutions, four two-arm detents pivoted upon said magazine. pour gears one rigid with each detent, and a fixed central gear meshing with the said four gears.

\section*{No. 101,315. Method of Making Rubber Hose.} Méthode de faire des boyaux de raoutchoue.
William Henry Adams, Montreal. Quebec, Canada. 2nd October. 1906; 6 years. Filed 23rd July, 1906. Recelpt No. 138.059.

Claim.-1. The herein described method of making fire hose, which consists in partly ruring a wholly vulcanizable rubber tubc. Inserting the tube into a tube of fabric and causing it to adhere thereto. applying a coating of rubber to the outer surface of the tube of fabric, applying a proecting covering to the outer surface of the rubber to prevent overcuring. and fully curing the inner and outer rubber surfaces.
2. The herein described method of making fire hose, winich consists in partly curing a wholly vulcanizable rubber tube, inserting the tube into a tube of fabric, further curing the rubber tube and causing it to adhere to the woven tube, applying a coating of rubher to the outer surface of the tube of fabric. applying a protecting covering to the outer surface of the rubber to prevent over curing, and fully curing the inner end outer rubber surfaces.
3. The herein described method of making fire hose, which consists in partly curing a wholly vulcanizable rubber tube. Inserting the tube into a tube of fabric, closing the ends of the rubber tube and admitting live steam to the interior of the rubber tube, cooling the rubber tube, inserting a cold hollow mandrel into the rubber tube applying a coating of rubber to the outer surface of the tube of fabric, applying a removable protecting covering to the outer surface of the rubber to prevent over curing, and fully curing the inner and outer rubber surfaces.
4. The herein described method of making Are bose, which consists in partly curing a wholly vulcanizable rubber tube, inserting the tube into a tube of fabric, further curing the rubber tube and distending the same to adhere to the tube of fabric, passing a cooling medium through the inside of the rubber tube. Inserting a cold hollow mandrel inside of the tube of rubber, applying a protecting covering to the outer surface of the rubber coating to prevent over curing, and fully curing the inner and outer rubber surfaces.
5. The herein described method of making fire hose, which consists in partly curing a wholly vucanizable rubber tube, inserting the tube into a tube of fabric, maintaining the tube of rubber and fabric in a desired shape, appying an outer coating of rubber to the tube of fabric, applying a protecting covering of fabric to the outer surface of the rubber and fully curing the inner and outer rubber surfaces.
6. The herein described method of making fire hose, which consists in partly curing a wholly vulcanizable rubber tube. inserting the tube into a tube of fabric. maintaining the tubes of rubber and fabric in a desired shape, applying an outer coating of rubber to the tube of fabric, applying a covering of continuous wet fabric to the outer surface of the rubber to prevent over curing, and fully curing the inner and outer rubber surfaces.

\section*{No. 101,316. Belt or Canvas Tightener.}

Tendeur de courroies, etc.
George Edgar Clarke, Toronto. Ontario. Canada, 2nd October, 1906: 6 years. Filed 15th March, 1906. Recelpt No. 133,916.
Claim.-1. The combination with an apron, belt, canvas or conveyer. of means acting under the influence of a torsional force and circulating therewith so as to automatically take up the slack thercin or permit of the necessary expansion thereof.
2. The combination with a divided apron, belt, canvas or conveyer, of means acting under the influence of a torsional force and yieldingly connecting the ends together in such a manner as to automatically take up the slack therein or permitof the necrassary expansion thereof.
3. The combination with a divided apron, belt. canvas or conveyer, of adjustable means acting under the influence of a torsional force and yieldingly connecting the ends together in such a manner as to automatically take up the slack therein or permit of the necessary expansion thereor.
4. The combination with a divided apron, belt. canvas or conveyer. of a member to which one end of the same is connected, a sucond member, a spring acting under the influence of torsional force. controlling movement of said second member, and means for connectingisaid members together in such a manner as to permit of the slack in sald
apron, canvas, conveyer or belt being taken up or permit of the necessary expansion of same.

5. The combination with a divided apron, belt, canvas or conveyer, of a member to which one end of same is connected, a rotatave member, a spring acting under the infuence of torsional force controlling axial movement of said rotatable member, means for connecting said members together in such a manner as to permit of the adjusting movement of said first-mentioned member so as to decrease or increase the torsional force exerted by said spring upon said rotatable member.
6. The combination with an apron, belt, canvas, or conveyer, of means circulating therwith, and a spring acting under the influence of torsional force and controlling axial movement of said means, which, being 80 attached or connected to said canvas, belt, apron, or conveyer automatically takes up the slack therein or permits of the necessary expansion thereof.
7. The combination with a divided apron, belt, canvas or conveyer, of a member to which one end of same is connected, a spring controlled member to which the other end of same is yieldingly secured, and means for connecting sald members together in such a manner as to permit of the slack in said apron, canvas. conveyer, or belt, being taken up or permit of the necessary expansion of same through the movement of said spring controlled member.
8. The combination with a divided apron, belt, canvas, or conveyer, of a normally non-rotating roller to which one end of same is connected. a spindle loosely mounted within said roller, a spring controlled roller to which the other end of same is yieldingly secured, and means for connecting said rollers together in such a manner as to permit of the slack in said apron, canvas, conveycr or belt being taken up or permit of the necessary expansion of same through the movement of sald spring controlled roller.
9. The combination with a divided apron, belt, canvas or conveyer. of a normally non-rotating roller to which one end of same is connected, a spindle loosely mounted within said roller, a roller to which the other end of same is yieldingly secured, a spindle mounted within this roller, a spring within said roller having one end attached to said spindle and its other end attached to said roller, threaded rods connecting said spindles together at each end, nuts threaded on said rods, and means for locking said first-mentioned roller so as to prevent rotation of same. said second-mentioned roller belng free to turn on its spiral in order to permit of
the necessary expansion and contraction of said apron, canvas, conveyer or belt.
10. The combination with a divided apron, canvas, conveyer or belt and a normally non-rotating roller around which same is wound, of a spring controlled roller around which the other end of said apron, canvas, conveyer or belt is wound, and means for connecting or coupling said rollers together. so as to permit of the necessary movement of sald secondmentioned roller so as to provide for the necessary expansion and contraction of said apron, canvas, conveyer or belt.
11. The combination with a divided apron, canvas, conveyer or belt and a normally non-rotating roller around which same is wound, of a spring controlled roller around which the other end of said apron, canvas, conveyer or belt is wound. means for connecting or coupling said rollers together, so as to permit of the necessary movement of said secondmentioned roller 80 as to provide for the necessary expansion and contraction of said apron, canvas, conveyer or belt, and means for permitting of the movement of said firstmentioned roller so as to decrease or increase the action of said spring controlled roller.
12. The combination with a divided apron, belt, canvas or conveger, of a member to which one end of same is connected, a spring controlled member to whaich the other end of same is connected, means for connecting said members together in such a manner as to permit of the necessary expansion and contraction of said apron, canvas, conveyer or belt, and means for permitting of the adjusting movement of said first-mentioned member so as to decrease or increase the action of said spring controlled member.
No. 101,317. Incubator. Inoubatour.


Louls V. Gadbois, Aylmer, Quebec, Canada, 2nd October, 1906;
6 years. Filed 16th June, 1906. Receipt No. 136,993.
Claim.-1. In a heating device for incubators, a tank extending practically on the whole area of the egg chamber, a portion of sald tang projecting outside of the egg chamber, a heat flue in said extension, a regulator boiler closing the top of said flue, a heat regulator actuated by the steam generated in said boiler, and means conencted to said regulator to direct the heat on or off said regulator boller, an ege tray, a solid bottom to said egg tray, a belt on said bottom, means for moving said belt, an egg separating rods in said tray.
2. A temperature regulator for incubators, a water tank, a regulator boiler embodled in said tank, a flue directing the heat to said boiler, a flue directing the heat off from said boiler, a double damper mounted between said flues, a steam actuated piston in said regulator boller, and means connecting the piston and dampers to actuate the same by a predetermined pressure in said boiler, an egg tray, a solid bottom to said egg tray, a belt on said bottom, means for moving said belt, and egg eeparating rods in said tray.
3. In a heating device for incubators, a tank extending in and out of the egg chamber, a heat flue in said tank, a temperature regulator partly in said tank, and a sultable source of heat, an egg tray, a solid bottom to said egg tray, a belt and egg separating rods in said tray.

No. 101,318. System of Motor Control.
Systeme de controble de moteur.


Axel Magnuson, New York City, New York, U.S.A., 2nd October, 1906; 6 years. Filed 1st September, 1905. Receipt No. 128,130 .
Claim.-1. The combination with an electric motor, of controlling apparatus therefor, means for controlling singlephase current to operate said motor controlling apparatus, and an electric device for holding said motor controlling apparatus in a predetermined position.
2. The combination with a multiphase motor, of controlling apparatus therefor, means in a circuit connected across any two of the mains of said motor, for closing a single phase circult to said motor controlling apparatus, and electric holding means for said controlling apparatus.
3. The combination with an electric motor, of controlling apparatus therefor, holding means for said controlling apparatus, a source of single phase current, a source of direct current, and a single switch device for controlling the single phase current to operate said motor controlling apparatus and for controlling the direct current to operate said holding means.
4. The combination with an electric motor, of starting switches therefor, electro-responsive devices for closing said switches, electro- magnetic apparatus for holding sald switches in closed position, a source of single phase current a source of direct current and a single manual switch for controlling the single phase current to operate said electroresponsive devices and for controlling the direct current to operate said electro-magnetic holding apparatus.
5. The combination with an alternating current motor, of reversing switches therefor, single phase magnets for actuating said switches to closed position, direct current magnets for holding said switches in closed position, and means for controlling both the said single phase magnets and the said direct current magnets.
6. The combination with an alternating current motor, of two reversing switches therefor, an electro-responsive device for each of said switches to actuate the same to closed position, an electro-magnet connected to each switch to hold the same in closed position, and a manual switch for controlling single phase current to operate either of the electro-responsive devices and for controlling direct current to operate the corresponding holding electro-magnet.
7. In combination with a motor, a source of electrical supply, a resistance in series with the motor armature, and a generator connected to the motor and arranged to control said resistance in starting the motor.
8. In combination with a motor, a source of electrical supply, a resistance in series with the motor armature, and generator mechanically connected to the motor and arranged to control said resistance in starting and stopping the motor.
9. In combination with an alternating current motor, a source of electrical supply, a resistance electrically connected to the motor, and a generator connected to the motor and arranged to control the movement of the motor upon starting. by controlling the resistance.
10. In combination with a motor, an opposition element In circuit with the motor and a generator mechanically connected to the motor and arranged to control the movement of the motor in starting and stopping by controlling the opposition element.
11. In combination with an alternating current motor, a resistance electrically connected to the motor, and a generator connected to the motor and arranged to control the resistance in proportion to the speed of the motor on starting.
12. In combination with a motor, controlling circuits therefor, electro-magnetic switches in the controlling circuits, and means for generating a variable voltage in proportion to the speed of the motor, said voltage applied to said electro-magnetic switches in the controlling circuits which are arranged to be actuated by the variable voltage.
13. In oombination with a motor, an opposition element in circult with the motor, a generator so connected to the motor that it will generate a voltage in proportion to the speed of the motor, a plurality of electro-magnets in connection with the generator and arranged to control the opposition element.
14. The combination with an electric motor and a mechanism driven thereby, a generator mechanically connected to the driven mechanism, an electro-responsive device connected to said generator, and means electrically connected to the motor and operated by said electro-receptive device for controlling the acceleration of the motor upon starting.
15. In combination with an electric motor, \& mechanism driven thereby, an opposition element in the motor circuit, an electro-responsive device for controlling the opposition element, and a generator connected to the driven mechanism and arranged to actuate the electro-responsive device to cut the opposition element out of the motor circuit in a number of steps in proportion to the acceleration of the driven mechanism.
16. In combination with an electric motor, a starting device therefor, electric circuits to actuate the starting device, a source of electrical supply, and another source of electrical supply dependent upon the movement of the motor and arranged to co-operate with the first source of supply to hold the starting device during the rotation of the motor.
17. In combination with an electric motor, a starting device therefor, electric circuits to actuate the starting device, a source of electrical supply, and another source of electrical supply dependent upon the movement of the motor and proportional to its speed and arranged to co-operate with the first source of supply to hold the starting device during the rotation of the motor.
18. In combination with an electric motor, an electrically operated starting device therefor electric circuits to actuate the otarting device, a source of electrical supply, another source of electrical supply dependent upon the speed of the motor and proportional to lts speed and arranged to cooperate with the first source of supply to hold the starting device during the rotation of the motor, and a manually operated switch to control the circuits to the starting device.
19. A starting device for motors comprising an alternating current motor, a direct current generator connected to run with the motor, and means actuated by the current from the generator to control the starting and accelerating of the motor.
20. In combination with an alternating current motor, a source of alternating current supply. an opposition element in the motor curcuit. a series of electro-magnetic responsive devices for removing the opposition element from the motor circuit, and a source of direct current supply dependent upon the movement of the motor and proportional to its speed. arranged to actuate the electro-responsive devices one by one as the speed of the motor increases.
21. In combination with an alternating current motor, a source of alterating current supply, a starting device for the motor arranged to be actuated by the alternating currcnt, means dependent upon the movement of the motor for generatina a direct current, and a magnctic device operated by such direct current to hold the starting device firmly in closed position.
22. In combination with an alternating current motor, a source of alternating current supply, a starting device for the motor arranged \(f_{0}\) be actuated by the alterating cur-
rent, a direct current generator dependent upon the movement of the motor arranged to generate a voltage propor tional to the speed of the motor, a magnetic device connected to such direct current generator and arranged to hold the starting device firmly in closed position, an opposition element in the motor circuit. and a series of electro-responsive devices for removing the opposition element from the motor circuit. sald electro-responsive devices being connected to the direct current generator and arranged to be actuated one by one as the motor accelerates.
23. In combination with an alternating current motor, an electrically operated starting device therefor, and circuits for actuating the starting device comprising an alternating current circuit and direct current circuit.
24. In combination with an alternating current motor, a starting device therefor. alternating current and direot current circuits, said starting device being actuated by a single phase alternating current and positively held in operative position by a direct current.
25. In combination with an alternating current motor, a starting device therefor. said starting device being actuated by a single phase alternating current and positively held in onerative position by a direct current. alternating curren and direct current electrical circults for the starting device. and a manually operated switch for controlling the circuits.
26. In combination with an alternating current motor. a device for starting the motor in one direction and another device for starting the motor in the other direction, alternating current and direct current circuits, sald starting device being actuated by a single phase alternating current and positively held in operative position by a direct movement
27. In combination with an alternating current motor. a resistance. an electricallv operated reversing switch. circuits for the reversing switch for both alternatine and direct currents, a manually operated switch for controlling the circuits, electro-resnonsive devices for controlling the resist ance and a direct current generator connected to run with the motor arranged to supply the direct current circuits for the reversing switch and to automatically actuate the elec-tro-responsive devices.
28. In combination with an alternating current motor. a resistance. an electrically operated reversing switch. circults for the reversing switch for both alternatine and direct currents. a manually overated switch for controlling the circuits. electro-resnonsive devices for controlling the resist ance. and a direct current penprator connected to run with the motor arrancen to supply the dirent current circuits for the reversing switch and to automaticallv actuate the electrnnesnonsivo devices in proportion to the acceleration of the motor.
29. In combination with an alternating current mintor. a resistance an electrically nperated reversing switch. circults for the reversing switch for both alternating and direct currents, a manually oderated switch for controlling the circults. electro-responsive devices for cutting out the resistance step-bi-sten, and a direct current generator connected to run with the motor arranged to supnly the direct current circuits for the reversing switch and to automatic. ally actuate the electro-responsive device one at a time in pmortion th the acceleration of the motor.
30. In combination with a motor, means for reversing the difection of rotation of the motor. a generator connected to run with the motor. means for keeping the direction of the current generated by the generator the same if the direction of rotation of the motor is changed. and means actuated hy the current generated by the generator for controlling the motor.
31. In combination with a motor means for reversing the direction of rotation of the motor, a resistance for the motor circult, a generator connected to run with the motor, means for keeping the direction of the current generated by the generator the same if the direction of rotation of the motor is changed, and means actuated by the current generated by the generator for controlling the motor by cutting the resistance into and out of the motor circuit.
32. In combination with a motor, means for reversing the direction of rotation of the motor. a generator connected to run with the motor, means connected with the generator for keeping the direction of its generated current the same, said generator arranged to generate a voltage in proportion to the speed of the motor, and electro-responsive devices dependent upon the generated voltage for controlling the acceleration of the motor.
33. In combination with an alternating current motor, a starting device therefor and a direct current generator connected to run with the motor and arranged to control tho acceleration of the motor in starting the motor.
34. In combination with an ziternating current motor. a starting device therefor actuated by alternating current, and a direct current generator connected to run with the motor and arranged to control the accelcration of the motor.
35. In combination with an alternating current motor, means for starting the motor in one direction or the other, and a direct current generator connected to run with the motor and arranged to control the acceleration of the motor. 36. In combination with an alternating current motor. means for starting the motor in one direction or the other. sald means actuated by alternating current and a direct current generator connected to run with the motor and arranged to control the acceleration of the motor.
37. In combination with an alternating current motor, means for starting the motor in one direction or the other, said means actuated by an alternating current, a manually operated switch for controlling the starting device and a direct current generator connected to run with the motor and arranged to control the acceleration of the motor.
38. In combination with an alternating current motor, a starting device therefor, alternating current and direct current circuits, said starting device being actuated by an alternating current and positively held in operative position by a direct current.
39. In combination with an alternating current motor, a starting device therefor, said starting device being actuated by an alternating current and positively held in operative position by a direct current, alternating current and cirect current electrical circuits for the starting device, and a manually operated switch for controlling the circuits.
40. In combination with an alternating current motor, a device for starting the motor in one direction and another device for starting the motor in the other direotion, alternating current and direct current circuits, sald starting devices being actuated by an alternating current and positively held in operative position by a direct current.
41. In a starting device for alternating current motors, a source of supply, a starting mechanism, alternating current and direct current circuits, means connected with said source of supply arranged to actuate the starting mechanlsm to start the motor, and a direct current generator mechanically connected to the motor and arranged to control the acceleration of the motor step-by-step.
42. In a system of motor control, two sources of current supply, one being pulsating and connected to the motor, the cther being a direct current generated by the movement of the motor and variable from zero to a maximum it proportion to the speed of the motor and adapted to control the acceleration of the motor.
43. In a system of motor control two sources of current supply, one of which is not variable and is connected to the motor, the other of which is generated by the movement of the motor and is variable from zero to a maximum in proportion to the speed of the motor.
44. In a system of motor control two sources of current supply, one of which is not variable and is connected to the motor, the other of which comprises a generator connected to the motor and is variable from zero to a maximum in prowrtion to the speed of the motor.
45. In a system of motor control two sources of current supply, one being obtainable before the motor is started. and the other being dependent upon the movement of sald motor means operated by current from one of said sources for starting, reversing or stopping the motor, and means operated by current from the other source for effecting an acceleration of the motor.
46. In combination with an electric motor, an external source of current supply of practically constant value, a controlling device in series with the motor, and a generator mechanically connected to the motor and arranged to control the controlling device.
47. In combination with an electric motor, an external source of current supply of practically constant value, a starting switch for the motor, a controlling device for the motor, and a generator mechanically connected to the motor and arranged to control the controlling device.
48. In combination with an electric motor, an external scurce of current supply of practically constant value, an electrically actuated starting switch for the motor. a manually operated circuit closer for the starting switch, a controlling device for the motor and a generator mechanically connected to the motor and arranged to control the controlling device.

\section*{No. 101,319. Telephone Switchboard. Commutateur de téléphone.}

Ewing McLean, Greencastle, Indiana, U.S.A., 2nd October, 1906; 6 years. Flled 21st March, 1906. Recelpt No. 134,126.

Claim.-In a telephone switchboard, a shutter occupying a normal vertical position, sald shutter being hinged at its lower end and adapted to swing down on its hinge as a signal to the operator, said shhtter having an outwardly projected extension at its hinge end, a magnet having windings conneoted with the telephone line wires, an armature pivot-
ally supported upon sald magnet, an arm carried by said armature having a terminal hook to secure the shutter in

its normal vertical position, a connecting plug, a cord attached to an end of said plug, a weighted pulley supported on said cord, a pivoted rever having one arm contacting with the shutter extension and having the other arm forming a support for said plug when the latter is in its socket.

No. 101,320. Gas Generator. Générateur dgaz.


Jean Patoine, Quebec, Quebec, Canada, 2nd October, 1906 ; 6 years. Filed 11th May, 1906. Receipt No. 135,804.
Claim.-1.A gas generator comprising the combination of a tank having an inclined bottom merging into a \(T\) connecLion, a pipe leading from the \(T\) connection, a rockable pipe provided with an opening adapted to register with the vertical portion of the \(T\) connection and provided with a squared outer end, and means for automatically feeding carbide into the tank.
2. A gas generator comprising the combination of a tank provided with a horizontal partition having an opening therein, a float disposed in the tank, guideways for the fioat, angle irons secured to the float, a cylinder secured to the angle irons and adapted to work in said opening in the partition, a water seal carried by the float, a carbide chamber, a cylinder depending from the carbide chamber into the water seal, a closure for the carbide chamber, and means for operating the closure by the upward and downward movement of the float.
3. A gas generating apparatus comprising the combination of a tank, a float disposed in the tank, a water seal carried by the float, a cylinder disposed in the water seal, a carbide chamber carried by the clyinder and provided with downwardly extending sleeves, a link secured to the float, a cross bar pivoted to the link, an arm secured to the carbide chamber and pivoted to the cross bar, rods pivoted to the cross bar and disposed through the sleeves, a cross bar carried by said rods, and a funnel-shaped closure for the carbide chamber carried by the iast-named cross bar.
4. A gas generating apparatus comprising the comblnation of a tank, a float carried by the tank, a water seal carried by the float, a carbide chamber disposed above the water seal, a cylinder depending from the carbide chamber into the water seal, a closure for the carbide chamber adapted to be actuated by the upward and downward movement of the float, and links carried by one of the members of th water seal and provided with hooked ends adapted to engage a portion of the carbide chamber and lock the game.

No. 101,321. Machine for Cutting Tubular Bodiea. Machine pour tailler des corps tubulaires.


Thomas D. Miller, Woodstock, Maryland, assignee of Eugene J. Logan, Philadelphia, Pennsylvania, U.S.A., 2nd October, 1906; 6 years Filed 26th May, 1906. Recelpt No. 136,278.
Claim.-1. The combination with a clamp for tubular bodies, of a circular saw adjacent to an end of said clamp, means for constantly rotating said saw about its axis, and independent means for giving said saw an orbital movement about the axis of the clamp.
2. The combination with a clamp for tubular bodies, of a circular saw adjacent to and end of said clamp, means for constantly rotating said saw about its axis, and independent means for giving sald saw an orbital movement about the axis of the clamp intermittently.
3. The combination with a clamp for tubular bodies, of a pair of circular saws arranged adjacent to the ends of sald clamp, means for constantly rotating said saws about their axis, and independent means for giving said saws an orbital movement about the axis of the clamp.
4. The combination with a clamp for tubular bodies, of a pair of circular saws arranged adjacent to the ends of said clamp, means for constantly rotating said saws about their axis, and independent means for giving said saws an arbital movement about the axis of the clamp simultaneously.
5. The combination with a clamp for tubular bodies, of a pair of circular saws arranged adjacent to the ends of said clamp, means for constantly rotating said saws about their axis, and independent means for giving said saws an orbital movement about the axis of the holder simultancously and irtermittently.
6. The combination with a circular saw, and means for rotating the same about its axis, of a feeding device having one or more holders for tubular bodies thereon, means for moving said feeding devices intermittently to bring the bodles against the saw, and means for giving sald saw an orbital movement about the axis of each tubular body after it has been brought into engagement with the saw.
7 The combination of a saw carrier journalled in a suitable bearing and a saw arbour journalled in said carrier at one side of the axis of the carrier, a saw mounted upon sald arbour, a shaft extending axially through said saw carrier and geared to said arbour, means for rotating said shaft, and means for intermittently rotating said saw car rjer.
8. The combination of a saw carrier journalled in a suitable bearing and a saw arbour journalled in said carrier at one side of the axis of the carrier, a saw mounted upon said arbour, a shaft extending axially through said saw carrier and geared to said arbour, means for rotating said shaft, means for rotating said saw carrier, and means for locking the saw carrier against movement at the completion of each revolution of the carrier.
9. The combination of a saw carrier journalled in a suitable bearing and a saw arbour journalled in said carrier Et one side of the axis of the carrier, a saw mounted upon said arbour, a shaft extending axially through said saw carrier and geared to sald arbour, means for rotating said shaft, means for rotating sald saw carrier intermittently, comprising a constantly driven clutch member, a co-operating clutch member secured to the carrier, means for automatically connecting said clutch members, and means for automatically disengaging sald clutch members at the completion of each revolution of the carrier.
10. The combination of a saw carrier journalled in a sultable bearing and a saw arbour journalled in said carrier at one side of the axis of the carrier, a aaw mounted upon said
arbour, a shaft extending axially through sald saw carrier and geared to sald arbour, means for rotating said shaft. means for rotating sald saw carrier, intermittently, comprising a constantly driven clutch member, a co-operating clutch member secured to the carrler, means for automatscally connecting said clutch members, means for automatically disengaging said clutch members at the completion of each revolution of the carrier, and means for automatically locking the carrier against movement while the clutch members are disengaged.
11. In a machine for cutting tubular bodies the combination with a sultable bearing and a saw carrier comprising a sleeve journalled in said bearing, and having a head adapted to support a saw arbour at one end of the bearing and a clutch member fixed to sald sleeve at the opposite end of the bearing, of a constantly driven clutch member jourpalled upon said sleeve, means for automatically engaging and disengaging said clutch members, a shaft extending axially through said sleeve, means for constantly driving sald shaft, a saw arbour mounted in said head parallel with the shaft and having a saw thereon, and gearing connecting said shaft and arbour.
12. In a machine for cutting tubular bodies the combination with a suitable bearing and a saw carrier comprising a sleeve journalled in said bearing, and having a head at one end adapted to support a saw arbour and a clutch member secured to said sleeve at the opposite end of the bearing, of a gear forming a clutch member journalled upan said sleeve, a saw arbour journalled in said head, a shaft extending axially through said sleeve and geared to sald saw shaft, a countershaft, and gearing connecting said countershaft, with the shaft extending through the sleeve and with the gear journalled upon said sleeve.
13. In a machine for sawing tubular bodies the combination with a saw carrier comprising a sleeve journalled in a suitable bearing, of a clutch upon said sleeve at ane end of said bearing, a collar secured to sald sleeve at the opposite end of the bearing, a clutch lever and a locking lever pivoted adjacent to said bearing, said clutch lever being adapted to engage and operate the clutch and sald lock-t ing lever being adapted to form a locking engagement with the collar, a rod connected to the free ends of said levers, and a shaft having a cam thereon adapted to operate sald rod.
14 In a machine for sawing tubular bodies, a rotatable saw carrier, a saw carried thereby at one side of the axis of the carrier, means for rotating said saw, means for intermittently rotating said carrier, a feed wheel having one or more holders, each adapted to hold a tubular body with its end projecting in the plane of the saw, means for operating said feed wheel to bring the tubular body or bodies irto engagement with the saw, and means for holding said feed wheel stationary while the saw carrier is in motion.
15. In a machine for sawing tubular bodies, a rotatable saw carrier and means for rotating the same, a saw arbour journalled in said carrier at one side of the axis of the carrier, said arbour having a saw thereon, a feeding device having one or more holders thereon each adapted to hold a tubular body, means for constantly rotating said saw, means for holding said carrier stationery, means for moving said feeding device to bring a holder opposite the end of the saw carrier with the tubular body in engagement with the saw, means for automatically starting said carrier into uperation after the tubular body is in engagement with the saw, and means for automatically stopping the rotation of said carrier after it has made a complete revolution.
16. In a machine for sawing tubular bodies, a rotatable saw carrier, and means for rotating the same, a saw arbour fournalled in said carrier at one side of the axis of the carrier,said arbour having a saw thereon, a feeding device having a series of holders thereon each adapted to hold a tubular body, means for constantly rotating said saw, means for holding sald carrier stationary, means for moving said feeding device intermittently to bring the holders suocessively into position opposite the end of the saw carrier with the tubular body in engagement with the saw, means for automatically starting said carrier into operation each time a tubular body is brought into engagement with the saw, and means for automatically stopping the rotation of the carrier after it has made a complete revolution.
17. In a machine for sawing tubular bodies, a rotatable saw carrier, and means for rotating the same, a saw arbour journalled in said carrier at one side of the axis of the carrier, said arbour having a saw thereon, a feed wheel having one or more holders thercon each adapted to hold a tubuiar body, means for constantly rotating sald saw, means for holding said carrier stationary, means for moving said feed whel to bring a holder opposite the end of the saw carrier with the tubular body in engagement with the saw, means for automatically starting sald carrier into operation after the tubular body is in engagement with the saw, and means for automatically stopping the rotation of sald carrior after it has made a complete revolution.
18. In a machine for sawing tubular bodies a rotatable saw carrier, and means for rotating the same, a saw arbour journalled in said carrier at one side of the axis of the carlier, said arbour having a saw thereon, a feed wheel having a series of holders thereon each adapted to hold a tubular body, means for constantly rotating said saw, means for holding said carrier stationary, means for moving said feed wheel intermittently to bring the holders successively into fosition opposite the end of said carrier with the tubular body in engagement with the saw, means for automatically starting sald carrier into operation each time a tubular body is brought into engagement with the saw, and means for automatically stopping the rotation of the carrier after it has made a complete revolution.
19. In a machine for sawing tubular bodies, a saw, means for rotating the same upon its axis, a feed wheel having one or more holders thereon each adapted to hold a tubular body transversely to the plane of the saw, means for rotating said feed wheel to bring the tubular body into engagement with the saw, means for holding the feed wheel stationary wuile the tubular body is in engagement with the saw, and means for giving the saw an orbital movement about the axis of the tubular body when the feed wheel is at rest.
20. In a machine for sawing tubular bodies, a saw, means for rotating the same upon its axis, a feed wheel having a series of holders thereon each adapted to hold a tubular body transversely to the plane of the saw, means for rotating said feed wheel intermittently to bring the tubular body into engagement with the saw, means for holding the feed wheel stationary each time a tubular body is brought into engagement with the saw, and means for giving the saw an orbical movement each time the feed wheel is stopped.
21. In a machine for sawing tubular bodies, a pair of saws arranged in parallel planes, means for rotating said saws about their axis, a feed wheel having one or more holders thereon each adapted to hold a tubular body with lts end portions projecting beyond the holder into the planes of the saws, means for rotating said feed wheel to bring the tubular body or bodies into contact with the saws, means ior holding the feed wheel stationary while the tubular body is in engagement with the saws, and means for giving said saws a simultaneous orbital movement about the axis of the tubular body engaged by the saws while the feed wheel is at rest.
ze. In a machine for sawing tubular bodies, a saw, means for rotating the same upon its axis, a feeding device having a series of holders thereon, each adapted to hold a tubular body transversely to the plane of the saw, means for rotating said feed wheel intermittently to bring said tubutar bodies successively into engagement with the saw, means tor holding the teed wheel stationary white each tubular body is in engagement with the saw, and means for giving said saw an ordital movement while the reed wheel is stadionary.
23. In a machine for sawing tubular bodies, a saw, means lor operating the same to sever the tubular bodies, a feeding device having a series of holders thereon each adapted to hold a tubuiar body in the plane of the saw, means for intermittently operating said feeding device to bring successive holders opposite the saw, a cleaning device and means for moving said cleaning device into and out of the interior of each holder after it has passed the saw and while the reoding device is at rest.
24. In a machine for sawing tubular bodies, a pair of saws, means for operating the same to sever the tubular bodies, a feeding device having a series of holders thereon each adapted to hold a tubular body with its ends projecting beyond the end of the holder into the planes of the saws, means for intermittently operating said feeding device to bring successive holders opposite the saws, a cleaning device and means for moving said cleaning device into and out of the interior of each holder after it has passed the saws and while the foeding device is at rest.
25. In a machine for sawing tubular bodies, a pair of saws arranged in parallel planes, a feed wheel having a series of holders thereon each adapted to hold a tubular body with its end portions projecting transversely of the planes of the saws, means for intermittently moving said feed wheel to bring successive holders between the saws, a longitudinally movable shaft or spindle having a cleaning device thereon arranged in the rear of the saws, and means for giving said spindle a longitudinal reciprocating movement each time the feed wheel is stopped.
26. In a machine for sawing tubular bodies, a pair of saws and means for operating the same to cut said bodies transversely, a feed wheel having a series of holders thereon each holder having a hinged outer jaw and being adapted to hold a tubular body with its ends projecting into the planes of the saws, means for rotating said feed wheel intermittently, a curved guide extending around the upper and rear portions of the feed wheel and adapted to hold sald hinged jaws
closed while the tubular bodies are being cut-off, a cleaning device at the rear of the saws, means for moving said device into and out of the holders while the jaws are closed by said guide and the feed wheel is at rest.
27. In a machine for sawing tubular bodies the combination with a pair of saws arranged in parallel planes, means for constantly rotating said saws about their axes, and means for giving sald saws an intermittent orbital movement, of a feed having a series of holders thereon, mechanism for intermittently operating said feed wheel and means for automatically throwing sald feeding mechanism out of action after each movement of the feed wheel.
28. In a machine for sawing tubular bodies the combination with a pair of saws arranged in parallel planes, and means for constantly rotating said saws about their axes, of a feed wheel, means for intermittently operating said feed wheel, mechanism for giving said saws an intermittent orbital movement, and means for automatically throwing sald mechanism out of action after each movement of the feed wheel.
29. In a machine for cutting off the heads of sheet metal cans the combination with a pair of saws arranged in parचllel planes and means for constantly rotating said saws about their axes, of a clamp arranged to hold a can body with its end portions in engagement with the saws, and independent means for giving said saws and clamp a complete urbital movement relatively to one another during the engagement of the saws with the can body to cause the severance of the cans heads.
30. In a machine for sawing tubular bodies the combination with a saw, and means for constantly rotating sald saw about its axls, of a clamp arranged to hold a tubular body transversely to the plane of the saw and in engagement with the saw. and independent means for giving sald saw and clamp a complete orbital movement relatively to one another during the engagement of the saw with the tubular body to causo the severance of the tubular body.
31. In a machine for sawing tubular bodies the combination with a saw and means for constantly rotating said saw about its axis, of a feeding device having a clamp thereon adapted to hold a tubular body transversely to the plane of the saw, means for automatically moving said feeding device to bring said tubular body into engagement with the saw, means fo: automatically locking said feeding device in stationary position while the tubular body is engaged by the saw, and means for automatically moving said clamp and saw relatively to one another while the feeding device is stationary to cause the saw teeth to cut circumferentially around the tubular rody from the interior of the tubular body outwardly.
32. In a machine for cutting off the heads of sheet metal cans the combination with a pair of circular saws arrange.i in parallel planes, and means for rotating said saws about their axis, of a feeding device having a holder thereon, said holder being arranged in a plane between the saws and adapted to hold a can body with its end portions projecting into the planes of the saws, means for moving sald feeding device to bring the can body into engagement with the saws, means for locking said feeding device in stationary position while the can body is engaged by the saws, and means for moving s:aid holder and saws relatively to one another while the feeding device is statlonary to cause the teeth of the saws to cut circumferentially around the can body from the interior of the can outwardly.
33. In a machine for sawing tubular bodies, a circular saw and means for constantly rotating the same about its axis, a clamp adapted to hold a tubular body transversely to the plane of the saw, means for giving the saw and the clamp a relative feeding movement to cause the saw to make an initial cut through the walls of the tubular body at one side thereof, means for stopping this feeding movement after this initial cut has been made, and means for moving said saw and clamp relatively to one another after the feed movement has ceased to cause the saw teeth to cut circumferentially around the tubular body from the interior outwardly.
34. In a machine for cutting off the heads of sheet metal cans the combination with a pair of circular saws arranged in parallel planes and means for rotating said saws about their axes, of a holder arranged in a plane between said saws and adapted to hold a can body with its end portions projecting into the planes of the saws, means for giving the saws and holder a relative feeding movement to cause the saws to make initial cuts through the wall of the can body at one side thereof. means for stopping this feeding movement after the initial cuts have been made, and means for moving sald pair of saws and the holder relatively to one another after the feed movement has ceased to cause the teeth of both saws to cut circumferentially around the can body from the interior outwardly.
35. A machine to cut the heads and bottoms from can bodies having in combination a plurality of clamps to stationarily clamp can bodies between their ends, means for intermittently moving said clamps to bring them successively
to the operative position, and means to simultaneously make two cuts one at each end around the clamped can body in position, whereby both ends of the can will be severed and removed while the body remains held in the clamp.
36. In a machine of the class described the combination of a crank, a cutter shaft carried by said crank, means for revolving sald cutter shaft continuously, means for revolving said crank intermittently, and a can body clamp whose center is coincident with the axis of the cutter shaft.
37. In a machine of the class described the combination of a crank, a cutter shaft carried by said crank and provided with a pinion, a shaft at the axhs of sald crank and carrying a gear which meshes with the pinion on sald cutter shaft to revolve the latter, means for revolving sald gears and cutter shaft continuously, means for revolving said crank intermittently and thereby move the revolving cutter shaft in a circular path, and a can body clamp whose center is coincident with the axis of the cutter shaft.
38. In a machine of the class described the combination of a stationary table, a bearing supported above said table, a revoluble sleeve extending through said bearing and carrying a crank, means for revolving said sleeve, a cutter shaft carrled by said crank, a shaft extending through said sleeve, means for transmitting motion from said latter shaft to the cutter shaft, and a can body clamp whose center is coincident with the axis of the cutter shaft.
39. In a machine of the class described the combination of a crank, a cutter shalt carried by said crank, means for revolving said cutter shaft, means for revolving said crank intermittently whereby to move the cutter shaft in a circular path. a plurality of can body clamps and means for successively moving said clamps into operative position with respect to said cutter shaft.
40. In a machine of the class described the combination of a crank, a cutter shaft carried by sald crank, means for revolving said crank to move the cutter shaft in a circular path, a revoluble head carrying a plurality of can body clamps, and means for intermittently revolving said head to successively bring the clamps into position opposite the crank axis and hold them at rest while the cutter shaft is moved in a circular path.
41. In a machine for cutting can bodies the combination of two cranks confronting each other but spaced apart. a rotary cutter carried by each crank, a plurality of movable clamps each adapted to clamp a can body between its ends, means for successively miving the sald clamps to a position in the space between the said two cranks with their centers coinicdent with the axis of the cutter shaft, and means for intermittently revolving both cranks to cause the cutters to sever and remove the head and bottom while the body remains held in the clamp.

\section*{No. 101,322. Extraction of Nickel and Cobalt. Extraction de nickel et cobalt.}

The Metals Extraction Corporation, assignee of Ralph Waldo Emerson MacIvor, all of London, England. 2nd October. 1906 ; 6 years. Filed 11th June, 1906. Receipt No. 136,769 .
Claim.-1. The treatment of recovering nickle and cobalt form ores of oxidized mattes consistlng in finely grinding the same and digesting them with or without pressure in a solution of chloride of magnesium at a suitable temperature, drawing off the resulting solutions of cobalt and nickel chlorldes as formed and treating the same by known means for the recovery of the metal contents, substantially as described.
2. The manner of separaling cobalt from nickel by digesting the finely ground nickel cobalt ores or roasted mattes in a solution of chloride of magnesium at a suitable temperature in such manner that the cobalt is first dissolved and separated as a solution of cobaltous chloride from the ore, the digesting being then continued for the similar removal of the nickel, substantially as described.
3. In the treatment of cobalt and nickel ores or roasted mattes forming the same into a paste with chloride of magnesium, and after drying heating the mass to a temperature of about 300 degrees centigrade and subsequently wasting out the clorlde of cobalt and nickel.

\section*{Nn. 101,323. Production of Nickel and Cobalt. Production de nickel et cobalt.}

The Metals Extraction Corporation, assignee of Ralph Waldo Emerson Marivor, all of London, England, 2nd October, 1906; 6 years. Filed 16th June, 1906. Receipt No. \(134,4: 4\).
Claim.--In the production of mattes from sulphide nickel and cobalt ores, mixing with such ores an alkall or alkaline varth-paly-sulphile togrther with a small quantity of carbon. for the purpose and in the manner substantlally as d:scribed.

No. 101,324. Milking Maohino. Machine d traire.

D. H. Burrell and Company, assignee of Frederic A. Lane, both of Little Falls, New York, U.S.A. 2nd October, 1906: 6 years. Filed 16th February, 1906. Recelpt No. 132,965.
Claim.-1. In a milking machine the combination with teat cups and a milk pipe, of an interposed connecter comprising a body which is open at the bottom, a bottom remorably secured in the bottom opening of the body, a lateral attaching device for the milk pipe formed on said body above the bottom opening thereof, and individual attaching devices for said cups formed on the top of sald body, the interior of said attaching devices being directly accessible upon removing said bottom, substantially as described.
2. In a milking machine the combination of a milk pipe, teat cups and a connector interposed between sald pipe and said cups and provided with a restricted air inlet through which air is constantly admitted to the connector and the milk passages connected therewith, substantially as set forth.
3. In a milking machine the combination of a milk vessel, a pulsator on the same, a milk pipe connected with the pulsator, teat cups connected with the milk pipe, an air inlet which is placed periodically in communication with the milk pipe by the pulsator and an air inlet which admits air constantly to the milk plpe, substantially as set forth.
4. In a milking machine the combination of a milk vessel, a milk pipe connected therewith, teat cups connected with the milk pipe and air inlet devices adapted to admit air to both ends of the milk pipe, substantlally as set forth.
5. In a milking machine the combination of a milk vessel, a milk pipe connccted therewith, teat cups, a connector interposed between the cups and the pipe and provided with an air inlet which is constantly open, and a pulsator provided with an air inlet which is periodically placed in communication with the milk pipe, substantially as set forth.
6. A teat cup comprising a rigid tapering body shaped to recelve and support the teat and having at its large end an enlargement forming an internal annular cavity which extends outwardly and upwardly from the large end of the tapering body, and a flexible mouthpicce having an outer wall by which it is attached to said enlargement and an inner depending packing wall which is located in said cavity above the large end of the lapering body and capable of sidewise movement in said cavity, substantially as set forth.

\section*{No. 101,325. Electric Switch. Commutateur électrique.}
W. J. O'Leary and Company, assignee of William Coonan, all of Montreal, Quebec, Canada, 2nd October, 1906; 6 years. Filed 3rd August, 1904. Receipt No. 117,443.
Claim.-1. In an electric switch the combination of a bed plate, a gravity actuated frame pivotally mounted thereon-, a pivotally supported locking member, and locking means carrled by said bed plate in position to engage the respective ends of said pivoted locking member, substantially as described.
2. In an clectric switch the combination of a bed plate, a gravity actuated frame pivotally mounted thereon, a locking
member pivotally connected to sald frame and provided with catches at its respective ends, and locking means carried

by the bed plate in position to engage said catches, substantially as described.
3. In an electric switch the combination of a bed plate, a gravity actuated frame pivotally mounted thereon, a locking member pirotally secured to said frame and provided with catches at its respective ends, a fixed member carried by the frame in position to engage one of said catches and a movable member carried by said frame in position to engage the other of sald catches, substantially as described.
4. In an electric switch the combination of a bed plate, a gravity actuated frame pivotally mounted thereon, a locking member pivotally secured to said frame and provided with catches at its respective ends, a fixed member adjustably carried by the frame in position to engage one of said catches, and a movable member carried by said frame in position to engage the other of said catches, substantially as described.
5. In an electric switch the combination of a bed plate, a gravity actuated frame pivotally mounted thereon, a locking member pivotally connected to said frame and provided with catches at its respective ends, an adjustable means carried by said irame in position to engage one of said catches, an armature plate carried by said bed plate for engagement with the other of sald catches, and a magnet for actuating said armature plate, substantially as described.
6. In an electric switch the combination of a bed plate, a gravity actuated frame pivotally mounted thereon, a locking member pivotally connected to said frame; a gravity actuated armature plate arranged to lockingly engage said pivoted locking member, a magent for actuating said armature plate, a stop arranged to limit the movement of said armature plate and provided with means for limiting the swing of said pivoted locking member, substantially as described.
7. In an electric switch the combination of a bed plate, circuit terminals electrically insulated on said bed plate, a gravity actuated frame pivotally mounted on the bed. plate, electric conducting members carried by sald pivoted frame and adapted to complete the circuit between said circuit terminals, a locking member pivotally connected to said frame, and locking means carried by the bed plate in position to engage the respective ends of said pivoted locking member, substantially as described.
8. In an electric switch the combination of a bed plate, circuit terminals electrically insulated on said bed plate, a gravity actuated irame plvotally mounted on the bed plate. electric conducting members resiliently supported on said pivoted frame and adapted to complete the circult between said circuit terminals, a locking member pivotally connected to sald frame, and locking means carried by the bed plate in position to engage the respective ends of said pivoted locking member; substantially as described.
9. In an electric switch the combination of a bed plate, circuit terminals electrically insulated on said bed plate, a gravity actuated frame pivotally mounted on the bed plate. flexible contacts carried by said pivoted frame, and adapted to complete the circuit between said circuit terminals, a locking member plvotally connected to said frame, and locking means carried by the bed plate in position to engage the respective ends of said pivoted locking member, substantially as described.

No. 101,326. Feed Mechanism for Magazinos. Mécanisme d'alimentation pour magasins de fusils.


Charles Owens and Dwight P. Montague, assignee of a hal interest, both of Chattanooga, Tennessee, U.S.A., 2nd October, 1906 ; 6 years. Filed 13th July, 1906. Receipt No. 137,787
Claim.-1. In combination in a machine of the class described, a feed drum, a hopper or support for the magazine or other articles whereby the forward portions of the said magazine are supported upon the said feed drum, means carried by the feed drum for engaging the magazines, and controlling means between which and the feed drum the maga zines must pass, substantially as described.
2. In combination a feed drum arranged to support the forward portion of the magazines, means carried by the feed drum for engaging the magazines, controlling means engag ing the pile of magazines and arranged opposite the feed drum with a space between for the passage of the magazines, said controlling means consisting of a wheel having teeth or projections thereon and adjustable releaser means to cover more or less of sald teeth or projections and shield them from the plle of magazines, substantially as des-l cribed.
3. In combination a feed drum having means to engage the magazines, a controlling ratchet arranged opposite the feed drum, means for rotating the ratchet step-by-step, and releaser means to shield more or less of the ratchet teeth in respect to the pile of magazines, substantially as described.
4. In comblnation the feed drum, carrying means to engage the magazine, a ratchet wheel arranged opposite the drum with a space between for the passage of the magazines, said ratchet wheel having its teeth adapted to obstruct the for ward movement of the magazines, means engaging the said ratchet teeth for operating the ratchet, and releaser means to cover more or less of the ratchet teeth in respect to the pile of magazines, substantially as described.
5. In combination the feed drum, carying means to engage the magazine, a ratchet wheel arranged opposite the drum with a space between for the passage of the magazines, said ratchet wheel having its teeth adapted to obstruct the for ward movement of the magazines, means engaging the said ratchet teeth for operating the ratchet, and releaser means to cover more or less of the ratchet teeth in respect to the pile of magazines, said releaser means being adjustable about the axis of the ratchet, substantially as described.
6. In combination a feed drum, an adjustable support for the rear portion of the pile of magazines, a ratchet wheel arranged opposite the feed drum and between which the feed drum the magazines pass, means for operating the ratchet and a releaser adapted to shield more or less of the ratchet teeth in respect to the pile of magazines, substantially as described.
7. In combination a feed drum adapted to receive the magazines thereon, means carrled by the feed drum to engage the magazines to feed them forward, and feed controlling means arranged opposite the feed drum with a space therebetween for the passage of the magazines, said controlling means being adapted to provide a contracting space to make the plle of magazines at the feeding point assume a pyramid-like formation with the magazines in advance of the one next above, substantially as described.
8. In combination with the feed drum, a rotary device opposite the peripheral surface of the feed drum for controlling the feed of the magazines and a releaser associated with sald rotary device and an adjustable stop carried thereby, substantially as described
9. In combination with the feed drum, a toothed wheel opposite the peripheral surface of the drum, a releaser, and means for adjusting the size of the space between sald releaser and the surface of the feed drum, substantially as described.

No. 101,327. Flectric Furnace. Fournaise ćlectriquc.


La Societe Electro-Metallurgique Français, Forges, assignee of Paul Toussaint Heroult, La Praz, France, 2nd October, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,708.
Claim.-1. An electric furnace having an electrode, a protecting jacket therefor and means for cooling said jacket.
2. An electric furnace having an electrode, an outer protecting jacket therefor and an inner cooling jacket between the electrode and the outer jacket.
3. An electric furnace having an electrode and a protecting jacket therefor having passages for a cooling fluid therethrough.
4. An electric furnace having an electrode, an outer jacket of heat insulating material and an inner jacket of heat conducting material between the electrode and the outer jacket, and having passages for a cooling fluid therethrough.
5. An electric furnace having an electrode. an outer jacket \(M\) of heat insulating material surrounding the same, and an inner jacket \(N\) of heat conducting material, said inner jacket comprising plates \(P\) and \(Q\) with blocks between them forming passages \(R\) for the circulation of a cooling fluid.
6. An electric furnace having an electrode and a protecting jacket therefor adapted to extend down into the furnace, the electrode being adapted to be adjusted through said jacket.
7. An electric furnace having means for injecting air thereto comprising an annular space in the furnace wall open to the interior, and a ring surrounding and discharging into sald space.
8. An electric furnace having means for injecting air thereInto comprising an annular space in the furnace wall open to the interior and a ring surrounding and discharging into said space, the wall above said space overhanging the edge of the wall below the space.
9. The combination with an electrode for an electric furnace, of a protecting jacket adapted to extend into the furnace to protect the electrode, and a stuffing bor supporting said jacket, the electrode being adapted to be fed through the stuffing box and jacket.
10. The combination with an electrode for an electric furnace, of a stumng box \(W\) surrounding the electrode, said stuffing box belng provided with a gland \(d\) and graphite packling 0.

\section*{No. 101,328. Method of Producing Nitrogen Composition. \\ Méthode de production de composé d'azote.}

Oscar Frederick Carlson, Stockholm, Sweden, 2nd October, 1906 ; 6 years. Filed 18th July, 1906. Recelpt No. 137.935. Claim.-1. The herein described method of producing nitrogen compositions by heating carbides of alkaline earths in a current of nitrogen gas consisting in adding to the carblde before the heating, one or more fluorides of an alkall or an a!haline earth, substantially for the purpose set forth.
2. The herein described method of producing nitrogen compositions by heating carbides of alkaline earths in a curreni of nitrogen gas. consisting in adding to the carblde before the heating, one or more flourides of an alkali or an alkaline earth and a sulphate of an alkaline earth or an alkali, substantially for the purpose set forth.

No. 101,329. Electro-Chemical Process for Producing Nitrogen Compounds.
Procédé élcctro-chimique pour la production de composé d'azote.


John Wilfrid Wood, Moulton, Iowa, U.S.A., 2nd October, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,175.
Claim.-1. An electro-chemical process for making nitrogen compounds which consists in continuously charging a liquid electrolyte with air under pressure to furnish it with an excess of nitrogen, and subjecting the liquid to the action of an electrlc current to dissociate the liquid and removing the nitrogen and other compounds thus formed.
2. An electro-chemical process for making nitrogen compounds which consists in preparing an aqueous solution of nitrogen, continuously charging the solution with air under pressure and subjecting the solution to the action of an electric current to dissociate the solution and removing the nitrogen and other compounds thus formed.
3. An electro-chemical process for making nitrogen comrounds which consists in causing a liquid electrolyte to continuously absorb gaseous nitrogen, scnding an electro current through the electrolyte at ordinary temperature for the purpose of dissociating the liquid and liberating the products of electrolysis, and firmly carrying off the nitrogenous compounds.
4. An electro-chemical process for making nitrogen compounds which consists in continuously charging water with air under pressure, to provide it with an excess of nitrogen sending an electric current through the water to dissociate the water and to liberate the nitrogen and other products. and finally carrying off at the anode and cathode respectively the nitrogen and other compounds formed.

No. 101,330. Telegraphic Alphabet.
Alphabet télégraphique.


Isidor Kitsee, Philadelphia, Pennsylvanla, U.S.A., 2nd October, 1906: 12 years. Filed 17th May, 1:06. Receipt No. 136,023.
Claim.-1. In a telegraphic alphabet, one symbol conslsting of two curves opposite as to each other, and the second symbol consisting of two curves opposite as to each other, a zero line between said curves.
2. A telegraphic alphabet comprising two symbols, one consisting of two marks opposite as to each other, the
second symbol consisting of two marks opposite as to each other, and a third mark between said two marks.
3. A telegraphic code comprising a different grouping of two symbols, one symbol consisting of one mark at one side of the imaginary zero line followed by a second mark at the other side of said zero line, and the second symbol consisting of one mark on one side of the zero line, and one mark at the other side of the zero line.
4. A telegraphic Morse alphabet in which the dash is symbolized by two curves opposite as to each other and connected with each other by a straight line, and in which the dot is symbolized by two connected curves opposite each other.
5. A telegraphic alphabet comprising two characters, one character consisting of two elements, one above and one below an imaginary zero line and the second character consisting of three elements, one above, one at, and one below an imaginary zero line.

No. 101,331. Line Clamp. F'rein pour cables.


John E. Baechler, Sarnia, Ontario, Canada, 2nd October, 1906; 6 years. Filed 29th May, 1905. Receipt No. 125,582.

Claim.-1. In a line clamp, the combination with a brass plate formed with apertures, of a boss extending transversely across the plate near one end and provided with a hole extending longltudinally through the same, said boss being cut away at the center to form a bearing at each side. a clamping lever consisting of a short arm and a long arm provided at their junction with an apertured ear on one side adjacent to the plate and curved outwardly toward each end away from the plate and extending through the ear on the lever, a transverse portion formed integral with each end of sald lever, arms integral with the ends of said transverse portions and extending at right angles thereto. a serrated transverse rib on the long end of the base plate, the transverse portion of the short arm of said lever being adapted to co-operate with said rib, and a lug at each end of said rib.

No. 101,332. Overshoe Fastener. Attache de galoches.
Watson O. Brockway, Chicago, Illinois, U.S.A., 2nd October 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,247.

Claim.-1. The herein described clamp having means to attach it to a shoe and comprising the stationary jaw member 4 having the offset portion at its center, the swinging jaw member having its inner end pivotally connected to the offset portion of the stationary jaw member, and the spring plate 10 plvotally connected to the upper end of the stalionary jaw member for lateral movement to enable the iree
end of the spring plate to bear on the free end of the swinging jaw member, to press the latter toward the stationary


Jaw member, or to be disengaged from the sald swinging. jaw member.
2. The herein described clamp comprising a socket member for attachment to a shoe, a resillent head for engagement with the socket member, a pivot projecting outwardly from said head. the stationary jaw member secured on the plot and having the offset portion at its center, the swinging jaiw member having its inver end pivotally connected to the offset portion of the stationary jaw member, and the spring plate mounted in the pivot for lateral movement with refrrence to the stationary jaw member to engage and disengage the swinging jaw member.

No. 101,333. Holder for Cartridges. Portc cartouches.


John Joyce Burnett and Charles Bubear, both of Wellington, Somerset, England, 2nd October. 1906; 6 years. Filed 14th July 1906. Recelpt No. 137,815.
Claim.-1. The combination of a conical spring holder formed of spring metal, bent into a circle with bands of metal near the top and bottom riveted thereto on each side of the joint, and having means for attachment to a band, belt or clothing, substantially as described.
2. As a new article of manufacture a holder for cartridges or spring metal slightly larger than the diameter of the head of the cartridge and having a series of tongues projecting from it in a stralght line without a bead but slightly bent inward so as to form a narrower circle than the cartridge, whereby the cartridge bead rests on the top of the tongue, but can be forcibly withdrawn from the tongues.
3. The combination of a cyllndrical portion at top having spring clips \(B\) stamped out of it, and a series of tongues continuing therefrom in a substantially straight line, somewhat smaller but continually lessening in diameter whereby the cartridge rests on the tongues, and is prevented from being shaken out of the cartridge holder in an upward direction by the spring clips.
4. A spring metal holder for cartridges formed of sheet metal having a series of vertical slots D D and means for supporting the bead of the cartridge near the top of the tongues formed by the slots.
5. A cartridge holder formed of a spring metal body having spring tongues, resilient means for supporting the head o: the cartridge, and spring clips stamped out of the body, whereby the cartridge is prevented from being shaken out in an upward direction.
J. 101,334. Fone Bupporter. Support de bas.


Henry Baddeley Cooper, Columbus, Ohio, U.S.A., 2nd October, 1906; 6 years. Filed 11th July, 1906. Receipt No. 137,708.
Olaim.-1. A hose supporter employing a flexible cord or tape for sustaining the hose attaching devices. a sliding member or guide comprising a casing closed in on all sides and open at one end for the reception of the cord or tapa, and having a rivet or pulley over which said cord passes, and having also means at the opposite end for attachment of the hose supporting devices, substantially as described.
2. A hose supporter employing a flexible cord for sustainIng the hose attaching devices, a sliding member or guide for sald cord comprising a metal loop and a single plece of sheet metal folded to engage said loop and to provide a chamber having boxed in sides with an open end, and \(a^{\prime}\) rivet in said chamber connecting the sides and over which the cord passes, substantially as described.
3. In a hose supporter the combination with a flexible cord and hose attaching devices, a slide or guide for connecting the hose attaching devices to the cord comprising a metal loop for carrying the hose attaching devices, and a single picce of sheet metal having an end wing embracing a bar of sald loop, and side wings turned over with their edges abutting. and a rivet connecting the side wings to the body and around which rivet the cord passes, substantially as described.
4. A sliding member or cord guide for hose supporters. comprising a metallic loop, and a single sheet metal blank having an end wing embracing one bar of the loop and side wings folded over parallel with the body of the blank and with their edges abutting centrally thereof. said body having a central opening and sald edges being notched to form a corresponding opening, and a rivet in said openings and connecting the opposite sides of the guide, substantially as described.

\section*{No. 101,335. Weight Actuated Apparatus.}

\section*{Appared actionne par une pesce.}

Fugene Fuller, Arctic, Warwick, Rhode Island. U.S.A., 2nd October, 1906; 6 years. Filed 21st June, 1906. Receipt No. 137,126.
Claim.-1. The combination of a device to be actuated, an actuating weight, means for raising the weight, means arranged when put in operation to interrupt the connection between the weight raising means and the weight and transfer the power of the welght to the device to be actuated and reestablish the connections between the weight raising means and the weight subsequent to the actuation of the device and means for putting said means in operation.
2. The combination of a device to be actuated, an actuating weight, means for raising the weight. electro-mechanical means arranged when put in operation to interrupt the connection between the weight raising means and the welght and transfer the power of the weight to the device to be actuated and re-establish the connection between the welght raising means and the weight subsequent to the actuation of the device, and means for putting said electro-mechanical means in operation.
3. The combination of a device to be actuated, an actuating weight, means for raising the weight, an electro-magnet designed to be arranged in an electric circuit, and means controlled by the said electro-magnet for interrupting the connection between the weight raising means and the weight and transferring the power of the weight to the device to be actuated and re-establishing the connection between the weight raising means and the weight subsequent to the actuation of the device.
4. The combination of a device to be actuated, an actuating weight, means for raising the weight, an electro-magnet de-
signed to be arranged in an electric current, and means controlled by the said electro-magnet for interrupting the con-

nection between the weight ralsing means and the welght and transferring the power of the weight to the device to be actuated and re-establishing the connection between the weight raising means and the welght subsequent to the actuation of the device, the said means comprising a finger movement of which in one direction is prevented by the device to be actuated when said device is in its normal position.
5. The combination of a device to be actuated, an actuating weight, means for raising the weight, a connection intermediate said weight raising means and the weight comprising a clutch, an electro-magnet, means controlled by the said electro-magnet for transferring the power of the weight to the device to be actuated, and a lever connected with the said means and having an arm for moving one member of the clutch and also having means disposed at one side of the device to be actuated whereby said device in its normal position is enabled to prevent re-establishment of the connection between the weight raising means and the weight.
6. The combination of a device to be actuated, an actuatIng weight, a drum, means whereby motion is transmitted from the drum to the device when the drum is rotated in one direction and the device is left idle when the drum is rotated in the opposite direction, a cable passed over a sheave and connecting the drum and the welght, means for raising the welght. and electro-mechanical mrans for interrupting the connection between the weight raising means and the weight and transferring the power of the weight to the device to be actuated and re-establishing the connection between the welaht ralsing means and the weight subsequent to the actuatlon of the device.
7. The combination of a device to be actuated, an actuating weight, a drum, means whereby motion is transmitted from the drum to the device when the drum is rotated in one direction and the device is left idle when the drum is rotated in the opposite direction, a cable passed over a sheave and connecting the drum and the welght, means for ralsing the wetght. a driving connection intermediate said means and the welght comprising a clutch, an electro-magnct. an armature complementary thereto, means connected with said armature for controlling the transmission of motion from the irum to the device to be actuated, and a lever connected with the latter means and arranged to open the clutch and having a finger arranged to be held against movement in one dircction hy the actuating device when sald device is in its normal position.
8. The combination of a device to be actuated. an actuating weight, a connection between the weight and the device, an clectro-motor, a connection betwenn said motor and the welght for raising the latter by the former, a source of clectric energy arranged in circuit with the motor, a switch als, arranged in circuit with the motor and the source of electric
energy, means on the weight and the switch for closing the switch when the weight moves downwardly and opening the switch when the weight moves upwardly, and means for interrupting the connection between the weight raising means and the weight and transferring the power of the weight to the device to be actuated and re-establishing the connection between the weight raising means and the weight subsequent to the actuation of the device, the said means comprising a finger, movement of which in one direction is prevented by the device to be actuated when the latter is in its retracted position.
9. The combination of a device to be actuated, an actualing weight, connection between the welght and the device, an electro-motor, a connection between said motor and the weight for raising the latter by the former, a source of electric energy arranged in circuit with the motor, a switch also arranged in circuit with the motor and the source of electric energy, means on the weight and the switch for closing the switch when the weight moves downwardly and opening the switch when the weight moves upwardly, an auxiliary circuit including a source of electric energy and a signal, and means whereby the auxiliary circuit is completed when the welght moves downwardly subsequent to completing the firstmentioned circult.
10. The combination of a device to be actuated, an actuating weight, means for ralsing the weight, and means for interrupting the connection between the weight raising means and the weight and transferring the power of the weight to the device to be actuated and re-establishing the connection between the weight raising means and the weight subsequent to the actuation of the device, the said means comprising a finger movement of which in one direction is prevented by the device to be actuated when the latter is in its normal positlon.
11. The combination of a device to be actuated, an actuating weight, means for raising the welght, a connection intermediate said weight raising means and the welght comprising a clutch, means for transferring the power of the weight to the device to be actuated, and a lever connected with the said means and having an arm for opening the sald clutch and also having a finger disposed at one side of the device to be actuated whereby the latter is enabled in its retracted position to prevent re-establishment of the connection between the weight raising means and the welght.
12. The combination of a device to be actuated, an actuating weight, a drum, means whereby motion is transmitted from the drum to the device when the drum is rotated in one direction and the device is left Idle when the drum is rotated in the opposite direction, a cable connected with the drum and the weight. means for raising the weight, means arranged when put in operation to interrupt the connection between the weight raising means and the weight and transfer the power of the weight to the device to be actuated and reestablish the connection between the weight raising means and the weight subsequent to the actuation of the device, and means for putting said means in operation.

\section*{No. 101,336. Manufacture of Carbide. Fabrication de carbure.}

Herman Lewis Hartenstein, Constantine, Michigan, U.S.A. 2nd October, 1906 ; 6 years. Filed 19th May, 1906. Receipt No. 136,078.
Claim.-1. In the manufacture of carbide from limestone and carbonaceous material, the herein described process which conslsts in calcining the limestone to produce lime before the carbonaceous material is added, then mixing with such resultant lime before it cools to atmospheric temperature, the proportion of carbonaceous material and finally while the mixture is still heated above atmospheric temperature subjecting it to a fusing degrea of heat, excluded from oxygen.
2. In the manufacture of carbide from limestone and carbonaceous material, the herein described process which consists in calcining pulverized limestone to proauce pulverized lime before the carbonaceous material is added, then mixing with such resultant lime before it cools to atmospheric temperature the proportion of carbonaceous material, and finally while the mixture is still heated above atmospheric temperature subjecting it to a fusing degree of heat, excluded from oxygen.
3. In the manufacture of carbide the herein described process which consists in calcining limestone, mixing with the resultant lime before it cools to atmospheric temperature a carbonaceous material, and while the mixture is still heated mixing therewith calcium carbide, black oxid of maganese, bituminous coal, aluminum and chlorate of potash and finally subjecting the mass before it cools to a fusing degree of heat.
4. In the manufacture of carbide the herein described process which consists in calcining limestone, mixing with the resultant lime before it cools to atmospheric tempera-
ture, a carbonaceous material and adding a superheating flux to the mass while still heated and finally subjecting the mass to a fusing degree of heat excluded from oxygen.

5. In the manufacture of carbide from limestone and carbonaceous material the herein described process which consists in calcining the limestone to produce lime, then after the lime is produced and while the lime is still heated above atmospheric temperature, introducing thereinto carbonaceous material and mixing the same therewith and while the mixture is stlll heated, raising its temperature to \(a\) fusing degree of heat.

No. 101,337. Mechanical Movement.
Mouvement mécanique.


Peter Hesselius, Chicago, Illinols, U.S.A., 2nd Ictober, 1906 ; 6 years. Filed 24th April, 1906. Receipt No. 135,235.
Claim.-1. The combination with a shaft, of a winding passage, means for guiding a weight or ball in a path intersecting said winding passage and the gravity operated ball arranged to travel through said path or passage.
2. The combination with a rotary shaft, of a winding ball path thereupon, a guide path arranged substantially parallel to the long axis of said shaft and a weight arranged in said ball path and guide path to move through both paths simultaneously and thereby revolve one of said paths.
3. The combination of a stationary with a revoluble part one of said parts having a spiral path therein and the other part having a straight path therein, a series of balls arranged to move by gravity through said paths, and means for returning some but not all of said balls automatically to their starting point.
4. The combination of a stationary element with a rotary element, one of said elements having one or more straight paths therein and the other element having one or more paths inclined relatively to said straight paths, and a weight
or welghts arranged to be moved by gravity through said paths and thereby impart motion to the rotary element,
5. The combinaton with a stationary element, of a rotary element one of said elements having a spiral path therein and the other element having a straight path thereln running parallel with the axis of the spiral path, a series of balls or weights arranged to move by force of gravity in both of sald paths simultaneously and thereby impart motion to one of said elements and a conveying mechanism adapted to llft a portion of the operating balls or welghts back to their starting point.

No. 101,338. Laggage Carrier. Portc-effets.


David Daniel Leavy, Wabaseka, Arkansas, U.S.A., 2nd Oc tober, 1906; 6 years. Filed 12th July. 1906. Receipt No. 137,740.
Claim.-1. In a device of the character described, the combination of a box or case, metal straps secured to the back of said box, the upper ends of said straps being bent so as to form suspension hooks adapted fit upon the shoulders of the wearer, strips connected to the upper portion of the metal straps, one end of the straps extending into the interior of the box and both ends of the straps being provided with means for securing a bundle thereto, and a waist band secured to the lower portion of the box.
2. In a device of the character described. the combination of a box or case, metal straps secured to the back of said box. the lower ends of said straps being bent so as to embrace the bottom of the box while the upper ends of the straps are bent so as to form suspension hooks adapted to fit upon the shoulders of the wearer, strips secured to the upper portion of the metal straps and provided at both ends with means for securing a bundle thereto, one of the ends of said straps passing into the interior of the box, and a waist band connected to the metal straps at the lower portion of the box by means of spring members.
3. In a device of the character described, the combination of a box or case, straps secured to the back of the box the lower ends of said straps being bent so as to embrace the lower side of the box while the upper ends are bent to form suspension hooks which are adapted to fit upon the shoulders of the wearer, a ring secured at each end of the portion of the strap embracing the lower side of the box by means of which a package can be secured to the bottom of the bua.

\section*{No. 101,339. Pulverized Fuel Burner for Furnaces.} Srileur de combustible pulvérisé pour fournaist.
Charles Arthur Matcham, Allentown, Pennsylvania. U.S.A., 2nd October, 1906: 6 years. Filed 1st June, 1906. Receipt No. 136,480.
Claim.-1. The rombination in a pulverized fuel burner for furnaces, of a fuel supply nozzle arranged to discharge the pulverized fuel into the furnace at or over the furnare wall through which the fuel passes to the furnace. said nozzle having fuel and air supply passages, and having its walls vertically and laterally remote from the boundaries of the fuel supply mouth. Whereby said walls exercis. no direct confining or rontracting influence upon the expanding volume of fuel issuing from said mouth, substantlally as spicified.
2. The combination in a pulverized fuel burner for furnaces, of a fuel supply nozzle arranged to discharge the pulverized fuel into the furnace at or near the furnace wall through which the fuel passes to the furnace. wherehy the pulverized fuct is free to expand immediately upon issuance from sald nozzle, and air passage flanking said nozzle and discharging air currents into the furnace in close proximity to the discharge of the fuel nozile so that the currents of air from the said air passages meet the fuel immediately upon its issuance from its nozzle, and one
or more air passages arranged to discharge currents of air into the fuel as it leaves the nozzle and in the same direc-

tlon as the first-mentioned air currents, substantially as speciffed.
3. The combination in a pulverized fuel burner for furnaces, of a neck fitted into an opening in the furnace wall, a pulverized fuel supply passage having its mouth terminating in said neck from which mouth the pulverized fuel is free to expand, and superposed air passages below said fuel supply mouth, said upper passage supplying air in lesser volume but with greater force than the lower passage, substantially as specified.
4. The combination in a pulverized fuel burner for furnaces, of a neck fitted into an opening in the furnace wall. a pulverized fuel supply nozzle having its discharge end terminating in said neck and from which the pulverized fuel is free to expand as it issues from the nozzle, air passages flanking said nozzle and arranged to discharge air currents into the furnace in proximity to the discharge of the fuel nozzle so that the currents of air meet the fuel immediately upon its issuance from sald nozzle, and one or more air nassages arranged to discharge currents of air Into the fuel as it leaves the nozzle and in the same direction as the first-mentioned air currents, substantially as specified.

\section*{No. 101,340. Apparatus for Separating Particles of Metal.}

\section*{Appareil pour séparer des particules de métal.}

Geurge Moore, London. England, 2nd October, 1906; 6 years. Filed 7th March, 1906. Heceipt No. 133,620.
Claim.-1. In a separating apparatus the combination comprising a frame, an endless belt disposed to run over the frame, a second endless belt disposed to run with the first endless belt, and means for applying a fluid to the belt.
2. In a separating apparatus the combination comprising an inclined frame, rotatable drums carried by the frame, fexible belts disposed around the drum, means for rotating the drums and an intermediate belt supporting drum carried by the frame.
3. In a separating apparatus the combination comprising ar inclined frame, rotatable drums carried by the frame. flexible belts disposed around the drums, gears adapted to rotate with the driven shaft and to engage one of the drum rotating gears, pivoted handles secured to the slldable gears, a.Ld means for supporting the belts intermediate of their erds.
4. In a separating apparatus, the combination comprising ar inclined frame, rotatable drums supported by the frame, flexible belts disposed around the drums. projecting flanges carried by the edges of the belts, means for rotating the drums. and an intermediate support for the belts.
5. In a separating apparatus the combination comprising an inclined frame. rotatable drums carried by the frame, flexible belts disposed around the drums. supporting rollers carried by the frame, means for rotating the drums, and means for discharging a fluid on the belt.
6. In a separating apparatus the combination comprising ar inclined frame. rotatable drums supported by the frame at different altitudes. flexible belts disposed around the drums. means for discharging tuid on the belts, means for rotating the drums, and an intermediate belt supporting Irum carricd by the frame.
7. In a separating apparatus the combination comprising an inclined frame, rotatable drums carried by the opposite rods of the frame. flexible belts disposed around the drums. pipes arranged with branches above the belts, means for roiating the drum, an intermediate belt supporting drum on the frame.
8. In a separating apparatus the combination comprising ar. inclined frame, rotatable drums supported by the frame,


Hexible belts disposed around the drum, means for rotating the drums. a second belt disposed over the first-named belt to leave a space therebetween, and a supporting drum for the second belt.
9. In an apparatus for separating particles of metals from the gangue or material with which they are associated, the combination comprising two side frames of greater height at one end than at the other, end frames adapted to connect the side frames, bearings carried at the upper end of the frames, transverse horizontal spindles disposed in the bearings, drums fixed upon the spindles, adjustable bearings carried at the lower end of the frames, spindles rotatably disposed in the bearings, drums flxed on the latter spindles, endless flexible belts having continuous projecting flanges on their outer edges disposed around the upper and lower drums, bearings carried by the upper end of the frames and arranged directly below the upper spindles, drums upon the latter spindles, a belt disposed around said drums, and around said first-named belt, a transverse spindle carried near the center of the frames, drums disposed to revolve freely upon this latter spindle, over which drums the returning part of the belts are arranged to travel and said latter drum being arranged to raise said belts as they pass to the drums at the lower end of the frame.

No. 101,341. Process of Concentrating Nitric Acid. Procédé pour concentrer l'acide nitrique.


Harry Pauling, Gelsenkirchen IV, Westhalia, Prussia, German Empire, 2nd October. 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,643 .
Claim.-1. The herein described process consisting in clectrolysing aqueous nitric acid and passing the nitric oxides,
formed at the cathode, into the acid surrounding the anode, substantially as and for the purpose specified.
2. The herein described process consisting in electrolysing aqueous nitric acid. liquefying the nitric oxides orginated at the cathode, and in passing such liquefled gases into the acid surrounding the anode, substantially as and for the purpose set forth.
3. The herein described process consisting in flling the anode leg of a U-tube, adapted for electrolysis, with nitrosulphuric acid, and the cathode leg with diluted nitric acid, and then electrolysing such liquid, substantially as and for the purpose set forth.

No. 101,342. Trunk. Coffre.


Hermann Romünder, Milwaukee, Wisconsin, U.S.A., 2nd
October, 1906 ; 6 years. Filed 29th May, 1906. Receipt No. 136,366 .
Claim.-1. An individual trunk adapted to form the lower member of a united assemblage of trunks and consisting of a receptacle having a cover and closure devices, the upper surface of said trunk being flat and smooth, a number of half round metal straps secured across the bottom, front and back of said trunk and a number of flat bands across the top, in alignment respectively with said metal straps, and means for connecting said trunk to an adjacent trunk.
2. An individual trunk adapted to form an intermediate member of a united assemblage of trunks and consisting of a receptacle having a cover and closure devices, the lower and upper surfaces of said trunk being flat and smooth, a number of metal straps secured across the front and back of said trunk, and a number of flat metal banils across the top and bottom in alignment respectively with said metal straps, and means for connecting said trunk 10 an adjacent trunk.
3. An individual trunk adapted to form the upper member of a united assemblage of trunks and consisting of a receptacle having a cover and closure devices, the lower surface of said trunk being flat and smooth, a number of half round metal straps secured about the front. top and back of sald trunk, and a number of flat metal bands across the bottom in alignment respectively with said metal straps.
4. A combination trunk comprising a plurality of individual trunk sections assembled one upon another, each of said trunk sections comprising a receptacle having a cover and closure device, the opposed surfaces of said trunk sections being flat and smooth, attaching means placed near adjacent edges of said sections to unite them, strap loops placed in aligned position upon each section, and straps passed through said loops and secured to reinforce the union between said assembled sections, together with a number of half round metal straps connected to the exposed surface of each of said trunk sections and a number of flat metal bands across each of the opposed surfaces of said trunk sections in alignment with said half round metal straps respectively.
5. A combination trunk comprising a plurality of individual trunk sections assembled one upon another, each of said trunk sections comprising a receptacle having a cover and closure device, the opposed surfaces of said trunk sections being flat and smooth, corner plates upon sald opposed surfaces having respectively recesses and projections adapted to interlock, attaching means placed near adjacent edges of said sections to unite them, strap loops placed in aligned positions upon each section and straps passed through said loops and secured to reinforce the union between sald assembled sections together with a number of half round metal straps connected to the exposed surfaces of each of sald trunk sections, and a number of flat metal bands across each of the opposed surfaces of said trunk sections in alignment with said half round metal straps respectively.
6. A combination trunk comprising a lower individual trunk section whose upper surface is flat and smooth and which conslsts of a receptacle having a cover and closure devices, and an upper individual trunk section whose lower surface is flat and smooth and which consists of a receptacle having a cover and closure device, both said trunk sections being
arranged to be assembled one upon the other and provided with altaching means placed near adjacent odges of sald sections and with corner plates at all the corners of said sectious, the corner plates extending over the mecting surfaces of said trunk sections being flat and arranged to interlock hy meaus corresponding recesses and projections provided respectively on said opposed corner plates.
7. A combination trunk comprising a lower individual trunk section, a number of intermediate individual trunk sections and an upper individual trunk section, each of said sections consisting of a receptacle portion, a cover and closure devices, the upper surface of said lower section and the lower surface of said upper section, and the upper and lower surfaces of the said intermediate sections being flat and smooth, means secured to adjacent edges of said sections to attach the assembled sections to one another and plates provided at all the corners of the said sections, the corner plates provided on the corners of the bottom of the upper section and the top of the lower section and on all the corners of the intermediate sections being substantially flat and arranged to interlock by means of corresponding recess and projections on said opposed corner plates respectively.
8. A combination trunk comprising a lower individual trunk section, one or more intermediate individual trunk sections and an upper individual trunk sections arranged to be as riembled one upon the other, each of said trunk sections comprising a receptacle portion, a cover and closure devices, means secured to adjacent edges of said sections to attach the assembled sections to one another and plates provided at all the corners of the said sections, the corner plates extending over the meeting surface of said trunk sections being flat and provided respectively with recesses and corresponding projections, a number of half round metal straps secured to the front and back of each of said sections and to the top of the upper and the bottom of the lower trunk section, and a number of flat metal bands secured to and reinforcing the meeting surfaces of sald trunk sections.

No. 101,343. Garment Marker.
Marqueur pour vêtements.


John B. Spencer, Butte, Montana, U.S.A., 2nd October, 1906 6 years. Filed 12th July, 1!4ti. Receipt No. 137,i45.
Qlaim.-1. A device of the character described comprising movable jaws, a screw rod for clamping said jaws together and an identifying or marking device attached to said serew rod. substantially as described.
- A device of the character described comprising movable jaws, a screw eye passing frecly through an opening in olle of said jaws and encaged with the threaded opening in the other of said jaws and a tag upon the eye of said serew, substantially as described.
3. A device of the character described comprising two pivotally connected members having co-acting jaws at thei: frce ends, a screw eye passing freely through an opening in one of said jaws and engaged with the threaded opening in the other of said jaws, a washer upon sald screw beneath the said eye and an identifying tag pivoted upon the eye of said screw, substantially as described.

\section*{No. 101,344. Enepender. Birtclles.}

Harlon B. Stevenson and William Thomas. Jr., co-inventors, both of St. Regis Falls, New York, U.S.A., 2nd October, 1906: 6 years. Filed 23rd July, 1906. Recelpt No. 138.074.

Claim.-1. A clasp comprising a fixed and a pivoted jaw, said fixed jaw having a bent piece extending upward along its rear surface, said bent piece having its lower extremity bassing through the fixed jaw and adapted to engage the arlicle to which the clasp is attached.
\(\therefore\). A clasp comprising a fixed and a pivoted jaw, sald fixed jaw having a bent plece extending upward along its rear surface. sald bent piece having its lower extromity polated did passing through the fixed jaw and adapted to engage the article (o whteh the clasp is attached.
3. A clasp comprising a fixed and a pivoted jaw. sald fixed faw having a bent plece extending upward along its rear

surface, said bent piece having its lower extremity pointed and passing through the fixed jaw, said pivoted jaw having d socket piece of ylelding material forming a seat for said pointed extremity.
4. A clasp comprising a fixed and a pivoted jaw, sainl fixed jaw having a bent piece extending upward abong its rear surface for the purpose specifled, said bent plece having a plurallty of pointed ends passing through the fixed jaw, said pivoted jaw having a socket piece of yielding material forming a seat for sald polnts.
5. A clasp comprising a fixed and a pivoted jaw, said fixed jaw having a bent piece extending upward along its rear surface for the purpose specified. a socket piece of ylelding material secured to said fixed jaw, said bent piece having a pointed extremity passing through said fixed Jaw and its socket piece. the pivoted jaw having a projection adapted to fit the socket in said socket piece, said projection itself having a socket plece of yielding material to seat said pointed extremity of said bent plece.

No. 101,345. Oscillaphone. Oscillaphonc.


Walter Wentworth Massie, Providence, Rhode Island. l'S.A.. 2nd October, 1906; 6 years. Flled 5th February. 1306. Receipt No. 132,582.

Claim.-1. The combination of an insulating element. stop means upon the upper side of the insulating element, terminals between which the stop means is located, a bridging element to rest on the terminals and a permanent mag. net. the insulating element being bored to receive the magnet.
2. The combination of an insulating element, stop pins *xtended into the insulating element and above the upper surlace thereof. terminals between which the stop pins are located, a bridging element to rest on the terminals and a permanent magnet, the insulating element being bored to receive the legs of the permanent magnot and said legs bearing against said pins.
3. In an oseillaphone the combination with a base support, an insulating element and terminals engaging the element and having a conducting element thereon, of conducting members secured to the element and fasteninge applied to the base and engaging the said terminals and constituting the sole connecting means for the apparatus with respert to the base support.

\section*{No. 101,346. Eelective Telephone Eystem.} Système sélcctif de téléphone.
Noble S. McKinsey and Anton R. Nelson, both of Susanvillo. California, U.S.A., 2nd October, 1906: 6 years. Filod 22nd October, 1903. Receipt No. 109,528.
Claim.-1. In a telephone system the combination of a maln wir. having a switch at each telephone station. a return wire, a bridge at each telephone station between the main and roturn wires having therein the secondary winding and car phone, a break closed by the opening of the main line.
and a second brake closed by a revolving device. the revolution thereof being controlled by the opening and closing

of the main line, only one of said devices making said closure at a time. substantially as described.
2. In a telephone system the combination of a main wire having a switch at each telephone station. a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break closed by a revolving device, the revolution thereof being controlled by the opening and closing of the maln line, only one of said devices making said closure at a time, and means independent of the opening and closing for impelling said device, substantially as described.
3. In a telephone system the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break closed by a revolving device, the revolution thereof being controlled by the opening and closing of the main line, said devices all moving in unison but making their closures in succession, substantially as described.
4. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by a revolving device, the revolution thereof being controlled by the opening and closing of the main line, said devices all moving in unison but making their closures in succession, and means independent of said opening and closing for impelling each device, substantially as described.
5. In a telephone system the combination of a main wirc having a switch at each telephone station. a shunt around sald switch and a switch in said shunt. a return wire. a bridge at each telephone station between the main and return wires having therein the secondary winding and car phone, a break closed by the opening of the main line. and a second break closed by a revolving device. the revolution thereof being controlled by the opening and closing of the main line. only one of said devices making said closure at a time, substantially as described.
6. In a telephone system the combination of a main wire having a switch at each telephone station. a shunt around said switch and a switch in said shunt. a return wire. i bridge at each telephone station between the main and return wires having therein the secondary winding and far phone, a break closed by the opening of the main line. and a second break closed by a revolving device. the revolution thereof being controlled by the opening and closing of the main line, only one of said devices making said closure at a time, and means independent of said opening and closing for impelling said device, substantially as described.
7. In a telephone system the comblnation of a main wir having a switch at each telephone station, a shunt around said switch and a switch in said shunt. a return wire. a bridge at each telenhone station between the main and return wires having therein the secondary winding and ear phone. a break closed by the omening of the main line, and a second break closed by a revolving device, the revolu: on thereof being controlled by the opening and closing of the main line. said devices all moving in unison but making their closures in succession, substantially as described.
8. In a telephone system the combination of a main wire having a switch at each telephone station. a shunt around said switch and a switch in said shunt. a return wire, a bridge at each telephone station between the main and return wires having thereln the secondary winding and ear phone, a break closed by the opening of the main line, and a socond break closed by a revolving device, the revolution thereof being controlled by the opening and closing of the
main line, said devices all moving in unison but making their closures in succession, and means independent of said opening and closing for impelling each device, substantially as described.
9. In a telephone system the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break. one of said closures being made by a revolving wheel, all of said wheels moving in unison but closing in succession and the other closure being made by means of an independent switch, substantially as described.
10. In a telephone system the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, only one of such closures being operatable at a time for all the wheels and the second closure being made by an independent switch. substantially as described.
11. In a telephone system the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of sald closures being made by a revolving wheel, the revolution being controlled by the opening, and closing of the main line and the second closure being made by an independent switch, substantially as described.
12. In a telephone system the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel, and the second closure being made by an independent switch, substantially as described.
13. In a telephone system the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, only one of said wheels making a closure at a time. and thn second closure being made by an independent switch, substantially as described.
14. In a telephone system the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary and ear phone, a break closed by the opening of the main llne, and a second break and two closures for said break, one of sald closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel, only one of said wheels making a closure at a time, and the second closure being by an independent switch. substantially as described.
15. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and tow closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line. means independent of said opening and closing for impelling said wheel, said wheels moving in unison but closing in succession, and the second closure being made by an independent switch, substantially as described.
16. In a telephone system the combination of a maln wire liaving a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break. one of said closures being made by a revolving wheel, all of said wheels being in unison but closing in succession and the other closure being made by means of an Independent switch and means for preventing more than one of the series of said independent switches being closed at a time, substantially as described.
17. In a telephone system the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station, between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, only one of such closures being operatable at a time for all the wheels and the second closure being made by an independent switch, and means for preventing more than one of the series of said independent switches being closed at a time, substantially as described.
18. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and r-turn wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line and the second closure being made by an independent switch, and means for preventing more than one of the scries of said independent switches being closed at a time, substantially as described.
19. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said clcsures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel, and the second closure being made by an independent switch. an means for preventing more than one of the series of said independent switches being closed at a time, substantially as described.
20. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, only one of said wheels making a clasure at a time, and the second closure being made by an independent switch, and means for preventing more than one of the scries of said independent switch being closed at a time, substantially as described.
21. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line. means independent of said opening and closing for impelling said wheel, only one of said wheels making a closure at a time, and the second closure being by an independent switch. and means for preventing more than one of the series of said independent switches being closed at a time, substantially as described.
22. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening. and closing for impelling said wheel, said wheel moving in unison but closing in succession, and the second closure being made by an independent switch, and means for preventing more than one of the series of said independent switches bleng closed at a time, substantially as described.
23. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line. and a second break and two closures for said break, one of said closures being made by a revolving wheel, all of said wheels moving in unison but closing in succession and the other closure being made by the opening of the switch on the main wire, substantially as described.
24. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and
a second break and two closures for said break, one of said closures being made by a revolving wheel, only one of such closures being operatable at a time for all the wheels and the closures being operable at a time for all the wheels and the second closure being made by the opening of the switch on the main wire, substantially as described.

25 . In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line and the second closures being made by the opening of the switch on the main wire, substantially as described.
26. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel, and the second closure being made by the opening of the switch in the main wire, substantially as described.
27. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line. only one of said wheels making a closure at a time, and the second closure being made by the opening of the switch on the main wire, substantially as described.
28. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel, only one of said wheels making a closure at a time, and the second closure being by the opening of the switch on the main wire, substantially as described.
29. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear fhone, a break closed by the opening of the main line, and a second break and two closures for said break one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel, said wheels moving in unison but closing in succession, and the second closure being made by the opening of the switch on the main wire, substantially as described.
30. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of sald closures being made by a revolving wheel, all of said wheels moving in unison but closing in succession and the other closure being made by means of an independent switch, and means for preventing the closure of the latter switch more than once for each complete revolution of the wheel, substantially as described.
31. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, only one of such closures being operatable at a time for all the wheels and the second closure being made by an independent switch, and means for preventing the closures of the latter switch more than once for each complete revolution of the wheel, substantially as described.
32. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, 3 bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said
closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line and the second closure being made by an independent switch, and means for preventing the closure of the latter switch more than once for each complete revolution of the wheel, substantially as described.
33. In a telephone system, the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel, and the second closure being made by an indepeadent switch, and means for preventing the closure of the latter switch more than once for each complete revolution of the wheel, substantially as described.
34. In a telephone system. the combination of a main wire having a switch at each telephone station, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line. and a second break and two closures for said break. one of said closures being made by a revolving wheel, the revolution being controlled by the opening and clasing of the main line, only one of said wheels making a closure at a time. and the second closure being made by an independent switch, and means for preventing the closure of the latter switch more than once for each complete revolution of the wheel, substantially as described.
35. In a telephone system. the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel, only one of said wheels making a closure at a time, and the second closure being made by the switch in shunt, and means for preventing the closure of the latter switch more than once for each complete revolution of the wheel, substantially as described.
36. In a telephone system, the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for each break, one of said closures being nade by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling sald wheel, said wheels moving in unison but closing in succession, and the second closure being made by the switch in shunt. and means for preventing the closure of the latter switch more than once for each complete revolution of the wheel, substantially as described.
37. In a telephone system, the combination of a main wire l:aving a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station, between the main and return wires, having therein the secondary winding and ear phonc, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, all of said wheels moving is unison but closing in succession and the other closure being made by means of the switch in shunt, substantially as described.
38. In a telephone system, the combination of a main wire laving a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, only one of such closures being operatable at a time for all the wheels and the second closure being made by the switch in shunt, substantially as described.
39. In a telephone system, the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled
by the opening and closing of the main line and the second closure being made by the switch in shunt, substantially as described.
40. In a telephone system, the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel. and the second closure being made by the switch in shunt, substanitally as described.
11. In a telephone system, the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel. the revolution being controlled by the opening and closing of the main line, only one of said wheels making a closure at a time, and the second closure being made by the switch in shunt, substantially as described.
42. In a telephone system, the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires kaving therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel, only one of said wheels making a closure at a time, and the second closure being by the switch in shunt, substantially as described.
43. In a telephone system, the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break. one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel said wheels moving in unison but closing in succession, and the second closure being made by the switch in shunt, substantially as described.
44. In a telephone system, the combination of a main wire baving a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, all of said wheels being in unison but closing in succession and the other closure being made by means of the switch in shunt, and means for preventing more than one of the series of said latter switches being closed at a time, substantially as described.
45. In a telephone system, the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station, between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel. only one of such closures being operatable at a time for all the wheels and the second closure being made by the switch in shunt, and means for preventing more than one of the series of said latter switches being closed at a time, substantially as described.
46. In a telephone system, the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line and the second closure being made by the switch in shunt, and means for preventing more than one of the series of said latter switches being closed at a time. substantially as described.
47. In a telephone system, the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge
at each telcphone station between the main and return wires having thereln the secondary winding and ear phone, a break closexd by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling sald wheel, anil the second closure being made by the switch in shunt, and means preventing more than one of the series of saivl latter witches being closed at a time, substantially as described.
48. In a telephone system, the combination of a main wirn having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for sald break, one of sald closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line. only one of said wheels making a closure at a time, and the second closure being made by the switch in shunt, and means for preventing more than one of the series of sald latter switches being - losed at a time. substantially as described.
49. In a telephone system, the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel, only one of said wheels making a closure at a time, and the second closure being made by the switch in shunt, and means for preventing more than one of the series of said latter switches being closed at a time. substantially as described.
50. In a telephone system, the combination of a main wire
having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling sald wheel, said wheels moving in unison but closing in succession, and means for preventing more than one of the serles of latter switches being closed at a time, substantially as described.
51. In a telephone system the combination of a main wire having a switch at each telephone station, a shunt around said switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a sccond break and two closures for said break, one of said closures being made by a revolving wheel, all of said wheels moving in unison but closing in succession and the other closure being made by the opening of the switch on the main wire, substantially as described.
52. In a telephone system the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in sald shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and car phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, only one of such closures being operatable at a time for all the wheels and the second closure being made by the opening of the switch on the main wire, substantially as described.
53. In a telephone system the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break rlosed by the opening of the main line, and a second break and two closures for said break, one of sald closures being made by a revolving wheel, the revo:ution being controlled by the opening and closing of the main line and the second closure being made by the opening of the switch on the main wire, substantially as described.
54. In a telephone system the combination of a main wire having a switch at each telephone station, a shumt around sald switch, a switch in sald shunt, a return wire. a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone. a break closed by the opening of the maln line, and a second break and two closures for sald break. olle of said closures being made by a rewolving whenl. the revolution being coutrolled by the opening and closing of the main linc. means independent
of said opening and closing for impelling said wheel, and the second closure being made by the opening of the switch on the main wire, substantially as describea.
55. In a telephone system the combination of a main wire having a switch at each telephone station, a shunt around said switch. a switch in sald shunt, a return wire, a bridg" at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break end two closures for said break. one of sald closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, only one of said Wheels making a closure at a time. and the second closure bring made by the opening of the switch on the main wire, ubstantially as described.
56. In a telephone system the combination of a main wirc having a switch at each telephone station, a shunt around said switch. a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line. and a second break and two closures for said break. one of said closures being made by a revolving wheep, the revolution being controlled by the opening and closing of the main line. means indepenlint of said opening and closing of the main line. means inpileendent of said opening and closing for impelling said wheel. only one of said whee's making a closure at a time and the second closure being by the opening of the switch on the main wire. substantially as described
57. In a tolephone system the combination of a main wire heving a switch at cach telephone station. a shunt around seid switch, a switch in sald shunt. a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and car phone. a break closed by the onening of the main line. and a coinond break and two closures for said break, one of said closures belng made by a revolving wheel, the revolution being controlled by the opening and closing of the main line. means independent of said opening and closing for impelling gaid wheel. caid wheels moving in unison but ckosing in succession, and the second closure being made by the opening of the switch on the main wire, substantially as described.
58. In a telephone system the combination of a main wire having a switch at each telephone station. a shunt around said switch. a switch ic said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for sald break, one of said closures bring made by the revolving wheel, all of said whecls moving in unison but closing in succession and the other closure being made by means of an independent \(\mathbf{s w i t c h}\). and means for preventing the closure of the latter switch more than once for each complete revolution of the wheel, substantially as described.
59. In a telephone system the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt. a return wire, a bridge at each telephone station between the main and return wires having therein the sccondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break. one of sald closures being made by a revolving wheel, only one of such closures being operatable at a time for all the wheels and the second closure being made by the switch in shunt, and means for preventing the closure of the latter switch more than once for each complete revolution of the wheel, substantially as described
60. In a telephone system the combination of a main wire having a switch at each telephone station, a shunt around said 8 witch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the sccondary winding and ear phone. a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution belng controlled by the opening and closing of the main line and the second closure being made by the switch io shunt, and means for preventing the closure of the latter switch more than once for pach romplete revolution of the whecl. substantially as described.
61. In a telephont system the combination of a main wire having a switch at each telephone station, a shunt around said switch. a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone. a break closed by the opening of the main line. and a second hroak and two closures for sald break. one of said closures being made by a revolving wheel. the revolution being controlled be the opening and closing of the main line. means mdependcut of said opening and cosivg for impelling said "herel, and the serond closure being made by the switch in shuil. and means for priventing the closure of the latter
; witch more than once for each complete revolution of the wheel, substantially as described.
62. In a telephone system the combination of a main wire having a switeh at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second ureak and two closures for said break, one or sald closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, only one of said wheels making a closure at a time, and the second closure being made by the switch in shunt, and means for preventing the closure of the latter switch more than once for each complete revolution of the wheel, substantially as described
63. In a telephone system the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for said break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel, only one of said wheels making a closure at a time, leing made by the switch in shunt, and means for preventing the closure of the latter switch more than once for each complete revolution of the wheel, substantially as described.
64. In a telephone system the combination of a main wire having a switch at each telephone station, a shunt around said switch, a switch in said shunt, a return wire, a bridge at each telephone station between the main and return wires having therein the secondary winding and ear phone, a break closed by the opening of the main line, and a second break and two closures for each break, one of said closures being made by a revolving wheel, the revolution being controlled by the opening and closing of the main line, means independent of said opening and closing for impelling said wheel, said wheels moving in unison but closing in succession, and the second closure being made by the switch in shunt, and means for preventing the closure of the latter switch more than once for each complete revolution of the wheel, substantially as described.
65. In combination with a main wire and a return wire, a series of telephones distributed therealong, each telephone comprising a line bridging the main wire and the return wire and containing the receiver and the secondary winding of the induction coll, containing also a condenser, and having a break to be closed by the opening of the main wire, said main wire having a relay for opening said break, a branch shunting said relay and containing a condenser, and means for breaking the main wire at any telephone, substantially as described.
66. In combination with a main wire, ad a return wire, a series of telephones distributed therealong, each telephonc comprising a line bridging the main wire and the return wire and containing the receiver and the secondary winding of the induction coil, containing also a condenser, and having a break arranged to be closed by the opening of the main wire, and said main wire having a relay for opening said break, a branch shunting said relay and containing a condenser. means for breaking the main wire at any telephone, and a shunt for said means containing additional means for breaking and closing said main wire, substantially as described.

6i. In a telephone sysiem the combination of a main wire and a return wire or the earth, a series of telephones distributing along the main wire, each telephone being on a bridge being normally disconnected from the main wire, and means for breaking the main wire and connecting the bridge thereto. said bridge comprising the secondary inductiou coil and receiver, and means operatable at the station where said main wire has been so broken for connecting the bridge at any other desired station with the main wire, substantially as described.
68. In a telephone system the combination of a main wire and a return wire or the earth, a series of telephones distributed along the main wire, each telephone being on a bridge between the main wire and the return wire or earth, said bridge being normally disconnected from the main wire, and means for breaking the main wire and connecting the bridge thereto, said bridge comprising the secondary induction coil and receiver, and meang operatable at the station where said main wire has been so broken for connecting the bridge at any other desired station with the main wire, and shunts on the main wire for each of the intervening telephones, substantially as described.
69. In a telephone system, the combination of a main wire and a return wire of the earth, a series of telephones distributed along the main wire, each telephone being on a bridge between the main wire and the return wire or earth
said bridge being normally disconnected from the main wire, and means for breaking the main wire and connecting the bridge thereto, suid bridge eomprising the secondary induction coil and receiver, and a condenser, and means operatable at the station where said main wire has been so broken for connecting the bridge at any other desired station with the main wire, substantially as described.
70. In a telephone system. the combination of a main wire and a return wire or the earth, a series of telephones distributed therealong. each telephone having a bridge between the main wire and the return wire having a break closed by the removal of the ear phone from its hook, a local battery. the circuit of which has two branches, one of which contains the bell and the other the transmitter and primary winding, the former branch being closed and the latter being broken when the ear phone i; on its hook and the latter being closed and the former broken when the ear phone is removed, and means operatable in any telephone of the system for breaking the main wire and connecting the bridge thereto, the breaking of the main wire operating to prevent such break being made by any other station in the system. substantially as described.
71. In a telephone system, the combination of a main wire, a return wire, a series of telephones distributed along the main wire comprising a bridge between the main and the return wire normally disconnected from the main wire, a break in the main wire normally closed at each station, means operatable at any station in the system for opening said break and thereby preventing the opening of the remainder of such breaks in the system, a sluunt for the main wire around said break containing an auxiliary break or shunt, and synchronously moving device at all the stations for successively connecting the bridges of the main wire, said devices moving when the main circuit is open and stopping when the main circuit is closed whereby the closure of the shunt breaks at any desired point of advance of said sychronously moving devices closes the corresponding bridge and brings the desired telephone into the circuit, substantially as described.
72. In a telephone system, in combination with the main line, a series of telephone mechanism thereon, each mechanism comprising an ear phone, contact spring normally closing the main line, a device for separating said contact springs when the ear phone is removed from the hook. a spring actuated and suitably controlled rotary wheel, the wheels of all the mechanisms being arranged to rotate in unison, said wheels at a certain point in their movement actuating said devices to bring them into position to separate the contact springs of all the ear phones, and means whereby when any ear phone has been removed from the hook and the corresponding contact springs have been so separated, the devices of all the mechanisms of the system are shifted out of their relative position to separate said springs whereby the signalling party has the uninterrupted control of the line, substantially as described.
73. In a telephone system, the combination with the main line of a series of telephone mechanism therefor, each mechanism comprising a rotary wheel, means independent of the continuity of the electric circuit whereby said wheels of all the mechanism may be made to rotate in unison. means for arresting all the wheels at a corresponding point of rotation thereof, said wheels only when so arrested being in position to co-operate with a device for breaking the rircuit and a device in each mechanism co-operating with the device for breaking the circuit thereat. said co-operating device being operatable by the signalling party. and means whereby on the operating of sald latter device the circuit is broken and the wheels are free to advance, whereby the signalling party has the only break on the line for the insertion of a telephone, substantially as described.
i4. A telephone system comprising a main line having at each station therealong a normally closed break. a signalling circuit having a break therein, a device for closing said break, said devices all moving in unison, but operating to exclusively close the breaks in succession. means for moving said devices, operative when the main line is closed but inoperative when it is open, and means for opening any of the said breaks in the line and thereby preventing the opening of any other of sald breaks whereby control of the line is had at the break so opened, substantially as described.
75. A telephone system comprising a main line having a break at each station arranged to be opened by the ranoval of the ear phone from its hook, synchronously moving contact changers at the respective stations controlled by the opening and closing of the main line, and a loop line with switch insertion in each break so made, for so controlling said changers, substantially as described.
76. A telephone system comprising a main line having a break at each station arranged to be opened by the removal of the ear phone from its hook, synchronously moving contact changers partly closing in succession and exclusively a series of branch lines at the respective station controlled
by the opening and closing of the main line at sald break, means separatable at said break for further closing said limes simultancously. and means actuated by the removal from its hook of the ear phone of the party whosi bratich lite: is so exclusively partly closed. for completely closing said branch line. substantially as described.
iT. A telephone system romprising a main line having a briak at each station arranged to be opered by the removal of the car plione from its hook. synchronously inoving conlact changers eaused to move a short distance only from their zero position upon the brraking of the main line. means whereby the closing of the main line again starts said contact changers, said contact changers partly closing in succession and exclusively the talking clrcuits at the several stations, and means whereby the removal of the selected party's ear phone from its hook completely closes said talking circuit. substantially as described.
78. A telephone system comprising a main line having a break at pach station arranged to be opened by the removal of the ear phone from its hook. synchronously moving contact changers caused to move a short distance only from their zero position upon the breaking of the maln line, means whereby the closing of the main line again starts said contact changers, said contact changers partly closing in succession and exclusively the talking circuits at the soveral stations and means whereby the removal of the sclected party's ear phone from its hook completely closes said talking circuit, and also the primary transmitter circuit. substantially as described.
79. A telephone system comprising a main line having a break at each station arranged to be opened by the removal of the ear phone from its hook. synchronously moving contact changers caused to move a short distance only from their zero position upon the breaking of the main line, muans whereby the closing of the main line again starts said rontact changers, sald contact changers partly closing it succosion and exclusively the talking circuits at the several stations means whereby the breaking of the main circuit further partly closes the talking circuit, and means whereby the removal of the selected party's ear phone from its hook completely closes said talking circuit, substantially as deseribed.

Su. A tilephone system comprising a main line having a bruak at each station aranged to be opened by the removal of the ear phone from its hook, synchronously moving contact changers caused to move a short distance only from :heir zero position upon the breaking of the main linie, morans whereby the closing of the main line again starts said contact changers, said contact changers partly closing i: succession and exclusively the bell circuits of the several stations, and means whereby the breaking of the main circuit completely closes a selected bell circuit, substantially as described.
81. A telephone system comprising a main line having a break at each station arranged to be opened by the remuval of the ear phone from its hook. synchronously moving contact changers caused to move a short distance only from their zero position upon the breaking of the main line, means whereby the closing of the main line again starts said contact changers. said contact changers partly closing in succession and exclusively the bell circuits of the several stations. and means whereby the breaking of the main circuit completely closes a selected bell circuit, means under the control of the signalling party closing the talking circuit of the selected part, and means whereby the removal of the latter party's arar phone from its hook breaks his bell circuit and closes his talking circuit, substantially as described.
s2. A telephone system comprising a main llae having a brak at each station arranged to be opened by the removal ot the ear phone from its hook, synchronously moving contact changers cansed to move a short distance only from their zero position upon the breaking of the main line, means whereby the closing of the main line again starts said contact changers, said contact changers partly closing in succession and exclusively the bell circuits of the several stations, and means whereby the breaking of the main circuit complete closes a selected bell circuit. means under the control of the signalling party for partly closing the talking circuit of the selected party, and means whereby the removal of the latter party's ear phone from its hook breaks his bell circuit and closes his talking circuit and primary transmitter circuit, substantially as described.
s3. A telephone system comprising a main line having a Irrak at each station arranged to be opened by the removal of the ear phone from its book, syachronously moving contint changers controlled by the opening and closing of the uatin line. said contact changers partly closing in succession and exclusively the talking circuits at the several stations, morans whereby the breaking of the main circuit further partly closes the talking circults, and means whereby the romoval of the called subscriber's ear phone from its hook
zompletely closes his talking circuit, substantially as desrlbed.
st. A telephone system comprising a main line having a break at each station arranged to be opened by the removal of the car phone from its hook, synchronously moving contact changers controlled by the opening and closing of the main circult, said contact changers partly closing in succession and exclusively the talking circuits at the several stations, means whercby the breaking of the main circuit further partly closes the talking circuits and means whereby the removal of the called subscriber's ear phone from its hook completely closes his talking circuit and primary transmitter circuit, substantially as described.

S5. A telephone system comprising a main line having a break at each station aranged to be opened by the removal of the ear phone from its hook, synchronously moving contact changers controlled by the opening and closing of the main circuit, said contact changers partly closing in succession and exclusively the bell circuits of the several stations, means whereby the breaking of the main circult completely closing the selected bell circuit and means whereby the removal of the called subscriber's ear phone from its hook breaks his bell circuit, substantially as described.
86. A telephone system comprising a main line having a break at each station arranged to be opened by the removal o! the ear phone from its hook, synchronously moving contact changers controlled by the opening and closing of the wain circuit, said contact changers partly closing in succession and exclusively the bell circuits of the several stations means whereby the breaking of the main circult completely closes the selected bell circuit, means whereby the removal o: the called subscriber's ear phone from its hook breaks his bell circuit means operatable by the calling subscriber for partly closing the signalled party's talking circult and means whereby the removal of the latter's ear phone from his hook completely closes said talking circuit, substantially as described.
s7. A telephone system comprising a main line having a break at each station arranged to be opened by the removal of the ear phone from its hook, synchronously moving contact changers at the respective stations controlled by the opening and closing of the main line, said contact changere partly closing in succession and exclusively the bell clrcuits and talking circuits, at the remaining stations, means whereby the breaking of the main circuit completely closes the bell circuit then partly closed by the contact changers further closes the coresponding talking circuit, and means whereby the removal of the corresponding phone from its hook breaks said bell circuit and closes the corresponding talking circuit, substantially as described.
s8. A telephone system comprising a main line having a break at each station arranged to be opened by the removal of the ear phone from its hook, synchronously moving contact changers at the respective stations controlled by the opening and closing of the main line, said contact changers partly closing in succession and exclusively the bell circuits and talking circuits, at the remaining stations, means whereby the breaking of the main circuit completely closes the bell circuit then partly closed by the contact changer and further closes the corresponding talking circuit, and means whereby the removal of the corresponding phone from its hook breaks said bell circult and closes the corresponding talking circuit and also primary transmitter circuit, substantially as described.
89. A telephone system comprising synchronously moving contact changers at the respective stations. means whereby the breaking of the main circuit permits said contact chamgers to advance a short distance, but immediately afterward arrests them, means whereby the closing of said circuit again starts said changers, said changers partly closing in succession and exclusively the bell clrcuits of the system, means whereby the breaking of the main circuit completely closed the bell circuit then partly closed, and means for closing the corresponding talking circuit, substantially as described.
90. A telephone system comprising synchronously moving contact changers at the respective stations, means whereby the breaking of the main circuit permits said contact changers to advance a short distance, but immediately afterward arrests them, means whereby the closing of said circuit again starts sald changers, said contact changers partly closing in succession and exclusively the talking circuits of the system, means whereby the breaking of the main circuit further closes the selected talking circult then thus partly closed, and means whereby the removal of the corresponding ear phone from its hook completely closes sald talking circtits, substantially as described.
91. A telephone system comprising synchronously moving contact changers at the respective stations, means whereby the breaking of the main circuit permits said contact changes to advance a short digtance, but immediately afterward arrests the means whereby the closing of sald circuit again starts said changers, said contact changers partly closing in
succession and exclusively bell circuits and talking circuits of the system, means whereby the breaking of the main circuit at any time completely closes the bell circuit then thus partly closed and further partly closes the talking circuit then thus partly closed, and means whereby the removal of the corresponding ear phone from its hook breaks the bell circuit and closes the talking circuit, substantially as described.
92. A telephone system comprising a series of contact changers at the respective stations, means whereby said changers are permitted to advance when the main circult is closed, said changers partly closing in succession and exclusively bell circuits of the system, means whereby the breaking of the main circuit at any time completely closes the bell circuit then thus partly closed, and means for closing the corresponding talking circuit, substantially as described.
93. A telephone system comprising a series of contact changers at the respective stations, means whereby said changers are permitted to advance only when the main circuit is closed, sald contact changers partly closing in succession and exclusively talking circuits of the system, means Whereby the breaking of the main circuit at any time still further partly closes the talking circuit then thus partly closed, and simultaneously closes the corresponding bell circuft, and means whereby the removal of the called subscriber's ear phone from its hook completely closes said talking circuit, substantlally as described.
94. A telephone system comprising a serles of contact changers at the respective stations, means whereby said changers are permitted to advance only when the main circuit is closed, said contact changers partly closing in succession and exclusively bell circuits and talking circuit of the system, means whereby the breaking of the main circuit at any time completely closes the bell circuit then partly closed and further partly closes the corresponding talking circuit and means whereby the removal of the called subscriber's ear phone closes his talking circuit, substantially as described.
95. A selective telephone system comprising in each telephone, clockwork, all the clockworks moving synchronously, a controller, a device moving with the clockwork, holding the controller in position to be actuated by the automatic hook, means whereby the movement of the automatic hook starts the clockworks in all the telephones and means whereby the starting of the clocwork in any telephone in which the controller was not so actuated renders said holding device inoperative, substantially as described.
96. A selective telephone system comprising in each telephone, clockwork, all the clockworks moving synchronously, a controller, means operated from the outside of the telephone box for actuating said controller, and for starting the clockwork in all the telephones, a device moving with the clockwork holding the controller in position to be actuated by said means, and means whereby the starting of the clockwork in any other telephone in which the controller was not so actuated renders said holding device inoperative, substantially as described.
97. A selective telephone system comprising telephones each having clockwork mechanism a wheel revolved thereby, line controller, a stud carried by sald wheel engaging said line controller, and means for starting the clockwork meohanism, the stud then being withdrawn from the controller, and the latter being inoperative, substantially as described.
98. In an apparatus of the character described the combination of a llne controller, an automatic hook arranged when released to contact with said line controller, and means operated by said contact for releasing all the other lime controllers of the system whereby no other automatic hook can contact with its corresponding line controller, substantially as described.
99. In an apparatus of the character described the combination of a line controller, an automatic hook for the receiver, means operated by the release of said hook for actuating the line controller to change the circuit and control the line, and means operated by said changing of the circuit for rendering all the other line controllers unresponsive to the action of the corresponding automatic hook, substantially as described.
100. A telephone system comprising a series of telephones, each having a line controller and a clockwork mechanism, said clockwork mechanism moving in unison throughout the system, means whereby when the line is not in use any line controller of the system may be actuated to permit the clockwork mechanism to start, and means whereby such actuation of one controller renders the other controllers inoperative, substantially as described.
101. A telephone system comprising a series of telephones each having a clockwork mechanism and a line controller, means whereby the taking down of the receiver in any telephone whenthe line is not in use actuates the corresponding line controller and starts the clockwork mechanism through-

Out the system, and means controlled by said line controller when so actuated, for rendering the other controllers of the system inoperative, substantially as described.
102. A telephone system comprising a series of telephones, each having a clockwork mechanism means whereby said cmehanisms move in unison, means under the control of any party on the line when the line is not in use, for stanting all of sald clockwork mechanisms, means for automatically arresting said clockwork mechanisms after moving through a short distance, and selective means operatable only by the party calling, for restarting said clockwork mechanisms and for stopping them at a predetermined point in their synchronous movement, substantially as described.
103. A selective telephone system comprising telephones each having clockwork meohanism, a line controller, a device moved by the clockwork mechanism engaging said line contnoller, and means for starting the clockwork mechanism, the device then being withdrawn from the-controller and the later being inoperative, substantially as described
104. In a selective telephone system, a line controller at each station, means whereby the rise of the automatic hook operates the line controller to influence the circuit, means for supoprting the line controller in a position to be so operated by the rise of the automatic hook, and means whereby the influencing of the circuit causes all the supporting means on the line to withdraw the controllers except the one already operated, out of position to be so operated by the rise in the corresponding automatic hook, substantially as described.
105. In a selective telephone system, a line controller at each station, means whereby the rise of the automatic hook operates the line controller to influence the circuit, means for supporting the line controller in a position to be so oper ated by the rise of the automatic hook and means whereby the influencing of the circuit causes all the supporting means on the line to withdraw the controllers except the one already operated out of position to be so operated by the rise in the corresponding automatic hook, and a busy signa! brought into signalling position by such actuation of the supporting means, substantially as described.

No. 101,347. Apparatus for Electrically Operating Bulhhead Doors, Hatches, Etc.
Moyen d'actionner par l'électricité les portes de cloisons et écoutilles de vaisseaux.


The Long Arm System Company, assignee of Robert H Kirk, both of Cleveland, Ohio, U.S.A., 2nd October, 1906; 6 years. Filed 9th June, 1906. Receipt No. 136,727.
Claim-1. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor and gearing driven thereby for operating the door, means for completing the circuit through sald motor from a distance, hand operated mechanism for completing the circuit through said motor in either direction and dominating the distant control, a spring adapted to re sist the thrust on said gearing, and mechanism operated upon the yielding of said spring for automatically cutting off the current from said motor when the load on the motor exceeds a predetermined limit, substantially as described.
2. An electric apparatus for the operation of watertigh bulkhead doors and hatches aboard ship, comprising an electric motor and gearing driven thereby for operating the door, means for completing the circuit through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either direction and dominating the distant control, and means for automatically cutting off the current from said motor and for breaking the circuit for the distant control when the load on the motor excceds a predetermined limit, substantially as described.
3. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor and gearing driven thereby for operating the door, means for completing the circuit through said motor
from a distance, hand operated mechanism for completing the circuit through said motor in either direction and dominating the distant control, a spring adapted to resist the thrust on said gearing. and mechanism operated upon the yielding of said spring for automatically cutting off the current from said motor when the load on the motor exceeds a pre determined limit, and a signal circuit for making a signal at the distant point. with means for automatically closing said signal circuit when the door rraches the closed pesition, substantially as deseribed.
4. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor and gearing driven thereby for operating the door, means for completing the circuit through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either direction and dominating the distant control, and means for automatically cutting off the current from said motor and for breaking the circuit for the distant control when the load on the motor exceeds a predetermined limit, and a signal circuit for making a signal at the distant point. with means for automatically closing said signal circuit when the door reaches the closed position. substantially as described.
5. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship. comprising an clectric motor and worm gearing driven thereby for operating the door, a solenoid circuit, a solenoid and a controller operated thereby for completing the eircuit through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either direction and dominating the solenoid control, and means for automatically cutting off the current from said motor when the load on the motor exceeds a predetermined limit, substantially as described.
6. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor and gearing driven thereby for operating the door, a solenoid circuit, a solenoid, and a controller operated thereby for completing the circuit through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either direction and dominating the solenoid control, and means for automatically cutting off the current from said motor and for breaking the circuit through the solenoid when the load on the motor exceeds a predetermined limit, substantially as described.
7. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an clectric motor and worm gearing driven thereby for operating the door, a solenoid circuit, a solenoid, and a controller operated thereby for completing the circuit through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either direction and dominating the solenoid control, and means for automatically cutting off the current from said motor when the load on the motor exseeds a predetermined limit, and a signal circuit for making a signal at the distant point with means for automatically closing said signal circuit when the door reaches the closed position, substantially as described.
8. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor and gearing driven thereby for operating the door, a solenoid circuit, a solenoid, and a controller operated thereby for completing the circuit through said motor from a distance, hand operated mechanism for completing the circult through said motor in either direction and dominating the solenold control, and means for automatically cutting off the current from said motor and for breaking the circuit through the solenoid when the loal on the motor exceeds a predetermined limit. and a signal circuit for making a signal at the distant point, with a means for automatically closing said signal circuit when the door reaches the closed position, substantially as described.
9. An electric apparatus for the operation of watertight bulkbead doors and hatches aboard ship, comprising an electric motor and a pin rack and pin wheel, with worm gearing for driving said pin wheel, driven by said motor for operating the door, means for completing the circuit through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either directic, and dominating the distant control, and means for automatically cutting off the current from sald motor when the load on the motor exceeds a predetermined limit substantially as described.
10. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor, a pin rack and pin wheel with worm gearing for driving sald pin whecl, driven by said motor for operating the door. means for completing the circuit through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either direc-
tion and dominating the distant control, and means for auto-
matically cutting off the current from said motor and for breaking the circuit for the distant control when the load on the motor exceeds a predetermined limit. substantiallv as described.
11. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor, a pin rack and pin wheel, with worm gearing for driving said pin wheel, driven by said motor for cperating the door, means for completing the circuit through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either dirpe. tion and duminating the distant control, and means for automatically cutting off the control from said motor when the load on the motor excreds a predetermined limit. and a signal circuit for making a signal at the distant point, with means for automatically closing said signal circult when the door reaches the closed position, substantially as descrbed.
12. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor, a pin rack and a pin wheel, with worm gearing for driving said pin wheel, driven by said motor for operating the door, means for completing the circuit through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either direction and dominating the distant control, and means for automatically cutting off the current from said motor and for breaking the circuit for the distant control when the load on the motor exceeds a predetermined limit, and a signal circuit for making a signal at the distant point, with means for automatically closing said signal circuit when the door reaches the closed position, substantially as described.
13. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor and worm gearing driven thereby for operating the door, means for completing the circuit through said motor from a distance, hand operated mechanism for completing the circult through said motor in either direction. means for causing the hand operated mechanism to automatically dominate the distant control, and means for automatically cutting off the current from said motor when the load on the motor exceeds a predetermined limit, substantially as described.
14. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor and gearing driven thereby for operating the door, means for completing the circuit through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either direction, means for causing the hand operated mechanism to automatically dominate the distant control, and means for automatically cutting off the current from said motor and for breaking the circuit for the distant control when the load on the motor exceeds a predetermined limit, substantially as described.
15. An electric apparatus for the operation of watertight buikhead doors and hatches aboard ship, comprising an electric motor and gearing driven thereby for operating the door, means for completing the circuit through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either direction, means for causing the hand operated mechanism to automatically dominate the distant control, and means for automatically cutting off the current from said motor and for breaking the circuit for the distant control when the load on the motor exceeds a predetermined limit, and a signal circuit for making a signal at the distant point, with means for automatically closing said signal circuit when the doo reaches the closed position, substantially as described.
16. The combination with a bulkhead door, of a pin rack secured thereto, a pin wheel meshing in said rack, an electric motor, and a gearing driven by said motor for driving said pin wheel, substantially as described.
17. The combination with a bulkhead door, of a pin rack secured thereto, a pin wheel meshing in said rack, an electi ic motor, and worm gearing driven by said motor for driving said pin wheel, substantially as described.
18. The combination with a bulkhead door, of a pin rack secured thereto, a pin wheel meshing in said rack, an electric motor and gearing driven by said motor for driving said pin wheel, with a cut-out automatically operated by a member of said gearing for cutting off the electric current when the load on the motor exceeds a predetermined limit, substantially as described.
19. The combination with a bulkhead door, of a pin rack secured thereto, a pin wheel meshing in said rack, an electric motor and worm gearing driven by said motor for driving said pin wheel, with a cut-out automatically operated by a member of said gearing for cutting of the electric current when the load on the motor exceeds a predetermined limit, substantially as described.
20. The combination with a bulkhead door, a pin rack secured thereto, a pin wheel engaging in sald rack, a worm wheel driving said pin wheel, a worm engaging in sald worm wheel, and means for driving said worm either by
power or by hand as may be desired, substantially as described.
21. The combination with a bulkhead door, a pin rack secured thereto, a pin wheel engaging in said rack, a worm wheel, a worm engaging in said worm wheel, a worm shaft carrying said worm, and hand gearing for onerating said worm shaft by hand, substantially as described:
22. The combination with a bulkhead door, a pin rack secured thereto, a pin wheel engaging in said rack, a worm wheel driving said pin wheel, a worm engaging in said worm wheel, a worm shaft carrying said worm, and an electric motor connected to said worm shaft for driving the same, substantially as described.
23. The combination with a bulkhead door, a pin rack secured thereto, a pin wheel engaging in said rack, a worm wheel driving said pin wheel, a worm engaging in said worm wheel, a worm shaft carrying said worm, hand gearing connected to said shaft near one end for turning the same by hand, and an electric motor connected to the other end of said shaft for driving the same by electricity, substantially as described.
21. The combination with a bulkhead door, of a pin rack secured thereto, a pin wheel meshing in said rack. means for driving said pin wheel by hand, and independent means io: driving sald pin wheel by electricity, substantially as described.
25. The combination with a bulkhead door, of a pin rack secured thereto at right angles to the face thereof. a pin wheel meshing in said rack, an electric motor and worm gearing driven by sald motor for driving sald pin wheel, substantially as described.
26. The combination with a bulkhead door, of a pin rack secured thereto at right angles to the face thereof. a pin wheel meshing in said rack, an electric motor and worm gearing driven by said motor for driving said pin wheel, and independent hand gearing for driving the pin wheel by hand when desired, substantially as described.
27. The combination with a bulkhead door, of a pin rack sfcured thereto at right angles to the face thercof, a pin wheel meshing in said rack, an plectric motor and gearing driven by said motor for driving said pin wheel. with a cut-out automatically operated by a member of said gearing for cutting off the electric current when the load on the motor exceeds a predetermined limit. and independent hand gearing for driving the pin whed by hand when desired, substantially as described.
28. The combination with a bulkhead door, of a pin rack secured thereto at right angles to the face thereof, a pin wheel meshing in said rack, an electrin motor and gearing driven by said motor for driving said pin wheel, with a cut-out automatically operated by a member of said gearing for cutting off the electric current when the load on the motor exceeds a predetermined limit, substantially as described.
29. The combination with a bulkhead door. of a pin rack secured thereto at right angles to the face thereof. a pin wheel meshing in said rack, an electric motor and worm gearing driven by said motor for driving said pin wheel. with a cut-out automatically operated by a member of said gearing for cutting off the electric current when the load on the motor exceeds a predetermined limit, substantially as described.
30. The combination with a bulkhead door, a pin rack secured thereto at right angles to the face thereof. a pin Wheel engaging in said rack, a worm wheel driving said pin wheel. a worm engaging in said worm wheel. and means for driving said worm either by power or by hand as may be desired, substantially as described.
31. The combination with a bulkhead door, a pin rack secured thereto, a pin wheel engaging in said rack, a worm wheel driving said pin wheel. a worm engaging in said worm Wheel, a worm shaft carrying said worm and adapted to slide axially, a stout spring normally holding said worm shaft in the initial position. an electric motor connected to said worm shaft for driving the same, and means controlled by the sliding of the worm shaft for cutting off the current from the motor when the load exceeds a predetermined limit, substantially as described.
32. The combination with a bulkhead door a pin rack secured thereto, a pin wheel engaging in said rack, a worm Wheel driving said pin wheel, a worm engaging in said worm Wheel, a worm shaft carrying said worm and adapted to slide axially, a stout spring normally holding said worm shaft in the initial position, an electric motor connected to said worm shaft for driving the same, means for operating said electric motor either locally or from a distance, and means controlled by the slfding of the worm shaft for cutting off the current from the motor when the load exceeds a predetermined limit. substantially as described.
33. In an apparatus for operating sliding doors by electrlcity, the combination with a door and a rack secured thereto, of a power box secured across the door frame, gearin; mounted in sald power box for engaging said rack and mov;
ing the door, and an electric motor journalled in sald power box and having the consequent pole of its fleld magnet integral with the cover of said box and removable therewith, substantially as described.
34. The combination with a sliding door provided with a pin rack secured on the face therof, of a power box mounted across the door frame and provided with a combined worm bearing and oil trough rigidly held therein, a pin wheel meshing with said rack, a shaft for said pin wheel journalled in said power box. a worm wheel mounted on said shaft and enclosed in the power box, a worm mounted in said oil trough and engaging said worm wheel with mechanism mounted in said power box for operating said worm from either end thereof, substantially as described.
35. The combination with a sliding door provided with a pin rack sccured on the face thereop. of a power box mounted across the door frame and pivoted with a combined worm bearing and oil trough rigidly held therein, a pin wheel meshing with said rack, a shaft for said pin wheel journalled in sain power box a worm wheel mounted on sald shaft and enclosed in the power box, a worm monnted in said oll trough and angaging said worm wheel, with hand gears connected to said worm shaft near one end thereof for turning said shaft by hand when desired, and an electric motor mounted in saikl nower box and ronnected to the other end of said worm shaft for turning the same by clectricity, substantially as described.
36. In an apparatus for operating sliding doors by electricity. the combination with a door and a rack secured thereto, of a power box secured across the door frame, worm s"aring mounted in said power box for engaging said rack and moving the door. and an electric motor for operating said worm gearing journalled in said power box and having the consequent pole of its fleld magnet integral with the cover of saix box and removable therewith, substantially as described.
37. The combination with a sliding door provided with a pin rack secured on the face thereof, of a power box mounted across the door frame and provided with a removable cover, a pin wheel meshing with said rark, a shaft for said pin wherl journalled in said power box, a worm wheel mounted on sald shaft and enclosed in the power box, a worm engaging said worm wheel, and an electric motor connected to said worm and journalled in said power box and having the conscquent pole of its field magnet integral with the cover of said box and removable therewith. substantially as described.
38. The combination with a sliding door provided with a rack sccured on the face thereof, of a power box mounted across the door frame and provided with a removable cover. a gear wheel meshing with said rack, a shaft for said wheel journalled in said power box. a worm wheel mounted on said shaft and enclosed in the power box, a worm engaging said worm wheel, and an electric motor connected to said worm and journalled in sald power box and having the conseguent pole of its field magnet integral with the cover of said box and removable therewith, substantially as describe.i.
39. In an apparatus of the character described the combination with a controller drum, of a solenoid and a solenold plunger, means operated by said plunger for rocking the said drum, a spring for restoring said plunger to the initial position when not attractod by the said solenoid, and independent hand operated means for rocking said drum in either direction independent of said solenoid, substantiallv as described
40. In an apparatus of the character described the combination with a controller drum, of a solenoid and a solenoid plunger, means operated by said plunger for rocking the said drum, means for restoring said plunger to the initial position when not attracted by the said solenoid, and independent hand operated means for rocking said drum in either direction independent of said solenold. with automatic means controlled by said hand operated means for locking said plunger against the action of said solenoid when said hand operated means is in operation. substantially as described.
41. In an apparatus of the character described, the combination with a controller drum. of a solenoid and a solenoid plunger, means operated by said plunger for rocking the said drum, means for restoring said plunger to the initial position when not attracted by the said solenold, and independent hand operated means for rocking said drum in efther direction independent of said solenold, with a spring catch automatically released by the operation of the hand cperating mechanism and holding said plunger against the action of said solenoid while said hand mechanism is being operated, substantially as described.
42. In an apparatus of the character described, the combination with a controller drum, of a spring impressed plunger normally adapted to hold sald controller drum in the mid position, a solenold for operating said plunger in one direction thus rocking said controller drum, hand operated mechanism for rocking said controller drum independent of said plunger, and automatic means operated by sald hand operated mechanism for locking said plunger during the
cperation of said hand operated mechanism, substantlally as described.
43. In an apparatus of the character described, the comtination of a controller drum, of a spring impressed plunger normally adapted to hold said controller drum in the mid position, a solenoid for operating said plunger in one direction thus rocking said controller drum, hand operated mechanism for rocking said controller drum independent of said plunger, and automatic means operated by said hand operated mechanism for locking said plunger during the operation of sald hand operated mechanism, comprising a spring impressed catch automatically controlled by the hand operating mechanism, and a lug carried by the said plunger engaging said catch, when released, substantially as described.
44. In an apparatus of the character described. the combination with a controller drum, of a solenoid and a solenold plunger, means operated by said plunger for rocking the said drum, a double acting spring for restoring said plunger to the initial position when not attracted by said solenold, and irdependent hand overated means for rocking said drum in either direction independent of said solenold, substantially as described.
45. In an apparatus of the character described, the combination with a controller drum, of a solenold and a solenold plunger, means operated by said plunger for rocking the said drum, a double acting coll spring for restoring sald plunger to the inltial position when not attracted by the sald solenold, and independent hand operated means for rocking said drum in elther direction indenendent of said solenold, with automatic means controlled by sald hand oprated means for locking said plunger against the action of said solenold when said hand operated means is in operation, substantially as described.
46. In an apparatus of the character described, the combination with a controller drum, of a solenoid and a solenotd plunger, means operated by said plunger for rocking sald drum, a double acting coll spring for restoring said plunger to the initlal position when not attracted by the said solenoid, and independent hand operated means for rocking said drum in either direction independent of sald solenoid with a spring catch automatically released by the oneration of the hand operating mechanism and holding said plunger against the action of said solenold while said hand mechanism is being operated. substantially as described.
47. In an apparatus of the character described. the combination with a controller drum. of a plunger connected to said controller drum, a coll soring normallv adapted to hold sald plunger in the mid position, a solenoid for moving said nlunger in one direction thus rocking said controller dirum, hand operating mechanism for rocking said controller drum it:dependently of sald plunger. and automatic means operated by sald hand operated mechanism for locking said plunger against the action of sald solenoid during the oneration of said hand operated mechanism. substantially as described.
48. In an apparatus of the character described, the combination with a controller drum. of a plunger connected to sald controller drum. a coil soring normallv adapted to hold sald plunger in the mid position, a solenold for moving said plunger in one direction thus rocking sald controller drum, hand operating mechanism for rocking sald controller drum irdependentlv of said olunger, and automatic means operated by said hand onerated mechanism for locking said plunger against the action of said solenoid during the operation of sald hand operated mechanism. comprising a spring impressed catch antomatically controlled by the hand operating mechanism, and a lug carried by the sald plunger engaging sald catch when released. substantially as described.
49. In an apparatus of the character described, the combination with a controller drum. of a solenold and a solenold plunger, means operated by said plunger for rocking the sald drum, means for restoring sald plunger to the Initial position when not attracted by said solenoid. independent hand operated means for rocking said drum in elther direction independent of sald solenoid, and automatic means for restoring the hang operated means to the initial position after each operation, substantíally as described.
50. In an apparatus of the character described, the combination with a controller drum, of a solenoid and a solenoid plunger. means operated by said plunger to the initial position when not attracted by the said solenoid, independent hand operated means for rocking sald drum in elther direction independently of said solenoid, with automatic means controlled by seld hand operated means for locking said arum in either direction independently of said solenoid, with automatic means controlled by said hand operated means for locking said plunger against the action of said solenold mhen said hand operated means is in operation, and automatic means for restoring the hand operated means to the Initial position after cach operation, substantially as descrlbed.
51. In an apparatus of the character described, the comblation with a controller drum, of a solenold and a solenold
plunger, means operated by said plunger for rocking the said drum, means for restoring sald plunger to the Initial position when not attracted by the said solenoid, independent hand operated means for rocking said drum in either direction independently of eald solenold, and rutomatic means for restoring the hand operated means to the initial rosition after each operation, with a spring catch automatically released by the operation of the hand operating mechanism and holding said plunger against the action of said solenoid while said hand mechanism is being opsrated, substantially as described.
52. In an apparatus of the character described, the combination with a controller drum, of a spring impressed jlunger normally adapted to hold said controller drum in the mid position. a solenoid for operating said plunger in one direction thus rocking sald controller drum hand operated mechanism for rocking said controller drum independently of said plunger, and automatic means for restoring the hand operated means to the initial position after each operation, and automatic means operated by sald hand operated mechanism for locking sald plunger during the operation of said hand operated mechanism, substantially as described.
53. In an apparatus of the character described, the combination with a controller drum, of a spring impressed plunger normally adapted to hold said controller drum in the mid position, a solenoid for operating said plunger in one direction thus rocking said controller drum, hand operated mechanism for rocking said controller drum independently of said plunger, and automatic means for restoring the hand operated means to the initial position after each operation, and automatic means operated by sald hand operated mechanism for locking said plunger during the operation of said hand operated mechanism. comprising a spring impressed catch automatically controlled by the hand operating mechanism, and a lug carried by the said plunger engaging sald catch when released, substantlally.
54. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor and gearing driven thereby for operating the door, a solenoid circuit. a solenoid and a controller drum for completing the circuit through said motor from a distance, and hand operated mechanism for completing the circuit through said motor in elther direction and dominating the solenoid control, comprising a control shaft, and a system of levers operated thereby connected to the controller drum, with a spring adapted to return the system of levers to the initial position, substantially as described.
65. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship,comprising an electric motor and gearing driven thereby for operating the door, a solenoid circuit, a solenoid, and a controller operated thereby for completing the circuit through said motor from a distance, hand operated mechanism for completing the circult through said motor in efther direction and dominating the solenold control, comprising a control shaft, and a system of levers operated thereby connected to the controlled drum, with a spring adapted to return the system of levers to the initial position. and means for automatically cutting on the current from said motor when the load on the motor exceeds a predetermined limit, substantially as described.
56. An electric apparatus for the operation of watertight bulkheard doors and hatches aboard ship, comprising an electric motor and gearing driven thereby for operating the door, a solenold circult, a solenoid, and a controller operated thereby for completing the circuit through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either direction and domInating the solenoid control, comprising a control shaft, and a system of levers operated thereby connected to the controller drum, with a spring adapted to return the system of levers to the initial position, means for automatically cutting off the current from sald motor when the load on the motor exceeds a predetermined limit, and a signal circuit for making a signal at the distant point. with means for automatically closing said signal circuit when the door reaches the closed position, substantially as described.
57. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor and gearing driven thereby for operating the door, a solenoid circuit, a solenoid, and a controller operated thereby for completing the circult through said motor from a distance, hand operated mechanism for completing the circuit through said motor in either direction and dominating the solenoid control, comprising a control shaft, and a system of levers operated thereby connected to the controller drum, with a spring adapted to return the system of levers to the initial position, and means for automatically cutting off the current from said motor and for breaking the circuit through the solenold when the load on the motor exceeds a predotermined limlt.
58. In an apparatus of the character described the combinatin with a controller drum, of a solenoid and a solenoid plunger, means operated by said plunger for rocking the said drum, a double acting spring for restoring said plunger to the initial position when not atacted by sald solenoid, and independent hand operated means for rocking said drum in either direction independent of sald solenoid, with automatic means for interlocking said plunger with said hand operated means, thus holding said plunger agzinst the action of said solenoid, substantially as described.
59. In an apparatus of the character described the combination with a controller drum, of a solenoid and a solenoid pliunger, means operated by said plunger for rocking the drum, means for restoring sald plunger to the initial position when not attracted by said solenoid, independent hand operated means for rocking said drum in either direction independently of said solenoid. comprising a control shaft, and a system of levers operated thereby, and automatic means for restoring the hand operated means to the initial position after each operation, substantially as described.
60. In an apparatus of the character described the combination with a controller drum. of a solenoid and a solenold plunger, means operated by said plunger for rocking the said drum, means for restoring said plunger to the initial position when not attracted by said solenoid, independent hand operated means for rocking said drum in either direction independently of said solenold. comprising a control shaft, and a system of levers operated thereby, and automatic means for restoring the hand operater means to the initial position after each operation, comprising a spring impressed lever having arms co-acting with said system of levers, and restoring them to the initial position when released.
61. In an apparatus of the character described the combination with a controller drum. of a solenold and a solenold plunger, means operated by said plunger for rocking the said drum, means for restoring said plunger to the initial position when not attracted by the said solenoid, independent hand operated means for rocking said drum in either direction Independently of said solenold. with automatic means controlled by sald hand operated means for locking said plunger against the action of said solenoid when said hand operated means is in operation, and automatic means for restoring the hand operated means to the initial position after each operation, comprising a spring impressed lever having arms coacting with said system of levers. and restoring them to the initial position when released. substantially as described.
62. In an apparatus of the character described the combination with a controlling drum. of a solenoid and a solenoid plunger. means operated by said plunger for rocking the said irum. means for restoring sald plunger to the initial position when not attracted by the, said solenoid, independent hand operated means for rocking said drum in either direction independently of sald solenold, automatic means for restoring the hand operated means to the initial position after each operation. corcprising a spring impressed lever having arms co-acting with sald system of levers, and restoring them to the initial position when released. with a spring catch automatically released by the operation of the hand operation of sald solenoid while said hand mechanism is being operated. substantially as described.
63. In an apparatus of the character described the combination with a controller drum. of a soring impressed olunger normally adapted to hold sald controller drum in the midprsition, a solenoid for operating sald plunger in one direction thus rocking said controller drum, hand operated mechanlsm for rocking said controller drum independently of said plunger. antomatic means for restoring the hand operated means to the inltial position after each operation, comprising a spring impressed lever having arms co-acting with sald system of levers, and restoring them to the initial position when released, and means automatically operated by sald hand operated mechanism for locking said plunger during the operation of sald hand operated mechanism, substantlally as described.
64. In an apparatus of the character described, the combination with a controller drum, of a spring impressed plunger normally adapted to hold said controller drum in the mid position, a solenoid for operating said plunger in one direction thus rocking said controller drum. hand operated mechanism for rocking said controller drum independently of said plunger, a spring and mechanism operated thereby for restoring the hand operated means to the initial posilion after each operation. and automatic means onerated by said hand operated mechanism for locking said plunger during the oyeration of said hand operated mechanism. comprising a spring impressed catch automatically controlled by the hand operating mechanism, and a lug carried by the said plunger engaging said catch. when released, subtantially as described.
65. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship. comprising an electric motor and gearing driven thereby for operating the door, a solenoid circuit, a solenold and a controller drum
or completing the circuit through sald motor from a dislance, and hand operated mechanism for completing the circuit through said motor in either direction and dominating the solenoid control, comprising a control shaft, and a system of levers operated thereby connected to the conroller drum. and a spring impressed lever adapted to return the system of levers to the initial position, substantially as described.
66. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship. comprising an slectric motor, a controller drum with means for normally restoring the same to the initial position, gearing driven by sald motor for operating the door, means for completing the circuit through said motor, and means for automatically breaking said circuit when the load on the motor exceeds a predetermined limit. comprising a spring impressed shaft connected to or included in said gearing and yielding when the thrust thereon exceeds a predetermined limit, a lever connected to said shaft, and means operated by said lever or releasing said controlled drum, substantially as described.
67. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor, a controller drum, and a spring impressed plunger connected to the controller drum, a solenoid adapted to act on said plunger, gearing driven by said motor for operating the: door, means for completing the circuit through said solenoid thus operating said controller drum and closing the circuit through said motor, and means for automatically breaking the circuit both through said motor and through said solenoid when the load on the motor excceds a predetermined limit, comprising a spring impressed shaft connected to or included in sald gearing and adapted to yield when the thrust thereon exceeds a predetermined limit, a lever connected to said shaft, and means operated by said lever for releasing said controller drum and for breaking the current though sald solenoid, substantially as described.
68. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor, a controller drum with means for normally restoring the same to the initial position, gearing driven by said motor for operating the door, means for rocking said controller drum thus completing the circuit through sald motor, and means for automatically breaking said circuit when the load on the motor exceeds a predetermined limit comprising a spring impressed member of said gearing adapted to yield when the thrust thereon exceeds a predetermined limit, a lever connected to said member, and means operated by said lever for releasing said controller drum, substantially as described.
69. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor, a controller drum with means for normally rsetoring the same to the initial position, means for rocking said controller drum either from a distance or locally, thus completing the circuit through said motor, gearing driven by said motor for operating the door, and means for automatically breaking the circuit through the motor when the load on the motor exceeds a predetermined limit, comprising a spring impressed member of said gearing adapted to yield when the thrust thereon exceeds a predetermined limit, a lever connected to said member, and means operated by the said lever for releasing sald controller drum Inde pendently of the local or distant control, substantially as described.
70. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor, a controller drum, and a spring impressed plunger connected to the controller drum, a solenoid adapted to act on said plunger, gearing driven by said motor for operating the door, means for completing the circuit through said solenoid thus operating said controller drum and closIng the circuit through said motor, and means for auto matically breaking the circuit through sald solenoid when the load on the motor exceeds a predetermined limit. com prising a spring impressed member of said gearing adanted to yield when the thrust thereon exceeds a predetermined limit, a lever connected to said member, and means operated by said lever for releasing said controller drim and iur breaking the current through said solenoid, substantially as described.
71. An electric apparatus for the operation of watertight bulkhead doors and hatches aboard ship, comprising an electric motor, a controlling drum, and a spring impressed plunger connected to the controller drum, a solenoid adapted to act on sald plunger, means independent of said solenoid for rocking said controller drum, gearlng driven by said motor for operating the door. means for completing the circult through said solenold thus operating said controller drum and closing the circult through said motor, and means for automatically breaking the circuit both through said motor and through said solenold when the load on eth motor
xceeds a protetermined llmit, comprising a spring impressed member of said gearing adapted to yleld when the thrust thereon exceeds a predetermined limit, a lever connected to sald member, and means operated by said lever for releasing said controller drum and for breaking the current through said solenoid, substantially as described.
72. An electric apparatus for operation of watertight bulkhead doors and hatches aboard ship, comprising an eleotric motor and gearing driven thereby for operating the door, a solenold circuit, a solenoid, and a controller operated thereby for completing the circuit through sald motor from a distafice, with means for automatically restoring the concroller to the initial position when released, hand operated mechanism for operating said controller and thus completing the circuit through said motor in either direction and dominating the solenoid control, and means for automatically cutting off the current from said motor and for breaking the circuit through the solenoid when the load on the motor exceeds a predetermined limit, comprising a spring mpressed member of said gearing adapted to yield when the thrust thereon exceeds a predetermined limit. a lever connected to said member, and means operated by said l.ver for releasing said controller drum and for breaking the current through said solenold, substantially as described.
73. An electric apparatus for the operation of watertight bulkbead doors and hatches aboard ship, comprising an elecric motor and gearing driven thereby for operating the door a solenold circuit. a solenoid, and a controller operated hereby for completing the circuit through said motor from distance, with means for automatically restoring the controller to the initial position when released, hand operated mechanism for operating said controller and thus completing the circult through eaid motor in elther direction and dominating the solenoid control, and means for automatically cutIng off the current from said motor when the load on the motor exceeds a predetermined limit. comprising a spring impressed shaft included in said gearing and adapted to yield when the load on the motor exceeds a predetermined limit, a cuer connected to said shaft, and means operated by said lever for releasing the controller substantially as described
74. In an apparatus of the character described the combin-
ation with a controller drum. of a solenoid and a solenoid plunger, means operated by said plunger for rocking the said lrum, means for restoring said plunger to the initial posiion when not attracted by sald solenoid. Independent hand operated means for nocking said drum in either direction independently of saitd solenoid, automatic means for rotating the hand operated means to the initial position after each peration, and mechanism for automatically releasing said ontroller drum from either the hend control or the solenold control, when the load on the motor exceeds a predetermined limit, substantially as described.
75. In an apparatus of the character described the combination with a controller drum, of a solenold, means operated ty said solenoid for rocking the said drum, means for automatically restoring said drum to the initial position. Independent hand operated means for rocking sald drum in either direction independently of said solenoid, automatic means for cotating the hand operated means to the initial position after ach operation, and mechanism for automatically releasing said controller drum from elther the hand control of the solenoid control, when the load of the motor exceeds a predetermined limit, substantially as described.
76. In an apparatus of the character described the combination with a controller drum, of a solenold and a solenoid plunger, means operated by said plunger for rocking the said drum, means for restoring said plunger to the initial position when not attracted by the solenold, hand operated means for rocking said drum in either direction independent ly of said solenold, with automatic means controlled by said hand operated means for locking said plunger against the action of sald solenold when said hand operated means is in operation. and automatic means for restoring the hand operated means to the initial position after each operation, comarising a spring impressed lever having arms co-acting with prising a spring impressed lever having arms co-actiag with tion when released, and mechanism for automatically releasing said controller drum from either the hand control or the solenold control when the load on the motor exceeds a pre determined llmit. substantially as described.
77. In an apparatus of the character described. the combination with a controller drum, of a solenold and a solenoid plunger, means operated by said plunger for rocking the said drum, means for restoring said plunger to the initial position when not attracted by the satid solenoid, hand operated neeans for rocking said drum in either direction independent ly of sald solenold, automatic means for restoring the hand operated means to the inltial position after each operation. comprising a spring impressed lever having arms co-acting vith sald system of levers, and restoring them to the initial position whin released, with a spring catch automatically
released by the operation of the hand operating mechanism and holding said plunger against the action of said solenoid while said hand mechanism is being operated, and mechanism for automatically releasing said controller drum from either the hand control or the solenoid control, when the load on the motor exceeds a predetermined limit, substantlally as described.
78. In an apparatus of the character described, the combination with a controller drum, of a spring impressed plunger normally adapted to hold said controller drum in the mid position, a solenoid for operating said plunger in one direction thus rocking said controller drum, hand operated mechanism for rocking said controller drum independently of said plunger, automatic means for restoring the hand operated means to the initial position after each oper ation comprising a spring impressed lever having arms co acting with said system of levers, and restoring them to the initial position when released, means automatically oper ated by sald hand operated mechanism for locking sald plunger during the operation of said hand operated mechanism, and mechanism for automatically releasing said con troller drum either from the hand control or the solenoid control, when the load on the motor exceeds a predetermined limit, substantlally as described.
79. The combination with a bulkhead door or hatch and means for operating the same electrically from a distant point, of a signal located at the distant point, means for uperating said signal consisting of an electric circuit leading from the distant point to the door, a bell crank pivoted to the door frame and adapted to open and close the circuit to the signal, and an arm carried by the door and adapted to strike said bell crank and close said circuit when the door reaches the cldsed and locked position, substantially as described
80. The combination with a bulkhead door or hatch and means for operating the same electrically from a distant pcint, of a signal located at the distant point, means for operating said signal consisting of an electric circuit leading from the distant point to the door, a bell crank plvoted to the door frame and adapted to open and close the circuit to the signal, and an arm carrled by the door and adapted to strike said bell crank and close said circuit when the door reaches the closed and locked position, with a spring nor mally throwing the sald bell crank to the open circuit position when the door is raised from its seat, substantially as described.
81. The combination with a bulkhead door or hatch and means for operating the same electrically from a distant point, of a signal located at the distant point, means for operating said signal consisting of an electric circuit leading from the distant point to the door, a bell crank pivoted to the door frame and adapted to open and close the circuit to the signal, and an arm carried by the door and adapted to strike said bell crank and close said circuit when the door reaches the closed and locked position, and a coil spring mounted on the pivot of said bell crank lever and adapted to throw the same to the open circuit position when the door is lifted from its seat, substantially as described

S2. A tightening device for use on watertight bulkhead door, comprising a wedge bracket secured to the door frame, and a wedge button having a rounded face detachably connected to the door, substantially as described.

No. 101,348. Fuel Feeding Devioe.
Apparcil dalimentation de combustible.


Susan V. Cooke, Rochester, New York, U.S.A., 2nd October. 1:06; 6 years. Filed 5th May, 1906. Recelpt No. 135.608. Claim.-1. In an automatic fuel feeder the comblnation with a fuel supply. of a spout adapted to discharge fuel upon
the grates, means for conveying fuel from sald supply to said spout, and means for automatically oscillating the discharge end of the spout at angles with both the horizontal and vertical planes.
2. In an automatic fuel feeder the combination with a fuel supply, a spout adapted to discharge fuel upon the grates means for conveying fuel from said supply to said spout, means for automatically oscillating the discharge end of the spout at angles with both the horizontal and vertical planes, and an automatic feeding device, whereby fuel is fed to said conveyer from said supply.
3. In an automatic fuel feeder the combination with a fuel supply, of a spout adapted to discharge fuel upon the grates means for conveying said fuel from said supply to said sprout, means for automatically oscillating the discharge end of the spout at angles with both the horizontal and vertical planes, an automatic feeding device, whereby fuel is fed to said conveyer from said supply, and means for regulating the reed.
4. In an automatic fuel feeder the combination with a fuel supply, of a spout adapted to discharge fuel upon the grates, means for conveying fuel from said supply to said spout, means for automatically oscillating the discharge end of the spout at angles with both the horizontal and vertical planes, an automatic feeding device, a driven wheel, and driving connections between said driven wheel and both sald conveying means and said means for oscillating said spout.
5. In an automatic fuel feeder the combination with a fuel supply, of a spout adapted to discharge fuel into the firebox, and having its mouth at an angle with its axis, means for conveying fuel from said supply to said spout, and means for automatically both rocking said spout and oscillating its mouth vertically.
6. In an automatic feeder the combination with a fuel supply of a spout adapted to discharge fuel into the fire box, and having its mouth at an angle with its axis, means for conveying fuel from said supply to said spout, means for automatically both rocking and vertically oscillating said spout. a driven wheel, and driving connections between said wheel and both the said means for rocking said spout and those for oscillating it vertically.
7. In an automatic fuel feeder the combination with a fuel supply. of a spout adapted to discharge fuel upon the grates, means for conveying fuel from said supply to sald spout. a rotative support for said spout having a pivotal connection therewith, means for independently oscillating said spout and its support whereby fuel is discharged from the spout upon the grates in zigzag course.
8. In an automatic fuel feeder the combination with a fuel supply, of a spout adapted to discharge fuel upon the grates, means for conveying fuel from said supply to said spout, a rotative support for said spout, having a pivotal connection therewith, a driven wheel, and connections between said driven wheel and said spout and its said support respectively, whereby said spout and its said support are independently oscillated to discharge fuel upon the grates in zigzag course.
9. In an automatic fuel feeder the combination with a fuel supply, of a spout adapted to discharge fuel upon the grates, means for conveying fuel from said supply to said spout, a rotative support for said spout, having a segmental gear and a pivotal connection with said spout, a driven wheel, and connections between said driven wheel and said spout and said segmental gear respectively, whereby said spout and its said support are independently oscillated to discharge fuel upor the grates in zigzag course.
10. In an automatic fuel feeder the combination with a fuel supply, of a spout adapted to discharge fuel upon the grates, means for conveying fuel from said supply to said spout, a rotative support for said spout having a pivotal connection therewith, a lever arm attached to sald spout, a driven wheel, and connections between said driven wheel and said lever arm and said support respectively, whereby said spout is reciprocated and its said support is rocked.
11. In an automatic fuel feeder the combination with a fuel supply, of a spout adapted to discharge fuel upon the grates, means for conveying fuel from sald supply to said spout, a rotative support for said spout, a ring pivotally supported within said support, means for detachably securing said spout to said ring, and means for rocking said support and reciprocating said spout.
12. In an automatic fuel feeder the combination with a fuel supply, of a spout adapted to discharge fuel upon the grates, means for conveying fuel from said supply to said spout, a rotative support for said spout. a ring pivotally supported within said support, adjustable means for attaching said spout to sald ring, whereby the direction in which fuel is discharged therefrom is determined, and means for rocking said support and reciprocating said spout.
13. In an automatic fuel feeder the combination with a fuel supply, of a spout adapted to discharge fuel upon the grates, means for conveying fuel from said supply to said
spout, the rotative ring support 42, having the segmental gear 45, and a pivotal connection with said spout, a bearing for said ring, the lever arm 52 attached to said spout, and means operating upon sald segmental gear and said lever arm respectively. for oscillating said spout.
14. In an automatic fuel feeder the combination with a fuel supply, of a spout adapted to discharge fuel upon the grates, means for conveying fuel from said supply to said spout, the rotative ring support 42, having the segmental gear 45, a support for sald rotary ring, the ring 46 pivotally supported within said ring 42, means for attaching said spout to the ring 46 , means for reciprocating sald spout, and ineans for rocking the ring 42.
15. In an automatic fuel feeder the combination with a inel supply, of a spout adapted to discharge fuel upon the grates, means for conveying fuel from said supply to said spout, the rotative ring 42, baving the segmental gear 45, and a pivotal connection with said spout, a support for said ring, the lever arm 52 attached to said spout, the drive wheel 62, and operating connections between said wheel 62 and the segmental gear 45 and said lever respectively, Whereby said spout is both reciprocated vertically and rocked.
16. In an automatic fuel feeder the combination with a fuel supply, of a spout adapted to discharge fuel upon the grates, means for conveying fuel from said supply to said spout, the rotative ring 42 having the segmental gear 45 and a pivotal connection with said spout, a support for sald ring, the lever arm \(5 \overline{2}\) attached to said spout, the driven wheel 62, and operating connections between said wheel 62 and the segmental gear 45, and said lever respectively, whereby said spout is both reciprocated vertically and rocked, and means for adjusting the rotation of said ring 42.
17. In an automatic fuel feeder the combluation with a fuel supply, of a spout adapted to discharge fuel upon the grates, means for conveying fuel from said supply to said spout, the rotative ring 42 having the segmental gear 45 and a pivotal connection with said spout. a support for said ring, the lever arm 52 attached to said spout, the driven wheel 62, and operating connections between said wheel 62 and the segmental gear 45 , and sald lever, respectively, whereby said spout is both reciprocated vertically and rock--d, and means for adjusting the throw of said lever arm 52 . 18. In an automatic fuel feeder the combination with an fuel supply of means for conveying fuel from said supply to the frebox of a furnace or boiler, a separate spout as a part of said conveying means through which the fuel is discharged, means for pivotally supporting said spout at one end, and means for automatically oscillating the discharge end of said spout at angles with both the horizontal and vertical planes, so that the fuel is discharged therefrom upon the grates in zigzag course.

\section*{No. 101,349. Graphite Separator.} Séparateur de plombagine.


John H. Davis, Merritt Aimes and William E. Baldwin, each an assignee of a fourth interest, all of Glen Falls. New York, U.S.A., 2nd October, 1906; 6 years. Flled 21st March, 1906. Recelpt No. 134,137.
Claim.-1. A graphite separator comprising a main trough. means for fecding graphite ore and water thereto, means for maintaining a water lever in the rtough, and a series of partitions in the trough, each provided with a separating plate having its front end located just below said water level, each of sald plates being provided with means for carrying away fine sand and mud from a point near the surface of the water.
2. A graphite separator comprising a main trough, means for feeding graphite ore and water thereto means for maintaining a water lever in the trough, and a series of partitions in the trough each provided with a separating plate having its front end located just below said water level, each of said plates being provided with means for carrying
away fine sand and mud from a point near the surface of the water and each of said plates being located at a lower Irvel than those between it and the point at which the ore enters.
3. A graphite separator comprising a main trough, means for feeding graphite one and water thereto, means for maintaining a water level in the trough, a series of partitions in the trough each provided with a separating plate having its front end located just below said water level. a ach of said plates being provided with means for carrying away fine sand and mud from a point near the surface of the water and a dam located beyond the last plate and extending downwardly from a point above it
4. A graphite separator comprising a trough having a partition, means for maintaining a water level in the trough and a plate located upon said partition and projecting inwardly therefrom, the upper surface of said plate being incllned. sald plate being provided with means for collecting ?nd discharging fine sand and mud from a point just below the water level.
5. A graphite separator comprising a trough having a partuon, an inclined plate located on said partition, said plate having a passage opening from a point just below the water level, and means for conveying water from said passage to the outside of the trough.
6. A graphite separator comprising a trough having a partition, a plate located adjacent to said partition and projecting inwardly therefrom, the upper surface of said plate being inclined and the plate being provided with means for collecting and discharging flne sand and mud from a point just below the water level.
7. A separator comprising a main trough, a series of parlitons therein. each being provided with a separating plate having its front end located just below the water level, each of said plates being provided with means for carrying away fine sand and mud from a point near the surface of the water and a dam located beyond the last plate and extending downwardly from a point above it.
s. A separator comprising a main trough for containing water and a series of partitions in the trough, each provided with a separating plate having its front end located just below the water level, each of said plates being provided with means for carrying away fine material from a point near the surface of the water and each of said plates being located on a lower level than the plates between it and the point at which the matcrial to be operated upon enters the main trough.

No. 101,350. Rope Fitch. \(\Delta\) ttache de corde.


Norman P. Fraser and George C. Fraser, assignees of Muchall E. Boddy, all of Carsonville, Michigan, U.S.A., 2nd October, 1906; 6 years. Filed 25th June, 1906. Recelpt No. 137,253.
Claim.-A rope fastener consisting of a shank having means at one end for connection to a draft appliance and with a laterally curved book at the other end, and a stud extending laterally of the said shank, Intermediate its length and in the same plane, and in the same direction as said hook.

\section*{No. 101,351. Hinged Paper Leaves.} Feuille de papier.
Winfleld and Barker, assignee of James Barker, all of Detroit. Michigan, U.S.A., 2nd October, 1!06; 6 years. Filed 8th September, 1905. Receipt No. 128.279.
Claim.-1. The herein described method of making hinged paper leaves which consists in forming a sheet from pulp, in Iroducing a relatively thin section therein by the removal of stock composing the sheet body, and finally calendering the thinned sheet.
2. The herein described method of making hinged paper shects, which consists in forming a plup web, in thlnning a

section of the web by the removal of stock, and finally finishing the web and calendering the sheet.
3. The herein described method of making hinged paper sheets consisting in forming a single ply pulp web of substantially uniform texture, in forming a plurality of adjacent relatively thin sections therein by the removal of stock along adjoining portions of the web, and finally finishing the thinned web and calendering the sheet.
4. The herein described method of making hinged paper consisting in forming a pulp web of uniform texture throughout, in removing stock uniformly along a continuous portion of the web, producing a relatively thin section therein and in then finising the web and calendering the sheet.
5. A leaf comprising a calendered paper sheet having a correspondingly finished hinge portion formed of a plurallty of relatively thin sections and one or more intermediate sections of the texture of the sheet body.
6. In paper making apparatus the combination of the web forming mechanism, and stock removing means arranged and adapted to operate upon a section or sections of the web.
. In paper making apparatus the combination with the pulp carrier, of web forming mechanism associated therewith, and one or more stock removing members in operative relation to the web, adapted to reduce the stock along a section or sections thereof.
8. In paper making apparatus the combination whe the pulp carrier, of web forming mechanism associated therewith, and one or more adjustable stock removing members in operative relation to the web, adapted to reduce the stock along a section or sections thereof.
9. In paper making apparatus the combination with the pulp carrier, of the coucher roll in operative relation thereto, and one or more projecting ribs or bands upon said roll, for the purpose described.
10. In paper making apparatus the combination with the pulp carrier, of the coucher roll in operative relation thereto, and one or more adjustable projecting ribs or bands upon said roll, for the purpose described.
11. In paper making apparatus the combination with the pulp carrier, of the coucher roll assoclated therewith, and a plurality of immediately adjacent and circumferentially extending ribs or bands adjustably arranged upon said roll, substantially as and for the purpose described.

\section*{No. 101,352. Ring Expander.}

\section*{Apparcil d̀ élargir les anncaux.}

The Novelty Engincering Association, assignee of Alfred M. Remington, all of Fitchbourg, Massachusetts, U.S.A., 2nd October, 1906: 6 years. Filed 15th September, 1906. Receipt No. 139,517.
Claim.-1. A ring expander comprising a pressing device adapted to be oscillated around a mandrel, said pressing device comprising a pair of levers pivoted together and having rollers designed to operate upon the ring and bear upon the mandrel, the roller of one lever being adjustable with respect to the main portion of that lever.
2. A ring expander comprising a pressing device adapted to be oscillated upon the ring. said pressing device comprising a pair of levers pivoted together, one of said levers having a plurality of rollers and the other being provided with one roller, the plurality of rollers being adapted to engage with a ring holding means and the single roller to engage with the ring and means for adjusting the single roller with ruspect to its lever.
3. A ring expander comprising a pair of levers movably 'secured together, one lever having a plate movably attached
thereto, and a roller on said plate, and the other lever having. a pair of arms each being provided with rollers.

4. A ring expander comprising a pair of levers and a plate, said levers and plate being pivoted together at the same point, a screw mounted upon one of said levers for adjusting said plate upon its pivot in respect to the lever upon which the screw is mounted, sald plate belng provided with a roller and one of sald levers being provided with a plurality of rollers located beyond the ends of the sald first-mentioned roller.
5. A ring expander comprising a pair of levers movably connected together, one lever having a plate pivoted thereto, means for adjusting said plate about its plvot, a roller on said plate and a roller on the other lever.
6. A ring expander comprising a pair of levers movably connected together, one lever having a plate movably and adjustably attached thereto, a roller on said plate and a roller on the other lever.
7. A ring expander comprising a pair of levers, a plate, said levers and plate being pivoted together, means mounted upon one of the levers for adjusting the plate upon its pivot with respect to that lever, a roller on sald plate and a plurality of rollers on the other lever, the said last-mentioned rollers being located beyond the ends of the first-mentioned roller.

No. 101,353. Telephone Exchange Eystem. Systime d'échange de téléphone.


The Bell Telephone Company of Canada, Montreal, Quebec, Canada, assignee of Albert Morrison Bullard, New York City, New York, U.S.A., 2nd October, 1906; 6 years. Filed 18th September, 1906. Receipt No. 139,597.
Claim.-In an automatic telephone exchange, the combination with a telephone line, of a selector individual to the line having a movable contact brush, a stationary contact terminals of other lines, and electro-magnetic stepping

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mechanism for trailling said contact brush across said terminals, a selecting interrupter at the sub-station arranged to control said electro-magnetic mechanism to advance the contact brush to the terminals of a wanted line, a relay \(k\) in a local curcult with said stepping mechanism adapted to connect the said contact brush with the calling line, a short circuit for said relay, and a switch at the sub-station actuated in the return of the selecting interrupter to its normal position or maintaining sald circuit during the operation of said interrupter, whereby the telephone line is disconnected from the contact brush of its selector during the selecting operation and then connected with said brush, substantially as set forth.
2. In an automatic telephone exchange, the combination with a selector having a movable contact brush adapted to form the terminal of a calling line, stationary contacts of other lines with which said movable brush is adapted to be engaged, means for applying test potential to the stationary contact terminal of a busy line, a local test circuit from said movable contact brush, including the winding of a test relay, busy notification apparatus controlled by said test relay, a selecting interrupter at the substation, a switch actuated upon the return of said interrupter to its normal position after the selecting operation, means at the central office controlled by said switch for closing the test circuit. a slow acting relay \(k\) at the central office controlling said test circuit, said relay \(k\) being also controlled through the agency of sald substation switch, said relay \(k\) being adapted when excited to extend the circuit of the calling line to said movable contact brush, and means controlled in response to the test relay for blocking said slow acting relay, whereby the movable contact brush remains disconnected from the calling line when the called line is busy, but when the called line is not busy the test relay is cut off in the response of said relay \(k\).
3. In an automatic telephone exchange, the combination with a telephone line and a selector therefor comprising a selector switch arm, a stepping magnet and a retaining magnet, of a connecting relay \(k\) adapted to complete the circuit of the line to the selector switch, a selecting relay \(c\). a ringing relay \(a\), means for controlling said relay \(a\) and \(c\) independently or simultaneously from the substation, a local circuit including the stepping magnet. the retaining magnet and the connecting relay \(k\), controlled by the selecting relay \(c\), and a short circuit of the controlling relay controlled by the ringing relay \(a\).
4. In an automatic telephone exchange, the combination with the selector switch, the stepping and retaining magnets therefor, a local circuit including said magnets and means for controlling sald circuit from the substation, of a connection relay \(k\) adapted to complete connection of the line through to the selector switch, means for exciting said relay controlled at the substation in the selecting transmitter mechanism, and a short circuit of the stepping magnet established in response of said connecting relay.
5. In an automatic telephone exchange, the combination with a telephone line, of a selector comprising a switch arm stepping and retaining magnets and a slow acting connecting relay \(k\) adapted to extend the circult of the line to the selector switch, a selecting relay controling a local circuit through the stepping and retaining magnets and through the magnet of connecting relay \(k\), a test relay \(t\), said relays \(k\) and \(t\) being each adapted when excited to cut out the other, a ringing relay \(a\), a test circuit bringing the test relay into operative relation to the selector to respond to the test potential at the terminal of the wanted line, said test circuit being closed by the ringing relay \(a\) when excited, said relay being also adapted when excited to break a short circuit normally maintained thereby around the connecting relay, and selector transmitter mechanism at the substation adapted first to intermittently close the circuit of the selecting relay and finally to close the circuit of both selecting and ringing relays, whereby the selector arm is advanced by the stepping magnet of the terminal of the wanted line, the circuit of the test relay is made momentarily effective, and the connection is finally completed upon the response of the relay \(k\) if the wanted line is free, or blocked if the test relay is excited.
6. In an automatic telephone exchange, the combination with a telephone line, of the selecting and ringing celays a and \(c\), and means at the substation for controlling said relays independently and simultaneously, of the selector comprising a switch, a stepping magnet and a retaining magnet. a slow acting connecting relay and a test relay arranged to cut out each other when excited, a local circuit including said stepping and retaining magnets and said connecting relay controlled by said selecting relay, a circuit for the test relay closed by said ringing relay and a short circuit 8 of the connecting relay opened by sald ringing relay. when the same is excited, said connecting relay having contacts adapted when the relay is excited to open said
short circuit 8 at another point and to close a short circuit of the stepping magnet, whereby upon the response of rald connecting relay it is maintained excited and the selector switch maintained stationary under the control of the selecting relay alone
7. In an automatic telephone exchange, the combination Hith a telephone line, of a selector comprising connection turminals for the other telephone lines and a movable swiltch arm carrying brushes adapted to trail over sald termiuals in the movement of the arm, a stepping magnet adapted when energized to advance said arm, a retaining magnet adapted to hold said arm in its advanced position, a connecting magnet controlling the connection of said brushes with the line, a circuit for sald magnets, a normally closed shunt about said connecting magnet, switching mechanism at the substation adapted to effect the intermittent completion of sald circult to cause the stepping magnet to advance the arm to the desired terminals, and means controlled from the substation adapted to open said short circuit after said switch arm reachist the proper terminal.
8. In an automatic telephone exchange, the comblnation with a telephone line extending in two limbs 1, 2, from a subatation to the poles of a srounded source of current, of a switch at the substation controlling the circuit, a relay \(c\) at the contral office between the free pole of said battery and the live, a selector carrying connection terminals for each of the other telephone lines, a movable switch arm for said seloctor carrying brushes adapted to trail over said ierminals in the movement of the switch arm, electro-masnetic mechanism for advancing said arm, a circuit of said mechanism controlled by relay \(c\), selective mechanism at the substation adapted to open the line circuit and intermittently ground the limb of the line connected with the free pole of the battery, whereby the switch arm may be advanced into engagement with the terminals of any desired line, normally open branches leading from said limbs 1,2 , to the brushes of said arm, a relay controlling the continuiny of said branches a circuit for said relay, a relay a controlled from the substation adapted to complete said circuit as sald brushes reach the desired connection terminals. a source of ringing current, and means controlled by the substation for connecting the same with sald branches after the brushes reach the proper terminals.
9. In an automatic telephone exchange the combination with a telephone line extending in two limbs 1, 2, from a substation to the poles of a grounded central battery, \(\mathfrak{m}\) resay c between the free pole of sald battery and the limb of the line, a selector carrying connection terminals for the other telephone lines and a movable switch arm having rushes adapted to engage said terminals in the movement of said arm, normally open branches leading from said limbs 1, 2, to said brushes, a magnet for advancing said arm, a retaining magnet adapted to hold the arm in its advanced position, a magnet \(k\) controlling the continuity of suid branches, a circuit including all of said magnets controlled by relay \(c\), a normally closed shunt around magnet \(k\), selective step-by-step mechanism at the substation adapted to first open the line circuit and successively ground the limb of the line connected with the free pole of the battery, whereby relay \(c\) makes and breaks the circuit of the stepping magnet to advance the switch arm to the desired connection terminal, a relay a controlled from the substation adapted as the switch arm reaches the end of its travel to break the shunt around relay \(k\), and a shunt around the stepping magnet closed by relay \(k\) when energized.
10. In an automatic telephone exchange the combination with a telephone line, a selector at the central office comprising connection terminals for the other lines in the exchange and a movable switch arm carrying brushes adapted to engage said terminals, electro-magnetic mechanism controlled from the substation adapted to advance said switch erm, whereby said brushes may be brought into engagement with the terminals of any desired line, a sluggish acting relay \(k\) controlling the connection of said brushes with the line, a circuit for said relay, a switch at the substation udapted to complete sald alrcuit after the switch arm reaches the proper terminal, a test rolay connected during the test of the called line from earth through contacts controlled by relay \(k\) with the switch arm, a grounded source of curront associated with each of the other lines, means for connectlog the free pole of said battery with the free connection terminals of any busy line upon the different selectors, a source of tone producing current adapted to be connected with the calling line by said test relay, and normally closed contacts inctuded in the circuit of said sluggish relay controlled by said test relay, whereby if the line wanted is husy the circuit of the test relay will be completed to apply the busy test current to the line, and open the circuit of relay \(k\). but if the called line is tree, the relay \(k\) in connecting the switch arm with the calling line will disconnect the l.ast relay from the switch arm.
11. In an automatic telephone exchange the combination with a telephone line, of a selector for said line comprising connection terminals for the other lines and a movable switch arm carrying brushes adapted to engage sald terminals, a similar individual selector for each of the other arm, a retaining magnet adapted to hold the switch arm lines, a stepping magnet adapted to advance said switch in its advanced position, a circult for sald magnets, mechanism controlled from the substation adapted to successively nake-and-break said circuit to effect the advancement of said switch arm, a sluggish acting relay \(k\) controlling the connection of said brushes with the line, a circuit for said magnet, a switch at the substation adapted to complete said circuits after the brushes reach the proper terminals, a quick acting test relay connected the instant the brushes make connection with the called line from earth through contacts of relay \(k\) with one of the brushes of the switch arm, a source of grounded current connected with all the corresponding free terminals of a busy line, a source of tone test current adapted to be connected with the calling line by said relay when energized, normally closed contacts included in the circuit of said sluggish relay and controlled by the test relay, a source of ringing current, a relay a controlled from the substation adapted to connect sald source with one of the brushes when the relay \(k\) becomes ecergized, a locking winding for the test relay, and a circult for said winding controlled jointly by said relay \(c\) and the test relay. Whereby if the wanted line is busy the test relay is operated to open the circuit of relay \(k\) and apply. busy test current to the calling line, but if the called line is iree, relay \(k\) is energized, connecting the brushes with the calling line, disconnecting the test relay from the switch arm, and permitting relay \(a\) to apply ringing current to alaid orush.

No. 101,354. System of Moter Control.
syateme de controle de moteur.


The Otis Fensom Elevator Company, Jersey City, assignee of August Sundhy, Yonkers, New York, U.S.A., 2nd October, 1906; 18 years. Filed 15th February, 1906. Receipt No. 132,926.
Claim.-1. The combination with an alternating current motor, of controlling means therefor, and an electro-responsive device arranged to control a single phase circult to sald motor controlling means.
2. The combination with an alternating current motor, of controlling means therefor, and an electro-responsive device connected in a single phase circuit to mains of said motor to control a circuit to sald motor controlling means. 3. The combination with an alternating current motor, of motor controlling means, and circuits and connections of an automatic push button controlled elevator system comprising a single phase magnet and a floor controller to effect the closure of a circuit to said motor controlling means through said floor controller when said magnet is energized.
4. The combination with a multi-phase motor, of motor controliling means, and circults and connections of an automatic push button controlled elevator system comprising single phase magnets corresponding to the various floors, and a floor controller, to effect the closure of a single phase circuit when one of sald magnets is energized.
5. The combination with a multi-phase motor, of motor controlling means, and circults and connections of an automatic push button controlled elevator system comprising a single phase magnet arranged to be operated from the car to prevent interference from the landing push buttons. 6. The combination with a multi-phase motor, of motor controlling means, and circuits and connections of an automatic push button controlled elevator system arranged to be eenrgized by single phase current, said circuits and connections comprising a non-interference magnet controlled
from the car, and a holding magnet controlled by said noninterference magnet.
7. The combination with an alternating current motor, of motor controlling means, circuits and connections of an automatic push buttōn controlled elevator system comprising a single phase non-interference magnet controlled from the car, a compensating inductive resistance controlled from a landing, and floor relays controlled from either.
8. The combination with alternating current motor controlling means, a relay for automatically controlling a circuit to said motor controlling means, an inductive resistance in a normally open circuit with said relay. means for manually closing the circuit between sald relay and inductive resistance, and means for breaking the circuit to said inductive resistance upon the operation of said motor controlling means.
9. The combination with alternating currenc motor controlling means, of an electro-responsive device for controlling a circuit to said motor controlling means, an impedpnce coil in circuit with said electro-responsive device, a movable core for said impedance coll, and means for interrupting a circuit to said impedence coll as soon as the normal relation of parts of said motor controlling means are changed.
10. The combination with an alternating current motor, of motor controlling means therefor, an electro-responsive device arranged to control a circuit to said controlling means. a choke coil in circuit with said electro-responsive device, and electric circuits and connections to effect the interruption of the circuit to sald choke coil upon the operation of the motor controlling means.
11. The combination with an alternating current motor, of motor controlling means therefor, a relay arranged to control a circuit to said motor controlling means, a choke coil in a circuit in narallel with said relay, a movable core for said choke coil, and means for interrupting a circuit to sald choke coil after the circuit to said floor controlling means has been established.
12. The combination of a multi-phase motor. with a source of alternating current sunply comprising main lines. motor controlling means. an electro-responsive device for controlling a circuit to said controlling means, an inductive resistance in circuit with said electro-responsive device. a rircuit including said electro-responsive device and said inductive resistance and placed across two of the mains of the source of supply.
15. The combination of a multi-phase motor. with a source of alternating current supply of three or more nhases. sald source comprising main lines. motor controlling means. circuit controlling means for controlling a circuit to sald motor controlling means. an inductive resistance in circuit with said circuit closing means. and a circuit including said inductive resistance connected across a pair of sald mains.
14. The combination with a three-phase motor. of a source of alternating current supply comprising main lines. means romprising a single phase magnet for controlling said motor. a single phase relay magnet. means operated thereby for controlling a circuit to said motor controlling magnet. an impedance coll in circuit with said relay magnet. a movable core for said impedance coll, and a circult including the sald magnets and impedence coll and arranged to be connected across any two of sald mains.
15. The combination with a two-phase motor. of a source of alternating current supply containing three main lines. means comprising a single phase magnet for controlling sald motor, a single phase relay magnet, means operated thereby for controlling a circuit to sald motor controlling magnet. an impedance coll in circuit with said relay magnet. a movable core for said impedance coil. and a circuit including the sald magnets and impedance coil and arranged to be connected across any two of said main lines.
16. The combination with a multi-phase motor, of a source of alternating current supply comprising main lines, an electro-magnetic motor controlling means, a relay, a variable inductive resistance in circult with sald relay and circult and connections connected across any two of said main lines and so arranged that when the circuit to said relay and inductive resistance is closed, a circuit is automatically closed to said electro-magnetic motor controlling means after which the circuit to said inductive resistance is automatically interrupted.
i7. The combination with a car and its motor, of stations, motor controlling means, an electro-responsive device for controlling a circuit to said motor controlling means, an inductive resistance in a normally open circuit, and means at said stations for closing a circuit between said electroresponsive device and said inductive resistance.
18. The combination with an elevator car and its motor, of motor controlling means, a relay, a variable inductive resistance, means at the landings to close a circuit between said relay and inductive resistance, and to effect the closure of a circuit to the motor controlling means, and meaus
operating in conjunction with said motor controlling means to then break the circuit through said inductive resistance and circuit closing means at the landing.
19. The combination with an elevator car and its motor, of motor controlling means, push buttons at the various landings, an inductive resistance in a normally open circuit with said push buttons, a relay for controlling a circuit to said motor controlling means upon a landing push bution being operated to close a circuit between sald inductive resistance and said relay, and means co-acting with said motor controlling means for automatically Interrupting the circuit of said inductive resistance and landing push buttons.
20. The combination with an elevator car and its motor, of motor controlling means, a push button at each landing. push buttons In the car corresponding to the landing push buttons, an inductive resistance connected to the landing push buttons, relays connected to the landing push buttons and the car push buttons, and operable to close a circuit to the motor controlling means and apparatus co-acting With the motor controlling means for interrupting a circuit between the landing push buttons and said inductive resisiance.
21. The combination with an alternating current motor, of an elevator car, electric circuits and connections of an automatic push button controlled elevator system comprising a motor controlling means, a relay for controlling a circuit to said motor controlling means, an impedance coll, a movable core for said coll, a landing push bution arranged when operated to close a circult between said relay and impedance coll, and means mounted on said motor controlling means for interrupting the circuit through said impedance coil established by the operation of said landing yush button.
22. The combination with an alternating current motor of the multiphase type, a source of current supply therefor comprising main lines, an elevator car, electric circuits and connections of an automatic push button controlled elevator system connected to a cross, two of said mains and comprising motor controlling means, a floor controller. a relay for closing a circuit through said floor controller to sald motor controlling means, means for controlling said relay from the car or from a landing, a variable inductive resistance connected in circuit with said relay when said landing controlling means is operated, and means for interrupting the circuit to said inductive resistance after said relay has operated.
23. The combination with a two-phase motor and three supply mains therefor, of an electric car arranged to be operated thereby, electric circuits and connections of an automatic push button controlled elevator system connected across any two of said main lines and comprising motor controlling means, relays for closing circuits to said motor controlling means, a variable inductive resistance, push buttons. one at each landing for closing circuits between said relays and inductive resistance, and means for rendering said push buttons inoperative prior to the starting of said motor.
24. The combination with a motor and motor controlling means, of an electro-responsive device for closing a circuit to said motor controlling means, a variable inductive resist ance, a switch for closing a circuit between sald variable resistance and sald electro-responsive device, means connected with said motor controlling means for interrupting the circuit to said inductive resistance and additional means for interrupting said last-mentioned circuit and maintaining the same interrupted until after the motor has stopped
25. The combination with a motor controlling means, means for controlling a circuit to said motor controlling means, an inductive resistance, a switch for closing a circuit between said circuit closing means and said inductive resistance means for interrupting the circuit to said switch and closing a circuit to render sald switch inoperative until sald lastmentioned circult is interrupted.
26. The combination with an elevator car and its motor, of electric oircuits and connections of an automatic push button controlled elevator system comprising motor controlling means, means controlled from the landings or from the car to close circuits to said motor controlling means, means operated from the car for rendering the landing buttons in operative, a locking circuit closed by said last-mentioncul means so arranged that sald landing buttons remain inoperative until said locking circuit is interrupted.
27. An automatic push button controlled elevator system comprising a car anl its motor, means for controlling said motor, means controlled from any landing or from said car for closing a circuit to said motor controlling means, an rlectro-magnetic switch for interrupting the circuit to the landing buttons to render them inoperative. a second electromagnetic switch arranged to close a locking circuit, means connecting the two switches for maintaining said landing buttons Inoperative until the locking circuit is interrupted.
28. An automatic push button controlled elevator syatem comprising a car and its motor, motor controlling means means controlled from said car or any landing for operating
sall motor controlling means, a switch for interrupting the circuit to the landing buttons, a solenoid connected to the huttons in the car, a core for said solenoid, said core being connected to said switch, a locking circuit, a second switch and a second solenoid both in said locking circuit, a second core connected to sald second switch and mechanically connected to the first core, whereby when the car push button is operated the landing push buttons are rendered inoperative and maintained thus by the closing of the locking circuit until said locking circuit is interrupted.
29. In an automatic push button controlled elevator system, a car and its motor, motor controlling means, means controlled from said car or from a landing for operating said motor controlling means, a non-interference device controlled by the buttons in the car comprising two solenoids, cores for said solenoids, circuits closing means at one end of said cores. a pivoted lever pivotally connected to the other end of said cores, a locking circuit, and electric circuits and connections so arranged that when one core is in its lower position the other is in its upper position, thus opening the circult to the landing buttons and closing the locking circuit when a car button is operated, and means for locking circuit switches to normal when the locking circuit is interrupted.
36. An automatic push button controlled elevator system comprising a push button for each floor or station, push buttons for the car, motor controlling means and electric cirruits and connections therefor, a switch arranged to be oper ated as the motor is started to render the floor push buttons fnoperative during the operation of the motor, a second switch in the circult to the floor push buttons, electromagnetic means controlled by the car push button for opening said second switch, a locking circuit, means controlled by said electro-magnetic means for closing said locking circuit and means for holding said last-mentioned circuit closed so arranged as to prevent the starting of the motor after being stopped until said locking circult has been interrupted at a predetermined point.
31. An automatic push button controlled elevator system comprising an alternating current motor, circults and connections including single phase magnets for controlling the operation of said motor, a variable inductive resistance, manual means for closing a circuit through sald inductive resistance, automatic means controlled from the car for interrupting the circuit to said manual means and inductive resistance, and means controlled by sald automatic means or holding the sald circult to the manual means interrupted until after the car has came to rest.

\section*{No. 101,355. Fly Shield. Moustiquaire.}


William F. Elliott, Dekalb, Illinols, U.S.A. 9th October, 1906
6 years. Filed 30th July, 1906. Recelpt No 138,240.
Claim.-1. An insect shield comprising a body portion shaped to fit under the Jaw of the animal and having a cupshaped lower end fitting over the lips of the animal.
2. An insect shield comprising a body portion shaped to fit under the jaw of the anlmal, and having at one end a ridge extending between the jaw bones, and cup-shaped at the opposite end to fit over the lips of the animal.

No. 101,356. Lifting Device. Appareil à hisser.
Roy Everett Gipple, Williamsville, New York, U.S.A., 9th October, \(1906 ; 6\) years. Filed 19th September, 1906. Recelpt No. 139.622.
Claim.-1. A lifting device comprising a standard, a lifting bar guided on the standard, a detent clutch mounted loosely on the standard and engaging with the lifting bar, a lifting clutch engaging with the lifting bar, a hand lever pivoted on the standard, a shifting rod connecting the hand lever and lifting clutch, and a releasing lever pivoted on the standard and having two sections arranged on opposite sides of the standard and shifting rod and etch bearing at its rear and against the underside of said detent clutch and at its
front end against a shoulder on the shifting rod, substantially as set forth.

2. A' lifting device comprising a standard, a lifting bar gulded on the standard. a detent clutch mounted loosely on the standard and engaging with the lifting bar, a lifting cluch engaging with the lifting bar, a hand lever plvoted on the standard, a shifting rod connecting the hand lever and lifting clutch, and a releasing lever pivoted by a transverse pin to a lug on the standard and comprising two sections arranged on opposite sides of the standard and shifting rod, said sections being connected in front of said pivot pin by a cross bar and each section having an upturned rear arm which bears against the underside of the lifting clutch while its front arm engages with a downwardly facing shoulder on the adjacent side of the shifting rod, substantially as set forth.

No. 101,357. Sectional Tank. Réservoir on sections.


Luther C. Jacques and George Sillman. Spokane, co-inventors, Washington, U.S.A. 9th October, 1906; 6 years. Filed 27th August, 1906. Receipt No. 138,994.
Claim.-1. A sectional tank made up of series of curved segment plates having angled edges, angle irons adapted to engage said angle edges, and bolts for holding sald angle iron to said plates and together, as set forth.
2 . A sectional tank comprising serles of curved segment plates baving angled edges, circumferential angle irons bolted to said plates, vertical angle irons bolted to said curved plates and holding the angled edges of said plates together between sald vertical angle irons, and packing strips held by said vertical angle irons against the edges of the angled portions of said plates, as set forth.
3. A sectional tank made up of a series of curved segment plates having angle edges, circumferential angle irons bolted to said plates, vertical angle plates bolted to said plates at right angles to said circumerential angle irons, bolts passing through the outwardly turned portions of said angle irons and adapted to clamp the angled edges of said plates together, the lower ends of said vertical angle irons having recessed portions adapted to fit over the edges of said círcumferential angle irons, the lower ends of said recessed irons to rest upon the horizontal flanges of said circumferential angle irons, as set forth.

No. 101,358. Hormeshoe. Fer \(d\) cheval.


Charles Alfred Ready, Niagara Falls, New York, U.S.A., 9th October, 1906: 6 years. Filed 17 th September, 1906. Receipt No. 139,562 .
Claim.-A horseshoe consisting of a bar of angle shaped in cross section having one flange extending laterally outward and forming a hoof plate, and the other flange extending downward from the innermost edge of the hoof plate and forming a continuous caulk, said caulk flaring outwardly and having a sharp edge, and said hoof plate having nall holes located near its outer edge and outwardly beyond the edge of the caulk and remote from its upper portion, whereby the caulk will not interfere with the proper driving of the nails in applying the shoe, substantially as set forth.

No. 101,359. Railway Tie. Dormant de chemin de fer.


William A. Rollins, Fort Worth, Texas, U.S.A., 9th October, 1906; 6 years. Filed 14th September, 1906. Receipt No. 139,505.
Claim.-In a rallway the combination with rails having flanged faces, of ties, the upper face of one end of each tie being sloped upward and terminating abruptly to form a vertical rail engaging face, the portion of the tie underlying the sloped portion being cut away to conform to one side of the base flange of a rail, the other side of said flange having its edge abutting the opposite side wall of said cut-away nortion to hold the base flange of the rail tightly in said cut-away portion, the said side wall being of greater height than the thickness of said flange, the portion of each tie intermediate said rails being sloped upwardly and terminating abruptly to form a rail engaging face, the portion of the tie underlying the sloped portion being cut away to conform to one side of the base flange of a rail, the other side of the said flange abutting the opposite side wall of said cut-away portion to hold the base flange of the rail tightly in said cut-away portion, the said tie being placed in a series with their sloped portions extending alternately in opposite directions, the entire surface of the walls forming the recesses of each tie being in close contact with the rail flange.

\section*{No. 101,360. Air Brake Coupler.}

\section*{Joint de frein dair.}

Frank Hatfield Rutherford, Chlcago, Illinois, U.S.A., 9th October, 1906; 6 years. Filed 17th September, 1906. Receipt No. 139,552.
Claim.-1. An antomatic coupler for the train pipes of cars comprising a longitudinally ylelding body, and a spring of flat material engaging and normally keeping the same at the limit of its forward movement.
2. An automatic coupler for the train pipes of cars comprising a longitudinally yielding body, and a spring of flat material engaging the rear end of said coupler and normally keeping the same at the limit of its forward movement.
3. An automatic coupler for the train pipes of cars comprising a longitudinally yielding body, and a spring of flat

material one end of which is permanently secured and the other of which engages and normally keeps said coupler at the limit of its forward movement.
4. An automatic coupler for the train pipes of cars comprising a longitudinally yielding body, and a spring of flat material one end of which is permanently secured above the coupler and the other end of which engages and normally keeps said coupler at the limit of its forward movement.
5. An automatic coupler for the train pipes of cars, comprising a longitudinally yielding body, and a substantially C-shaped spring, one end of which is permanently secured independent of said coupler and the other end of which engages and normally keeps said coupler at the limit of its forward movement.
6. An automatic coupler for the train pipes of cars comprising a longitudinally yielding body, and havinga guide rar extending from its rear end, anda spring of fiat material one end of which is permanently secured independently of said coupler, and the other end of which presses forward acainst sald coupler and is provided with on opening through which said guide bar extends.
7. An automatic coupler for the train pipes uf cars comprising a longitudinally yielding body having a guide bar extending rearwardly therefrom, and a substantially \(C\) shaped spring one end of which is permanently secured independent of said coupler, and the other end of which engages and normally keeps said coupler at the limit of its forward movement, and is provided with an opening through which said guide bar extends.
8. An automatic coupler for the train pipes of cars comprising a longitudinally ylelding body, and having a guide bar extending from its rear end which is provided with a fin. and a spring of flat material one end of which is permanently secured independently of said coupler, and the cther end of which presses forward against said coupler and is provided with an opening through which said guide bar and its fin extends.
9. An automatic coupler for the train pipes of cars comprising a longitudinally yielding body having a guide bar extending rearwardly therefrom which is provided with a fin. and a substantially C-shaped spring one end of which is permanently secured independent of said coupler, and the other end of which engages and normally keeps said coupler at the limit of its forward movement, and is provided with an opening through which said guide bar and its fin extends.
10. An automatic coupler for train plpes of cars comprising a longitudinally yielding body, and a flat spring adapted to guide the movements and normally keep sald coupler at the limit of its forward movement.
11. An automatic coupler for the train pipes of cars comprising a longitudinally ylelding body, and a flat spring adapted to limit the rotative movement and normally keeps said coupler at the limit of its forward movement.
12. An automatic coupler for train pipes of cars comprisIng a longitudinally yielding body, and a flat spring adapted ts guide the longitudinal movement of said coupler, limit its rotative movement and normally keep the same at the limit of its forwerd movement.
13. An automatic coupler for the train pipes of cars comprising a iongitudinally yielding body, and a flat spring havirig one end permanently secured independently of said coupler and adapted to limit the rotative movement and normally keep said coupler at the limit of its forward movement.
14. An automatic coupler for the train pipes of cars comprising a longitudinally ylelding body, and a flat spring hav-

Ing one end permanently secured independently of said coupler and adapted to guide the longitudinal movement of said ccupler, limit its rotative movement, and normally keep the same at the limit of its forward movement.
15. The combination with a car, a hanger depending from the end thereof having a suitable opening therein, and a bracket projecting from sald hanger, of an automatic coupler extending through said opening, means suspended from said bracket for independently supporting the forward end of said coupler, and a spring engaging the rear of said coupler and normally keeping the same at the limit of its forward movement.
16. The combination with a car, a hanger depending from the end thereof having a suitable opening therein, and a bracket projecting from said hanger, of an automatic coupler extending through said opening, means suspended from said bracket for independently supporting the forward end of said coupler, and a substantially C-shaped spring the upper end of which is permanently secured independently oi said coupler and engages the rear end of said coupler and normally keeps the same at the limit of its forward movement.
17. The combination with a car, and hanger depending from the free end thereof having a suitable opening therein, and a bracket projecting from said hanger, of an automatic coupler extending through said opening, means suspended from said bracket for independently supporting the forward end of said coupler, and a substantially C-shaped spring the upper end of which is permanently secured independently of said coupler and engages the rear end of said coupler, guides its longitudinal movement, and normally keeps the same at the limit of its forward movement.
18. The combination with a car, a hanger depending from the end thereof having a suitable opening thorein, and a bracket projecting from said hanger, of an automatic coupler extending through said opening, means suspended from said bracket for independently supporting the forward end of said coupler, and a substantially C-shaped spring the upper end of which is permanently secured independently of said coupler and engages the rear end of said coupler, limits the rotative movement thereof, and normally keeps the same at the limit of its forward movement.
19. The combination with a car and a hanger depending therefrom having an opening in its lower end, of an automatic coupler consisting of an engaging head, a rear con-ical-shaped portion or body which passes through said opening, and a narrower central portion or waist connecting the two, and a flat spring adapted to engage the rear end of and normally keep said coupler at the limit of its forward movement.

\section*{No. 101,361. Air Brake Coupler.}

Joint de frein dair.


Frank Hatfeld Rutherford, Chicago, Illinois, U.S.A., 9th October, 1906 ; 6 years. Filed 17th September, 1906. Recelp.t No. 139,553.
Claim.-1. The combination with a car and a longitudinally yielding integral train pipe coupler, of a spring located and exerting a pressure in a plane parallel to the axis of said coupler, and means for applytag said pressure to the rear portion of the same.
2. The combination with a car and a longitudinally yielding train pipe coupler, of a longitudinally disposed spring located and exerting a pressure in a plane parallel to the axis of said coupler, and means for applying said pressure to the rear portion of the same.
3. The combinstion with a car and a longitudinally yielding integral train pipe coupler, of a longitudinally disposed coil spring locsted and exerting a pressure in a plane parallel to the axis of said coupler, and means for applying mid pressure to the rear portion of the same.
4. The combination with a car and a longitudinally yielding integral train pipe coupler, of a spring located and exerting a pressure in a plane parallel to the axis of said coupler, and an arm for transmitting and applying the pressure of said spring to the rear portion of the coupler.
5. The combination with a car and a longitudinally ylelding integral train pipe coupler, of a spring located and exertIng a pressure in a plane parallel to the axis of sald coupler, and a pivoted arm for transmitting and applying the pressure of said spring to the rear portion of the coupler.
6. The combination with a car, a longitudinally yielding train pipe coupler and a hanger having an opening in its lower part through which said coupler passes, and a horizontal portion secured in suitable manner to said car having a lug projecting down therefrom, of an arm pivoted at its upper end to said lug and having its lower end engaging the rear portion of the coupler and a spring pressing sald arm forward.
7. The combination with a car, a longiudinally yielding tirain pipe coupler and a hanger having an opening in its lower part through which said coupler passes, and a horizontal portion secured in suitable manner to said car having lugs projecting down therefrom, of an arm pivoted at its upper end to said lug and having its lower end engaging the rear portion of the coupler. and a longitudinally disposed coll expension spring interposed between the rearmost of said lugs and said arm and normally pressing sald arm forward.
8. The combination with a car and a longitudinally yieldlng integral train pipe coupler. of an arm engaging the rear portion of said coupler, a spring pressing forward against one end of sald arm and an independent spring engaging the other end of the same.
9. The combination with a car and a longitudinally yielding integral train pipe coupler, of a pivoted arm engaging the rear portion of said coupler, a spring pressing forward against one end of said arm and an independent spring engaging the other end of the same.
10. The combination with a car and a longitudinally yielding integral train pipe coupler, of an arm pivoted at one end and engaging the rear portion of said coupler at the other, a coil expansion spring engaging said arm near its pivoted end and a curved spring of flat material engaging the other end of said arm.
11. The combination with a car and a longitudinally yielding integral train pipe coupler, of an arm pivoted at one end and engaging the rear portion of the coupler at the other, a coll expansion spring engaging said arm near its pivoted end and a curved spring of flat material one end of which is secured at a point collateral to said coupler and the other and engages the movable end of sald arm.
12. The combination with a car, a longitudinally yielding train pipe coupler and a hanger therefor, of an arm pivoted at its upper end to the horlzontal part of said hanger and its lower end engaging said coupler and having an opening therein mediate its ends, a horizontally disposed coil expansion spring pressing forward against said arm above said opening, and a C-shaped spring secured at one end to the vertical portion of said hanger extending rearwardly through the opening in said arm and having its upturned lower end engaging the lower end of said arm.

No. 101,362. Harrew. Herse.


George Calvin Stanley, Belle Vernon, 9th October, 1906;6 years. Filed 17th September, 1906. Recelpt No. 139,575. Claim.-1. The combination in a rotary harrow, of a draf: beam provided on its inner end with a depending stem, \({ }^{\text {a }}\) head journalled on said depending stem, a plurality of radially disposed tooth carrying arins carried by said hesd, and teeth carried by said arms, a strap secured to the hesd and to the draft beam, a pair of brackets carried by said stem
and projecting outwardly in opposite direction therefrom and a weighted arm swivelled on the draft beam and supported when projecting to one side of the draft beam by one of said brackets, and when projecting to the opposite side of the draft beam to the other of said brackets.
2. The combination in a rotary harrow, of a rotary frame embodying a central head, rotating arms connected to the head, teeth carried by the arms, a draft beam on which the central head is rotatably mounted, a pair of supporting braces projecting in opposite directions from the head and a weighted arm swivelled on the draft beam and supported by one of said supporting braces when projecting to one side of the draft beam and by the other supporting brace when projecting to the opposite side of said draft beam.

No. 101,368. Nnt Lock. Arrête-écrou.


Frank B. Toffemire, Walkerville, Ontario, Canada, 9th October, 1906; 6 years. Filed 8th August, 1906. Reccipt No. 138,498.
Claim.-1. In a nut lock the combination of a nut, a bolt having a slot on one side longitudinally of its threaded portion with a washer of tempered metal having slashed portlons raised from its plane surface for engagement with the corners of the sald nut, and having a projection in its central aperture for engagement with the slot in the bolt, substantially as described.
2. In a nut lock the combination with a nut and a bolt, of a washer of tempered metal having slashed portions raised from its plane surfare for engagement with the corners of the said nut and having a depressed slashed portion from a part of the edge of the washer other than the raised slashed portions for engagement with the surface of the article held, substantially as described.
3. In a nut lock the combination with a nut and a bolt, of a washer of tempered metal having slashed portions raised from its plane surface for engagement with the corners of said nut and having a depressed nicked portion or portions for engagement with the surface of the article held, substautially as described.
4. In a nut lock the combination with a nut and a bolt, of a washer of tempered metal having slashes from its edges against the direction of the tightening of the nut on the bolt. said slashes forming portions of the washer which are raised from the plane surface of the washer for engagement with the corners of the nut, and a holding or gripping device projecting from the reverse side of the washer for engagement with the surface of the articles held, substantlayy as described.

\section*{No. 101,364. Receptacle for Pouriered Material. Récoptacle pour matières en poudre.}

Whliam West, Camden, New Jeraey, U.S.A., 9th October, \(1906 ; 6\) years. Filed 17 th September, 1908 . Receipt No. 139,591 .
Claim.-1. A receptacle having a cover with an inverted cup-shaped perforated projection and a perforatell cap provided with a downwardly and inwardly inclined fange, and said flange when engaging the wall of the projection adapted to hold the cap securely and movably thereon.
2. A receptacle having a cover provided with an inverted cup-shaped perforated projection surrounded by a depression formed in the receptacle and a perforated catp provided with a downwardly and inwardly Inclined fiange, sald flange When engaging the peripheral wall of the projection adapted to hold the cap securely and movably thereon.
3. A receptacle having a cover provided with a perforated shallow inverted cup-shaped projection and a perforated cap

provided with a downwardly and inwardly inclined fiange, the flange when engaging the peripheral wall of the projection adapted to hold the cap securely and movably thereon and a disc of flexible material arranged between the projection and cap adapted to normally prevent discharge of the contents of the receptacle through the perforations of the cover.
4. A receptacle having a cover consisting of an annular projection provided with a downwardly and inwardly inclined wall terminating in a depression formed in the rereptacle and surrounding said projection, a cap provided with a rib and with a downwardly and inwardly inclined flange, the flange when engaging the peripheral wall of the projection adapted to hold the cap securely thereon, and the rib of the cap adapted to permit of turning of said cap on said projection.
5. A receptacle having a cover consisting of a perforated shallow projection extending slightly above the receptacle and provided with a downwardly and inwardly inclined wall lerminating in a depression formed in the receptacle and a perforated cap provided with a rib and a downwardly and inwardly inclined flange, the flange when engaging the peripheral wall of the projection adapted to hold the cap securely thereon and the rib thereof adapted to permit of turning of the cap on said projection, and a diac of flexible materlal arranged betwern the projection and cap adapted to normally prevent discharge of the contents of the receptacle through the perforations of the cover.
6. A receptacle having a removable lld provided with an inverted cup-shaped perforated projection and a perforated cap provided with a downwardly and Inwardly inclined flange, sald flange when engaging the wall of the projection adapted to hold the cap securely and movable thereon.

No. 101,365. Pocket. Poche.


James G. Clark and Louis F. Mehder, co-inventors, both of Oskosh, Wisconsin, U.S.A., 9th October, 1906; 6 years. Filed 15th September. 1906 . Receipt No. 13y,606.
Claim.-1. In a garment the combination with a patch suitably secured thereto, produacing a pocket, said pocket having a side opening, of an upper and a lower triangular set of stitches extending inwardly only from the side provided with said opening, sald sets of stitches producing a pointed structure and leaving the entire ends and opposite side of the pocket free, said triangular sets of stitches overhanging portions of the upper and lower ends. the upper set of stitches being formed at a more acute angle than the lower set.
2. In a garment, a pocket provided with a vertical side having an entrance through said side contracting in width toward the interior of the pocket, and with receptacles formed above and below the entrance
3. In a garment, a pocket provided with a side entrance thereto, and expanding in width above and below the said estrance.

No. 101,366. Metal Protecting Soles Por Footwoar.
Apparcil de protection en métal pour semelles de chauxsures.


William J. Linwood and Jennie Bennett, co-inventors, both of Raton, New Mexico, U.S.A.. 9th October, 1906; 6 years. Filed 15th September, 1906. Receipt No. 139,538.
Claim.-1. A protecting sole for footwear comprising a skeleton sole plate, fastening devices at the sides and toe of the said plate, a heel casing at the rear of the sole plate, and spring fastening devices at the rear and at the forward portion of the said casing on opposite sides thereof.
2. A protecting sole for footwear, comprising a sole plate, fastening devices at the sides and toe of the plate, a heel casing secured to the shank portion of the heel plate, pivoted and spring pressed fastening arms pivoted at the rear portion of the heel casing and provided with outwardly extending finger pieces, and spring fastening devices at the forward portion of the casing, one on each side thereof.
3. A sole protector for footwear comprising a metal sole plate, a heel casing, oppositely extended fastening arms pivoted in the rear portion of the heel casing, said arms having their free ends extending out through their casing and provided with outwardly extended finger pleces at their pivotal ends. and springs for pressing said arms inward.
4. In a sole protector for footwear. a heel casing. oppositely extending fastening arms pivoted at the rear portion of the casing and having finger pieces at their pivoted endsf said arms having their free ends extending out through the caslog and springs on the outside of the casing and engaging the projecting ends of sald arms.
5. A sole protector for footwear comprising a sole plate, and fastening devices for securing the sole plate on a boot or shoe, said fastening devices having swinging relation to said sole plate and consisting of pivoted plates, and hookshaped keepers on the sole plate for recelving the free ends of said pivoted plates.

No. 101,367. Emut Machine. Emotteur.


Anthony H. Baenen, Jamestown, North Dakota, U.S.A., 9th October, 1906; 6 years. Filed 18th September. 1906. Receipt No. 139.601.
Claim.-1. In a sinut machiue the combination with a casing having a feed spout, of a solution tank having a discharge fancet. a mixing paddie provided in the bottom of said tank, an operating shaft geared to sald paddle, mixing troughs ar-
ranged one above another in caid casing, the upper trough having a receiving opening communicating with sald foed spout and a discharge opening in its opposite end leading to the lower trough, and sald lower trough having a discharge opening in its end opposite from said first-named discharge opening, mixing cylinders provided in said troughs having t series of spirally arranged paddles or mixers on their gurfaces and a suitable gear connecting sald mixing cylinders with said shaft, substantially as described.
2. On a smut machine the combination with a suitable frame and a hopper provided thereon having a foed spout. of a solution tank provided with a discharge faucet, a mixing paddle provided in the bottom of said tank, an operating shaft geared to said paddle, mixing troughs arranged one above another in sald casing, the upper trough having a receiving opening at one end beneath the discharge end of sald feed spout, and a discharge opening in its opposite end leading to a lower trough next beneath, and said lower trough having a discharge opening in its end opposite from said first-named discharge opening, mixing cylinders provided in sald troughs having peripheral paddles or mixers, webs provided at intervals in the bottom of sald troughs and adapted to retard the passage of the grain along said troughs and a driving mechanism connecting said cylinders with said shaft. substantially as described.
3. In a smut machine the combination with a suitable casing, of mixing troughs arranged one above another, the upper trough having a receiving opening at one end communlcating with a feed spout and a solution tank and having a discharge opening in the bottom at the other end and the lower trough receiving the grain at one end from said discharge opening and having a discharge opening in its bottom beneath the receiving end of the upper trough, oppositely revolving mixing cylinders provided in said troughs and having peripheral blades or mixing paddles, and ribs provided at intervals in the bottom of said troughs and adapted to retard the passage of the grain therethrough, and there being ribs contiguous to said discharge openings to prevent dripping and waste of the solution and means for revolving said cy:inders, substantlally as described.

No. 101,368. Hay Fork. Fourche d foin.


Silas W. Gates, Big Timber, Montana, U.S.A., 9th October, 1906; 6 years. Filed 15th September, 1906. Receipt No. 139,264.
Claim.-1. A fork of the class described comprising a rod having cross plates at its ends, end tines pivotally connected in pairs to the said cross plates, sald end tines having arms forming extensions at their upper ends, handle bars to which the said arms are attached and intermediate tines connected to the said rods and having arms secured to the said handle bars, substantially as described.
2. A hay fork of the class described comprising a rod having cross plates at its ends, pairs of end tines pivotally connected to the sald cross plates and having upwardly extending arms, handle bars to which the sald upwardly extending arms are secured, intermediate thes having arms secured to the said handle bars and further provided with protal devices connecting them to the sald rod, substantlally as described.

\section*{No. 101,369. Rack for Frying Oakes.}

Broche pour cuire des gatcaus.
Orlando G. Kelly, Jackson, Michigan, U.S.A., 9th October. 1906: 6 years. Filed 13th August, 1906. Recelpt No. 138,638 .
Claim.-1. In a fried cake frying device, a rack \(C\) provided with ventilating tubes D \(D\) which are open at each end in order to permit the circulation of fat therethrough, and slot \(F\) in combination with the cover \(E\) provided with a slot \(F^{\prime}\)
made to rest upon the tubes \(D \mathrm{D}\) without obstructing the openings of said tubes, the handle \(G\) provided with the hooks


H I to engage the slots \(\mathbf{F} \mathbf{F}^{1}\), all in combination with and for the purpose of securing said rack and cover from separation, substantially as and for the purposes shown and described.
2. In a fried cake frying device the spring handle ring \(G^{1}\) of the handle \(G\) made to engage the bail \(B\) of the kettle or pail \(A\) and in combination therewith and with said rack and cover and arranged to secure the immersion of the rack, cover and contained cakes in the hot fat contained in the kettle or pail, substantially as shown and described.

No. 101,370. Straight Edge for Circular Saws. Réglet pour scies circulaires.


Rartholemy Lafleur, Elkmouth, British Columbia, Canada, 9th October, 1906 ; 6 years. Filed 17th September, 1906. Receipt No. 139,560.
Claim.-1. A device of the class described comprising a resilient blade, a rigid member arranged adjacent the same, and adjustable means between the member and blade for crowning the latter.
2. A device of the class described comprising a resillent Hade, a stiff bar arranged at one side of the blade, and independent adjusting devices between the bar and blade for crowning or bowing the latter
3. A device of the class described comprising a resilient blade, a plurality of members riveted to the blade for preventing buckling thereof, a rigid bar, and devices connected with said members for crowning the blade with respect to the bar and for holding the blade under tension.
4. A device of the class described comprising a resilient blade, a plurality of members having jaws embracing the blade, a threaded rod rigidly connected with the members, a stifl bar having perforations through which the rods extend, and nuts on the rods and engaging the opposite sides of the bar.
J. A device of the class described comprising a resilient blade. a stiff har disposed at one side of the blade, a plurality of means for connecting the blade with the bar and arranged to hold the blade in a crowned position on the bar, and means carried by the bar for holding the blade level on a saw.
6. A device of the class described comprising a resilient blade, an unbending member arranged at one side of the blade, a plurality of means arranged to crown the blade and hold it under tension on the member, and a square adjustably connected with the member for holding the blade level or the saw.

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No. 101,371. Danger Signal. Signal de danoer.


Burns S. Miller, Everett. Washington, U.S.A., 9th October, 1906; 6 years. Filed 17th September, 1906. Receipt No. 139,557.
Claim.-1. An automatic signal apparatus comprising a guard fence, a normally locked spring controlled signal device, means operated by the collapse of the fence for unlocking the device to cause its actuation, an alarm, and means operated by the actuation of the signal device for causing the sounding of said alarm.
2. An automatic signal apparatus comprising a weighted
 lever, a spring controlled signal device, carried by the lever for locking the signal device, a guard fence, and means operated by the collapse of the fence for disconnecting the countcrbalance to cause the actuation of the lever.
3. An automatic signal apparatus comprising a weighted lever, a counterbalance movably connected thereto, a signal device, means carried by the lever for locking said device against movement, an unlocking lever, the connection between said lever and the counterbalance, a guard fence, and a flexible connection between said fence and the unlocking lever adapted on the collapse of the fence to actuate the unlocking lever and relieve the first-mentioned lever of its counterbalance.
4. An automatic signal apparatus comprising a guard fence, a rotatable signal device at each end of said fence, a welghted locking lever for each signal device, a counterbalance movably connected to each locking lever, an unlocking lever connected to each counterbalance, flexible connections between the fence and the locking and unlocking lovers, and a flexible connection between the unlocking levers.
5. An automatic signal apparatus comprising a guard fence, a movable signal device, means operated by the collapse of the fence for actuating said signal device, a second signal device from the frst-mentioned device.
6. An automatic signal apparatus comprising a guard fence, a movable signal device, means operated by the collapse of the fence for actuating said signal device, a second similar device, and means for actuating said second device from the first-mentioned signal device.
7. An automatic signal apparatus comprising a guard fence, a movable signal device, means operated by the collapse of the fence for actuating said device, an alarm, and means operated by the actuation of the signal device for causing the operation of sald alarm.

No. 101,372. Storage Water Heater.

\section*{Chauffeur d'eau.}

Edwin Ruud, Pittsburg, Pennsylvania, U.S.A., 9th October, 1906; 6 years. Filed 15th September, 1906. Receipt No. 139,522.
Claim.-1. In a storage heater system the comblnation of a beating appllance, a hot water storage reservoir, a thermostatic regulator connected with said reservoir, a valve controlling the supply of fuel to the reating appliance. and means actuated by the thermostatic regulator for immediately fully opening and completely closing the controlling valve in accordance with variations of temperature in the storage reservolr.
2. In a storage water heater system the combination of a heating appliance, a hot water storage reservoir, a thermostatic regulator connected with said reservoir, a valve controlling the supply of fuel to the heating appliance, mechanism actuated by the thermostatic regulator for opening and closing the controlling valve in accordance with variations of temperature in the storage reservoir, and a device for
offecting the immediate full traverse of said valve in its opening and closing movements.

3. In a storage water heater system the combination of a heating appliance, a hot water storage reservoir, a thermostatic regulator connected with said reservoir, a valve controlling the supply of fuel to the heating appliance, means actuated by the thermostatic regulator for immediately fully opening and completely closing the controlling valve in accordance with variations in temperature in the storage reservoir, and a pilot burner for igniting the fuel when supplied to the heating appliance by the controlling valve.
4. In a storage water heater system the combination of a heating appliance, a hot water storage reservoir, a thermostatic regulator connected with said reservoir, a valve for controlling the supply of fuel to the heating appliance and a system of levers actuated by the thermostatic regulator for immediately fully opening and completely closing the controlling valve in accordance with variations of temperature in the storage reservoir.
5. In a storage water heater system the combination of a heating appliance, a hot water storage reservoir, a thermostatic regulator connected with sald reservoir, a valve for controlling the supply of fuel to the heating appllance, a system of levers actuated by the thermostatic regulator for opening and closing the controlling valve in accordance with variations of temperature in the storage reservoir, and a device for effecting the immediate full traverse of said valve in its opening and closing movements.

No. 101,373. Thermomstatic Valve for Water Heating.
Soupape thermostatique pour chanffeur d'cau.


Edwin Ruud, Pittsburg, Pennsylvania, U.S.A., 9th October, 1906; 6 years. Filed 15th September, 1906. Receipt No. 139,523
Claim.-1. In a water heater the combination with a fuel valve and thermostatic regulator therefor, of means for holding the valve in open and closed position and means gradually actuated by the thermostatic regulator for abruptly actuating said valve opening and closing means.
2. In a water heater the combination with a fuel valve and thermostatic regulator therefor, of means for holding the va!ve in open and closed position having a postive connection with sald valve but no connection with the thermostatic regulator, and means for abruptly actuating said valve opening and closing means having a positive connection with the thermostatic regulator and a loose connection with the first-named means.
3. In a water heater the combination with a fuel valve and thermostatic regulator therefor, of a spring influenced lever adapted to hold the valve in open or closed position and a similar lever gradually actuated by the thermostatic regulator for abruptly tripping the first-named lever.

4 In a water heater the combination with a fuel valve and thermostatic regulator therefor. of a spring influenced lever having a positive connection with said valve but no connec-
tion with the thermostatic regulator and a similar lever having a positive connection with the thermostatic regulator and a loose connection with the first-named lever.
4. n a water heater the combination with a fuel valve and and thermostatic regulator therefor, of a pivoted lever one arm of which is positively connected with the valve stem and the other arm acted upon by a spring, and a duplicate cranked and pivoted lever having an arm positively connected with the thermostatic regulator but loosely connected with the first-named lever and the other arm acted upon by a spring.
5. In a water heater the combination with a fuel valve and and thermostatic regulator therefor, of a pivoted lever positively connected with the valve stem and adapted to hold the valve in oper and closed position under the influence of a spring which is capable of being moved between two extreme positions so as to exert a thrust tending to movt the lever in opposite directions alternately, and a similar lever and spring positively connected with the thermostatic regulator capable of an initial movement independent of the first-named lever and adapted to substantlally trip such lever abruptly.
7. In a water heater the combination with a fuel valve and ithermostatic regulator therefor, of a cranked lever pivoted at an intermediate point in 1 ts length, ahead on one arm of said lever located between and positively engaging adjustable collar upon the valve stem, a second cranked lever, working on the pivot of the first-named lever, a head on one arm of sald second lever located between said adjustable collar but capable of engaging only one collar at a time, a connection between this arm of the second lever and one of the levers of the thermostatic regulator and springs acting upon the ends of the remaining arms of both levers adapted to be displaced from one position in which they oppose movement of the levers to a position in which the movement is assisted.
8. In a water heater the combination with a fuel valve and thermostatic regulator therefor, of means for holding the valve in open and closed position and means for abruptly actuating said valve opening and closing means having a yielding connection with the thermostatic regulator.
9. In a water heater the combination with a fuel valve and thermostatic regulator therefor, of a pivoted lever positively connected with the valve stem and adapted to hold the valve in open and closed position under the influence of a spring which is capable of being moved between two extreme positions so as to exert a thrust tending to move the lever in opposite directions alternately, a similar lever and spring capable of an initial movement independent of the first-named lever and a yielding connection between the second lever and the thermostatic regulator.
10. In a water heater the combination with a fuel valve and thermostatic regulator therefor, of a cranked lever pivoted at an intermediate point in its length, a head on one arm of said lever located between and positively engaging adjustable collars upon the valve stem, a second crank lever working on the pivot of the first-named lever, a head on one arm of said second lever located between said adjustable collars but capable of engaging only one collar at a time, a wing upon said arm of said second lever, a projection and spring provided upon the last of the system of levers of the thermostatic regulator between which said lever wing is engaged, and springs acting upon the ends of the remaining arms of both levers adapted to be displaced from one position from which they oppose movement of the levers to a position in which the movement is assisted.

\section*{No. 101,374. Electric Fumace for Making Steol. Fournaise électrique pour l'acier.}

Gustave Gin, Paris, France, 9th October, 1906; 6 years. Filed 10th May, 1906. Rceeipt No. 135,768.
Claim.-1. Form of construction of an electric furnace for the fabrication of steel by means of solid or liquid materials allowing of the operations of fusion, refining and recarburetting being continuously carried on and characterized by a series of three compartments, the first of which serves for the fusion of the metal, the second for the deoxidizing of the dissolved oxides and recarburetting, and the third for the finishing of the steel, the electric current passing in totality through the oxydizing compartment, the scoria of which is an oxidant and being distributed parallelly in the other two compartments the slag of which is neutral and scarcely reducible.
2. The arrangement of the orifices of communication on which are covered by the bath or emerge therefrom according to the side to which the furnace is tilted or Inclined so that during the running off of the finished metal, the metab of compartment 2 is prevented from entering compartment 3 , and when the furnace is inclined in a contrary dfrection
communication is established between 2 and 3 without the metal of compartment 1 being able to mix with that of No. 2.

3. The placing in the channel of communication between the compartments 1 and 2 of a bar of solid steel which prevents the mixing of the metals when in equilibrium whilst sometimes allowing of a passage from compartment 1 to compartment 2 when, after running off, a difference of level exists between the baths, the interposition of this bar being in no way an obstacle to the passage of the current.

No. 101,375. Metallic Clip for Furring. Cheoillage métallique pour cannelure.


George Henry Pedlar, Oshawa, Ontario, Canada, 9th October, 1906; 6 years. Filed 18th August, 1906. Receipt No. \(138,807\).
Claim.-1. Metal clips for furring fastened in series to a metal strip, and so formed and adapted as to engage in studs, substantially as and for the purposes described.
2. The combination of metal clips for furring fastened in the wall and shaped so as to enter a groove or valley in a metal stud, and with a shoulder with metal studs having a groove or valley to receive the shaped ends of the clips, substantially as end for the purposes described.

No. 101,376. Metallic Lathing Stad. Etaí pour lattes métalliques.






George Henry Pedlar, Oshawa, Ontario, Canada, 9th October 1906. 6 years. Filed 18th August, 1906. Recelpt No 138,808.
Claim.-1. For use in buildings metal studs formed from sheet metal of a \(T\) shape in combination with projecting sheet metal of a la she lathing, substantially as and for the hooks to hang meta
2. Metal studs formed from sheet metal of a \(T\) shape with projecting hooks for metal lathing, in combination with the pronnecting clip \(C\) for connecting the same in pairs, substanconnectially and for the purposes described.
3. Metal studs formed from sheet metal. of a \(T\) shape with projecting hooks for metal lathing, in combination with the attaching clip \(K\) for attaching the ends, substantially as and for the purposes described.
for the purposes described.
4. Metal studs formed from sheet metal, of a E shape with projecting hooks for metal lathing, in combination with the attaching clip \(C\) and the top and bottom rails \(P\) and \(R\), subattaching clip C and the purposes described.
stantially as and for the purposhioned with recesses to re-
5. The connecting clip C fashioned with recesses to re-
eive the studs and with lugs to be clamped in the studs, ceive the studs and with the purposes described.
6. The attaching clip \(K\) formed of sheet metal to envelope the ends of studs with lugs to be clamped therein, substantlally as and for the purposes describer.
No. 101,377. Centrifugal Cream Separator.
Séparateur à crême centrifuge.


Jules Persoons and Alphonso Persoons, Thildonck, Belgium, 9th October, 1906; 6 years. Flled 24th November, 1905. Receipt No. 130,386.
Claim.-1. In a centrifugal cream separater, a frame, a driving mechanism supported by said frame, a centrifugal drum rotated by said driving mechanism, a rod at the end of
which the centrifugal drum is ireely suspended, a movable guide for the said rod, said guide comprising a block, a band to which said block is fixed, and means for tensioning the band during the action of the machine and a collecting casing surrounding the centrifugal drum, substantially as described and for the purpose set forth.
2. In a centrifugal cream separator, a frame, a driving mechanism supported by said irame, a centrifugal drum rotated by said driving mechanism, a rod at the end of which the centrifugal drum is freely suspended. a movable guide for the said rod, said guide comprising a splitted block, a band having a certain elasticity end to which said block is fixed at one slde and means for tensioning the band and a collecting casing surrounding the centrifugal drum, substantially as desoribed and for the purpose set forth.
3. In a centrifugal cream separator, a frame, a driving mechanism supported by said frame, a hollow shaft rotated by said driving mechanism, a rod extending through sald hollow shaft, a friction sleeve acting on the upper end of the hollow shaft, a nut fixed to the end of the rod, a spring connecting the said nut to the friction sleeve, a centrifugal drum freely suspended at the end of the rod, a movable guide for the sald rod and a collecting casing surrounding the centrifugal drum, substantially as described and for the purpose set forth.
4. In a centrifugal cream separator. a frame, a driving mechanism supported by said frame, a hollow shaft rotated by said driving mechanism, a rod extending through said hollow shaft, a friction sleeve acting on the upper end of the hollow shaft, a nut fixed to the end of the rod, a spring connecting the sald nut to the friction sleeve. a centrifugal drum freely suspended at the end of the rod. a movable guide for the said rod, sald guide comprising a block. a band to which said block is fixed and means for tensioning the band and a collecting casing surrounding the centrifugal drum, substantially as described and for the purpose set forth.
5. In a centrifugal cream separator, a frame, a driving mechanism supported by said frame, a centrifugal drum being formed of a drum body, a cover and a bolt connecting the drum body and the cover, a rod at the end of which tha, centrifugal drum is freely suspended and through which the sald drum is rotated. a movable gulde for sald rod and a collecting casing surrounding the centrifugal drum, substantially as described and for the purpose set forth.
6. In a centrifugal cream separator, a frame. a driving mechanism supported by said frame. a hollow shaft rotated by said driving mechanism. a rod extending through sald hollow shaft. a iriction sleeve acting on the upper end of the hollow shaft. a nut fixed to the end of the rod. a spring connecting the sald nut to the friction slecve, a centrifugal drum freely suspended at the end of the rod. said drum comprising a drum body. a cover and a bolt connecting the drum body and the cover a movable guide for the drum carrying rod and a collecting casing surrounding the.centrifugal drum. substantially as described and for the purpose set forth.
7. In a centrifugal cream separator, a frame, a driving mechanlsm supported by said frame. a hollow shaft rotated by sald driving mechanism. a rod extending through said hollow shaft, a friction sleeve acting on the upper end of the hollow shaft, a nut flxed to the end of the rod, a spring connecting the said nut to the friction sleeve, a centrifugal drum freely suspended at the end of the rod, sald drum comprising a drum body, a cover and a bolt connecting the drum body and the cover, a movable gulde for the drum carrying rod, said gulde comprising a block, a band to which said block is fixed and means for tensloning the band, and a collecting casing surrounding the centrifugal drum, substatially as described and for the purpose set forth.
8. In a centrifugal cream separator, a frame, a driving mechanism supported by said frame, a centrifugal drum rotated by said driving mechanism, a false bottom placed in sald drum. the said bottom being provided with stamped ribs, a rod at the end of which the centrifugal drum is freeis suspended, a movable guide for the said rod and a collecting casing surrounding the centrifugal drum, substantially as described and for the purpose set forth.
9. In a centrifugal cream separator, a frame, a driving mechanism supported by said frame, a centrifugal drum rotated by said driving mechanism, a rod at the end of which the centrifugal drum is freely suspended, a movable guide for the said rod and a collecting casing surrounding the centrifugal drum, said casing comprising an upper part integral with the frame, a lower part, a pivot connecting the lower part to the upper part in such a manner that the casing is adapted to be open horizontally and a flange formed on the upper part for securing a tight connection of the upper and lower parts, substantially as described.
10. In a centrifugal separater, a irame, a closed casing formed at the upper part of said frame, a driving mechanism located in the sald closed casing, a hollow shaft rotated by
sald driving mechanism, a rod extending through said hol low shaft, a friction sleeve acting on the hollow shaft and connected to the rod passing through sald shaft, a centrifugal drum suspended at the end of the rod, a movable fuide for the said rod, said guide being arranged immediately below the driving mechanism, a vessel in which said guide is placed, the sald vessel being in communication with the closed casing of the frame so as to return the oil back into the closed casing of the frame and a collecting casing surrounding the centrifugal drum, substantially as described.

No. 101,378. Steam Turbine. Turbine d vapeur.


The Honourable Charles Algernon Parsons, Heaton Works,
Newcastle-on-Tyne, England, 9th October, 1906; 18 years. Filed 17th July, 1906. Receipt No. 137,896.
Claim.-1. In combination with an axial flow turbine, means for controlling the expansion of fixed and moving parts so as to simultaneously maintain the predetermined clearances at the packings, substantially as described.
2. In combination with an axial flow steam turbine, means for equalizing and controlling the expansions of fixed and moving parts relative to a fixed point such as a thrust block, substantially as described.
3. In combination in an axial flow steam turbine, a thrust block on the turbine shaft, packings arranged at various distances along the turbine shaft and arms, means for equalizing the expansions of fixed and moving parts from said thrust block, substantially as described.
1. In combination in an axial flow steam turbine, a thrust block on the turbine shaft, packing arranged at various distances along the turbine shaft and drum, chambers in the fixed or moving parts for the circulation of fluid, substantially as and for the purposes described.
5. In combination in an axlal flow steam turbine, a thrust block on the turbine shaft, packing arranged at various distances along the turbine shaft, fluid circulating chambers in these parts of the turbine removed for the heating action of the working fluid, substantially as and for the purposes described.
6. In combination in an axial flow steam turbine, a thrust block on the turbine shaft, packings larrangad at various distances along the shaft and turbine drum, heat ing chambers in the turbine casing arranged to cause equal expansion of fixed and rotating parts relative to said thrust block, substantially as described.
7. In combination with an axial flow steam turbine, a thrust block on the turbine shaft, labyrinth packings arranged at various distances along the shaft or turbine drum, a fluid circulating chamber on the end of the turbine case, the fluid circulating through which maintains a uniform temperature throughout the case shaft and drum, substantially as described.
8. In a turbine of the axial flow type, means for malntaining the predetermined clearances at the packings arranged at various distances apart along the turbine drum and shaft, comprising a steam jacket on the end casing, a lantern space \(h\) around the gland packing, a communicating passage between said lantern space and said jacket, substantially as described.
9. In a turbine of the axial flow type, means for mainraining the predetermined clearances at the packings arranged at various distances apart along the turbine drum and shaft comprising a steam jacket on part of the end casing, a lantern space \(h\) around the gland packing. a communicating passage between said lantern space and said jacket, substantially as described.
10. In a turbine of the axial fiow type, means for maintaining the predetermined clearances at the packings arranged at various distances apart along the turbine drum and shaft comprising a steam jacket on the lower part of the end casing where the metal is thick, a lantern space \(h\) around the gland packing, a communicating passage between sald lantern space and said jacket, substantially as described.
11. In a turbine of the axial flow type, means for maintaining the predetermined clearances at the packings arranged at various distances apart along the turbine drum and shaft comprising near the packing gland when the shaft passes out of the turbine case, a steam jacket on the casing, a steam connection to said jacket, an independent steam connection to the lantern space \(h\) around the packing gland, substantially as described.
12. In combination on a turbine of the axial flow type, a thrust block, a hollow shaft having radial holes formed therein, a turbine drum with hollow spokes, said hollow spokes communicating with the steam space, a hub having radial holes registering with the radial holes in the shafts and with the hollow spokes whereby steam may be passed to the turbine shaft, substantially as and for the purposes

\section*{No. 101,379. Apparatus for Shredding Leather.} Appareil pour couper le cuir en lambeaux.


The Fibered Leather Manufacturing Company, Boston, assignee of OtIs Moody Cutler, Wakefield, all in Massachusetts, U.S.A., 9th October, 1906 ; 6 years. Filed 14th May, 1306. Receipt No. 135,872.
Claim.-1. A leather shredding machine comprising a shredding member and a scrap carrying member, means for positively moving one of said members relatively to and past the other member to cause the shredding member to act progressively on the leather scraps, the teeth of the shredding member being distributed to act on all portions of the upper surface of the scraps.
2. In a leather shredding machine the combination of leather shredding means, a rigid continuous support for scrap leather, and means for feeding said support to the action of the leather shredding means, the teeth of the shredding means being distributed to act on all portions of the upper surface of the leather.
3. In a leather shredding machine the combination of leather shredding means, a support having means for positively securing and carrying scraps of leather and means for feeding sald support to the action of the leather shredding means, the teeth of the shredding means being distributed to act on all portions of the surface of the leather.
4. In a leather shredding machine the combination of a rotary leather shredder having equally distributed teeth, and means for feeding the leather positively in a direction tangent to the acting portion of said shredder.
5. In a leather shredding machine the combination of a shredder composed of a revolving series of equally distributed leather shredding teeth, and means for leeding the leather positively in a direction tangent to the acting portion of said shredder.
6. In a leather shredding machine the combination of a shredder comprising a cylindrical series of equally distributed leather shredding teeth, means for rotating said shredder, an elongated board having means for securing leather scraps thereto, and means including a pair of opposed feed rolls for propelling said board in a direction tangent to the shredder.
7. The process of dry shredding leather which consists in rigidly supporting leather scraps and subjecting them to the
progressive action of equally distributed shredding teeth in a direction lengthwise of the plane or surface of the leather. 8. The process of dry shredding of leather which consists in subjecting the leather to the action of a multiplicity of equally distributed shredding teeth applied simultaneously over an area of the flesh side of the leather.
9. The process of dry shredding of leather which consists in shredding a series of scraps of leather by positively feeding them successively to a shredding device having equally distributed teeth acting in a direction parallel to the planes of the scraps.
10. The process of dry shredding of leather which consists in securing scraps of leather to a support, subjecting said scraps to the action of shredding means having equally distributed teeth by relative feeding movement of said support and said moans, and rigidly holding sald support to the action of said shredding means.
No. 101,380. Photo-Mechanical Printing.
Imprimerie photomécanique.


Albert Henry Walser, New York City. New York, U.S.A., 9th October, 1906 ; 6 years. Filed 20th July, 1906. Receipt No. 138,010.
Claim.-1. The following process of photo mechanical printing, making a sensitive surface on a stone slab or metal plate, exposing that sensitive surface to light througb a sheet which is partly transparent and partly opaque, developing that exposed surface into a condition in which some of its areas will receive ink, while some of its areas remaln free from ink, applying ink to those areas which are to recoive it, transferring ink from that inked surface to the periphery of a soft and receptive transfer roller, trangfer ing from that periphery to the periphery of a metal roller. etching away the uninked parts of that periphery applying printing ink or colour to the printing parts thus proluced on that periphery and transferring ink or colour from those printing parts to the surface of whatever cloth or other material constitutes the base of the picture or other print which results from the process, all substantially as described.
2 . The following process in photo mechanical printing., making a sensitive surface on a stone slab or metal plate, exposing that sensitive surface to light through a sheet which is partly transparent and partly opaque, developing that exposed surface into a condition in which some of its areas will receive ink, while some of its areas remain free from ink. applying ink to those areas which are to receive it. transferring ink from that inked surface to the periphery of a soft and receptive transfer roller, transferring ink from that periphery to the periphery of a metal roller and etching away the uninked parts of that periphery, all substantlally as described.

\section*{No. 101,381. Apparatus for Making Bisalphitc Liquorm.}

\section*{Appareil pour la fabrication de liqueurs bisulphurés.}

Elliott R. Barker, Berlin, New Hampshire, U.S.A., 9th October, 1906; 6 years. Filed 14th May, 1906. Receipt No. 135,879.
Claim.-1. An apparatus of the character described comprising a tank, a plurality of perforated partitions extonding across the exterior of said tank and dividing the same into a plurality of compartments, the lowermost of said partitions located at a distance from the bottom of said tank substantially less than the height of any of said compartments, and forming a gas distributing chamber, means connecting said chamber to gas receptacles, overflow pipes ccnnccting each of said compartments to the compartment therebelow, the overfiow pipe of the lowermost compartment leading to a receptacle for acid, an exhaust pipe, and a supply pipe connected to the uppermost compartment, and means to agitate the contents of said compartments.
2. An apparatus of the character described comprising a tank, a plurality of perforated partitions extending across

the interior of said tank and dividing the same into a plurality of compartments, the lowermost of said partitions located at a distance from the bot tom of said tank substantially less than the height of any of said compartments, and forming a gas distributing chamber, means connecting said chamber to gas receptacles, overflow pipes connecting each of said compartments to the compartment therebelow, the overflow pipe of the lowermost compartment leading to a receptacle for acid, an exhaust pipe, a supply pipe connected to the uppermost compartment, a shaft extending longitudinally of said tank through said compartments, agitator blades fast to said shaft in each of sald compartments, and mechanism to impart a rotary motion to said shaft.
3. An apparatus of the character described comprising a tank, a plurality of perforated partitions extending across the interior of said tank and dividing the same into a plurality of compartments, the lowermost of said partitions located at a distance from the bottom of said tank substantially less than the height of any of said compartments and forming a gas distributing chamber, a pipe connecting said chamber to a gas receptacle, said pipe extending upward from the bottom of said tank to a distance sufficient te prevent the liquor therein from flowing into the said gas reerptacle. overflow pipes connecting each of said compartments to the compartment therebelow, the overflow pipe of the lowermost compartment leading to a receptacle for acid, an exhaust pipe, and a supply pipe connected to the uppermost compartment, and means to agitate the contents of said compartments.

No. 101,382 . Photographic Device for Fire Arms.
Appareil photographique pour armes ì feu.


Delbert Leroy Laur, Indian River. Michigan, U.S.A., 9th October. 1906; 6 years. Filed 10th May, 1906. Receipt No. 135, i 55.
Claim.-1. The combination in a magazine gun of the class described, of a photographic camera secured to the barrel of said gun, a cord fastened at one end to the shutter of said camera and at the other end to the hammer of said gun. together with a second cord connecting the film operating mechanism of the camera to the magazine lever of said gun, and means for guiding said cords, for the purpose set forth.
2. The combination in a magazine gun of a photographic camera sccured to the barrel of said gun, a cord fastened at one end of the shutter of said camera and at the other end 10 the cartridge firing merhanism of the gun, togother with a second cord connecting the flim operating merhanism of the camera to the magazine operating mechanism of the gun, and means for guiding said cords.

No. 101,383. Radinm Surface. Surface de radium.


Hugo Lieber, New York City, New York, U.S.A.. 9th October, 1906; 6 years. Filed 22nd May, 1905. Recelpt No. 125,378.
Claim.-1. A surface of solld material provided with an adhering coating of an exceedingly thin film of radium in a finely divided state, substantially as described.
2. A surface of solid material provided with an adhering coating of an exceedingly thin film of radium in a finely divided state and an exceedingly thin coating of suitable protecting material upon the film of radium, substantially as described.
3. A surface of solid material provided with an adhering coating of paste containing radium in a finely divided state, substantially as described.
4. A surface of solid material provided with an adhering coating of paste containing radium in a finely divided state and an exceedingly thin coating of suitable protecting material upon the coating of pasto, substantially as described.
5. A surface of solid material provided with an adhering coating of suitable protecting material containing radium in a finely divided state, substantially as described.
6. Solid material penetrable by a radium ray having embodied within it radium in a finely divided state, substantially as described.
7 Solid materlal penetrable by radium emanations having embodied within it radium in a finely divided state, substantially as described.
8. Solid material penetrable by radium rays and emanations, having embodied within it radium in a finely divided state, substantially as described.
9. A surface of celluloid provided with an adhering coating of an exceedingly thin film of radium in a finely divided state, substantially as described.
10. A surface of celluloid provided with an adhering coating of an exceedingly thin film of radium in a finely divided state. and an exceedingly thin coating of suitable material protecting the film of radium, substantially as described.
11. A support provided with a radio-active surface, carrying a radio-active substance protected by a film of suitable protecting material, substantially as described.
12. Solld material penetrable by radium alpha rays, having embodied within it radium in a finely divided state, substantially as described.

No. 101,384. Tnrbine. Turbinc.


The Honourable Charles Algernon Parsons, assignee of George Gerald Stoney, both of Heaton Works, Newcastle-onTyne, England, 9th October, 1906; 18 years. Filed 16th May, 1906. Receipt No. 135,957.
Claim.-1. In turbo-machinery, a rotary baffe packing device having an opening in a baffle part thereof, substantially as and for the purpose described.
2. In turbo-machinery, a rotary baffe packing device having openings in baffle parts thereof, substantially as and for the purpose described.
3. In turbo-machinery, a rotary bafle packing device having openings in baffing parts of fixed and rotating parts, substantially as and for the purpose described.
4. In turbo-machinery, a rotary baffle packing device, having baffle strips ledged near the root, substantially as and for the purpose described.
5. In turbo-machinery, a rotary baffe packing device having strips ledged on one side near the root, substantially as and for the purpose described.
6. In turbo-machinery, a rotary baffle packing device having baffle strips ledged on both sides, substantially as and for the purpose described.
7. In turbo-machinery, a rotary baffle packing device having an opening in a bafle part thereof and a ledged strip, substantially as and for the purposes described.
8. In turbo-machinery, a rotary baffle packing device having openings in baffe portions thereof and caulking ledges on strips thereof, substantially as and for the purpose described.
9. In turbo-machinery, a rotary baffle packing device having openings in baffing parts of fixed and rotating members and strips with caulking ledges substantially as and for the purposes described.
10. In turbo-machinery, a rotary baffle packing device havgin openings in baffing parts of fixed and rotating members and strips having a caulking ledge on one side, substantially as and for the purposes described.

No. 101,385. Counter Sale Check Book.
Lioret d contre-épreuve.


Joseph Oscar Lalonde and Victor Guertin, assignee of twothirds of the interest, both of Montreal, Quebec, Canada, 9th October, 1906: 6 years. Filed 15th January, 1906. Receipt No. 131,842.
Claim.-1. A counter sales check book comprising a pair of stiff covers and an intermediate limp connection between the stiff covers, an open ended pocket carried by one of the stifi covers, a guide plate carried by the same stiff cover, and means carried by th limp connection for holding the sheet of manifolding material.
2. A counter sales check book comprising a pair of covers, a pocket carried by one of the covers, two continuous sheets carried in the pocket, a plate secured to one of the covers, and provided with a hooked end adapted to guide the continuous sheets as they are drawn from the pocket, and means for holding a sheet of manifolding material between the sheets as they are removed.
3. In a counter sales check book, covers, a pocket carried by one of the covers, two continuous sheets carried in the pocket, a plate secured to one of the covers and provided with a hooked end adapted to guide the continuous sheets as they are drawn from the pocket, and removable means for holding a sheet of manifolding material between the sheets as they are removed.
4. In a counter sales check book, covers, a pocket carried by one of the covers, two continuous sheets carried in the pocket, a bar provided with pointed lugs secured intermediate of the covers and provided with flanges at its opposite ends, one of said flanges having an opening and the other a slot, and a rod having a rounded end and a resilient bifurcated end, said polnted end being disposed in said opening and said bifurcated end being disposed in said slot.
5. In a counter sales check book, covers, a pocket carried by one if the covers, two continuous sheets carried in the pocket, a bar connected with the covers, a rod detachably mounted on the bar, a plate on said bar, and a sheet of manifolding material secured to the plate.
6. In a counter sales check book, covers comprising a pair of boards and an intermediate limp connection, an open-
ended pocket carried by one board, a manifolding sheet holding member carried by the limp connection, a cutting member and a resilient clip carried by the other board, a manifolding sheet secured to the holding member, and a supply of continuous sheets carried by the pocket, one of said sheets extending above the other below the mainfolding sheet.
7. In a counter sales check book, covers comprising a pair of boards and an intermediate limp connection, a pocket carried by one board, a guide plate carried by the same bcard and provided with a hooked end, a removable manifolding element carried by the limp connection, a cutter piate carried by the other board, and a clip carried by the latter board.

No. 101,386. Credit Accounting Device.
Appareil de compte de crédit.


The Bennett Register Company, assignee of Joseph James Bennett, all of Lisbon, Ohio, U.S.A., 9th October, 1906 : 6 years. Filed 23 rd July, 1906. Receipt No. 138,10s.
Claim.-1. Credit accounting appliances comprising a receptacle provided with a covering, a card index carried by the cover, a removable fit base mounted in said receptacle, and a series of bill holders or racks designated to associate with said card index, hinged to the base and bodily removable with the base from the receptacle.
2. Credit accounting appliances comprising iz receptacle having a cover and a series of compartments, certain of which are provided with covers, a card index carried by the cover, a removable flat base mounted in one of said ccmpartments, and a series of bill holders or racks designated to associate with said index, hinged to the base and bedily removable with the base from the said compartment.
3. Credit accounting appliances comprising a receptacle provided with a cover, an index carried by the cover, a sheet of transparent material suitably connected to the cover and adapted to protect the index, a removable base mounted in said receptacle. and a series of bill holders or racks dseignated to associate with sald index, hinged to the base and bodily removable with the base from the receptacle.
4. Credit accounting appliances comprising the combination with a detached flat base, of means for receiving accounts connected with the base, said means consisting of a stries of bill holders or racks, each consisting of a body portion having side flanges forming pockets, a combined supporting and retaining arm having its lower end extending at right angles and connected to the body portion, and a transverscly extending eye at the lower end of the body pcrtion, combined with means engaging in the eye for hinging the holder to the base.
5. Credit accounting appliances comprising the combination with a detached flat base, of means for receiving accounts connected with the base, said means consisting of a scries of bill holders or racks, each conisting of a body portion having side flanges forming pockets, a coinbined supporting and retaining arm having its lower end extending at right angles and connected to the body portion, and a transversely extending eye at the lower end of the uody portion, ccmbined with means engaging in the eye for permanently hinging the holder to the base.
6. Credit accounting appliances comprising a receptacle provided with a cover and a compartment, a pair of end rests in said compartment, means to constitute an index carried by the cover, a removable flat detached base mountef in said compartment, and a series of bill holders or racks designated to associate with said index hinged to the base and bodily removable with the base from said compartment.
7. Credit accounting appliances comprising a receptacle provided with a cover and a compartment, a pair of end rests in said compariment, means to constitute an index carried by the cover, a removable flat detached base mount ed in said compartment, a series of bill holders or racks
designated to associate with said index. hinged to the base and bodily removable with the base from said compartment, and means connected with the cover for protecting the index and to permit of access being had to the index.
8. Credit acounting appliances comprising a receptacle having a cover and a series of compartments, a pair of end rests in each of said compartments, and means to constitute an index carried by the receptacle cover, a detached rimovable flat base mounted in each of two or more of said compartments, and a series of bill holders or racks hinged to each of the said bases and bodily removable with their respective bases from said compartment, each of said bill holders or racks of each series of bill holders or racks sultably designated to associate with said index.
9. Credit accounting appliances comprising a receptacle provided with a cover, a card index carried by the cover, a removable base mounted in said receptacle, and a series of bill holders or racks designated to associate with said card index, connected to the base and bodily removable with the base from the receptacle.

No. 101,387. Fireproof Structure.
Construction d̀ l'épreuce du fcu.


The New Jersey Wire Cord Company, Trenton, New Jersey, assignee of Abraham L. A. Himmelwrignt. New York City, New York, both in U.S.A., 9th October, 1906; 6 years. Filed 21st August, 1906. Receipt No. 138.875.
claim.-1. The combination with beams or the like, of metal bars extending between the beams and supported thereby, metal strips extending longitudinally of the beams between and supported by said bars, thin strlps of wood or equivalent material extending transversely to the beams and supported on sald metal bars and strips, and a flling of concrete or similar plastic material supported by said bars and strips.
2. The combination with flanged beams, of bars extending between the beams and supported thereby, thin strips of wood or equivalent material supported by the bars and arlanged to cover the space between the bars and termin. ating to leave this space uncovered near the beams, a metallic concrete support extending downward from the cnds of the strips and about the bottom flanges of the beams, and a flling of concrete or similar plastic material supported by the bars and strips and fllling the space about the bottom flanges of the beamis within the concrete support.
3. The combination with tlanged beams, of T bars extending between the beams and supported thereby, metal strips extending over the bars and between the bars in substantially the same plane as the bar flanges, thin strips of wood or equivalent material supported by said flanges and metal strips, and a flling of concrete or similar plastic material supported by sald bars and strips.
4. The combination with flanged beams. of \(T\) bars extending between the beams and supported thereby, metal strips cxtending over the bars and between the bars in substanflally the same plane as the bar flanges. thin strips of wood or equivalent material of a length substantially that of the distance between the beams and laid transversely to the beams on said flanges and metal strips, and a fllling of concrete or similar plastic material supported by said bars and strips.

\section*{No. 101,388. Loose Leaf Binder.}

\section*{Reliure a fewilles volantrs.}

James C. Dawson. Webster Groves. Missouri. V.S.A.. !th October. 190t; 6 years. Filed 15th August, 1:06. Receipt No. 138,718.
Claim.-1. In a lonse leaf binder, in combination a back member. a pair of laturally movable side members. a pair of levers imirpendently pivoted to the back member and forh slidingly engasing ond of the side members, and a movable erosshead slidingly engaging the levers.
2. In a loose leaf binder, in combination a back member, a pair o laterally movable side members, a pair of obllquely

slotted levers independently plyoted to the back member and each slidingly engaging one of the side members, and a movable crosshead in engagement with the lever slots.
3. In a loose leaf binder, in combination a back member. a pair of laterally movable side members, a pair of levers independently pivoted to the back member and each slidingly engaging one of the side members, a crosshead slidingly engaging the levers, and a rod journalled in the back member and in threaded engagement with the crosshead.
4. In a loose leaf binder, in combination a back member. a pair of laterally movable side members, a pair of obliquely slotted levers independently pivoted to the back member and each slidingly engaging one of the side members, a crosshead in engagement with the lever slots, and a rod journalled in the back member and in threaded engagement with the crosshead.

No. 101,389. Indezing Ledger. Grand livre.


Harry Hugh Herrick. Owatonna, Minnesota, U.S.A., 9th October. 1:1ti: 6 years. Filed 23rd July, 1906. Receipt No. 138,097.
C'laim.-1. In an account book, a group of leaves, the opposite faces of each leaf being divided into a number of account spaces. a designating eharacter for each account space, a projection extending upward from each leaf and having ach of its two paces divided into a number of index spaces equal to the number of account spaces on the leat and provided with designating charactead corresponding to thosir of the arcount opaces, the sum of the widths of all of the projections of a group being approximately equal to the width of each page of the group, said projections being so arranged that all of those velonging to a group will be visible at the same time when viewed from either side of the group, and side tabs dividing groups or numbers of groups in alphabetical order.
2. In an account book. leaves each divided into a number of account sraces. a ds siguating character for each account spare. a frojection extending upward from each leaf and divided into ind of account spares on the leaf and bearing corresponding dusignating characirs, and protecting leaves extending approximately to the top ef the index projections and dividing the entire number of leaves in the book into small groups. fach of the protecting leaves bearing an alphabet or similar tab.

No. 101,390. Indexing Ledger. Grand livre.


Harry H. Herrick, Owatonna, Minnesota, U.S.A., 9th October,
1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,098.
Claim.-In an account book, a subdivision comprising a number of leaves divided into groups, each leaf having at its upper edge an upwardly projecting tab having a blank space of sufficient size for the entry of a name, the tab and the margin of the leaf being provided with identical index symbols, the index tabs of each group being of the same width and those of successive leaves of each group being of successively increased height, and the width of the tabs of successive groups being of successively increased width.

No. 101,391. Filing Cabinet. Cabinet de classement.


John F. Huber, Buffalo, New York, U.S.A., 9th October, 1906 6 years. Filed 16th July, 1906. Receipt No. 137,873.
Claim.-1. The combination of a holder, a series of movable leaves thereon, and one or more flexible extensible connecting members attached to said holder and having sliding conyections with said leaves, whereby the connecting members o: members can move relative to said leaves in the direction of the planes thereof, substantially as set forth.
2. The combination of a holder, a series of movable leaves thereon, and one or more flexible elastic connecting members attached to said holder and passing through elongated slots in said leaves, whereby the connecting member or members can move relative to said leaves in the direction of the planes thereof, substantially as set forth.
3. The combination of a holder, a series of movable leaves thereon, and one or more flexible extensible connecting members detachably secured to said holder and having sliding connections with said leaves whereby the connecting member or members can move relative to said leaves in the direction of the planes thereof, substantially as set forth.
4. The combination of a holder, a series of movable leaves thereon, flexible elastic connecting members passing through elongated slots in said leaves, crossbars atached to the opposite ends of said connecting members, and means for detachably securing said crossbars to sald holder, substantially as set forth.
5. The combination of a holder, a slotted sliding shelf therein, a series of movable leaves on said holder, and one or more flexible extensible connecting members attached to said holder and having sliding connections with said leaves, sald connecting member or members passing through the slot or slots of said shelf, substantially as set forth.

10-11

No. 101,392. Concrete Block. Bloo de beton.


Walter D. Johnston, New York City, New York, U.S.A., 9th October, 1906; 6 years. Filed 25th August, 1906. Receipt No. 138,970.
Claim.-1. An improved block for concrete construction comprising a body portion having a plurality of outwardly protruding tenon lugs adapted to lock within recesses in adjacent blocks and a plurality of recesses in other parts of the block into which the tenon lugs of adjacent blocks are adapted to fit and a plurality of passages through the block adapted to be filled with a suitable filling material, substantially as described.
2. The herein described means for buiding submarine constructions comprising a plurallty of horizontal series of blocks locked together by means of tenon lugs in each block extending into recesses in the adjacent blocks the said blocks having a plurality of vertical bores or passageways therethrough which register with the passages of the superposed sections and a filling extending throlugh all the vertical passages and locking the horizontal series together, substantially as described.
3. The herein described means for building submarine constructions which consists of a plurality of blocks arranged in a number of horizontal series, each block being provided with two outwardly extending tenon lugs and with two dovetailed recesses, the tenons in each block fitting into the slots in the adjacent block and each block also being provided with vertical passageways, the vertical passageways in all the superposed blocks being adapted to register and a filling material placed in the vertical passageways and locking all the horizontal series together, as and for the purpose specified.

No. 101,393. Binding Machine for Way Bills, Etc. Reliure de feuilles volantes, etc.


Charles Forrest McBee, Athens, Ohio, U.S.A., 9th October, 1906; 6 years. Filed 18th July, 1906. Receipt No. 137,945. Olaim.-1. A binding machine for paper or other sheets, comprising a receiver and a pressure device for the sheets, and means to gulde an implement for forming holes through the sheets adjacent to one of their edges, said receiver having a base and opposite sides, and a swinging evener for one of the edges of the sheets.
2. A binding machine for paper or other sheets, comprising a receiver and a pressure device for the sheets, and means to guide an implement for forming holes through the sheets adjacent to one of thelr edges, sald recelver having a base, opposite sides, and a swinging evener for one of the edges of the sheets, and said pressure device being constructed of a yoke supported by said sides, and a screw working in the yoke and against the platen.
3. A binding machine for paper or other sheets, comprising a recelver and a pressure device for the sheets, and means to guide an implement for forming holes through the sheets adjacent to one of their edges, said receiver having a base and opposite sides, the latter having eyes at their edges, and said pressure device belng constructed of a removable platen, platen, each end of the yoke having separated eyes recelving between them an eye of one of said sides, with a device detachably securing the eyes together.
4. A binding machine for paper or other sheets, comprising a receiver and a pressure device for the shects, and means to guide an implement for forming holes through the sheets adjucent to one of their edges, sald receiver having a base, opposite sides, and a swinging evener for one of the edges of the sheets, the sides being provided with eyes at their edges, and said pressure device being censtructed of a removable platen, a yoke and a screw working in the yoke and against the platen, each end of the yoke having separated eyes receiving between them an cye of one of said sides, with a device detachably securing the eyes together.
5. A binding machine for paper or other shects, comprising a receiver and a pressure device for the sheets, said receiver having a base and opposite sides, a block hinged to the rearward edge of the base, having holes therein. and a strip hinged above said block, having corresponding holes therethrough, and sald pressure device having a removable platen with a block binged to its rearward edge, having holes therethrough corresponding to the previously mentioned holes, and means for holding this block down upon the shects
6. A binding machine for paper or other shects, comprisIng a receiver and a pressure device for the sheets, said receiver having a base and opposite sides, a block hinged to the rearward edge of the base, having holes therein, and a strip hinged atove said block, having corresponding holes therethrough, and said pressure device having a removable platen with a block hinged to its rearward edge, having holes therethrough corresponding to the previously mentloned holes, and rotatable arms on the platen for holding this block down upon the sheets.
7. A binding machine for paper or other sheets, comprising a receiver and a pressure device for the sheets, sald receiver having a base and opposite sides, a block hinged to the rearward edge of the base, having vertical holes therein and provided in its outer surface with recesses, a hinged strip above said block having corresponding boles thereethrough, and a swinging evener for the sheets having projections for entering said recesses, and said pressure device including a removable platen with a block hinged to its rearward end having holes therethrough corresponding to the previously mentioned holes.
8. A binding machine for paper or other sheets, comprising a receiver and a pressure device for the sheets, and means to guide an implement for successively forming holes through the sheets, adjacent to one of their edges, said receiver having a base and opposite sides, and provided with a hinged evener for the sheets, having means for securing the same in closed position with reference to said sides.

No. 101,394. Account File. Fil pour comptes.


James O. Wllhelm, Limaville, Ohio. U.S.A., 9th October, 1906; 6 years. Filed 22nd August, 1906. Receipt No 138,911.
Claim.-1. An account fle consisting of inclined side pieces connected at each end by crossbars and intermediate of
their ends by a series of spaced crossbars, legs hinged to the upper ends of the side pieces, hooks hinged to the side pieces and engaging the legs to hold them in position, and pins having angular shanks secured to the intermediate crossbars, whereby the pins will occupy an oblique position relative to the said crossbars, the pins being arranged in rows.
2. An account file, comprising inclined side pieces connected together at their upper ends and supported at said end by legs, a series of spaced crossbars arranged in parallel vertical planes between the inclined side pleces with their upper edges a short distance below the upper edges of said side pleces, and pins having angular shanks secured to said crossbars, whereby the pins will stand at right angles to the inclined side pleces.
3. An account file comprising inclined side pleces connected together at their ends by crossbars and intermediate of their ends by a series of spaced crossbars arranged in parallel vertical planes, a plurality of pins secured to each crossbar and standing at angles thereto, legs hinged to the upper ends of the side pleces, and means for holding the legs in a vertical position.

No. 101,395. Epool or Reel. Fuseau ou bobine.


Fiugene Bradley Crocker, Providence, Rhode Island, U.S.A., 9th October, 1906; 6 years. Filed 24th August, 1906. Recelpt No. 138,961.
Claim.-1. In a spool or reel, a body portion, two heads, a bushing inserted into each end of said body and having a flange turned back upon itself and inclosed within said body, a head retaining bushing passing through each head, and means for securing sald retaining bushing to said first-named bushing to hold the heads firmly in place.
2. In a spool or reel, a body portion, two heads, a bushing inserted into each end of said body portion, and having a flange turned back upon itself and inclosed within said body a head retaining bushing having a hub to pass through the head, a flange on sald retaining bushing for supporting the outer face of said head, and means for securing said retalning bushing to said first-mentioned bushing.
3. In a spool or reel, a body portion, two heads, a bushing inserted into each end of said body portion, and having a flange turned back upon itself and inclosed within said body, a central hub in said bushing, a head retaining bushing also provided with a hub, and means whereby said latter hub may be passed through said head and secured to the hub of said first-mentioned bushing to secure sald head in position.
4. In a spool or reel, a body portion, two heads, a bushing inserted into each end of said body portion, and having a fiange turned back upon itself and inclosed within said body. an inwardly projecting central hub in said bushing, a head retaining bushing also provided with a hub to it into said first-mentioned hub, and means whereby sald latter hub may be passed through said head and secured to the hub of sald first-mentioned bushing to secure said head in position.
5. In a spool or reel, a body portion, two heads, a bushing inserted into each end of sald body portion and having a tlange turned back upon itself and inclosed within said body. an inwardly projecting screw-threaded central hub in said bushing, a head retaining bushing having a hub also screwthreaded and arranged to be passed through sald head and screwed into the hub of said first-mentioned bushing to secure said head in position.
6. In a spool or reel, a body portion, two heads, a bushing inserted into each end of sald body, and having a flange turned back upon itself and inclosed within said body, a central hub in said bushing, a head retaining bushing alsc provided with a hub arranged to pass through sald head and fit into the head of said first-mentioned bushing to secure said head in position and a spindle bearing or sleeve projecting centrally within the hub of a said retalning bushing.
7. In a spool or reel, a body portion, two heads, a bushing inserted into each end of said body portion, and having a flange turned back upon itself and inclosed within said body, an inwardly projecting screw-threaded central hub in said bushing, a head retaining bushing having a hub also screwthreaded and arranged to be passed through said head and screwed into the hub of sald first-mentioned bushing to secure said head in position, and a spindle bearing hub or gleeve projecting centrally within the hub of said retaining bushing.
8. In a spool or reel, a body portion, two heads, a bushing inserted into each end of said body and having a flange turned back upon itself and inclosed within said body, sald bushing being provided with an inwardly bevelled head, a head retaining bushing, and means for uniting said bushings.
9. A spool or reel comprising a body portion, two heads, a bushing inserted into each end of said body and having a fiange inclosed within and secured to said body, a head retaining bushing provided with a hub passing through each head, means for uniting said bushing, and a plug secured within said retaining bushing and provided with a spindle bearing sleeve extended centrally within the hub of said retaining bushing.
10. A spool or reel comprising a body portion, two heads, a bushing inserted into each end of said body and having a flange inclosed within and secured to said body, a head retaining bushing provided with a hub passing through each head, means for uniting said bushings, and a plug provided with a flange turned back upon itself and secured within said retaining bushing, said plug being also provided with a centrally projecting spindle bearing sleeve.
11. A spool or reel comprising a body portion, two heads, a bushing inserted into each end of said body and having a flange inclosed within and secured to said body, a head retaining bushing, means for uniting said bushings, and a plug secured within said retaining bushing and provided with a ecntrally arranged bearing sleeve, said plug being also provided with a raised annular shoulder surrounding said sleeve.
12. A spool or reel comprising a body portion, two heads, a bushing inserted into each end of said body and having a flange inclosed within and secured to said body, said bushing being provided with an inwardly bevelled head having a central opening, a head retaining bushing, means for uniting said bushings, and a plug secured within said retaining bushing and provided with a bearing sleeve terminating adjacent said inwardly bevelled head, the bore of said sleeve coinciding with the opening in said bevelled head.

No. 101,396. Log Eolder. Porte-bille de bois.


Robert Andrew Harris, Halleybury, Ontario, Canada, 9th October, 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,676 .
Claim.-1. A \(\log\) holder comprising a head having a plurality of prongs, and means secured on the said prongs for engaging the log, substantially as described.
2. In a log holder, a head having a plurality of prongs, an arm, and means secured to the said prongs to engage the log, substantially as described.
3. In a \(10 g\) holder, in combination a head, an arm extending therefrom, a plurality of prongs formed on the said head, and a grab hook pivotally mounted on one of the prongs, substantially as described.
4. In a log holder in combination a head, an arm extending therefrom, a plurality of prongs formed on the said head, a grab hook pivotally mounted on one of the prongs and auxiliary holding means secured to one or more of the said remaining prongs, substantially as described.
5. In a log holder, in combination a head, an arm extending therefrom, three prongs formed on the said head, a grab hook pivotally mounted on the central prong, and spiked holders secured on the outer arms co-operating with the said grab hook, substantially as described.
6. In a log holder, a head formed with a plurality of prongs, the central one being shortened and provided with a hook pivotally secured thereto, the outer prongs being provided with spiked means arranged to slip over the log when turning in one direction and become ombedded thereir when turned in the opposite direction, substantially as described.

No. 101,397. Fence Post. Poteau do olfture.


Hubert E. Hillman, Lockwood, Ohio, U.S.A., 9th October,
1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,081.
Claim.-1. A post for wire fences, composed of cement, and having a metallic core, a series of loops arranged upon face of said post, a wire holding bar having inclined faces inserted in said loops, and means to prevent vertical play thereof, substantially as described.
2. A fence post comprising a body portion and a plurality of loops, a wire holding bar having inclined taces thereon, and means to prevent vertical play thereof.
3. A fence post comprising a body portion and loops thereon, a wire holding bar to engage therewith, having -inclined faces, means thereon to engage the line wires, and means to prevent vertical play of said bar.
4. A fence post comprising a body portion and loops thereon, a wire holding bar to co-operate therewith, a notch at the upper end of sald bar, means to engage therewith, and means to prevent displacement of the first-named means and prevent a vertical play of said wire holding bar.
5. A post for wire fences composed of cement, and having a metallic core, a series of loops arranged on sald post, a wire holding bar having inclined faces inserted in said loops, means top revent vertical play thereof, said core being provided with a plurality of projections, said projections being formed with wings, substantially as described.
6. A fence post, comprising a body portion and core therefor, a plurality of projections thereon, said projections being formed with wings, a series of loops upon one face of said post, a wire holding bar to be inserted therethrough, said faces having tecth to engage the line wires, a notch at the upper end of sald bar, a spring lever to engage therewith, and a spring catch to hold the spring lever in place to prevent vertical play of said wire holding bar, substantially as specified.

No. 101,398. Fence Stay. Etai de cloture.


Robert Lee Horsley. Fort Worth, Texas, U.S.A., 9th October, 1906; 6 years. Filed 14th August, 1306. Receipt No. 138687.

Olaim.-1. A stay for fences comprising a wire formed into a spiral and bent upon itself and the two parts twisted to gether and meshing with each other and having a clamp formed of the two parts at a distance from the bent portion of said wire.
2. The combination of the line wires of a fence and a stay therefor, said stay consisting of a wire formed into a spiral and bent upon itself and the two parts meshed together and having a clamp formed of the two parts at a distance from the bent part thereof, said stay being screwed on the said line wires and said clamp being sprung on the top line wire of the fence.

No. 101,399. Dough Kneading Machine. Machine a petrir la pate.


Johann Philipp Klein, Offenbach, O.M., Germany, 9th October, 1906; 6 years. Filed 14th October, 1904. Receipt No. 119,194.
Claim.-1. In a dough kneading machine the combination of kneaders with a gear of pantograph form, operated by a crank disc, substantially as and for the purpose set forth.
2. In a dough kneading machine the combination of kneaders with a gear of pantograph form operated by a crank disc, one arm \(b\) of said gear being prolongated over the parallelogram of sald gear and formed as kneaders, the other arm a prolongated over the parallelogram being laterally pivoted to a projection of the frame, substantially as and for the purpose set forth.
3. In a dough kneading machine the combination of kneaders operated by a gear of pantograph form, and a crank disc, and a single trough of a seml-cylindrical shape corresponding to the circular movement of the kneaders, substantially as and for the purpose set forth.
4. In a dough kneading machine the combination of kneaders operated by a gear of pantograpb form and a crank disc, and a single trough of a semi-cylindrical shape corresponding to the circular movement of the kneaders, said trough being mounted on wheels and adapted to roll to and from under the machine without detaching any part of the machine, substantially as and for the purpose set forth.

\section*{No. 101,400. Sectional Furnaces for Hot Water Heating. \\ Fournaise pour chauffage d eau chaude.}


Benjamin F. Rogers, Buffalo, New York, U.S.A., 9th October, 1906; 6 years. Filed 29th November, 1905. Receipt No. 130,534.
Claim.-1. A boiler of the character described, comprising a plurality of hollow sections, each having top and side wall elements, and an intermediate water containing leg depending from the top element between the side wall elements, the side wall elements of the different sections being located together, forming furnace side walls, and the legs being located against each other, forming a continuous intermediate furnace partition between the side walls.
2. A boller of the character described, comprising a plurality of hollow sections, each having top and side wall ele-
ments, and an intermediate water containing leg depending from the top element between the side wall elements the side wall elements of the different sections being located together, forming furnace side walls, and the legs being located against each other, forming a continuous intermediate furnace partition between the side walls, tie devices and water conducting means connecting the side wall elements, and tie devices and water conducting means connecting the abutted legs.
3. A boller of the character described, comprising a plurality of hollow sections, each having top and side wall elements, and an intermediate water containing leg depending from the top element between the side wall elements, the side wall elements of the different sections being located together, forming furnace side walls, and the legs having opposite flat sides abutted against each other, forming a con tinuous intermediate furnace partition between the side walls, tie bolts passing through the side wall elements, nipples connecting the adjacent side wall elements, a tle bolt passing through the legs, and nipples connecting the adjacent legs.
4. In a boller of the character described the combination with a grate, of a boiler body comprising abutted sections, said sections each consisting of a top, independent water containing side wall elements depending from the top to the sides of the grate, and intermediate water containing legs depending from the top towards an intermediate portion of the grate, said side wall elements and intermediate legs being independent at their lower ends and forming separate combustion compartments over the grate.
5. In a boiler of the character described, the combination with a grate, of a boiler body comprising abutted sections, said sections each consisting of a top, independent water containing side wall elements depending from the top to the side of the grate, and intermediate water containing legs depending from the top towards an intermediate portion of the grate, sald side wall elements being abutted, and said intermediate legs being abutted, forming separate combustion compartments over the grate, tie rods passing through the side walls and through the intermediate legs, and water ronducting means connecting the abutted side wall elements and the abutted legs to permit the circulation of water through the side walls and through the intermediate partitiol formed by the depending legs.
6. A boiler of the character described, comprising sections, fach section including top and depending side wall element, and flue openings formed through the top, said boller sec tions being abutted with the flue elements in alignment.
7. A boller of the character described, having top, side walls, and an intermediate water leg partition depending from the top and forming separate combustion compartments, and separate flues extending longitudinally through the top, and communicating respectively with the diferent combustion compartments.
8. In a boiler of the character described, the combination with a water containing top, water containing side walls, and an intermediate water containing partition forming separate combustion chambers within the boller, of a smoke outlet, and separate flues connecting the diferent compartments to the smoke outlet.
9. In a boiler of the character described, the combination with a water containing top, water containing side walls, and an intermediate water containing partition forming separate combustion chamber within the boiler, of a smoks outlet, and separate indirect flues extending longitudinally through the top and independently connecting the diferent compartments to the smoke outlet.
10. In a boller of the character described, the comblnstion with a base, of a furnace grate located thereon and extending from end to end thereof, and a boller body mounted on the base and comprising end and Intermediate sections, said sections each comprising a water containing top, independent outwardly bulged side wall elements extending to the opposite sides of the base, intermediate depending water containing legs, the side wall elements and intermediate legs of the different sections being abutted, forming outer side walls, and an intermediate partition dividing the space within the body into separate combustion compartments over the grate, a smoke outlet at one end of the boiler, and independent indirect flues extending longitudinally through the water containing top of the furnace and separately connecting the different combustion compartments with the smoke outlet.

No. 101,401. Photographic Apparatur.
Apparell photographique.
Young Shannon, Norwich, Connecticut, U.S.A., 9th October 1906; 6 years. Filed 16th May, 1906. Receipt No. 135.959 Claim.-In an enlarging camera the comblnation with the negative holder and the lens located behind the same and the sensitized sheet located on the opposite side of the lens, of
a ray filter plate having a translucent mat surface interposed between the lens and the negative and means for adjusting

the ray filter plate relatively to the negative, as and for the purpose specified.

\section*{No. 101,402. Apparatus for Magnifying and Illustrating Micrographic Representations.}

Apparell a grossir et illustrer les representations micrograpMiques.


Otto H. F. Vollbehr, Helensee, Berlin, Germany, 9th October, 1906; 6 years. Filed 19th June, 1905. Receipt No. 126,177.
Claim.-1. In a device for magnifying microphotographic lllustrations the combination with the carrying frame, of a lens adjustable over the diapositive, and a source of light detachably connected with the frame and serving to render the lllustration placed beneath the objective transparent, substantially as set forth.
2. In a device for magnifying microphotographic ilustrations the combination with the carrying frame, of a lens adjustable over the diapositive, a source of light detachably connected with the frame and serving to render the llustration placed beneath the objective transparent, and a ground glass plate located between the source of light and the fllustration, substantiaily as set forth.
3. In a device for magnifying microphotograplic illustrations the combination with the carrying frame, a source of light detachably connected with the frame and serving to render the illustration placed beneath the objective transparent, and a ground glass plate located between the source of light and the illustration, substantially as set forth.
4. In a device of magnifying microphotographic illustrations the combination of the carrying frame, the adjustable lens, the detachable casing with electric lamp battery and means for controlling the current from the battery, the ground glass plate located between the electric light and the illustration, substantially as set forth.

\section*{No. 101,403. Sash Fastener. Arrête-croisée.}

Thomas Wertz, Saint Louis, Missourl, U.S.A., 9th October, 1906; 6 years. Filad 3rd August, 1906. Receipt No. 138,403. Claim.-A sash fastener, consisting of a pawl having arranged on one end a laterally projecting pintle adapted to be mounted in a recess formed in the top rail of a lower window sash, bearing plates arranged in said recess to recelve the ends of said pintle, an aperture retaining plate arranged above the latter to hold the same in place, a rack
bar secured to the mid-rail of the upper sash, a spring arranged on said pintle to normally engage said pawl with the

teeth of said rack and means whereby said pawl may be held disengaged from the same, substantially as described.

No. 101,404. Sash Balance and Fastener.
Contre-potds et arrete-orotsé.


William W. Klima, Hutchenson Minnesota, U.S.A., 9th October, 1906; 6 years. Filed 20th June, 1906. Receipt No. 137,081 .
Claim.-1. In a device of the class described, the combination with a window frame and a sash slidably mounted therein, of rollers carried by the sash and contacting with the frame and being arranged for rotation in opposite directions, and means whereby one or the other of said rollers may be moved out of such engagement.
2. In a device of the class described, the combination with a window frame and a sash slidably mounted therein, of rollers carried by the sash and being arranged for rotation in opposite directions means for holding said rollers normally in engagement with said frame, and means whereby one or the other of said rollers may be moved out of said engagement.
3. In a device of the c.ass described, the combination with a window frame and a sash slidably mounted therein, of rollers carried by the sash, means for holding the roller against rotation in the same direction, means for holding said rollers normally in engagement with said frame, and means whereby one or the other of sald rollers may be moved out of said engagement.
4. In a device of the class described, the combination with a window frame and a sash slidably mounted therein, of rollers carried by the sash and being arranged for rotation in opposite directions, means for holding sald rollers normally in engagement with said irame, and a lever arranged for movement to disengage one or the other of said rollers from sald frame.

\section*{No. 101,405. Door Releasing Meohanism. \\ Mécanisme de désembrayage.}

Edward Kauntze, Hanford, California, U.S.A., 9th October. 1906; 6 years. Filed 28th July, 1906. Receipt No. 138,237.
Claim.-1. A door releasing device, said device consisting of a pivoted latch turnable upon one member of a door structure, a vertically slotted keeper upon the other member, bolts by which the door leaves are independently secured, and connections between the pivoted latch and sald bolts whereby the latch and bolts are movable in unison.
2. In a door releasing device, a pivoted vertically turnable latch carried upon one leaf of the door, a keeper upon the other leaf in which the latch engages, bolts by which the leaves of the door are independently locked when closed, connections between said bolts and the latch whereby the unlocking movement of the latch is transmitted to simultancously disengage the bolts.
3. In a door releasing device, a pivoted latch carried upon one leaf of the door, and a vertically slotted keeper upon

the other leaf, said latch having a rearward extension, a link pivoted to said extension having a rod with a stop upon the lower end, a weight slidable upon tile rod acting when released to disengage the latch, a vertically movable locking bolt carried upon the door and adapted to engage the door casing, and a flexible connection between said bolt and the weight actuated link.
4. In a door locking and releasing device, a pivoted turnable bolt upon one leaf of the door and a keeper therefor upon the other leaf, a link with which the inner end of the latch connects, a rod connected with the link having a stop at its lower end, a normally suspended weight slidable upon the rod, and arrested by the stop at the lower end, whereby the link is pulled down and the latch turned and disengaged. bolts extending upwardly an downward upon the door leaves to engage with the top and bottom of the casing and connections between the said bolts and the link and latch, whereby the bolts are disengaged in unison with the latch.
5. In a door releasing device, a pivoted latch and keeper located respectively upon the contiguous edges of the door leaves, a slidable weight actuated link, an upwardly extending bolt connected therewith and normally locking one leaf of the door, an arm pivoted with relation to the latch, extending inwardly, a bolt connected with the inner end of said arm and normally engaging the bottom of the door casing, a cam pivoted with the latch and adapted to engage with the pivoted arm when the latch is turned to disengage. whereby the locking bolts are withdrawn.
6. A door locking and releasing device including a latch pivoted to one leaf, and the keeper upon the other leaf, bolts slidable upwardly and downwardly upon the door leaves to engage with the top and bottom of the door casing respectively, connections by which the latch find boits are simultaneously disengaged, said connections including a slidable link connection with the rear of the latch, a rod having a stop at its lower end, a weight slidable upon said rod and acting to move said rod and link downward when it contacts with the stop, a flexible connection between the ling and the upwardly extending bolt, an arm pivoted contiguous to the latch having its inner end connected with the downwardly extending bolt, a cam carried by the latch acting to tilt said arm and withdraw the bolt in unison with the disengaging of the lateh and the upper bolt.
7. In a door releasing device, a pivoted latch carried upon one leaf of the door, and a keeper upon the other leaf, a link with which the inner end of the latch is connected, a rod connected with the link having a stop upon its lower end. a weight slidable upon the rod, vertically movable bolts by which the top and bottom of the door are locked, connections between said bolts and the latch whereby they are disengaged in unison therewith, a destructible cord by which the weight is normally suspended and an electrically lieated part with which the cord is maintained in contact, means for completing an electric circuit whereby the heating of said part destroys the cord and releases the weight.
8. In a door releasing device, means carried upon the doors whereby sald doors are secured in a closed position, a weight normally suspended with relation to said locking means, a destructible cord connected with the weight and means controlled from a distant point to desuoy the cord and release the weight to disengage the latch.
9. In a door releasing device, latching mechanism by which the door is secured in a closed position, a weight connected with the inner end of the latch, a cord by which the weight is normally suspended out of action, an electrically heated part with which the cord contacts and means for completing an electrical circuit whereby said part is heated, the cord destroyed, the weight released to fall and disengage the latch.

No. 101,406. Door Cheok and Clower.
Fermeture et arrete-porte.


Joseph Bardsley, Montclair, and Albert John Rosentrater, Boonton, both in New Jersey, U.S.A., 9th October, 1906; 6 years. Filed 4th June, 1906. Receipt No. 136,524.
Claim.-1. The checking cylinder containing the piston and piston rod, the double ended lever pivoted at one end at a fixed point and at an intermediate point to said rod, the connecting rod pivoted at one end to the outer end of said lever and at its other end to a fixed point, a closing spring exterior to said cylinder and confined at one end, and means connecting the other end of said spring to the inner end of said lever adjacent to its pivot point, whereby said end of said lever while turning on its pivot operates as a crank on and is operated by said spring, substantially as set forth.
2. The checking cylinder containing the piston and piston red, the double ended lever pivoted at one end at a fixed point and at an intermediate point to said rod, the connecting rod pivoted at one end to the outer end of said lever and at its other end to a fixed point, a closing spring exterior to said cylinder and confined at one end, a rod in engagement with and acted on and acting against the other end of said spring, and means engaging sald rod with the inner end of sald lever adjacent to its pivot point, whereby said end of said lever while turning on its pivot operates as a crank on and is operated by said rod and spring, substantially as set forth.
3. The checking cylinder containing the piston and piston rod, the double ended lever pivoted to one end at a axed point and at an intermediate point to said rod, the connecting rod pivoted at one end to the outer end of said lever and at its cther end to a fixed point, a closing spring exterlor to sald cylinder and confined at one end, a rod in engagement with and acted on and acting against the other end of said spring. and means engaging said rod with the inner end of said lever Inwardly beyond its pivot point, whereby said end of sald lever while turning on its pivot operates as a crank arm against sald rod and spring, substantially as set forth.
4. The checking cylinder containing the piston and piston rod, the double ended lever pivoted at one end at a fixed point and at an intermediate point to said rod, the connecting rod pivoted at one end to the outer end of said lever and at its other end to a fixed point, a closing spring exterior to said cylinder and confined at one end, a rod extending through said spring and having a collar to engage the otherwise unconfined end of said spring, and pivotal means engaging sald rod with the inner end of said lever beyond its pivot point, whereby said end of said lever constitutes a short crank which while said lever is turning on its pivot operates on and is operated against by said rod and spring, substantially as set forth.
5. The checking cylinder containing the piston and piston rod, the double ended lever pivoted at one end at a fixed point and at an intermediate point to said rod, the connecting rod piroted at one end to the outer end of sald lever and at lts other end to a fixed point, a closing spring exterior to said cylinder and confined at one end, means for adjusting the tension of said spring, and means connecting the other end of said spring to the inner end of said lever adjacent to its pivot point, whereby said end of said lever while turning on its pivot operates as a crank on and is operated by sald spring, substantially as set forth.
6. The checking cylinder containing the piston and piston rod. the double ended lever pivoted at one end at a fixed point and at an intermediate point to said rod, the securing bracket to which sald cylinder and lever are connected, the connecting rod pivoted at one end to the outer end of said lever and at its other end to a fixed point, a closing spring mounted in said bracket and confined at one end, and means connecting the other end of sald spring to the inner end of said lever adjacent to its pivot point, substantially as set forth.
7. The checking cylinder containing the piston and piston rad, the double ended lever pivoted at one end at a fixed point and at an intermediate point to said rod, the securing bracket to which said cylinder and lever are connected, the connecting rod pivoted at one end to the outer end of said lever and at its other end to a fixed point, a closing spring mounted in said bracket and confined at one end, and means connecting the other end of said spring to the inner end of said lever adjacent to fts pivot point, said bracket having means for the adjustment of said spring, substantially as set forth.
8. The checking cylinder containing the piston and piston rod, the double ended lever pivoted at one end at a fixed point and at an intermediate point to said rod, the securing bracket to which said cylinder and lever are connected, the connecting rod pivoted at one end to the outer end of said lever and at its other end to a fixed point, a closing spring mounted in said bracket, a slide mounted in said bracket and confining said spring at onc end, a screw for adjusting said slide to regulate the tension of said spring, a rod extending through said spring and guided at its outer end in a portion of said slide, and means engaging said rod with the inner end of said lever adjacent to its pivot polnt, substantially as set forth.
9. The checking cylinder containing the piston and piston rod, the double ended lever pivoted at one end at a fixed point and at an intermediate point to said rod, the securing bracket to which said cylinder and lever are connected, the connecting rod pivoted at one end to the outer end of said lever and at its other end to a fixed point, a closing spring mounted ir. sald bracket, a slide mounted in said bracket and confining said spring at one end, means for adjusting said slide for regulating the tension of said spring, a rod extending through sald spring and guided in a portion of said slide, and means engaging said rod with the inner end of sad lever adjacent to its pivot point, said bracket having the notches 64 and undercut recesses, and said slide having the flanges 61 to pass through said notches and seat and move in said recesses, substantially as set forth.
10. The checking cylinder containing the piston and piston rod, the double ended lever plvoted at one end at a fixed puint and at an intermediate point to said rod, the securing bracket to which said cylinder and lever are connected, the connecting rod pivoted at one enis to the outer end of said lever and at its other end to a fixed point, a closing spring mounted in said bracket and confincd at one end, a rod extending through said spring and engaged by the same, and means engaging said rod with the inner end of said lever, said means comprising a short crank arm 49 having a bearing 50 on said lever and a bearing recess 51 on sald rod and engaging said bearing 50 on said lever, substantially as set forth.
11. The checking cylinder containing a piston and piston rod, the double ended lever pivoted at one end at a fixed point and at an intermediate point to said rod and thence extending along the front of sald cylinder toward its outer end and about on a horizontal plane with the piston rod, a connecting rod pivoted to the outer end of said lever and thence returning along the same to a fixed point where it is pivoted, a securing bracket to which said cylinder and lever are secured, a closing spring mounted in said bracket, a plunger rod extending through said spring, and means engaging the end of said rod with the end of said lever inwardly beyond the pivot point of same, substantially as set forth.
12. In a door closer, a securing bracket, an operating lever pivoted thereto and having a crank arm at its inner end, a connecting rod pivoted at its outer end to the outer end of said lever and at its other end to a fixed point, a closing spring mounted in said bracket, and a rod extending through sald spring and acted upon by the same, said rod and said crank arm being pivotally connected, substantially as set forth.
13. In a door closer, a securing bracket, an operating lever pivoted thereto and having a crank arm at its inner end, a connecting rod pivoted at its outer end in the outer end of said lever and at its other end to a fixed point, a slide mounted in said bracket, a screw for adjusting the position of same, a closing spring mounted in said bracket and confined by said slide, and a rod extending through said spring and guided by sald slide, said rod and crank arm being pirotally connected, substantially as set forth.
14. In a door closer, a securing bracket, and operating lever pivoted thereto and having a crank arm at its inner end, a connecting rod pivoted at its outer end to the outer end of said lever and at its other end to a fixed point, a slide mounted in said bracket, a screw for adjusting the position of same, a closing spring mounted in said bracket and confined by said slide, and a rod extending through said spring and guided by said slide, said rod and crank arm being pivotally connected, and said bracket being formed With the notches 64 and undercut recesses, and said slide teing formed with flanges 61 to pass through said notches and seat in said recesses. substantially as set forth.
15. A door check comprising the cylinder, operating lever and connecting rod, said cylinder containing the piston and
piston rod, the latter being pivoted to said lever, and sald cylinder having on its end a cap 24 and provided with a wire furnishing pins at its ends passing through apertures in the sides of the cap and cylinder, for detachably locking said cap in position, substantially as set forth.
16. A door check comprising the cylinder, operating lever, connecting rod, piston and piston rod, said cylinder having a threaded escape aperture for air, a controlling screw therefor, and a spring arm containing a threaded aperture for said screw and adapted to exert a binding tension on said screw when the:latter is engaged by the wall of said escape aperture, substantially as set forth.
17. A door check comprising the cylinder, operating lever, connecting rod, piston and piston rod, said cylinder having on its outer end a metal cap provided with an arm of Ushape containing a threaded aperture in line with a threaded aperture for the escape of air from said cylinder, and the regulating screw carried by said arm, substantially as sot forth.
18. The hinged checking cylinder containing the piston and piston rod, the double ended lever pivoted at one end at a fixed point and at an intermediate point to said rod and thence extending toward the outer end of said cylinder and being bifurcated to form the upper and lower members, and the connecting rod pivoted to the outer end of said lever and disposed between said members and thence returning to a fixed point where it is pivoted, substantially as set forth.
19. In a door check, the checking cylinder, an operating lever therefor and a connecting rod at one end fastened to said lever, combined with the securing bracket to receive the other end of said rod, said bracket comprising a supporting member 41, an adjustable member 40 seated thereon and means for binding said members together, one of said members having side flanges to preserve the alignment of the adjustable member with its support, substantially as set forth
20. In a door check, the checking cylinder, an operating lever therefor and a connecting rod at one end fastened to said lever, combined with the securing bracket to receive the other end of said rod, said bracket comprising a supporting member 41 having a head 42, an adjustable member 41 seated on said head and having a recess 43 and slot 44 , and a screw and nut for binding said members together, said nut being disposed in said recess, and said screw extending through said head and slot and engaging said nut, substantially as set forth.

No. 101,407. Door Riveting Device. Appareil d pivoter les portes.


James Edward Huey and Welcome C. Lovejoy, assignee of a half interest, both of Charlotte, North Carolina, U.S.A.. 19th October, 1906; 6 years. Filed 11th April, 1906. Receipt No. 134,857.
Claim.-1. Door pivoting devices comprising an upper member, and a lower member, one movable toward and from the other, said members having co-acting cam devices for the purpose set forth.
2. Door pivoting devices comprising an upper member, and a lower member having segmental cam or wedge surfaced grooves in their opposing sides, and bearing balls co-acting with said grooves, for the purpose set forth.
3. Door pivoting devices comprising an upper member, and a lower member having segmental cam or wedge surfaced grooves in their opposing sides, bearing balls co-acting with sald grooves, for the purpose set forth, and a spring to press one of said members toward the other.
4. Door pivoting devices comprising an upper member, and a lower member, one movable toward and from the other
having co-acting guide and aligning devices, and cam devices operative to turn one angularly with reference to the other, for the purpose set forth.
5. Door pivoting devices comprising an upper member having a web to enter a recess in a door, and further provided with a lower surface having segmental cam or wedge surfaced grooves, a lower member having an upper surface provided with similar grooves, and bearing balls to operate in the said grooves of the eald members, substantlally as described.
6. A swinging door having devices to move the same vertlcally while being closed and opened, combined with a frame, said door and frame having oppositely bevelled stop devices on their opposing sides to clear the door and prevent the formation of a wide crack between them when the door is closed.
i. Door pivoting and automatically closing devices comprising a member having a plate provided with parallel side edges, and a cylindrical boss on the center of said plate and having segmental cam or wedge surfaced grooves in its upper side, an upper member having a socket for the reception of said boss and similar grooves in its under side, and bearing balls co-acting with the sald grooves of the upper and lower members, for the purpose set forth.
8. In combination with a fixed lower door pivoting member, an upper door pivoting member having a web provided with an inclined upper side and a clearance notch or recess, a door having a recess in its lower inner corner for the reception of the said web, plates on opposite sides of the door, and a clamping device for the said plates, cleared by said notch or recess in said web, substantially as described.

\section*{No. 101,408. Cigarette Making Machine.} Machine d faire des cigarettes.


The New York Cigarette Machine Company, assignee of Arthur L. Boucher, all of New York City, New York, U.S.A., 9th October, 1906; 6 years. Filed 23rd August, 1906. Receipt No. 138,948 .

Claion.-1. In a machine of the class described, means for feeding a paper web, means for feeding a cork web, and means for severing and securing the cork web to the paper web at intervals.
2. In a machine of the class described, means for feeding a paper web continuously, means for feeding a cork web intermittently, means for severing the cork web and means for securing the cork web to the paper web.
3. In a machine of the class described, means for feeding a paper web continuously, means for feeding a cork web intermittently and laterally, means for severing and securing the severed sections of the cork web to the paper web.
4. In a machine of the class described, means for feeding a paper web continuously, means for supplying the same with paste at intervals, means for feeding a cork web intermittently both transversely of the direction of movement of the paper web also in the direction of the movement of said paper web, means for severing and pressing said cork web against the paste on the paper web.
5. In a machine of the class described, means for feeding a paper web continuously, means for supplying sald web with parallel lines of paste running in the direction of movement of the web, means for supporting said web between said lines of paste, means for feeding a cork web intermittently both transversely and in the direction of movement of the paper web, and means for severing and pressing said cork web against the paste carrying parts of said paper web.
6. In a machine of the class described, means for feeding a paper web, means for supplying the same at regular intervals with parallel lines of paste running in the direction of the fech of said web, means for supporting said web between the
paste lines so that no paste comes in contact with the machine, means for feeding intermittently a cork web, means for suvering and pressing the same against the paste lines on said paper web.
7. In a machine of the class described, a carriage having a reciprocating movement longitudinally of the machine, a cam block having a vertical reciprocating movement in said carliage, cutters, a bent lever connecting said cam block and cutters, feed mechanism, and means connecting said feed mechanism with said cam block.
8. In a machine of the class described. a carriage having a reciprocating movement longitudinally of the machine, a cam block mounted to reciprocate in said carriage, cutters and means for connecting them with said cam block so as to be actuated thereby, grippers mounted on said carriage, feed rollers also mounted on said carriage and means connected with said cam block and connecting said grippers and feed rollers whereby the reciprocation of said cam block operates the cutters, grippers and feed rollers in proper relation, one to another.
9. In a machine of the class described, a reciprocating carriage, a cam block mounted to reciprocate therein, cutters, grippers and feed rollers carried by said carriage and means for operating each of them from said cam block, and a crank for reciprocating said carriage and cam block simultancously.
10. In a machine of the cluss described, a trough pivotally nounted at one end and adjustably supported at the other, a paste wheel on a shaft jourualled in sald trough, a shaft in the frame of the machine and adjustable connections between said shafts.
11. In a machine of the class described, a trough pivotally mounted at one end and adjustably supported at the other, a paste wheel on a shaft journalled in said trough, a disc with a pin fixed to said shaft, is 3econd shaft journalled in the frame of the machine, a disc on said second shaft and means in said disc to receive and hold the said pin.
12. In a machine of the class described, means for supporting a cork web, means for supporting grippers, and grippers composed of two stirrups, one fixed to said supporting means and one pivoted thereto, actuating means pivotally connected tc said pivoted stirrup, and a stop on said actutaing means adapted to move this pivoted stirrup in one direction.
13. In a machine of the class described, a lever, a fulcrum for said lever, an arm fixed to said lever, a standard pivoted on said fulcrum and provided with two stirrups one fixed and one pivoted, means for connecting the pivoted stirrup with said arm and a stop on said arm adapted to engage said standard when the arm is moved in one direction.
14. In a machine of the class described, a lever, a fulcrum for said lever, an arm fixed to sald lever, a standard pivoted on sald fulcrum, stirrups on said standard and means on said arm for operating said stirrups, a link connected with said lever, a rocker arm connected to said link and feed rollers and means connecting said rocker arm and feed rollers.
15. In a machine of the class described, a lever, a fulcrum for said lever, an arm fixed to said lever, a standard mounted on said fulcrum, stirrups on said standard and means on said arm for operating said stirrups, a gulde, a link, feed rollers and means connecting said link and feed rollers whereby they are positively driven by said link in unison with sald grippers.

\section*{No. 101,409. Cigaretto Making Machino.}

Machine d faire des cigarettes.


The New York Cigarette Machine Company, assignee of Arthur L. Boucher, all of New York City, New York, U.S.A.. 9th October, 1906; 6 years. Filed 23rd August. 1906. Receipt No. 138,949 .

Claim.-1. In a clgarette machine, means for pasting a cigarette rod, heated and rotary means for smoothing and pressing the pasted seam, and means for heating sald heated and rotary means.
2. In a eigarette machine, means for pasting a cigarette rod, heated and rotary means for pressing and smoothing the pasted seam of said rod.
3. In a cigarette machine, means for pasting a cigarette rod, a heated roller, means for heating said roller, means for supporting the roller above said rod, and means for revolving seid roller in contact with said rod.
4. In a cigarette machine, means for pasting a cigarette rod, a roller, means for supporting the roller above said rod, means for revolving said roller and means for heating the roller while it is revolved.
5. In a machine of the class described, means for pasting a cigarette rod. a roller, a pivoted frame for supporting said roller, means for revolving sald roller, and means for heating the same while it is revolved.
6. In a machine of the class described, a belt adapted to receive a web with tobacco resting thereon, a funnel for compressing this web and tobacco into a tube, means for pasting the edges of the web together, and heated and rotary means for pressing the edges of the tube together.
7. In a cigarette machine, means for pasting a cigarette rod, a roller, means for supporting the roller above said rod, and means for revolving said roller at a hlgh speed and in contact with the seam of said rod.
8. In a cigarette machine, means for pasting a cigarette rod, a heated roller. means for supporting the roller above said rod and means for revolving said roller in contact with the seam of said rod and running in the direction of the exterior lapping of the paper of the same.

No. 101,410 . Folding Axe. Hache pliante.


Andrew E. Veon and Albert Angel, assignee of a half interest, both of Brainerd, Minnesota, U.S.A., 9th October, 1906; 6 years. Filed 21st August, 1906. Receipt No. 138,888 .
Claim.-1. In a folding axe, a single piece of sheet metal bent to form a tubular handle and a wide flattened sheath adjacent thereto, one edge and the end of said sheath being open, ears extending from the ends of said sheath, and an axe head pivotally mounted between said ears, the butt thereof, when in an operative position adapted to rest against the closed edge of the sheath, the edge of the axe head adapted to be folded into the sheath through the open edge thercof, substantially as shown and described.
2. In a folding axe, a single plece of sheet metal bent to form a tubular handle and a wide flattened sheath adjacent thereto, the end and one side of said sheath being open, ears extending from the end of said sheath, teats on the inner side of said sheath, and the axe head pirotally secured between said ears. said axe head, when in an operative position, resting against the closed edge of the sheath and said teats, and. When in a closed position, the edge of the blade polding into the sheath and being held therein, said sheath being capable of expansion to permit the head to pass the teats, aforesaid in opening and closing it substantially as shown and described.

\section*{1. 101,411. Photography. Photographie.}

Albert Henry Walker, assignee of John W. Ippers both of New York Clty, New York, U.S.A., 9th October, 1906; 6 years. Filed 2nd May, 1906. Recelpt No. 135,460.
Claim.-1. The following process in photography, making a thin photograph, having a tinted area and a clear area, making a counterpart dense photograph, having a clear area and an opaque area, uniting those photographs into one structure, with their films separated by an effective distance, and with the clear area of its thin part, opposite to the

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opaque area of its dense part, placing and holding that compound photograph before a camera, with its thin side near-

fst the camera, and with its dense side exposed to moderate light, but shielded from direct sunlight and from excessive light, exposing a photographic plate in the camera to subdued light coming from that compound photograph, developing that exposed plate into an intaglio photograph, and making a rellef photograph from that developed intaglio photograph, all substantially as described.
2. The following process in photography, making a thin photograph, having a tinted area and a clear area, making a counterpart dense photograph, having a clear area and an opaque area, uniting those photographs into one structure, with their films separated by an effective distance, and with the clear area of its thin part opposite to thip opaque area of its dense part, placing and holding that compound photograph before a camera, with its thin side nearest the camera, and with its dense side exposed to moderate light, but shlelded from direct sunlight and from excessive light, exposing a photographic plate in the camern to subdued light coming from that compound photograph, and developing that exposed plate into an intaglio photograph, all substantially as described.
3. A compound photograph composed of a thin photograph having a tented area and a clear area, and of a counterpart dense photograph having a clear area and an opaque area, the two photographs being placed flatwise together with the clear area of the thin photograph opposite to the opaque area of the dense photograph, and with the fllms of the two parts of the compound photograph separated by an effective distance, all substantially as described.

No. 101,412. Fence Post. Potcau de oldture.


Christopher Charles Dolan and Albert Lampitt, assignee of a half interest, both of Columbus, Ohio, U.S.A., 9th October, 1906; 6 years. Filed 27th August, 1906. Receipt No. 139,025.
Claim.-A fence post comprising a metallic body T-shaped in cross section and pointed at the lower end, said body being formed above the pointed end to provide shoulders, the web of the post adjacent said shoulders being formed with an opening, in combination with an anchor plate formed with an opening corresponding in contour to the sectional shape of the post and arranged to receive the post adjacent the shoulders, spurs formed integral with and depending from sald plate, said spurs being extended from the corners, of the plate to leave projecting members arranged intermediate and extending beyond the plane of the spurs, and a wedge key adapted to be passed through the opening in the web and bear against the under surface of the anchor plate and against the body of the post on each side of the operning.

No. 101,418. Fence. Ulôture.


Richard Leonard Myers and Nelson H. Elgar, assignee of a half interest, both of Winnipeg. Manitoba, Canada, 9th October, 1906 ; 6 years. Filed 10th August, 1906. Receipt No. 138,560.
Claim.-1. A flat fence picket having an extension at an angle to fts body, and having its central portion turned at an angle to its ends, which ends terminate in bows.
2. A fence comprising plckets inclined in one direction, intersecting pickets inclined at an angle thereto, and means for permanently securing together the plckets at their central point of interseotion.
3. A fence comprising pickets inclined in one direction, intersecting pickets inclined in the opposite direction, each of said pickets being provided with a central portion turned at an angle to the remainder of its body, and rivets disposed through the turned portions of the intersecting pickets.
4. A fence comprising pickets inclined in one direction, intersecting pickets inclined in the opposite direction, each of said pickets being provided with notches, and means for permanently securing together the pickets at their central point of intersection.
5. A fence comprising standards, upper and lower ralls carried by the standards, pickets provided with notches on their edges and arranged between the rails to interlock with each other, and means for eecuring together the pickets centrally against a lateral stress.
6. A fence comprising standards, upper and lower rails carried by the standards, pickets provided with notches on their edges and arranged between the rails to interlock with each other, and rivets disposed through the pickets centrally of their length.
7. A fence comprising standards, upper and lower rails carrled by the standards, pickets provided with notches on their edges, and each provided with a turned portion centrally of its length and arranged between the rails to interlock with each other so that said turned portions abut against each other, and rivets disposed through the turned portions of adjacent pickets.

No. 101,414. Hinge for Screens. Penture d'écran.


Richard McKnight, assignee of James F. Ware, both of Denver, Colorado, U.S.A., 9th October, 1906 ; 6 years. Filed 8th'June, 1906. Receipt No. 136,675.
Claim.-1. A driven tenon consisting of a flat sheet of metal having a series of flared wings upturned at each side edge, sald wings standing in lines which diverge from the driving edge of the tenon, substantially as described.
2. A driven tenon consisting of a flat sheet of metal having wings upturned in opposite directions at each side edge, sald wings being longer at their upturned edge than at thelr bended edge whereby to form cutting points, substantially as duscribed.
3. A driven tenon consisting of a flat sheet of metal having flared wings upturned in opposite directions at each side edge, said wings standing in lines which diverge from the driving edge of the tenon, and an integral slottod hanging lip projecting at one end of the driving edge of the tenon, substantially as tescribed.
4. A driven tenon connecting of a flat sheet of metal having fiared wings upturned in opposite directions at each side edge, said wings standing in lines which diverge from the driving edge of the tenon, an integral slotted hanging lip projecting at one end of the driving edge of the tenon and an integral clinch strip projecting from the opposite edge of the tenon, substantially as described.
5. A driven hanging tenon consisting of a flat sheat of metal having flared wings upturned in opposite directions at each side edge, said wings standing in lines which diverge from the driving edge of the tenon, an integral slotted hanging lip projecting at one end of the driving edge of the tenon and a suitable hook member for the purpose, substantially as described.

No. 101,415. Sectionsl Weight. Pese.


The Sectional Weight Company, assignee of John Thomas Brant, Jr., both of Coldspring, New York, U.S.A., 9th October, 1906; 6 years. Filed 19th July, 1906. Receipt No. 137,989.
Claim.-1. A sectional weight comprising a succession of separable units each provided with a curved dovetail end rib extending widthwise of the unit, and the adjacent dovetail iribs of successive units curbed in the same direction and grippingly engaging and interfitting.
2. A sectional weight comprising a plurality of separable units provided with dovetall end ribs, and the adjacent dovetail ribs of successive units grippingly engaging and interfitting, in combination with means for limiting the extent of sliding engagement of the units.
3. A sectional weight comprising a succession of separable units each having a curved end and provided with an end piece offset from the curved end, the end pieces lapping and each provided with a curved rib formed upon and extending widthwise of said offset end piece, the adjacent rib of each of the successive units grippingly engaging and fitting between the curved end of the adjacent unit and curved rib carried by the offset end piece thereof.

\section*{No. 101,416. Weight. Pesée.}

The Sectional Weight Company, assignee of John Thomas Brent, Coldspring, New York, U.S.A., 9th October, 1906; 6 years. Filed 19th July, 1906. Recelpt No. 137,990.
Claim.-1. A sectional weight comprising successive units slidably engaged end to end, one of said units having a curved end rib having an overhanging part and extending centrally widthwise of the unit, and the other of sald units provided with a curved end groove and extending centrally widthwise of the unit end conforming to, engaging and interfitting the rib aforesaid.
2. A sectional weight comprising successive units slldably engaged end to end. one of sald units having a curved end rib having an overianging part and extending centrally widthwise of the unit, and the other of said units provided with a curved end groove into and extending centrally width-
wise of the unit and conforming to engagius and interfitting the rib aforesald, the successive units provided with directly

No. 101,418. Cattle Guard. Gardo-bétail.


William Krauth and George Sargeant, assignee of a onefourth interest, both of Owen Sound, Ontario, Canada, 9th October, 1906; 6 years. Filed 4th August, 1906. Receipt No. 138,418.
Claim.-1. A cattle guard comprising a plurality of rockable crank shafts, gates carried by the crank shafts, a plurality of other crank shafts, actuating cam levers on the latter crank shafts. links operatively connecting all of the crank shafts, and means normally maintaining the gates in an upright position.
2. In combination with a rallway crossing, crank shafts disposed on each side of the crossing, gates on the crank shafts, crank shafts on each side of the crossing between the gates, a link connecting the latter crank shafts, links connecting the former and the latter crank shafts, a plurality of crank shafts on each side of the gates, links connecting the last-named crank shaits to each other and to the first-named crank shafts, means normally maintaining the gates upright, and means for rocking the crank shafts by the passage of a train.
3. In combination with a railway crossing, arank shafts disposed on each side of the crossing, gates on the crank shafts, crank shafts on each side of the crossing between the gates, a link connecting the latter crank shafts, links connecting the former and the latter crank shafts, a plurality of crank shafts on each side of the gates, links connecting the last-named crank shafts to each other and to the first-named crank shafts, springs secured to the firstnamed crank shafts and adapted to normally maintain the gates upright, and means for rocking the crank shafts by the passage of a train.
4. In combination with a railroad crossing, a cattle guard comprising the combination of a plurality of crank shafts journalled adjacent the track, links connecting the crank shafts, cam levers on some of the crank shafts, sleeves on some of the crank shafts, yokes carried in the sleeves, bars on the yokes, and means adapted to normally maintain the crank shafts in one position.
5. In combination with a railroad crossing, a cattle guard comprising the combination of a plurality of crank shafts rockably connected to the track, yokes secured to the crank shafts, links connected to the yokes, cam levers on some of the crank shafts, gates on some of the crank shafts, and means adapted to normally maintain the crank shaft in one nosition.

No. 101,419. Shntter Worker. Ferrure de coptrevent.
Heman Osborne, New York City, New York, U.S.A., 9th October, 1906; 6 years. Filed 21st July, 1906. Receipt No. 138,056.
Claim.-1. In a shutter worker, the bracket plate A, having supporting members at opposite sides and the combined
worm and sprocket wheel journalled at one side of the plate and the worm wheel journalled at the other side of the plate

and extending through the plate to mesh with the worm, means for rotating the worm, and a removable casing for inclosing the worm wheel and its supporting members, said casing consisting of two sections, each having a shell portion and a base provided with a marginal groove disposed at a right angle to the shell portion, the said two sections having their grooved portions slidably engaging the marginal edges of the bracket plate at opposite sides thereof and their shell portiong inclosing the worm wheel, substantially as described.
2. In a shutter worker, the combination of the supporting bracket having mounted thereon a united worm sprocket wheel and a worm wheel in mesh with the worm, a shutter operating lever carried by the worm wheel, and a chain having an intermediate portion thereol running around the sprocket wheel, and window casing fittings for guiding the extremities of the sprocket wheel chain each consisting of a split tube having separated depending ears, the journal pins supported by and extending from one to the other of said ears, and a roller on the pin.
10. 101,420. Grain Cleaner. Nettoyeur de grain.


James M. Akers, Matoon, Illinois, U.S.A., 9th October, 1906; 6 years. Filed 5th March, 1906. Receipt No. 133,540.
Claim.-1. The herein described method of cleaning grain which consists in producing a partially choked main current of air of sufficient velocity to transport grain, feeding grain into the choked portion of the main current so that it is transported away by said main current, and causing a back current away from the choked portion of the main current to carry off the dust which is unable to pass through the choked portion of said main current.
2. The herein described method of cleaning grain which congists in producing a main current of sufficient velocity to transport grain and a back current of sufficient velocity to transport dust, and feeding grain through the back current into the main current, whereby the dust is retained in and carried off by the back current and the grain is carried off by the main current.
8. The herein described method of cleaning grain which consists in producing a main current, setting up a back current away from said maln current, throwing dust-laden grain through the back current and into the main current, whereby the grain is carried off by the main current and the dust is carried off by the back current without penetrating into the main current.
4. The herein described method of cleaning grain which consists in producing a main current, setting up a back current away from sald main current, casting dust-laden grain through the back current into the main current, whereby the grain is carried off by the main current and the dust is car-
ried off by the back current and regulating the back current.
5. An apparatus for cleaning grain having means for producing an air blast, means for setting up a back current in the air blast, and means for throwing dust-laden grain through the back current into the blast, the back current constituting a cushion to prevent injury to the grain, and said back current being sufficient to arrest and carry off the dust from the grain.
6. An apparatus for cleaning grain, having means for producing an air blast, means for setting a back current in the blast, and centrifugal means for throwing dust-laden grain through the back curent into the blast. the back current being sufficient to arrest and carry off the dust from the grain.
7. An apparatus for cleaning grain, having means for producing an air blast, a feed passage leading to the air blast passage, a dust passage, means for setting up a back pressure from the air blast passage to the dust passage, and means operating in the feed passage to throw dust-laden grain through the back current into the air blast, said back current being sufficient to arrest and carry off the dust through the dust passage.
8. An apparatus for cleaning grain having an air blast passage, means for producing a blast of air through the passage, a feeder case in communication with the blast passage, a feed passage for the feeder case, a dust passage leading from the feeder case, and a rotary feeder working in the feeder case to throw dust-laden air into the blast passage, a portion of the feeder case being adjustable toward and away from the feeder to set up a back current from the alr blast passage through the feeder case into the dust passage.

No. 101,421. Wire Fence. Cloture de all de fer.


Edward Branch, Moosejaw, Saskatchewan, Canada, 9th October, 1906; 6 years. Filed 6th June, 1906. Receipt No. 136,600.
claim.-1. In a fence the combination with the corner posts and the longitudinal strands, of a winding post consisting of two opposing upright supports having extending transversely across and bearing therein independent drums and means for independently rotating the individual drums and securing in any fixed position, as and for the purpose specifled.
2. In a fence the combination with the corner posts and the longitudinal strands, of an invert \(\mathbf{U}\)-shaped winding post, a base secured to the ends of the extending arms, opposing downwardly extending sets of slots passing inwardly from the outer face of each arm, spindles removably supported within the slots, drums rigid with the spindies. drums revolvable upon the spindles and means whereby said drums may be individually revolved and constrained, as and for the purpose specified.
3. In a fence the combination with the corner posts and the longitudinal strands, of an invert \(U\)-shaped winding post, a base secured to the outstanding ends, downwardly extending sets of slots passing inwardly from the outer face of each arm, spindles extending transversely and bearing within the slots, said spindles having an end extend ing beyond the post and squared, drums rigid with the spindles, drums revolvable on the spindle and having an end extending beyond the post and squared, a ratchet wheel integral with the outer face of each individual drum and g:avity pawls bearing upon the inner face of the post and designed to co-operate with the ratchet wheels, as and for the purpose specified.
4. In a fence the combination with the winding post and the longitudinals of a corner post, said corner post con sisting of a tubular metallic upright having slots extending inwardly from the face designed to receive the longitudinals, a rod extending downwardly between successive
longitudinals and the inner face of the tube and designed to restrain the longitudinals within the slots, as and for the purpose specified.
5 . In a fence the combination with a winding post and the longitudinals, of a corner post consisting of a base, a tubular metallic upright secured thereto, a get of inwardly extending slots designed to receive the longitudinals, a cap removably secured to the top of the tubular body, a rod extending downwardly between the longitudinals and the inner face of the upright to hold the longitudinals within the slots and a collar enveloping the upper portion of the upright, as and for the purpose specifled.
6. In a fence the combination with a centrally disposed winding post having a ratchet drum for each of the individuals longitudinals, of corner posts having slots to receive the longitudinals and reinforcing guide posts secured to the longitudinals and between the corner posts, as and for the purpose specifled.

No. 101,422. Reflector Por Magnifying Glasses. Reflecteur pour verre grossissant.

.arey E. Bunker, Oregon, Missouri, U.S.A., 9th October, 1906; 6 years. Filed 14 th May, 1906. Receipt No. 135,920.
Claim.-1. The combination with the eye plece of a monocular magnifying glass, of a reflector held frictionally combined therewith and comprising a tubular ungulaform holder, and a reflecting surface disposed at the oblique side of the holder and having its center permeable by light.
2. The combination with the eye plece of a monocular magnifying glass, of a reflector held frictionally combined therewith and comprising a tubular ungulaform holder of substantially the same cross diameter from end to end, and a reflecting surface disposed at the oblique side of the holder and having its center permeable by light.
3. The combination with the eye piece of a monocular nagnlifing glass, of a reflector held frictionally combined therewith and adjustable relatively thereto, and comprising a tubular ungulaform holder, and a reflecting surface disposed at the oblique side of the holder and having its center permeable by light.

No. 101,423. Apparatus for Straining and Splicing Wire.
Appareil pour tendre et épisser.


William Nepean Hutchison, 57 Peckham Road, Camberwell, London, England, 9th October, 1906;6 years. Filed 7th February, 1906. Receipt No. 132,704.
Claim.-In a wire tightener the combination with a bar having claws at its ends and a winding spool projecting from the midle portion of the said bar and provided with means for engaging the wire, of an operating lever having cranked handles at its ends and two clips secured to the middle part of the said lever and holding the said bar between them crosswise of the said lever, as described.

No. 101,424. Pole. Perche.


Diedrich William Krellwitz, St. Catharines, Ontario, 9th October, 1906; 6 years. Filed 20th July, 1906. Receipt No. 137,997.
Claim.-In poles the combination with the main body of concrete, of reinforcing uprights of the same cross sectional area throughout the entire length of pole, each upright being made in proportion of different grades of carbon steel and each successive portion from the bottom of the pole decreasing from a high carbon steel to the top of the pole, as specified.

No. 101,425. Grain Door. Porte d̀ graine.


Robert R. Tichenor and Andrew Johnson, assignee of a half interest, both of Feeley, Minnesota, U.S.A., 9th October, 1906:6 ycars. Filed 4th September, 1906. Receipt No. 139,248 .
flaim.-1. The combination with a freight car, of casings provided upon each side of the door openings and having transverse slots at intervals arranged one above another, guides mounted on said casings, links pivotally connected with said guldes through said slots, a bar connecting said links. means for moving said bar lengthwise to move said guides toward or from each other, and a door vertically movable between sald guides.
2. The combination with a frelght car, of casings provided on each side of the door opening. guides mounted on said casings, links pivotally connected at one end with said filldes and having a sliding connection with said casings. a vertically movable bar connecting the free ends of said links, means for raising and lowering said bar to move said guides toward or from each other, and a door vertically movable between said guides.
3. The combination with a freight car, of casings provided nn each side of the door opening and having transverse slots 10 , guides provided on said casings, links 12 having pivot pins 11 extending through said slots and secured to said guides, a bar 13 connecting said links, means for raising or lowering said bars to move said guldes toward or from sach other and a door provided between said guides.
4. The combination with a freight car, of casings provided in each side of the door opening, guides provided on said casings, vertically movable bars, means connecting said bars and said guides for imparting horizontal movement to said guides when said bars are raised or lowered, bell crank levers 14 pivoted on said casings and connected with sald hars and a door vertically movable between said guides.
5. The combination with a freight car, of casings provided on each side of the door opening, guides carried by said casings and substantially V-shaped in cross section, links a slidably mounted in said casings and secured at one end to said guides, vertically movable bars pivotally connected

With the opposite ends of said links, means for raising and lowering said bars to move said guldes tolward or from each other and a door having bevelled ends provided between sald guides.
6. The combination with a freight car, of casings provided upon each side of the door opening, guides mounted on said casings, links 12 pivotally secured to said guides through transverve slots 10 in said casings, vertically sliding bars 13 connecting said links, bell crank levers 14 pivoted on said casings and having one arm pivotally connected with said bars 13 , the other arms of said bell crank levers extending vertically upon each side of the door opening when the guides are in their locked position and a door arranged to slide vertically between said guides, substantlally as described.

No. 101,426. Varnishing Machine. Machine à vernir.


William Charles Phillips, assignee of Thomas H. Donaldson, both of Toronto, Ontario, Canada, 9th October, 1906 ; 6 years. Filed 28th May, 1906. Receipt No. 136,311.
Claim.-1. In a varnishing machine the combination with the table and varnish receptacle underneath the same, of a guiding means, a varnish spreading means and a feeding means for the moulding, a cover board and brushes located beneath the cover board and above the receptacle with which the varnished surface is designed to come in contact, as and for the purpose specified.
2. In a varnishing machine the combination with the varnishing receptacle, of a table top extending over the front end of the receptacle, a spreading roller extending upwardly through an opening in the table top and downwardly into the varnish, and means for feeding the moulding over the roller, as and for the purpose specified.
3. In a varnishing machine the combination with the varnishing receptacle, of a table top extending over the front end of the receptacle, a spreading roller extending upwardly through an opening in the table top and downwardly into the varnish, a toothed wheel located over the roller, designed to come in contact with the back of the moulding. and suitably driven, as and for the purpose specifled.
4. In a varnishing machine the combination with the varnishing receptacle, of a table top extending over the front end of the receptacle, a spreading roller extending upwardly through an opening in the table top and downwardly into the varnish, a toothed wheel located over the roller designed to come in contact with the back of the moulding and suitably driven, and means for adjusting the toothed wheel vertically, as and for the purpose specifled.
5. In a varnishing machine the combination with the varnishing receptacle, of a table top extending over the front and of the receptacle, a spreading roller extending upwardly through an opening in the table top and downwardly into the varnish, a toothed wheel located over the roller designed to come in contact with the back of the moulding and suitably driven, a frame carrying suitable bearings for the shaft of the toothed wheel and vertically slidable upon suitable standards, and means for adjusting the frame, as and for the purpose specified.
6. In a varnishing machine the combination with the varnishing receptacle, of a table top extending over the front end of the receptacle, a spreading roller extending upwardly through an opening in the table top and downwardly into the varnish, a toothed wheel located over the roller designed to come in contact with the back of the moulding and suitably driven, a irame carrying suitable bearings for the shaft of the toothed wheel and vertically slidable upon suitable standards, a bracket attached to the standard, a screw spindle freely rotatable in the bracket and a bracket
attached to the adjustable frame into which the lower end of the screw spindle extends; as and for the purpose specifled.
7. The combination with the table top and receptacle and roller extending through an opening in the table top, of a toothed feeding wheel vertically adjustable in relation to the roller, as and for the purpose specified.
8. The combination with the table top and receptacle and roller extending through an opening in the table top, of a feeding wheel located above the roller and guiding strips located on each side of the roller, as and for the purpose specifled.
9. The combination with the varnish receptacle and varnish spreading means and the feeding means, of the vertically adjustable brushes located at the discharge end of the machine over the varnish receptacle and a cover board under which the moulding is fed, as and for the purpose specifled.
10. The combination with the varnish receptacle and varnish spreading means and the feeding means, of the vertically adjustable brushes located at the discharge end of the machine over the varnish recoptacle and a cover board under which the moulding is fed and adjustable side boards extending laterally underneath the cover board, as and for the purpose specified.
11. In a varnishing machine the combination with the cover board and varnish receptacle, of the brushes having end flanges and screw spindles extending through such flanges and designed to form a means for vertically adjusting the brushes in relation to the cover board, as and for the purpose specified.
12. In a device of the class described, a feeding roller comprising discs of suitable material placed adjacent to each other and having the combined peripheral face thereof adapted to fit the face side of the moulding, as and for the purpose specified.

No. 101,427. Die Stock. Filière brisée.


The Low Supply and Manufacturing Company, assignee of Otto Fred Kadow, all of Cleveland, Ohio, U.S.A., 9th October, 1906; 6 years. Filed 17th December, 1904. Receipt No. 120,843 .
Claim.-1. In a die stock, the combination of guideways. dies mounted on said guideways and adjustable toward and from each other, bearings above the guideways, one of said bearings having an upwardly and inwardly inclined surface, an adjusting plate engaging said bearings and having an inclined edge corresponding to the inclined surface of the bearing, a clamp, the inner face of which forms i: effect a portion of said inclined bearing, and means for adjusting said clamp to lock the adjusting plate in position, substantially as specified.
2. In a die stock, the combination of a body portion. guideways in said body portion, dies mounted on said guideways and adjustable toward and from each other, an adjusting plate mounted in said body portion and having an upwardly inclined portion, and an adjustable clamp mounted in said body portion and having an inclined overhanging portion positioned to engage the inclined portion of the plate, substantially as specifed.
3. In a die stock, the combination of the body thereol, guideways in said body, dies on said guldeways and adjustable toward and from each other, bearings in said body, an adjusting glate for said dies mounted in sald bearings, said body having a recess therein adjacent the said bearings and inclining a portion thereof, a clamp in the recess in the body arranged to be reciprocated transversely of said bearing and having an overhanging portion in the recess in the bearing, substantially as specifed.
4. In a die stock, the combination of guides, dies mounted on said guides and adjustable toward and from each other, a plate for adjusting said dies, bearings for said plate. one of said bearings having a recess therein, a reciprocating clamp in said recess, said clamp having a portion forming a portion of the bearing and overhanging the portion of
the plate adjacent thereto, and means for securing said clamp in engagement with said plate, substantially as specified.
5. In an integral die stock consisting of a body adapted to hold dies, longitudinal guides for said dies, a hollow arch on the under side of said body, and a tubular work guide member depending centrally from the under side of the hollow arch, the arch having side portions constituting extensions of the work guide member and extending to and reinforcing the longitudinal guides, substantially as specified.
6. A die stock consisting of a body adapted to hold dies, longitudinal guides for said dies, a hollow arch on the under side of sald body, a tubular work guide member depending centrally from the under side of such arch, the arch having side portions constituting extensions of the work guide member and extending to said guides, such extensions having each an opening therethrough adjacent its die guide, substantially as specified.
7. A die stock consisting of a body adapted to hold dise, longitudinal guides in said body for the dies, a hollow arch on the under side of said body, and a tubular work guide member depending centrally from the under side of such arch. said arch having its side portions constituting extensions for said work guide member and extending to the longitudinal die guides and provided with openings adjacent said guides and also having longituinally arched end portions extending from said work guide member to the ends of the body, substantially as specified.

No. 101,428. Die Stock. Filière brisée.


The Borden Company, assigner of Bradford Borden, both of Warren, Ohio, U.S.A., 9th October, 1906; 6 years. Fited 9th April, 1906. Receipt No. 134,738 .
Claim.-1. The combination with a die stock having an open front housing. and a work guide at one side thereof, of sectional dies within the housing constructed and arranged to bs reversed face for face to enable the threading to be done from the front or rear of the housing, and a free sliding adjuster for said dies fitted within said housing and having means for engaging either face of each die to effect the adjustment by the sliding of the adjuster.
2. The combination with a die stock having an open front housing, and a work guide at one side thereof, of sectional dies within the housing, sald dies being reversible face for face, and having corresponding grooves in their inner and outer faces, and an adjuster having portions overlapping the dies provided with tongues for fitting the outer grooves thereof.
3. In a die stock having an open front housing and a work guide at one side thereof, sectional dies within the housing capable of beling reversed facc for face to enable the threading to be done from the front or rear of the housing, an' adjuster for said dies for effecting the moving thereof, and means for preventing the outward deflection of the adjuster and dies.
4. A die stock comprising an open front housing, sectional dies within the housing, a free sliding adjuster, a locking plate secured at fts ends to said housing and extended transversely of the dies and adjuster, and means carried by said plate for limiting the outward movements of the adjuster.
5. A die stock comprising an open front housing, sectional dies within the housing, free sliding adjuster having a groove in its outer face adjacent one side thereof, a locking plate secured at its ends to said housing and extended transversely of the dies and adjuster, and a lug carried by said plate extending into said groove for limiting the outward movements of the adjuster.
6. A die stock comprising an open front housing, sectional dies within the housing, said dies being reversible, a free sliding adjuster having means for engaging said dle blocks for moving the same outwardly, said adjuster being also re-
versible, and a locking plate pivotally secured at one end to the housing and designed to extend transversely of said dies and adjuster, and means for engaging and holding the free end of said locking plate.

No. 101,429. Water Cooled Grate. Grille.


The Johnson Furnace and Engineering Company, Colorado Springs, assignee of Alfred E. Johnson, Denver, both in Colorado, U.S.A., 9th October, 1906; 6 years. Flled 16th June, 1906. Recelpt No. 136,963.
Claim.-1. A grate composed of hollow revoluble bars, long open ended stationary water pipes located within the bars, means for introducing water to one of sald pipes, and short stationary pipes each entering the extremity of a hollow grate bar at one end of the grate and surrounding the corresponding extremity of the water pipe therein, the sald short pipes having lateral extensions, each long water pipe after the one through which the water enters the grate communicating at one end with the corresponding lateral extension of one of said short pipes, and at its other end with the interior of the grate box.
2. A grate composed of a number of hollow revoluble bars, long open ended water pipes within the bars and protruding from their extremities at one end of the grate, short stationary pipes each entering the end of a grate bar at one end of the grate and surrounding the extremity of the watey pipe therein, and means for introducing water to one of the pipes within the hollow bars, the short pipes having lateral extensions, each long water pipe after the one through which the water enters the grate communicating at one end with the adjacent lateral extension of one of said short pipes and at its other end with the interior of the grate bar.
3. A grate composed of a number of hollow revoluble bars, long open ended water pipes located within the bars and protruding therefrom at one end of the grate, short stationary pipes each entering the extremity of a grate bar at one end of the grate, surrounding the protruding extremity of the water pipe therein and communicating with the grate bar, means for forming a water tight joint between the short pipes and the hollow revoluble bars, the short pipes having lateral extensions, each long water pipe after the one through which the water enters the grate communicating at one end with the adjacent lateral extension of one of said short pipes and at its other end with the interior of the grate bar.
4. A grate bar composed of a number of hollow revoluble bars, short stationary pipes entering the forward extremities of the respective bars and communicating with the latter, long open ended pipes located in the hollow bars, and means for dellvering cooling fluid to the forward extremity of one of the pipes within the bars under sufflcient pressure to cause the fluid to flow through a numy ber of open ended pipes in succession, and back toward the hollow bars, the short stationary pipes having lateral extensions each long open ended pipe after the one through which the water enters the grate communicating at one end with the adjacent lateral extension of one of said short pipes, and at its other end with the interior of the grate bar.
5. A grate composed of a number of hollow revoluble bars, short stationary pipes entering the forward extremities of the bars and communicating therewith, the short pipes having lateral extensions, long pipes located within the hollow bars, and means for delivering a cooling fluld to one of the pipes within the hollow bars under suffcient pressure to cause the fluid to circulate through the bars. each long pipe within a hollow bar after the one through which the fiuld enters the grate, communicating at one end with the adjacent lateral extension of one of
said short pipes, and at its other end with the interior of the grate bar.
6. A grate composed of a number of hollow revoluble bars, short stationary pipes each entering the forward extremity of a bar and communicating therewith, the short pipes being provided with protruding lateral extensions, long open ended water pipes located within the hollow bars, and means for delivering water under pressure to one or more of the water pipes within the hollow bar, each long water pipe after the one through which the water enters the grate communicating at one end with the adjacent lateral extension of one of said short pipes and at its other end with the interior of the grate bar.
7. A grate composed of a number of hollow revoluble bars. short stationary pipes each entering the forward extremity of a bar and communicating therewith, the short pipes being provided with protruding lateral extensions, long open ended pipes located within the hollow bars, means for introducing water to one of the long open ended pipes under such pressure that the water is made to travel through the grate bars, each long water pipe after the one through which the water enters the grate communicating at one end with the adjacent lateral extension of one of said short pipes, and at jts other end with the interior of the grate bar.
8. A grate composed of hollow revoluble bars, long stationary water pipes located within the bars and protruding therefrom at one end of the grate, short stationary pipes cach entering a grate bar at one end of the grate and surrounding the protruding extremity of the water pipe therein, the outer extremity of each short pipe being expanded to form a plate, the short pipes having lateral extensions connected with the plates of the adjacent short pipes, the said plates having openings to allow the lateral extensions to communicate with the long water pipes of the grate bars, the short pipes communicating with the grate bars which they enter, each long water pipe after the one through which the water enters the grate communicating at one cnd with the adjacent lateral extension of one of said short pipes and at its other end with the interior of the grate bar.
9. A grate composed of a number of hollow revoluble bars, long water pipes located within the grate bars. their forward extremities protruding from the grate bars, short stationary pipes each entering the forwarrd extremity of a grate bar surrounding the protruding extremity of the long wrate bar surrounding the protruding extrem therein, and communicating with the grate bar, the short pipes having plates to enter their forward extremities, the short pipes being also provided with lateral extensions connected with the plates of adjacent short pipes except where the water is originally introduced, the plates of the last-named pipes having openings forming a communication between the lateral extensions of the short pipes and the forward extremities of the long water pipes within the hollow bars, the extensions of the short pipes having closable openings in line with openings of the plates with which they are connected, and a number of supply pipes for introducing water to a corresponding number of the water pipes within the hollow bars, hollow plates attached to the plates of the stationary pipes and surrounding the long water pipes where the water is introduced, the supply pipes being connected with the hollow plates, each long water pipe after the one through which the water enters the grate communicating at one end with the adjacent lateral extension of one of said short pipes and at its other end with the interior of the grate bar.
10. A grate composed of a number of sets or series of hollow grate bars, a long open ended fluid pipe extending into each bar of the grate, means for introducing cooling fluid to one pipe of each series of grate bars, short pipes each entering a hollow grate bar at one end of the grate and surrounding the corresponding extremity of the fluid pipe thercin, each long fluid pipe of each set or serjes of hollow bars after the one through which the water enters the grate communicating at one end with the adjacent lateral extension of one of said short pipes of the same set or series of grate bars and at its other end with the interior of the grate bar.

\section*{No. 101,430. Machine for Rolling Finger Rings. Laminoir pour joncs.}

I R. Wood and Sons, assignee of Henry Henrich, both of New York City, New York, U.S.A., 9th October, 1906 ; 6 years. Filed 18th July, 1906. Recelpt No. 137,943.
claim.-1. In a machine for rolling rings the combination of a mandrel, and a roller which are adapted to roll a ring between them, and gearing for driving the ring ensaging surfaces of said mandrel and roller at substantially the same speed.
2. In a machine for rolling rings the comblnation of a mandrel, a shaft supporting sald mandrel, a ring form-

Ing rollar. of much larger diameter than said mandrel, a shaft supporting said roller, sald shafts extending in oppo-

site directions, and gearing for transmitting motion from cne of said shafts to the other, said gearing being so proportioned as to drive the ring engaging surfaces of sald mandrel and roller at substantially the same speed.
3. In a machine for rolling rings the combination of a shaft, a mandrel mounted on said shaft, a second shaft, a ring forming roller mounted on said second shaft, said shafts extending in opposite directions from the ring engaging parts and a third shaft parallel to said first-mentioned shafts and geared to each of the same, sald gearing being so proportioned that the ring engaging surfaces sball travel at substantially the same speed.
4. In a machine for rolling rings the combination of a shaft, a mandrel mounted thereon and a pivoted frame, a shaft having bearings in said frame, a ring forming roller mounted on said second shaft, and means for swinging said frame to carry said roller toward and from said mandrel.

5 . In a machine for rolling rings the combination of a shaft, a mandrel mounted thereon and a plvoted frame, a shaft having bearings in said frame a ring forming roller mounted on said second shaft, and means for swinging said frame to carry said roller toward and from said mandrel, said means consisting of a cam enga
gearing for turning said cam by hand.
6. In a machine for rolling rings the combination of a shaft, a mandrel mounted thereon and a pivoted frame, a shaft having bearings in said frame, a ring forming roller mounted on said second shaft, and means for swinging said frame to carry said roller toward and from said mandrel, said means consisting of a cam engaging said irame, a gearing for turning said cam by hand gnd a stop connected to said cam to limit its movements.
7. In a machine for rolling rings the combination of a mandrel shaft mounted in stationary bearings, a mandre mounted thereon, a pivoted frame a second shaft mounted in stationary bearings. a frame pivoted on said second shaft, a shaft journalled in said pivoted frame, a ring forming roller mounted on said last-mentioned shaft, gearing for driving said second shaft, a gear on said second shall and a gear on said ring shaft, said last-mentioned gear driven from said first-mentioned gear, and means for raising and lowering said frame to sarry said ring forming roller toward or away from said mandrel.
8. In a machine for rolling rings the combination of a mandrel shaft mounted in stationary bearings, a mandrel mounted thereon, a pivoted frame, a shaft journalled in said frame, a ring forming roller mounted on said shaft, a second shaft mounted in stationary bearings upon which shaft said irame is pivoted, and means for adjusting said frame to adjust said roller with reference to said mandrel, said means cousisting of a sleeve journalled on said second shaft between sald frame and a stationary part, a nut threaded on said sleeve, and a sleeve on the end of said stationary ghaft, and a bolt threaded into the end of said shaft and bearing on said sleeve, said sleeve bearing against the ond of sald Fivoted frame opposite to that engaged by sald screw Bleeve whereby when said bolt is turned, said sleeve is moved along said shaft and carries with the said pivoted frame.
9. In a machine for rolling rings the combination of a mandrel shaft mounted in stationary bearings, a mandrel mounted thereon, a pivoted frame, a shaft journalled in said trame, a ring forming roller mounted in stationary bearings upon which shaft said frame is pivoted, and means for ad justing said frame to adjust said roller with reference to said mandrel, said means consisting of a sleeve journalled on said shaft between said frame and a stationary part, a nut threaded on said sleeve, a pinion on the end of said stationary shaft, and a bolt threaded into the end of said shaft and bearing on said pinion, said pinon bearing against the end of said pivoted frame opposite to that engaged by said screw sleeve whereby when said bolt is turned, sald pinion is moved along said shaft and carries with the sald pivoted
frame and a gear on said roller shaft and driven from said pinion.
10. In a machine for rolling rings the combination of a mandrel, a ring forming roller, shafts upon which said parts are mounted, and means for adjusting said shafts longitudinally relative to each other to adjust said mandrel and roller so that the ring forming surfaces shall bear proper relation to each other.
11. In a machine for rolling rings the combination of a mandrel, a ring forming roller, means for causing said mandrel and roller to relatively approach each other, and auxilary rollers having axis above the center of said mandrel, and means for moving said rollers toward and from said mandrel.
12. A machine for forming rings the combination of a mandrel, a ring forming roller, the ring engaging surfaces of said mandrel and roller having substantially the same speed and auxiliary rollers, and means for moving said auxiliary rollers toward and from said mandrel.
13. In a machine for rolling rings the combination of a mandrel, a ring forming roller, means for moving said parts relatively toward and from each other, auxiliary rollers having axis parallel to said mandrel, the axis of said auxiliary rollers being above that of the mandrel, means for moving sadd auxiliary rollers toward or from said mandrel, gearing for driving the ring engaging surfaces of said mandrel and ring forming roller at substantially the same speed.
14. In a machine for rolling rings the combination of a mandrel, ring forming roller, means for causing sald parts to approach or recede from each other, auxiliary rollers movable toward and from said mandrel, an dautomatic and adjustable means for moving said auxiliary rollers toward and from sald mandrel.
15. In a machine for rolling rings the combination of a mandrel, a ring forming roller, means for causing said parts to approach or recede from each other, auxiliary rollers uovable toward and from said mandrel, and automatic and adjustable means for moving said auxiliary rollers toward and from said mandrel, sald means comprising a weight.
16. In a machine for rolling rings the combination of a mandrel, a ring forming roller, auxiliary rollers, pivoted arms on which sald auxiliary rollers are mounted, a weighted arm, and means for transmitting motion from said weighted arm to said pivoted arms.
17. In a machine for rolling rings the combination of a mandrel, a ring forming roller, auxiliary rollers, pivoted arms on which said auxiliary rollers are mounted, a weighted arm, and means for transmitting motion from said weighted crm to said pivoted arms, said means comprising a slide movable by said weighted arm, and a wedge adapted to ensage bevelled surfaces on said arms.
18. In a machine for rolling rings the combination of a mandrel, a ring forming roller, auxiliary rollers, pivoted arms on which sald auxiliary rollers are mounted, a weighted arm, and means for transmitting motion from said weighted arms to said pivoted arms, said means comprising a slide movable by said weighted arm, and a wedge carried by said slide, said wedge being adapted to engage bevelled surfaces on said arms, said arms being connected by a spring tending tc hold them againgt said wedge.
19. In a machine for rolling rings the combination of a mandrel, and a ring forming roller, gearing for driving them so that their ring engaging surfaces shall travel at substantially the same speed, pivoted arms, auxiliary rollers carrled by one end of said arms, a slide movable toward and from said mandrel, a wedge on said slide engaging said arms, a spring connecting said arms, and holding them, against said wedge, a lever engaging said slide, and a series of varying weights to be attached to said lever and tending to force said slide toward said mandrel to move said auxiliary rollers toward sald mandrel.
20. In a machine for rolling rings the combination of a mandrel, a ring forming roller, means for driving the ring engaging surfaces of said mandrel, and roller at substantially the same speed, auxiliary rollers, and automatic means for moving said auxiliary rollers toward and from said mandrel under a predetermined pressure.
21. In a machine for rolling rings the combination of a mandrel, a ring forming roller, means for driving their ring engaging surfaces at substantially the same speed, auxiliary rollers provided with ring engaging grooves that are deeper than the ring forming grooves in the roller, whereby said auxiliary rollers engage the ring near its edges, and automatic means for forcing said suxillary rollers toward said mandrel at a predetermined pressure.
22. In a machine for forming rings the combination with mechanism for rolling a ring, and mechanism for trimming the edges thereof.
23. In a machine for forming rings the combination with means for rolling a ring, and means for simultaneously turning the edges of the ring.

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24. In a machine for forming rings the combination of means for rolling a ring, and two tools for turning the edges thereof, said tools being mounted on slides movable parallel to the axis of the ring, and a right-and-left screw for adjusting said slides.
25. In a machine for forming rings the combination of means for rolling a ring, and two tools for turning the edges thereof, said tools being mounted on slides movable parallel to the axis of the ring, a right-and-left screw for adjusting said slides, said slides being mounted on a transverse slide, and means for adjusting said transverse slide.
26. In a machine for forming rings the combination of a stationary shaft, a mandrel mounted thereon, a frame movable toward and from said mandrel, a shaft journalled in said frame, a ring forming roller mounted on said lastmentioned shaft, and tools mounted on said frame for turning the edges of the ring.
27. In a machine for forming rings the combination of a stationary shaft, a mandrel mounted thereon, a frame movable toward and from said mandrel, a shaft journalled in said frame, a ring forming roller mounted on said lastmentioned shaft, and tools mounted on said frame for turning the edges of the ring, each of said tools being mounted on a slide adjustably parallel to the axis of the ring.
28. In a machine for forming rings the combination of a stationary shaft, a mandrel mounted thereon, a frame movable toward and from said mandrel, a shaft journalled in said frame, a ring forming roller mounted on said last-mentioned shaft, and tools mounted on said frame for turning the edges of the ring, each of said tools being mounted on a slide adjustable parallel to the axis of the ring, said slide being mounted on a slide adjustable transversely to the axis of the ring.
29. In a machine for forming rings the combination of a relatively movable mandrel and ring forming roller, tools for turning the edges of the ring and a guard overlying the ring forming groove in the roller.
30. In a machine for forming rings the combination of a relatively movable, mandrel and ring forming roller, tools for turning the edges of the ring and a guard overlying the ring forming groove in the roller, said guard having vertical surfaces parallel to said groove to catch the turnings.
31. In a machine for forming rings the combination of a relatively movable mandrel and ring forming roller, tools for turning the edges of the ring, a guard overlying the ring forming groove in the roller and flbrous material secured under said guard.
32. In a machine for forming rings the combination of ring iorming means, a finger engaging the inside of the ring, a dial and a pointer movable over said dial and geared to said finger.
33. In a machine for forming rings the combination of ring forming means. a flnger adapted to engage the inside of the ring, and means for indicating the positions of said finger to show the size of the ring.
34. In a machine for forming rings the combination of ring forming means, a finger adapted to engage the inside of the ring, means for yieldingly holding said finger against the inside of the ring, a dial and a pointer geared to said finger and movable over said dial.
35. In a machine for forming rings the combination of ring forming means, a finger adapted to engage the inside of the ring, a slide upon which said finger is mounted, means for yieldingly moving said slide to hold said finger against the inside of the ring, a dial, a pivoted pointer mounted over said dial and a rack on said slide and a pinion on the pivot of said pointer.
30. In a machine for forming rings the combination of a mandrel, a ring forming roller, means for moving said parts toward and from each other, a finger adapted to engage against the inside of the ring, means normally drawing said finger against the inside of the ring and connections whereby when said mandrel and roller are moved apart, said finger shall be moved toward said mandrel.
37. In a machine for forming rings the combination of a mandrel, a ring forming roller, means for moving said parts toward and from each other, a finger adapted to engage the inside of the ring, a cord and weight connected to said finger and tending to move it against the inside of the ring, and a support connected to said means for moving the mandrel and roller relative to each other, said support engaging sald weight when said mandrel and roller are moved apart, whereby said finger is permitted to return toward said mandrel in position to engage the inside of another ring blank.
38. In a machine for forming rings the combination of a mandrel, a ring forming roller, auxillary rollers and means for mechanically forcing sald auxiliary rollers toward said mandrel at a predetermined pressure and connections whereby when said mandrel and roller are forced together sald means for operating the auxiliary rollers are permitted to act. and whereby when said mandrel and rollers are separated, said auxiliary are retracted.
39. In a machine for forming rings the combination of a mandrel and ring forming roller, a frame movable toward sald mandredl and carrying sald roller, auxiliary rollers moved toward and from sald mandrel, means comprising a weighted arm for moving said auxlliary rollers toward sald mandrel, a cam for raising said frame and an arm so connected to said cam that when said frame moves from said maudrel said weight is raised.

No. 101,431. Bearing for Cream Separators. Coussinct pour séparatcur d crème.


Lauchlan Allan McLean, Toronto, Ontario, Canada, 9th October, 1906;6 years. Filed 7th December, 1905. Receipt No. 130,778.
Claim.-1. A bearing for cream separators comprising a step box having an opening through the bottom thereof, a cushion spring enconsed in said bex, a cup resting on sald spring having a sultable ball race, balls arranged in said lace, a spindle supporting a bowl at the tup thereof and having a vertical orifice therethrough and a cone bearing surface at the bottom thereof turning on said balls, as and :or the purpose specified.
2. A bearing far cream separators comprising a step box having a cylindrical body portion and an opening through the bottom thereof, a spiral spring within said cylindrical !ortion and resting on the bottom thereof, a cup resting on the top of said spring having a suitable ball race, balls arranged in said race, a spindle enlarged at the upper end and forming the bottom of a bowl having a vertical orifice therethrough and a cone bearing surface at the bottom thereof turning on said balls as and for the purpose speciffed.
3. A bearing for cream separators comprising a step box raving a cylindrical body portion and an opening in the bottom and holes in the wall thereof. a spiral spring having flattened ends and resting on the bottom of suid eylindrical hody portion, a cup bearing slidably arranged in said body porion having a ball race therein and resting on said spring and having an opening through the center thereof, a spindle cnlarged at the upper end and forming the bottom of a bowl having a vertical orifice therethrough and a cone bearing surface at the bottom thereof turning on said balls. as and for the purpose specified.
4. A bearing for cream separators comprising a step, box having a threaded portion to secure it in the frame of the machine and a vertical cylindrical wall extending upwardly from said threaded portion and holes therethrough and an opening through the bottom thereof, a spiral spring having fattened ends and resting in said step box, a cup-shaped bearing slidably arranged in said step box having an opening in the bottom thereof and resting on said spring and supported thereby, balls arranged in said ball cup. a ball retainer engaging said balls, a spindle having a cone-shaped lower end engaging said balls and turning thereto and an enlarged upper end forming the bottom of a separator bowl and a central vertical orlfice through sald spindle, as and for the purpose specified.

No. 101,432. Ball Bearing. Coussinet d boules.
Mllo Harris and John F. Dearing, Jamestown, New York, U.S.A., 9th October. \(1906 ; 6\) years. Filed 21 st February, 1906. Receipt No. 133,128 .
claim.-1. A roller bearing ring consisting of a hardened steel race ring and a housing of substantially unlform thickness for said race ring having extensions beyond the edges of the race ring.
2. A roller bearing ring consisting of a hardened cleft steel race ring and a housing of substantially uniform thickness for the edges and ungrooved side of said race ring.
3. A roller bearing ring consisting of a hardened steel race ring and cornered housing bands of substantially unl-
form thicknoss for the edges and the ungrooved side of sald race rine.

4. In ball bearings hardened steel casing and journal rings, housings for said rings consisting of untempered bands around the outer face of the casing ring and the inner face of the journal ring and extending beyond the edges thereof and balls between the rings, substantially as described.
5. In ball bearings, a series of hardened steel casing and journal race rings, balls between said casing and journal race rings, housings covering the outer faces of the casing tace rings and the inner faces of the journal race rings and extending beyond the edges of said race rings to form bearings by their continuous extension.
b. In ball bearings hardened cleft steel casing and journal lace rings, balls between said journal and casing rings, uniempered housings covering the outer faces of the casing rings and the inner faces of the journal rings, said housings xtending beyond the edges of the rings, and means to secure the journal housings to the shaft.
T. In ball bearings, a series of hardened steel casing and journal race rings, balls between sald casing and journal rings, bands around the outer face of the casing rings and extending beyond the edges thereof, bands around the inner iace of the journal rings and extending beyond the edges thereof, and means for interlocking the adjacent journal bands.
8. In ball bearings, a serles of hardened steel casing and journal rings, balls between said rings, bands around the outer face of the casing rings and extending beyond the dges thereof and bands around the inner face of the journal rings and extending beyond the edges thereof to form a bearing between contiguous extensions, there being a tongue and groove joint between said contiguous extensions, substantially as and for the purpose specifled.
9. In ball bearing, a series of steel casing rings, metallic bands enclosing the outer faces and edges thereof, a series of steel journal rings, metallic bands enclosing the inner faces and edges thereof, balls between the steel rings and a ball'retainer to space the balls between the rings having absorbent material in the retainer for olling the balls, as shown and described.
10. In ball bearings, a ball retainer composed of flat tubular rings having holes in the same to seat the balls, absorbent material in said tubes to lubricate the balls, and studs to hold the retainer on the balls.
11. In ball bearings, a ball retainer composed of flat metal rings having holes to seat the balls, absorbent material secured to said rings, a backing for holding the absorbent material against the balls and studs to hold the retainer against the balls, as shown and for the purpose specified.

No. 101,433 . Gate. Barrière.


Harry H. Gorton, Wallace, Missouri, US.A.. 9th October. 1906; 6 years. Filed 9th July, 190¢. Receipt No. 137,666.
Claim.-1. The combination with a gate, of oscillatory bars pivotally connected with the gate and provided at their lower portions with tapering extensions arranged to engage the gate when the same is open or closed, and means for actuating the gate, substantially as described.
2. The combination of a gate, oscillatory bars connected with the gate, operating levers provided with inner and outer links connected thereto at different points and arranged at an angle, and connections extending from the links to the oscillatory bars, substantially as described.
3. The combination of a gate, oscillatory bars connected with the same, plates connected with the oscillatory bars and provided with perforations, stays connected with the bars and with the plates, operating levers, and connections between the plates and the operating levers, said connections being adjustable through the said perforations, substantially as described.
4. The combination of a gate, oscillatory bars, plates pivotally connected with the bars, flexible stays extending from the plates to the bars, operating levers provided with inner and outer links arranged at an angle, and connections between the plates ad the links, substantially as described.
5. The combination of a gate, oscillatory bars, means for pivotally connecting the oscillatory bars with the gate and for permitting the gate to have a limited upward and downward movement independent of the oscillatory bars, and means for actuating the gate, substantially as described.
6. The combination of a gate, oscillatory bars, blocks pivotally connected with and interposed between the bars, and fastening means connected with the gate and slidable on the blocks, substantially as described.
7. The combination of a gate, oscillatory bars, blocks pivotally connected with the oscillatory bars, and fastening devices connected with the gate and extending through the blocks and provided with means for engaging the same, the said fastening devices being of sufficient length to permit the gate to have a limited upward and downward movement independent of the oscillatory bars, substantially as described.
8. The combination of a gate, oscillatory bars, blocks pivotally connected with the oscillatory bars and secured to the gate, the latter having a limited upward and downward movement independent of the oscillatory bars, and side bars connecting the upper ends of the oscillatory bars, substantially as described.
9. The combination of a gate, oscillatory bars having upper and lower pivots and connected with the gate, a bottom catch mounted on the gate and arranged to engage the lower pivot when the gate is closed, and a latch carried by the front of the gate, substantially as described.
10. The combination of a gate, oscillatory bars pivoted at the lower ends and connected with the gate, and a fixed catch carried by the gate and arranged to extend beneath the lower pivot of the oscillatory bars for holding the gate against upward movement, substantially as described.
11. The combination of a gate, oscillatory bars connected with the gate, and a fixed L-shaped catch carried by the rear end of the gate for holding the same against upward movement when the gate is closed, substantially as described.
12. The combination of a fixed abutment, a keeper arranged beneath the same, a gate, means for moving the gate through an arc of a circle for opening and closing it, and a substantially \(S\)-shaped latch pivoted between its ends at the front of the gate, the upper portion of the latch
being carried by the closing movement of the gate into contact with the fixed abutment to swing the lower portion of the latch into engagement with the keeper, and the opening movement of the gate being adapted to carry the upper portion of the latch away from the fixed abutment to permit the lower portion of the latch to swing out of engagement with the keeper, whereby the latch is automatically operated by the movement of the gate, substantially as described.
13. The combination of a fixed abutment, a keeper arranged beneath the same and consisting of a horizontal loop, a gate, means for moving the gate through an arc of a circle for opening and closing it, a substantially \(S\)-shaped latch pivoted between its ends at the front of the gate, the upper portion of the latch being carried by the closing movement of the gate into contact with the fixed abutment to swing the lower portion of the latch into engagement with the keeper, and the opening movement of the gate being adapted to carry the upper portion of the latch away from the fixed abutment to permit the lower portion of the latch to swing out of engagement with the, keeper, whereby the latch is automatically onerated by the movement of the gate, and stops mounted on the gate and arranged to be engaged by the upper and lower portions of the latch for limiting the movement thereof, substantially as described.
14. The combination of a gate, oscillatory bars, a catch arranged at the back of the gate, a latch located at the front of the gate, a keeper, and a catch also located at the front of the gate and arranged normally out of engagement with the keeper and adapted to be carried into engagement with the same when the front end of the gate is depressed, substantially as described.
15. The combination of a gate, oscillatory bars connected with the gate, a latch arranged at the front of the gate and with the gate, a latch arranged at the front of the gate, a keeper and a catch also located at the front of the gate, and adapted to be carried into engagement with the same when the front end of the gate is depressed, substantially as described.
16. The combination of a gate, oscillatory bars connected with the gate, a catch mounted on the back of the gate and arranged to engage the pivot of the oscillatory bars, keepers located adjacent to the front of the gate, a latch having a hook-shaped portion for engaging one of the keepers, and a catch also mounted on the front of the gate and arranged to engage the other keeper and being normally out of engagement with the same when the gate is closed, substantially as described.
17. The combination of a gate, an operating lever connected with the gate, an arm extending from the lever and yieldably connected with the same, and means depending from the arm for operating the lever, substantially as described.
18. The combination with a gate, and an operating lever connected with the same, of an arm extending outward from the operating lever and provided at its inner end with a spring coil secured to the lever, and a flexible connection attached to the lever and extending therefrom to the outer portion of the arm and depending from the latter, substantially as described.

No. 101,434. Hand Loom. Métier à main.


Mary Permellia C. Hooper, New York City, U.S.A., 9th October, 1906 ; 6 years. Filed 28th August, 1902. Receipt No. 98,672.
Claim.-1. A portable hand loom comprising warp holding means and a pair of weft holders of substantially rigid material movable in opposite directions with the warp threads as each is formed and adapted to be withdrawn from the material woven, substantially as described.
2. A portable hand loom comprising warp holding means and a pair of relatively adjustable weft holders of substantially rigid material movable in opposite directions with the warp threads as each shed is formed and adapted to be withdrawn from the material woven, substantlally as described.
3. A portable hand loom comprising warp holding means, a toothed lay and a pair of weft holders of substantially rigid matorial adapted to be withdrawn from the material woven, substantially as described.
4. A portable hand loom comprising warp holding means, a heddle and a pair of weft holders of substantially rigid malirial adapted to be withdrawn from the material woven, substantially as described.
5. A portable hand loom comprising warp holding means, a toothed lay, a heddle and a pair of weft holders of substantially rigid material adapted to be withdrawn from the material woven, substantially as described.
6. A hand loom comprising warp hoiding means, a heddle and weft holders of substantially rigid material movable by the heddle in opposite directions with the warp threads as cach shed is formed and adapted to be withdrawn from the material woven, substantially as described.
7. A hand loom comprising warp holding means, a toothed lay, a heddie and weft holders of substantially rigid material movable by the heddle in opposite directions with the warp threads as each shed is formed and adapted to be withdrawn from the material woven, substantially as described.
8. A shuttle for hand looms consisting of a member having an elongated slot or opening of substantially the length of said member for the weft thread and adapted to enter the warp threads at either end whereby the shuttle may be passed back and forth without reversal, substantially as described.
9. A loom of the class described comprising a body portion or frame having a transverse slot, a warp holder detachably secured in said slot, and a second warp holder adjustably secured to said body portion or frame, substantially as described.
10. A loom of the class described comprising a body portion or frame having a transverse slot, a warp holder detachably secured in satd slot, and a second warp holder adjustably secured to sald body portion or frame by a slot in the warp holder through which the body portion or frame passes, substantially as described.
11. A loom of the class described comprising a body portion or frame and suitable detachable warp holders also serving as suports for the body portion or frame, substantially as describe.
12. A loom of the class described comprising a body portion or frame and suitable detachable warp holders also serving as supports for the body portion or frame, the supporting portions of the warp holders being different heights porting portio:ns of the warp holders being of different heights stantially as described.
13. A loom of the class described comprising a body portion or frame, a pair of suitable detachable warp holders. and means outside one of the warp holders adapted to engage and hold the warp threads when of greater length than the distance between the warp holders, substantially as described.
14. A loom of the class described comprising a body pot tion or frame, a pair of suitable detachable warp holders and means outside each of the warp holders adapted to engage and hold the warp threads when of greater length thas the distance between the warp holders. substantially as des. cribed.
15. A loom of the class described comprising a body portion or frame, a pair of suitable detachable warp holders. and means outside one of the warp holders adapted to engage and hold the warp threads when of greater length tha: the disance between the warp holders, such means consist ing of slits in the body portion or frame, substantially as lescribed.
16. A loom of the class described romprising a body portion or frame, a pair of suitable detathable warp holders. and means outside each of the warn holders adanted to engage and hold the warp threads when of greater length that the listance between the warp holders. surh means consisting of slits in the boly portion or frame, substantially as described.

\section*{No. 101,435. Sight Feed Labricator. Gruissrur}

Frederick Leonhardt, Sheboygan, Wisconsin. U.S.A., sth October. \(1306 ; 6\) years. Filed 10th April, 1906. Receipt No. 134,811.
r/ailn.-1. A slght peed tube for a lubricator comprising an outer metallic jacket having the ends theronf interiorly serew threaded, a glass shell within the jackot visible through apertures in the same, packing gaskets opposing this of the shell, and hollow nuts that engage the serew throads of sald jacket against the gaskets and have hollow
shanks extending through said gaskets to bush the same and project into said shell.

2. A lubricator having packing rings opposing ends of its feed tube holders, sleeve nuts in connection with said holders aganst the packing rings and a sight feed tube comprising an outer metallic jacket extending in opposite directions through said rings and having its ends interiorly screw threaded, a glass shell within the jacket visible through apertures in the same, packing gaskets opposing ends of the shell and hollow nuts that engage the screw threads of sald jacket against the gaskets and have hollow shanks extending through said gaskets to bush the same and project into said shell.

No. 101,436. Grip for Guys. Griffes d'état.


George F. Swortfiger, New York City, New York, U.S.A., 9th October, 1906; 6 years. Filed 21st May, 1906. Receipt No. 136,105 .
Claim.-1. A combined guy hook, stretcher and clamp comprising two plates, one end of the plates grooved and forming a clamp to be united by bolts, the other end of the plates interlocking and forming a hook, the intermediate parts of the plates forming a loop with a winding drum therein for holding and winding in the guy through the clamps and locking means to prevent a reverse movement of the drum.
2. The combination in a single device of means for attachment to an eyebolt, means for clamping the guy wire, and means between the two and united therewith for winding in the end of the guy and secoring it against unwinding when wound comprising a drum to which the guy is attached, a head on the drum for the application of a wrench, a chamber in one of the plates contiguous to one of the bearings of the drum, and a cam in the chamber having contact on one end with a bearing of the drum and its other end having lodgement in a socket in the chamber.
3. A combination guy hook, stretcher and clamp comprising two plates adapted to interlock at one end and constituting a hook, the other end forming a clamp secured to gether by bolts, the intermediate portions forming an open loop with a winding drum therein for holding and winding in the guy through the clamps.
4. A combination guy hook, stretcher and clamp compris ing two plates forming a clamp at one end, a loop for a fuy winding drum in the middle and interlockng hooks for joining the plates and an anchor hook at the other end, a guy winding drum through the two plates, a chamber for a friction cam one on one slde of one of the drum bearings, a can in said chamber, the head on the drum serving as a closure over the chamber.
\(\overline{5}\). A combination guy hook, stretcher and clamp comprising two plates. the tuo plates forming a clamp at one end to be secured by bolts, a loop for and a guy winding drum

In the middle, with means for interlocking the plates at the other end comprising a hook on one of the plates extended into a hook wth a transversely rounded end to fit a curve in the second plate, a rounded notch back of said end to receive the correspondingly rounded end of the second plate and a recess at the base of said rounded notch to recelve the curved projection on the ends of the second plate, and a bearing part on the second plate to retain these interlocking parts together when the clamp ends of the plates are brought together.
6. In a combined guy hook, stretcher and clamp the combination with the anchor hook and guy clamp of a winding drum having bearings in the combined plates, a head or heads on the drum adapted for the use of a wrench, a hole through the drum in which to secure the guy, a chamber contiguous to one of the bearings of the drum to contain a locking cam and a cam in sald chamber to engage with a bearing of the drum.
7. In a combined guy hook, stretcher and clamp the combination with the anchor hook and guy clamp of a winding drum having bearings in the combined plates, a head or heads on the drum adapted for the use of a wrench, a hole through the drum in which to secure the guy, a chamber contiguous to one of the bearings of the drum to contain a locking cam, and a locking cam in said chamber, the head of the drum adapted to cover the head of the chamber.
8. In a combined guy hook, stretcher and clamp as shown, the combination with the guy winding drum of a chamber contiguous to one of the bearings of the drum to contain a locking cam, a cam in said chamber adapted to engage with and lock the drum, and a channel to said chamber to give access to the cam.
9. In a combined anchor hook, guy siretcher and clamp the combination with the guy winding drum of one of the bearings in the plates for the drum expanded into a chamber to receive a drum locking means.
10. In a device as described, a lock for the drum comprising a cam having a bearing at one end and a curved and notched face to engage with the plain surface of the drum, the curve of the gripping face conforming in part to the periphery of the drum
11. The combination with the winding drum of a locking means for the drum consisting of a cam having a socket bearing at one end and a face at the other end for engagement with the plain surface of the drum or the bearing of the the drum, the face of the cam notched and curved to approximately the curve of the drum.

No. 101,437. Steam Blower. Souffet à vapeur.


Clarkson M. Thompson, Portland, Maine, U.S.A., 9th October, 1906 ; 6 years. Filed 10th September, 1906. Receipt No. 139,367.
Claim.-1. In a device of the class described and in combination with a boiler furnace having a combustion chamber, of a tubular draft member communicating with the latter, an injector device disposed at the forward end of the member, sald device comprising a plurality of distinct sections or coils of relatively varying sizes spaced apart in a direction longitudinally of the member and with the smaller section innermost, tubular couplings connecting the sections for communication one with another, a steam duct communicating with the injector device, and means controlled by the pressure in the boller for automatically controlling the supply of steam to the injector.
2. In a device of the class described and in combination With a boiler furnace having a combustion chamber, of a tubular draft member communicating with the latter, an injector device disposed in the draft member, sald device comprising a plurality of sections or coils connected for communlcation one with another, a steam duct leading from the boller to one of. the coils for supplying steam thereto, a cutoff valve arranged in the duct, a weighted lever connected with sald valve and adapted for maintaining the same normally in open condition, and means controlled by an increased pressure in the boller for operating the lever to close the valve.

No. 101,438. Smoke Consumer and Cinder Arrester. Foyer fumivore ct arrête-étincelles.


Samuel M. Walker, Los Angles, California, U.S.A., 9th October, 1906; 6 years. Filed 5th June, 1906. Receipt No. 136.582.

Claim.-1. The combination with a smoke flue, of a vortex chamber communicating therewith to receive the smoke therefrom, deflecting means in said chamber to impart vertical movement to the smoke, peripheral outlet means from said chamber to receive solid particles, central outward means from said chamber to receive he gaseous part of the smoke, and an annular flange extending into said vortex chamber to guide the solid articles toward the outlet means. 2. The combination with a smoke flue, of a casing forming a vortex chamber and having perforations around said chamber and a central outlet, of deflecting means in said chamber to impart vertical movement to the smoke, and annular inclined flanges extending into the vortex chamber to guide the solid particles toward said perforations.
3. The combination with a smoke flue, of a casing forming a vortex chamber and having perforations around said chamber and a central outlet, a smoke deflector in said chamber to impart vertical movement to the smoke, an annular flange extending in the vortex chamber to direct the solid particles at the periphery of said chamber into said perforations, and a chamber surrounding the vortex chamber and communicating therewith through said perforations.
4. The combination with a smoke flue, of a casing forming a vortex chamber and having perforations around said chamber and a central outlet, a smoke deflector in said chamber to impart vertical movement to the smoke, an annular flange extending in the vortex chamber to direct the solid particles at the perlphery of said chamber into sald perforations, an outer chamber surrounding the vortex chamber and communicating therewith through said perforations and a conduit leading from such outer chamber.
5. The combination with a smoke flue, of a casing forming a vortex chamber and having perforations around said chamber and a central outlet, of a deflector in said chamber to impart vertical movement to the smoke, an annular flange extending in the vortex chamber to direct the solid particles at the periphery of said chamber into said perforations, a chamber surrounding the vortex chamber and communicating therewith through said perforations and having an inclined bottom and a conduit leading from the lower part of said bottom.
6. The combination with a smoke stack, of a vertical casing thercon forming a vortex chaber, a deflector therein in the form of an inverted cone having spiral blades, said casing having perforations and having an inclined annular flange above said perforations and an outer chamber surrounding said casing communicating therewith through said perforations.
7. The combination with a smoke stack. of a vertical casing forming a vortex chamber having perforations around said chamber and a central outlet. annular downwardly inclined flanges nxtending in sairl chamber above said perforations and deflecting means in sa'd chamber to impart vertical movement to the smoke.

No. 101,439. Key Connection Between Shafts and Naves.
Clemens F. Von Bechtolsheim, Munich, Germany, 9th October. 1906: 6 years. Filed 29th November, 1905. Receipt No. 130,555.
Claim.-1. A key connection comprising a shaft having a key groove of tapering cross section, a nave having a key groove of semi-circular cross section, the grooves extending inclined to cach other, and a key fitting said grooves.
2. A key connection comprising a shaft having a key groove of tapering cross section, a nave having a key groove of
semi-circular cross section, the grooves extending inclined to each other, and a key fitting said grooves, the cylindrical part of the key being flattened.

No. 101,440 . Furnace for Steam Boilers.
Iownaise pour chaudières à vapeur.


John Franklin Van Tuyl, Saw Pit. Colorado, U.S.A., 9th October, 1906; 6 years. Filed 7th September, 1906. Receipt No. \(139,325\).
Claim.-1. In a steam boiler, the combination of two water facketed furnaces arranged one above the other, the upper furnace having its side water spaces terminating near the edges of the grate, whereby the space below the upper furnace is left uninclosed by the water jacket.
2. In a steam boiler, the combination of two water jacketed furnaces arranged one above the other, the upper furnace having its side water spaces terminating near the edges of the grate, whereby the space below the upper furnace is left uninclosed by the water jacket, and the lower furnace having its top sloping towards the sides from its middle line.
3. In a steam boiler, the combination of two water jackcted furnaces arranged one above the other, the upper furnace having its side water spaces terminating near the edges of its grate, and a casing sloping inward from said water spaces to carry the ashes from the upper grate toward the center of the boller.
4. In a steam boiler, the combination of two water jacketed furnaces arranged one above the other. with the upper furnace extending below the lower furnace at the sides, the upper furnace having its side water spaces terminating near the edges of its grate, a casing sloping inward from said water spaces to carry the ashes from the upper grate toward the center of the boiler, and ast pas. sages extending from the inner rdge of said casing downward outside the lower furnace.
5. In a steam boiler, the combination of two water jackHed furnaces arranged one above the other, the upper furnace having its side water spaces terminating near the ?dges of its grate, and a casing sloping inward from said Nater spaces to carry the ashes from the upper grate toward the center of the boiler, and the lower furnace having its ton sloping toward the sides from its middle line.
6. In a steam boiler, the combination of two water jacketed furnaces arranged one above the other, with the upper furnace extending below the lower furnace at the sides, the upper furnace having its side water spaces terminating near the edges of the grate, a casing sloping inward from the water spaces to carry the ashes from the upper grate toward the center of the boiler, and the ash passages extendiug from the inner edge of said casing downward outside the lower furnace, the lower furnace having its top sloping toward the sides from its middle line.

No. 101,441. Fimnace. Fournaise.


Joseph W. Hays, Chicago, Illinois, U.S.A., 9th October, 1906 ;
6 years. Filed 24th July, 1905. Receipt No. 127,135.
Claim.-1. In a furnace the combination of a grate, a fire box over sald grate, a combustion chamber, a bridge wall separating sald fire box and combustion chamber, an arch disposed over said bridge wall, the opposed face of said arch and bridge being constructed of heat retaining material and bring spaced apart to form a passage between said fire box and combustion chamber, and means for admitting alr to said fire box near said arch and causing the same to flow in a direction opposite to the draft so as to mix with the fases in the fire box before such gases arrive at sald passage.
2. In a furnace the combination of a grate, a fire box over said grate, a combustion chamber, a bridge wall separating said fire box and combustion chamber, an arch disposed orer said bridge wall, the opposed faces of said arch and tridge being constructed of heat retaining material and being of suitable shape to form a tortuous passage between said fire box and combustion chamber, and means for directing jets of heated air above said grates and causing. same to mix with the gases in the fire box before such gases arrive at said passage.
3. In a furnace the combination of a grate, a fire box over said grate, a combustion chamber, a boiler above said fire box and combustion chamber, a bridge wall separating said fire box and combustion chamber, an arch disposed over said bridge wall, the opposed faces of said arch and bridge being constructed of heat retaining material and being of suitable shape to form a tortuous passage between said fire box and combustion chamber, said arch being of sultable form to cause the gases delivered through sald passage to be diffused into said çombustion chamber before striking the boiler shell, and means for directing jets of heated alr above said grates and causing same to mix with the gases in the fire box before such gases arrive at said passage.
4. In a furnace the combination of a grate, a fire box over said grate, a combustion chamber, a bridge wall separating said fire box and combustion chamber, an arch disposed over said bridge wall, the opposed faces of said arch and bridge being constructed of heat retaining material and being spaced apart to form a passage between said fire box and combustion chamber, and means for directing jets of heated air above said grates and causing same to mix with the gases in the fire box before such gases arrive at sald passage.
5 . In a furnace the combination of a grate, a bridge wall 3t the rear of the grate, an arch disposed directly above the bridge wall and spaced therefrom, sald arch having an air passage extending through the same, a plurallty of air inects communicating. with said alr passage and extending through the front of said arch so as to discharge alr from said passage in a forward direction above the grate.
6. In a furnace the combination of a grate, a fire box over said grate, a combustion chamber, a boiler above said fire box and combustion chamber, a bridge wall separating said fire box and combustion chamber, an arch disposed directly over sald brldge wall, the opposed faces of said arch and
bridge being constructed of heat retaining material and being of suitable shape to form a tortuous passage between said fire box anci combustion chamber, said arch being of suitable form to cause the gases delivered through said passage to be diffused into said combustion chamber before striking the boiler shell.
7. In a furnace the combination of a grate, a fire box above said grate, an alr inlet for discharging air into said fire box above the grate, adjustable means for controlling the maximum amount of air delivered by said air inlet, a damper adjustable independently of said means and adapted to partly obstruct the passage of air through said air inlet, means for opening said damper after the fring of the furnace, and a tlming device adapted to automatically close said damper in a certain predetermined interval of time after the opening of same.
8. In a furnace the combination of a grate, a fire box above sald grate, an air inlet for discharging air into said fire box above the grate, adjustable means for controlling the maximum amount of air delivered by said air inlet, a damper operated independently of said means and adapted to control the passage of air through the said air inlet, said damper having an aperture through the same for determining the minimum quantity of air passing through said inlet, a slide for adjusting the area of the opening in said damper, means controlled by the movement of the door of the furnace for opening said damper, and a timing device adapted to automatically close said damper in a predetermined interval of time after the opening of the same.
9. In a furnace the combination of a grate, a fire box above said grate, a bridge wall of heat retaining material at the rear of the grate, an arch of heat retaining material disposed directly above said bridge wall. with a passage for gases between the arch and bridge wall, an air inlet above the grate adapted to admit air and cause said alr to mix with the gases in the fire box before arriving at said passage, means connected with the door to said fire box and adapted to control the passage of air through said inlet, and means for automatically reducing the flow of air through said inlet from a certain maximum amount to a certain minimum amount in a certain predetermined interval of time after the opening of said door.
10. In a furnace the combination of a grate, a fire box orer said grate, a combustion chamber, an arch overhanging the bridge wall, the opposed face of the arch and bridge leing constructed of heat retaining material and being spaced apart to form a passage from the fire box to the combustion chamber, and means for admitting air through the arch toward the forward side thereof.
11. In a furnace, the combustion of a grate, a firr box over said grate, a combustion chamber, a bridge wall separating said fire box and combustion chamber. an arch disposed over the bridge wall, the opposed face of said arch and bridge being constructed of heat retaining material and hoing spaced apart to form a passage between said fire box and combustion chamber, means for admitting air to said fire box near the forward side of said arch for conmingling with the products of combustion passing rearward under the arch, the top of the bridge wall opposed to the under side of the ach being sloped downward from the combustion chamber back toward the fire box.
12. In a furnace, the combination of ag rate, a fire box above the grate, an air inlet for discharging air into said fre box above the grate, means for controlling the passag. of air through said inlet, operating devices for said controlling means and connections therefrom to the fuel door acapted to operate them for increasing the air inlet whin the fuel door is opened.
13. In a furnace, the combination of a grate, a fire box above the grate, an air inlet for discharging air into the fire box above the grate, means for controlling the delivery of air through said inlet, operating devices for said controlling means, connections from said operating devices extending to the fuel door adapted to be operated when the fuel door is opened for firing to increase the air inlet, and means for operating the same to reduce the air inlet when the fuel door is closed.
14. In a furnace, the combination with a grate, a fire box above the grate, an air inlet for discharging air into the fire box above the grate, means for controlling the passage of air through said inlet, connections from the fuel door for opening said controlling means to enlarge the inlet upon the opening of the fuel door for firing, and automatic means for diminishing the air inlet after the closing of the fuel door.
15. In a furnace, the combination of a grate, a fire box above said grate, an air inlet for discharging air into said fire box above the grate, means for controlling the maximum amount of air delivered by said air inlet, a damper adjustable for obstructing the passage of air through said air inlet, means operated by the fuel door for causing said damper to be opened when the furnace is fired, and means
operated by connection with the fuel door for causing the damper to be closed after the door is closed.
16. In a furnace, the combination of a grate, a fire boy above the grate. an air inlet for discharging air into the fire box above the grate. means for controlling the delivery of air through said air inlet, operating devices for sald controlling means, connections therefrom extending to the fuel door and adapted to be operated for increasing the air inlet when the fuel door is opened, and automatic means for reversing the action of said operating devices when the fuel door is closed.
17. In a furnace, in combination with a grate, a fire box above the grate, an air inlet for discharging air into the fire box above the grate, means for controlling the delivery of air through said inlet, operating devices for said controlling means consisting of a cylinder and piston therein, connections for supplying water to the cylinder to operate the piston and for permitting waste of water from the cylinder, the piston being operatively connected to said controlling means for increasing the alr inlet when the piston is actuated by the water supply and for diminishing it when the piston is moved in the opposite direction, a valve controlling the admission of the water supply to the cylinder, connections from the fuel door for opening and closing such valve by the opening and closing of the fuel door, and a valve in the waste pipe from the cylinder adapted to regulate the rate of escape of the water from the latter.
18. In a furnace, in combination with a combustion chamber and an air inlet thereto, a damper in the air inlet for regulating the air supply, a cylinder and piston therein having water supply and waste connections, said piston being operatively connected to the damper for opening and closing the latter, a valve which controls the water supply and operating connections from the fuel door for opening and closing the valve when the door is opened and - losed, and a valve in the waste connection adjustable at will to govern the rate of waste of water from the cylinder.
19. In a furnace, in combination with the combustion chamber, an air inlet for supplying water thereto, a damper in such air inlet for regulating the air supply. a cylinder and piston therein, the cylinder having water supply and waste connections, the piston being operatively connected with the damper for opening and closing the latter, a valve which controls the water supply and operative connections from the fuel door to such valve for opening and closing the valve when the door is opened and closed, a valve in the wast" connection, and operating connections from the fuel coor for closing it when the door is opened and oprning it hen the door is closed.
20 . In a furnace, the combination with the combustion l lamber, an air inlet for supplying air thereto, a damper lor controlling the air supply through such inlet, a cylinder and a piston therein. the cylinder having water supply and waste connections, the piston being opiratively connected with the damper for opeing and closing the latter, a valve in the waste connection adjustable at will to regulate the rate of waste, a by-pass pipe leading around such valve, a sicond value in the by-pass pipe, and means for opening and closing such second valve.
21. In a furnace, in combination with the combustion chamber, an air inlet for supplying air thereto, a damper for controlling the air supply through such lniet. a cylinder and a piston therein, the cylinder having water supply and Waste connections, the piston being oprratively connected with the damper for opeting and closing the latter, a valve in the waste connection adjustable at will to regulate the rate of waste. a by pas pipe eading around such valve. a sccond valve in the by-pass pipe, and connections thereto from the fuel door for closing the valve when the door opens and onening it when the door closes.

\section*{No. 101,442. Apparatus for Burning Fuel.}

\section*{Apparcil à brûler du combustible.}

John B. Areher, Kensington, Maryland, U.S.A., 9th October, 1906: 6 years. Filed 25th May, 1906. Receipt No. 136,211. Claim.-1. The process of burning solid fuel, which consists in delivering streams of air into an unobstructed space above a bed of the ignited fuel, the air being introduced from different directions and along lines substantially tansent to a circle, thereby producing a cyclonic movement of the gases rises from the fuel and throwing unburned parlicles outward against the hot walls of the firebox, and renoving the products of combustion at one side of the firebox.
2. The process of burning solid fuel, which consists in passing air up through a bed of the ignited fuel, simultaneously forcing streams of air into the gases rising from the fuel. from different directions and along lines substantially langent to a circle, and regulating the amount of air delivered from different directions in prevent the escape o! any unburned gases.
3. A furnace comprising a firebox, an air supply conduit inroumding said firebox and having openings whirh are sub-

stantially tangent to a circle means for forcing air into said conduit, and a lateral outlet from said firebox over one side of said conduit.
4. A furnace comprising a firebox, an air supply conduit surrounding said firebox and having openings which are substantially taugent to a circle. means for forcing air into said conduit, and means for controlling the amount of air delivered from different directions.
5. A furnace comprising a firebos, an air supply conduit surrounding said firebox and having openings which are substantially tangent to a circle, means for forcing air into caid conduit, a plurality of test pipes extending from different portions of said conduit through the furnace wall, and means for controlling the amount of air delivered to different portions of said conduit.
6. A furnace comprising a firebox, an air supply conduit surrounding said firebox and having an arched front. and tuyeres extending inwardly from said conduit, the tuyeres of said arched front inclined downward with reference to the other tuyeres so that all the tuyeres deliver streams of air in lines substantially tangent to a horizontal circle.
7. A furnace comprising a firebox, an air supply conduit surrounding said firebox and having openings which are substantially tangent to a circle, and a shelf which is preferably perforated and extends rearwardly from the front wall of the firebox a short distance over the grate.
S. A furnace comprising a firebox, an air supply conduit surrounding said frebox and having openings which are substantially tangent to a circle. and projections extending irom the sides of the firebos, said projections preferably consisting of a mixture of graphite and fire clay.

\section*{No. 101,443. Fuel Feeding Apparatus.}

\section*{Apparcil d'alimentation de combustible.}

Emro Harcharick. Wilkesbarre, Pennsylvania, U.S.A., 9th October. 1906; 6 years. Filed 10th September, 1906. Receipt No. 139,395.
Claim.-1. In a furnace the combination with a rotatable grate, of a conveyer adapted to move fuel radially of said grate, and a rotatable conc arranged to carry fuel between said conveyer and grate, substantially as described.
2. In a furnace the combination with a rotatable grate, of a conveyer adapted to move fuel radially of said grate, a fluted feeder arranzed to carry fuel between the conveyer and grate. and a water jacket surrounding said conveyer and feeder, substantially as described.
3. In a furnace the combiuation with a rotatable grate, of a conveger adapted to move fuel radially of the grate, a rotatable cone arranged between and adapted to deliver fuel trom the conveyer to the grate, and a water jacket extending about said conveyer and cone, substantially as described.
4. In a furnace the combination with a rotatable grate, of conveger adapted to move fuel radially of the grate, and

a fluted cone mounted to rotate between the conveyer and grate and to carry fuel from the conveyer to the grate, substantially as described.
5 . The combination with a grate, of a stoker extending thereover and a water jacket surrounding said stoker having openings through which fuel is fed to the grate, substantially as described.
6. In a furnace the combination with a grate, of a conveyer adapted to move fuel toward the center of the grate, a water jacket arranged above the grate into which said couveyer extends, said jacket having a plurality of passages through which fuel may pass to the grate, and a feeder arranged between and adapted to carry fuel from the conveyer to said passages in the water jacket, substantially as described.
7. In a furnace the combination with a rotatable grate, of a water jacket extending radially of said grate and open at its outer end, said jacket having formed in its lower wall passages through which fuel may pass to the grate, and a stoker adapted to be removably inserted in said jacket through the outer end thereof and comprising means for conducting fuel from outside of said jacket to the fuel passages in the lower side thereof, substantially as described.

8 . In a furnace the combination with a rotatable grate, of a rasing supported above the grate, a water jacket enclosing the inner end of said casing and provided with passages throush which fuel can pass to the grate, means for conveying fucl through said casing to said passages. and means arranged at the sxis of the grate for supplying water to the wator jachel. substantially as described.
9. In a furnace the combination with a grate, of a water jacket arranged above said grate, and having formed in its lower side passages for conducting fuel to the grate, a casing adapted to be removably supported within said rater jacket, and having passages communicating with the fuel passages in said jacket, and means within said casing for conveying fuel from the outer end thercof to sald fuel passares, substantially as described.
10. The combination with a stoker having its parts so joined as to form a unit, of a water jacket inclosing the stokir. said stoker as a unit being detachably supported within said watur jacket, substantially as described.
11. The combination with a water jacket having longitudinally extending brackets on its interior, of a stoker inclosed by said water jacket and having longitudinally extending projections resting upon said brackets.
12. In a furnace the combination with a grate, of a cunveyer adapted to positively move fuel toward the center of said grate, a feeder mounted to rotate between and convey fuel from said conveyer to the grate, an apertured plate between the feeder and grate, and means for varying the distance between the feeder and the apertured plate, substantially as described.
13. In a furnace the combination with a grate, of a conveyer adapted to move fuel toward the center of the grate, a feeder mounted to rotate between and carry fuel from the conveyer to the grate, an apertured plate between the feeder and grate, and means for independently adjusting either end of the apertured plate relative to the feeder, substantially as discribed.
14. In a furnace the combination with a grate, of a coureyer adapted to move fuel toward the center of the grate, \({ }^{3}\) feeder mounted to rotate between and carry fuel from the conveyer to the grate, an apertured plate adjustably supported between the grate and feeder, and means extending beyond one end of the feeder for independently adjusting either end of said plate, relatively to the feeder, substanti ally as described.

No. 101,444. Air Feeding Device.
Apparell d'alimentation d'alr.
Fig. 1.


Emro Harcharick, Wllkesbarre, Pennsylvania, U.S.A., 9th October, 1906; 6 years. Filed 21st September, 1906. Receipt No. 139,692.
Claim.-1. In a furnace, the combination of a frame having its interior divided into a central nir chamber and an ash chamber arranged about and over snid air chamber, a grate supported above said air chamber, and means for controlling the passage of air from the air chamber to the ash chamber, substantially as described.
2. In a furnace, the combination of a frame having its interior divided into a central air chamber and a plurality of ash chambers arranged about and over sald air chamber, a sectional grate supported by said frame and having each of its sections arranged over one of the ash chambers, and independent means for controlling the passage of alr from the air chamber to each of the ash chambers, substantially as described.
3. In a furnace, the combination of a frame having its interior divided into a central air chamber and a plurality of ash chambers arranged about and over said air chamber, a sectional grate supported by sald frame and having each of its sections arranged over one of the ash chambers, means for controlling the admission of air to the air chamber, and independent means for controlling the passage of air from the air chamber to each of the ash chambers, substantially as described.
4. In a furnace, the combination of an enclosed frame or support having its interior divided into a central air chamber and a plurality of ash chambers arranged over said air chamber, and having apertures formed in their walls, a grate supported by sald frame, and means for opening and closing the apertures in the walls of said ash chambers to control the passage of air to sald chsmbers, substantially as described.
5. In a furnace, the combination of a rotatable frame having its interior divided into a central air chamber and an ash chamber arranged about and over said air chamber, a sectional grate supported by said frame above the ash chamber, means for revolving sald frame; and means for controlling the passage of air from the air chamber into the ash chamber below the grate, substantially as described.
6. In a furnace, the combination of a rotatable frame, having its interior divided to provide a central air chamber, and a plurality of ash chambers arranged about and over said air chambers, a sectional grate carried by sald frame above the ash chambers, each section of sald grate being arranged above one of the ash chambers, means for revolving said frame, and means for independently controlling the admission of air to each of the ash chambers, substantially as described.
7. In a furnace, the combination with a suitable chamber, of a frame arranged in and separated from the side walls of said chamber, the interior of said frame being divided into a central air chamber and an ash chamber arranged above said aif chamber, a grate supported by said frame, means for supplying air to sald central air chamber, means for supplying fluld under pressure to the furnace chamber outside of sald frame, and independent means for controlling the passage of air to the ash chamber and grate, substantially as described.
No. 101,445. Bull Wheel. Roue.
The Canadian White Company, Montreal, Quebec, Canada, assignee of Thomas Kennard Thomson, Lowerre, Yonkers, New York, U.S.A., 9th October, 1906; 6 years. Filed 20th October, 1905. Receipt No. 129,431.
Olaim.-1. A two part bull wheel, each part of which has a
aubtantially semi-circular piece for the rope, cross pieces, 10-14
and a substantially semi-circular upright plece, the two parts being adapted to be secured to each other on opposite sides of a mast

2. A two part bull wheel, each part of which has a substantially semi-circular channel fron for the rope, angle iron cross pieces and a substantially semi-circular angle iron upright piece, the two parts being adapted to be secured to each other on opposite sides of a mast.

No. 101,446. Engine. Machine d vapeur.


The New Century Engine Company, assignee of Edward Field, all of London, England, 9th October, 1908; 6 years. Filed 22nd December, 1905. Receipt No. 131,238.
Claim.-1. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air, comprising a steam boiler, a smoke box through which hot gases from the boller furnace pass, a mixing and heating chamber located in the upper part of sald smoke box so as to be heated by the furnace gases passing therethrough, means for conveying hot gases from the boller furnace to the smoke box adjacent to said mixing and heating chamber at a temperature higher than that of the gases ordinarily passing to the smoke box, means for supplying steam from the boiler to said chamber, means for supplying air pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
2. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air, comprising a multitubular steam boiler having one of its upper tubes larger than the other tubes, a smoke box through which hot gases from the boiler furnace pass, a mixing and heating chamber located in the upper part of sald smoke box adjacent to the outlet end of said larger tube, means for supplying steam from the boiler to sald chamber, means for supplying air under pressure to said chamber, and an engine to
which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
3. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air comprising a multitubular steam boller having a number of its upper fire tubes larger than the other tubes, a smoke box through which bot gases from the boller furnace pass by way of the tubes, a mixing and heating chamber located in the upper part of said smoke box adjacent to the outlet ends of said larger tubes, means for supplying steam from the boller to sald chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
4. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air comprising a multitubular steam boiler having the uppermost row of fire tubes larger than the other tubes, a smoke box through which hot gases from the boiler furnace pass by way of the tubes, a mixing and heating chamber located in the upper part of sald smoke box adjacent to the outlet ends of said larger tubes, means for supplying steam from the boiler to said chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
5. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air, comprising a steam boiler, a smoke box through which hot gases from the boiler furnace pass, a mixing and heating chamber located in the upper part of said smoke box so as to be heated by the furnace gases passing therethrough, means for causing the hot gases to flow around and over said mixing and heating chamber, means for supplying steam from the boiler to sald chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
6. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air, comprising a steam boller, a smoke box through which hot gases from the boiler furnace pass, a mixing and heating chamber located in the upper part of said smoke box so as to be heated by the furnace gases passing therethrough, means for inducing hot gases to flow around and over said mixing and heating chamber, means for supplying steam from the boiler to said chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is suppled from the said chamber, substantially as set forth.
7. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air, comprising a steain boiler, a smoke box through which hot gases from the boiler furnace pass, a mixing and heating chamber located in the upper part of said smoke box so as to be heated by the furnace gases passing therethrough, a blast pipe for the exhaust steam, means for causing the steam blast to induce hot gases to flow around and over the surface of said mixing and heating chamber, means for supplying steam from the boller to said chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
8. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air, comprising a steam boiler, a smoke box through which hot gases from the boiler furnace pass, a mixing and heating chamber located in the upper part of said smoke box so as to be heated by the furnace gases passing therethrough, passages extending through said chamber and through which hot gases can flow, means for supplying steam from the boller to said chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and alr is supplied from the said chamber, substantially as set forth.
9. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air, comprising a steam boiler, a smoke box through which hot gases from the boller furnace pass, a mixing and heating chamber located in the upper part of sald smoke box so as to be heated by the furnace gases passing therethrough, passages extending through said chamber, means for inducing hot gases to flow through said passages, means for supplying steam from the boiler to said chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
10. Apparatus for preparing and supplying as motive fluid a heated mixture of steam and air, comprising a steam bofler, a smoke box through which hot gases from the boller furnace pass, a mixing and heating chamber located in the upper part of safd smoke box so as to be heated by the furnaces, gases passing therethrough, passages extending through said chamber, a blast plpe for the exhaust steam,
means for causing the steam blast to induce hot gases to flow through said passages, means for supplying steam from the boller to said chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
11. Apparatus for preparing and applying as motive fuid a heated mixture of steam and air. comprising a steam boiler, a smoke box through which hot gases from the boller furnace pass, a mixing and heating chamber located in the upper part of said smoke box so as to be heated by the furnace gases passing therethrough, passages extending through said chamber, means for causing hot gases to flow around and over the said mixing and heating chamber and through the passages therein, means for supplying steam from the boller to said chamber, means for supplying air under pressure to said chamber, and an. engine to which the heated mixture of steam and air is supplied from the sald chamber, substantially as set forth.
12. Apparatus for preparing and applying as motive fuld a heated mixture of steam and air, comprising a steam boiler, a smoke box through which hot gases from the boiler furnace pass, a mixing and heating chamber located in the upper part of said smoke box so as to be heated by the furnace gases passing therethrough, passages extending through said chamber, a blast pipe for exhaust steam, means for causing the steam blast to induce hot gases to flow over and around said chamber and through the passage therein, means for supplying steam from the boiler to sald chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
13. Apparatus for preparing and applying us motive fuid a heated mixture of steam and air, comprising a steam boiler, a smoke through which hot gases from the boller furnace pass, a mixing and heating chamber located in the upper part of said smoke box so as to be heated by the furnace gases passing therethrough, means for conveying hot gases from the boiler furnace to the smoke box adjacent to said mixing and heating chamber at a temporature highor than that of the gases ordinarily passing to the smoke box, means for causing said higher temperature gases to flow over and around said chamber, means for supplying steam from the boiler to said chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
14. Apparatus for preparing and applying as motive fuid a heated mixture of steam and air, comprising a steam boiler, a smoke box through which hot gases from the boiler furnace pass, a mixing and heating chamber located in the tuper part of said smoke box so as to be heated by the furnace gases passing therethrough, means for conveying hot gases from the boiler furnace to the smoke box adjacent to said mixing and heating chamber at a temperature higher than that of the gases ordinarily passing to the smoke bor, passages extending through said chamber, means for causing some of said higher temperature gases to flow through sald passages, means for supplying steam from the boiler to said chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
15. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air, comprising a steam boiler, a smoke box through which hot gases from the boller furnace pass, a mixing and heating chamber located in the upper part of said smoke box so as to be heated by the furnace gases passing therethrough, means for convering hot gases from the boiler furnace to the smoke box adjacent to said mixing and heating chamber at a temperature higher than that of the gases ordinarily passing to the smoke box passages extending through said chamber, means for causing said higher temperature gases to flow over and around said chamber and through the passages therein, means for supplying steam from the boller to said chamber, means for supplying air under pressure to said chamber, and an engine to whicn the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
16. Apparatus for proparing and applying as motive fluld a heated mixture of steam and air, comprising a multitubular steam boller having one of its upper tubes larger than the other tubes, a smoke box through which hot gases from the boiler furnace pass, a mixing and heating chamber located in the upper part of said smoke box adjacent to the outlet end of said larger tube, means for causing the hot gases irom said larger boller tube to flow over and around said chamber, means for supplying steam from the boiler to said chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth. 17. Apparatus for preparing and applying as motive fuld a
heated mixture of steam and air comprising a multitubular
steam boiler having one of its upper tubes larger than the ather tubes, a smoke box through which hot gases from the boiler furnace pass, a mixing and heating chamber located in the upper part of sald smoke box adjacent to the outlet end of said larger tube, passages extending through said chamber, means for causing the hot gases from sald larger boller tube to flow through gald passages, means for supplying steam from the boller to sald chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
18. Apparatus for preparing and applying as motive fluld a heated mixture of steam and air, comprising a multitubular steam boiler having one of its upper tubes larger than the other tubes, a smoke box through which hot gases from the boller furnace pass, a mixing and heating chamber located in the upper part of sald smoke box adjacent to the outlet end of said larger tube, passages extending through said chamber, means for causing hot gases from said larger boiler tube to flow over and around sald chamber and through said passages, means for supplying steam from the boller to said chamber, means for supplying alr under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the sald chamber, substantially as set forth.
19. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air, comprising a multitubular steam boller having a number of its upper ine tubes larger than the other tubes, a smoke box through which hot gases from the bofler furnace pass by way of tubes, a mixing and heating chamber located in the upper part of said smoke box adjacent to the outlet ends of said larger tubes, means for causing the hot gases from sald larger boiler tubes to flow over and around sald chamber, means for supplying steam from the boller to sald chamber, means for supplying air under pressure to sald chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
20. Apparatus for preparing and applying as motive fluid a heated mixtrue of steam and air comprising a multitubular steam boller having a number of its upper fire tubes larger than the other tubes, a smoke box through which hot gases from the boiler furnace pass by way of the tubes, a mixing and heating chamber located in the upper part of said smoke box adjacent to the outlet ends of said larger tubes, passages extending through said chamber, means for causing hot gases from sald larger boller tubes to flow through said passages, means for supplying steam from the boller to said chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantlally as set forth.
21. Apparatus for preparing and applying as motive fluid a heated mixture of gteam and air comprising a multitubular steam boiler having a number of its upper fire tubes larger than the other tubes, a smoke box through which hot gases from the boller furnace pass by way of the tubes, a mixing and heating chamber located in the upper part of sald smoke box edjacent to the outlet ends of said larger tubes, passages extending through said chamber, means for causing hot gases from sald larger boller tubes to flow over and around said chamber and through the passages therein, means for supplying steam from the boller to said chamber, means for supplying air under pressure to said chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
22. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air comprising a multitubular steam boiler, a smoke box through which the hot gases from the boiler furnace pass, a mixing and heating chamber of saddle or arch-shape in end view, located within the upper part of sald smoke box, means for conveying hot gases from the boller furnace to the smoRe box adjacent to said mixing and heating chamber at a temperature higher than that of the gases ordinarly passing to the smoke box, means for supplying steam from the boller to said chamber, means for supplying air under pressure to sald chamber, and an engine to which the heated mixture of steam and air is supplied from the said chamber, substantially as set forth.
23. Apparatus for preparing and applying as motive fluid a heated mixture of eteam and air comprising a multitubular steam boller, a smoke box through which the hot gases from the boller furnace pass, a mixing or heating chamber of saddle or arch-shape in end view located within the upper part of sald smoke box, means for conveying hot gases from the boller furnace to the smoke box adjacent to sald mixing and heating chamber at a temperature higher than that of the gases ordinarily passing to the smoke box, a steam pipe connecting the boller to sair chamber, an air inlet pipe connected to one of the depending ends of said chamber, an alr compressor connected to said pipe, a mixture outlet pipe connected to the other depending end of said chamber. and an engine connected to the latter plpe and to which the heated mixture is supplied, substantially as described.
24. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air, comprising a multitubular steam roller, a smoke box through which the hot gases from the boiler furnace pass, a mixing and heating chamber of saddle or arch-shape in end view, located within the upper part of said smoke box. means for conveying hot gases from the boller furnace to the smoke box adjacent to said mixing and heating chamber at a temperature higher than that of the gases ordinarily passing to the smoke box, a steam pipe connecting the boiler to said chamber, an air inlet plpe connected to one of the depending ends of said chamber, an alr ccmpressor connected to sald pipe, a perforated pipe located within said chamber and connected to sald air inlet pipe, a mixture outlet pipe connected to the other depending end of s.aid chamber and an engine connected to the latter pipe and to which the heated mixture is supplied, substantially as described.
25. Apparatus for preparing and applying as motive fluld a heated mixture of steam and air, comprising a multitubular steam boiler, a smoke box through which the hot gases from the boiler furnace pass, a mixing and heating chamber of saddle or arch-shape in end view, located within the upper part of said smoke box, means for conveying hot gases from the boiler furnace to the smoke box adjacent to sald mixing and heating chamber at a temperature higher than that of the gases ordinarily passing to the smoke box, pipes extending through said chamber for the passage of furnace gases, a steam pipe connecting the boiler to sald chamber, an air inlet pipe connected to one of the depending ends of said chamber, an air compressor connected to sald pipe, a mixture outlet pipe connected to the other depending end of sald chamber and an engine connected to the latter plpe and to which the heated mixture is supplied, substantially as described.
26. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air, comprising a multitubular steam boller, a smoke box through which the hot gases from the boiler furnace pass, a mixing and heating chamber or saddle or arch shape in end view, located within the upper part of said smoke box. means for conveying hot gases from the boiler furnace to the smoke box adjacent to sald mixing and heating chamber at a temperature higher than that of the gases ordinarlly passing to the smoke box. plpes extending through sald chamber, a steam plpe connecting the boller to sald chamber, an air inlet plpe connected to one of the depending ends of said chamber, an air compressor connected to said pipe, a mixture outlet plpe connected to the othen depending end of said chamber and an engine connected to the latter pipe and to which the heated mixture is supplied, and means for causing hot gases to flow over and around sald chamber and through the pipes extending through it, substantially as described.
27. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air. comprising a multitubular steam boiler, a smoke box through which the hot gases from the boiler furnace pass, a mixing and heating chamber of saddle or arch shape in end view, located within the upper nart of said smoke box, some of the upper boller fire tubes being larger than the others, a steam pipe connecting the boiler to said chamber, an air inlet pipe connected to one of the depending ends of said chamber, an air compressor connected to sald pipe, a mixture outlet pipe connected to the other depending end of sald chamber and an engine connected to the latter pipe and to which the heated mixture is supnlied. and an adjustable defiector for deflecting the hot gases from the upper larger boller fire tubes over and around the said chamber.
28. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air. comprising a multitubular steam boller, a smoke box through which the hot gases from the boller furnace pass, a mixing and heating chamber of saddle or arch shape in end view. located within the upper part of sald smoke box. some of the upper fire tubes of said boiler being larger than the others, pipes extending through sald chamber. a steam pipe connecting the boller to sald chamber, an air inlet pipe connected to one of the depending ends of sald chamber, an air compressor connected to said pipe, a mixture outlet pipe connected to the other depending end of said chamber and an engine connected to the latter pipe and to which the heated mixture is supplled, an adjust able deflector for deflecting the hot gases from the upper larger boller fire tubes over and around sald chamber. a blast pipe for the exhaust steam, and means for causing the steam blast to induce hot gases to flow over and around said chamber and through the pipes extending therethrough.
29. Apparatus for preparing and applying as motive fluid a heated mixture of steam and air, comprising a multitubular steam boiler, a smoke box through which the hot gases from the boiler furnace pass, a mixing and heating chamber of saddle or arch shape in end view, located within the upper part of said smoke box, some of the upper boller fire tubes being larger than the others, pipes extending through said
chamber, a steam pipe connecting the boiler to said cham ber, an air inlet pipe connected to one of the depending ends of said chamber, an air compressor connected to said pipe, a mixture outlet pipe connected to the other depending end of sald chamber, and an engine connected to the latter pipe and to which the heated mixture is supplied, an adjustable defiector for deflecting hot gases from the upper nad larger boller fire tubes over and around said chamber, a blast pipe for the exhaust steam, and a louvre device for causing the steam blast to induce the fiow of hot gases over and around sald chamber and through the pipes extending through it.

No. 101,447. Method of Making Metal Axles. Methode de faire des cessieus de fer.


The Bettendorf Metal Wheel Company, assignee of Emil Einfeldt, both of Davenport, Iowa, U.S.A., 9th October, 1906; 6 years. Filed 28th May, 1906. Receipt No. 136,310.
Olaim.-1. The method of shaping flanged bars which conaists in subjecting the bar to a lateral pressure to reduce its height locally, and rounding the flanges of the reduced portion.
2. The method of shaping flanged bars which consists in subjecting the same to lateral pressure at the end to reduce its height, rounding the flanges of the reduced portion of the bar, and subjecting the same to endwise pressure to form a shoulder.
3. The method of making metal axles which consists in selecting a bar having longitudinal flanges and a connecting web, reducing the height of the web at the end of the bar and thereby increasing the thickness of said web, and bending the flanges of the thickened portion of the web inward to form a rounded surface and to leave longitudinal spaces between the web and the bent flanges.

\section*{No. 101,448. Wire Drawing Machine. Machine detirer le Al de fer.}

The Iroquis Machine Company, New York City, New York, assignee of James Alexander Horton, Providence, Rhode Island, 9th October, 1906; 6 years. Filed 17th September, 1906. Recelpt No. 139,544.
Clatm.-1. In a wire drawing machine, the combination of a body having a fluid containing chamber one wall of which Is composed of heat absorbing material, with a separate wire engaging member having a surface for engaging the wire and another surface in parallel juxtaposition to the external surface of the heat absorbing wall of the said fluid containing chamber, substantlally as described.
2. In a wire drawing machine, the combination of a body having a cooling chamber one wall of which is circular in section, a separate member having a wire engaging surface adapted to become heated by the friction of the wire, and another surface heated against the outer surface wall of the cooling chamber, substantially as described.
3. In a wire drawing machine, the combination of a body having a fluld containing chamber one wall of which

is composed of heat absorbing material, with a separate wire engaging member having a surface for engaging the wire and another substantially continuous extended surface of the heat absorbing wall of the sald fuid containing chamber, substantially as described.
4. In a wire drawing machine, the combination of a body having a fluid containing chamber one wall of which is composed of heat absorbing material, with a separate wire engaging member having a surface for engaging the wire and another substantially continuous extended surface in contact with the external surface of the leat absorbing wall of the said fluid containing chamber, sald heat absorbing wall being composed of a relatively thin soft metal, substantially as described.
6. In a wire drawing machine, a drum, a die, and a wire a substantially vertical axis, and pivoted fingers yieldingly pressed toward the wire forwarding surfaces of the drums, whereby the dronping \(n\) • onvolution of wire from one drum to anothar is prevented.
6. In a wire drawing machine, a drum, a die, and a wire clamp adjacent to the path of the wire passing from the drum to the die and adapted to engage and hold a portion of the wire during the operation of threading the leading end of the wire through the die, said clamp having its mouth directed toward the die. whereby it is adapted to deliver the wire toward the die.

\section*{No. 101,449. Machine for Forming Wire Drasing} Dies.

\section*{Machine d faire les Alières détirer le all de fer.}

The Iroquis Machine Company, New York Gity, New York, assignee of James Alexander Horton, Providence, Rhode Island. U.S.A., 9th October, 1906; 6 years. Flled 17th September, 1906. Receipt No. 139,545.
Claim.-1. A machine for re-making wire drawing dies, comprising compressing means adapted to act on the exterior of the die to compress the metal of the die inwardly, toward the die orifice, and thus contract the latter, expanding means, and means for causing said expanding means to act simultaneously with the compressing means and within the die, to enlarge and re-form the die orifice.
2. A machine for re-making wire drawing dies, comprising compressing means adapted to act on the exterior of the die to compress the mecal of the die inwardly, toward the die orifice, and thus contract the latter, a reciprocable forming tool movable within the die to enlarge and re-form the die orifice, and means for operating simultaneously with said pressing means for reciprocating sald forming tool.
3. A machine for re-making wire drawing dies, comprising relatively movable opposed pressing members adapted to exert compressive pressure in opposite directions on opposite ends of a die, one of said members having means for translating or directing the compressive pressure radially inward, toward the center of the die orifice, and moans for operating simultaneously with the said pressing members and within the pressure directing means, to enlarge and roo form the die orifice.
4. A machine for re-making wire drawing dies, comprising a fixed die support formed to contract the die orifice, a

press having a movable member opposed to said die support, a reciprocable forming tool adapted to act within the die support to enlarge and re-form the die orifice, and means for causing the simultaneous action of said press and forming tool.
5. A machine for re-making wire drawing dies, comprisIng a die support having a tapered die seat adapted to recelve the orifice containing portion of the die, a member for applying pressure to a die on said support to cause the compression of the said portion by the said seat, a forming tool adapted to act within the die seat to enlarge and re-form the die orifice, and means for causing the simultaneous action of said parts.
6. In a machine for re-making wire drawing dies, a die support having a tapered die seat adapted to receive the orifioe containing portion of the die, raeans for applying pressure to the die, a reciprocable forming tool adapted to act within the die seat, and means for adjusting said support longitudinally of the forming tool to determine the size of the die orifice.
7. In a machine for re-making wire drawing dies, a die support having a tapered die seat formed to contract the die orifice, a die presser opposed to the die support and having a central opening, means for decreasing the distance between the presser and the die support, and a die forming tool extending through the opening in the presser and adapted to act within the die contracting means of the die support, and means for operating the die forming tool independently of the presser.
8. A machine for re-making wire drawing dies, comprisIng a die support formed to contract the die orifice, a die presser opposed to the support, a press having a fixed inverted cylinder, and a piston movable outwardly therein, said piston having an extension, a yoke engaged with the said extension and presser, and having a tool receiving cpening, and a forming tool movable through the sald opening and acting within the die contracting means of the die support.
9. A machine for re-making wire drawing dies, comprising a die support formed to contract the die orifice, a die presser opposed to the support, a press having a cylinder, and a piston movable therein, connections between the said piston and presser, a die forming tool adapted to act within the die contracting means of the die support, a crank shaft for reciprocating the tool, a clutch for arresting and releasing the shaft, and connections between the piston and the clutch, whereby outward movement of the piston makes the slutch operative, while inward movement of the piston makes the clutch inoperative.
10. In a machine for re-making wire drawing dies, a die forming tool, a holder for the same, means for reciprocating the holder, and means for positively limiting the die formIng movement of the holder at a predetermined point, to compensate for factors of uncertainty.
11. In a machine for re-making wire drawing dies, a forming tool carrier having a shoulder or enlargement, means for reciprocating sald carrier, and a rigidly supported stop or abutment adapted to arrest the die forming movement of the said shoulder and tool.
12. In a machine for re-making wire drawing dies, a forming tool carrier having a shoulder or enlargement, means for reciprocating said carrier, an adjustable rigidly supported stop or abutment adapted to arrest the outward movement of said shoulder and tool, and means for adjusting said stop.
13. A machine for re-marking wire drawing dies, comprising a fixed die support having a die compressing seat, a movable die presser opposed to the support, a press including a fixed cylinder having a closed end sustaining the die support, and a piston movable in said cylinder, a yoke connecting said piston with the die presser and extending across the latter, said yoke having an opening colnciding with the orifice of a die supported by the die support, a longitudinally movable die forming tool movable in said opening to act on the orifice of the die, and means for reciprocating said tool.
14. A die compressing machine comprising two relatively movable opposed members, one having a die compressing seat adapted to displace the metal of the die wholly toward the die orifice when the distance between the members is decreased, the said members having openings in alignment with each other and with the said seat, means for decreasing the distance between the members, a longitudinally movable tapered die forming tool movable in said openings, and means for reciprocating sald tool.

No. 101,450. Wire Drawing Machine.


The Iroquois Machine Company, New York City, New York, assignee of James Alexander Horton, Providence, Rhode Island, U.S.A., 9th October, 1906; 6 years. Filed 17th September, 1906. Recelpt No. 139.546.
Olaim.-1. In a wire drawing machine, a rotary drum having a peripheral seat, a wire forwarding device adapted to slip clrcumferentially on said seat, and riven by frictional contact with the seat at the speed required by the call or tension of the wire, the drum having capillary ducts opening into said seat, and means carried by the drum for supplying lnbricant to said ducts, said capillary ducts serving to effect a predetermined restriction or regulation of tho movement of lubricant to prevent free flowage of the lubricant through said ducts, and overfiow or escape of the lubricant from the crevice between the contacting surfaces of the geat and the wire forwarding device.
2. In a wire drawing machine, a rotary drum having a peripheral seat, a wire forwarding device adapted to slip circumferentially on said seat, and driven by frictional contact with the seat at the speed required by the call or tension of the wire, an oil reservoir carrled by the drum, ducts extending from the drum to the seat. and capillary filling in said ducts, the outer ends of said fillings contacting with the inner surface of the wire forwarding device.
3. A wire drawing drum having a loose incompressible ring to recelve the initial convolutions of the wire, and a compressible wire forwarding device beside sald ring adapted to slip circumferentially on the drum and frictionally driven at the speed required by the call or tension of the wire.

No. 101,451. Head Etock for Engine Lathes.
Porte-outils pour tours mu par une machine.


The Lodge and Shipley Machine Tool Company, assignee of William Lodge and Nicholas Daniel Chard, all of Cincinnati, Ohio, U.S.A., 9th October, 1906; 6 years. Filed 15th May, 1905. Receipt No. 125,173.
Claim.-1. In combination with the head stock of an engine lathe, two sets of bearings in axial alignment, a driving sleeve journalled in the intermediate bearings, a spindle of lesser diameter than the internal diameter of said sleeve, passing through said sleeve without substantial contact, and journalled at each end of the sleeve in the end bearings, means for directly clutching the driving sleeve to the spindie, and means for back gearing from the sleeve to the spindle, substantially as described.
2. In an engine lathe, a head stock having independent bearings in line axially for the purpose of independently supporting a driving member and spindle, a driving member fournalled in one of the bearings, a spindle journalled in the other, said spindle and driving member being supported by their respective bearings substantially free from frctional contact with each other, a clutch member between said spindle and driving member adapted to fix them to rotate together, means for throwing the clutch, back gearing from the driving member to the spindle, and means for throwing said back gear wheels into or out of train, whereby when the said back gears are in commission the spindle and driving member rotate substantially free from frictional contact with one another.

No. 101,45\%. Monld For Bricks. Moule pour briqucs.
The South Bend Machine Mig. Co., South Bend, Indiana, assignee of George Brown, Niles, Michigan, U.S.A., 9th October, 1906: 6 years. Filed 13th January, 1906. Receipt No. 131.838.
Claim.-1. A moulding machine comprising a mold embracing side walls, one of which is slotted and the other of which is hinged to swing downwardly and outwardly, a removable nattet between said walls, and partition plates sliding through the slots of the slotted wall, across the pallet and towards and from the hinged wall.
2. A moulding machine comprising a support and a mould comprising a mould bed, side walls, a hinged top wall, and partition plates, one of said side walls hinged so as to be swung downwardly an doutwardly below the level of the mould bed and the other wall being slotted, sald partition plates being slidable through the slots of said latter wall, across the bed and towards and from the movable wall.
3. A moulding machine comprising a mould having a mould bed. a fixed wall irvolded with vertical slots at suitable distances apart, and a wall opposite the slotted wall hinged
to the machine below the level of the mould bed so as to swing downwardly and outwardly below the level of the

mould bed, longitudinally movable partition plates in said slots adapted to be moved inwardly across the bed and to be moved outwardly to clear the bed, guldes for sald partition plates and means to simultaneously operate said partition plate.
4. A moulding machine comprising a mould having a mould bed. side walls, one of which is movably mounted so as to be lowered below the level of the mould bed, and the other of which is slotted, and partition plates slidable through the slots of the latter wall, across the bed and towards and from the movable wall, a shaft movable with gaid partition plates and provided with a pinion, snd a fixed rack engaged by sald pinion and co-acting therewith to move the partition plates endwise when the shaft is rotated.
5. A moulding machine comprising two moulds, two sets of partition plates slidable into and out of the moulds, and a single actuating device located between said moulds for operation both sets of partition plates.
6. A moulding machine comprising two moulds located side by side, two sets of sliding partition plates movable into and out of the moulds, the partition plates of said two sets comprising the opposite ends of rigid plates that extend between the moulds, and a single actuating device between the moulds for operating both sets of plates.
7. A moulding machine comprising two moulds, partition plates movable into and out of the moulds, and a single actuating device for operating both sets of partition plates, constructed to withdraw one set of partition plates from its mould while inserting the other set of plates in its mould.
8. A moulding machine comprising a mould consisting of a mould bed and enclosing side and top walls, one of the side walls being slotted and partition plates slidable through the slots of sald slotted wall, across the mould bed towards the opposite side wall, said partition plates having sliding. interlocking engagement with said top wall and mould bed in a manner to prevent lateral displacement of the plates.
9. A moulding machine comprising a mould embracing a mould bed, side walls, one of which is slotted and the other of which is hinged to swing downwardly and outwardly, partition plates sliding through the slots of the slotted wall. across the bed and towards and from the hinged wall. swinging locking bars adapted to engage the hinged wall to lock the latter in its closed position, and a hinged top wall.

No. 101,453. Mould Ior Brichs. Moule pour briques.
The South Bend Machine Mig. Co., South Bend, Indiana, assignee of George Brown, Niles, Michigan, U.S.A., 9th October. 1906; 6 years. Filed 13th January, 1906. Receint No. 131.839.
Claim.-1. A moulding machine embracing a mould bed enclosed by side and top walls, and wherein one of the side walls is movably mounted so as to be lowered below the level of the mould bed, and partition plates movable into and out of the mould chamber and co-acting with said side walls and mould bed to form a plurality of mould spaces, the top wall being hinged to said movable wall.
2. A moulding machine embracing a mould bed enclosed by side and top walls, and whereln one of sald side walls is

No. 101,454. Vohicle Enpport. Support de ofhcules.


Berton Herbert Sills, Belleville, and Henry George Ketchum, assignee of a half interest, Ottawa, both in Ontario, Canada, 9th October, 1906; 6 years. Filed 19th May, 1905. Receipt No. 125,343 .
Claim.-1. An improved cushioning device for vehicles comprising two longitudinal members hinged together and extending at right angles to the upward thrust on' the vehicle and resilient means for normally holding said members apart, as and for the purpose specified.
2. An improved cushioning device for vehicles comprising two longitudinal members extending at right angles to the upward thrust on the vehicle, a rule joint connecting the two members, resilient means for normally holding said members in the farthest position apart permitted by the rule joint, as and for the purpose specified.
3. An improved cushioning device for vehicles comprising two hinged members, a plunger slidably held in one member, a compression spring forcing the plunger against the opposing member, and adjustable means for varying the degree of compression of the spring, as and for the purpose specified.
4. An improved cushioning supporting device for vehicles comprising two members, a rule joint connecting the same, a recess in one of the members, a hollow cylindrical socket screwed therein, a plunger slidably held in the socket, and a compression spring forcing said plunger outwardly to contact with the opposing member, as and for the purpose specifed.
5. An improved cushioning device for vehicles comprising two substantlally horizontally extending members, off-sets integral with each, pivoting means connecting the off-sets, means for limiting the tilting movement of the members with regard to each other, a plunger slldably held in one member, a compression spring pressing the same against the opposing member, and adjustable means for varying the degree of compression of the spring, as and for the purpose specified
6. An improved cushioning supporting device for vehicles comprising two sdbstantially horizontally extending members, off-sets integral with eash, a rule joint connecting the off-sets, an internally screw-threaded hollow socket fitting within said recess, a plunger slidably held in the socket, a compression spring abutting the under side of the plunger in the end of the socket and adapted to press the plunger against the opposing member, as and for the purpose specifled.
7. In a bicycle irame an improved resilient member comprising two parts, off-sets integral with each, a rule joint connecting the off-sets, a plunger resiliently held in one part and abutting the opposite parts, as and for the purpose specifled.
8. An improved resilient member for a blcycle frame comprising two parts pivoted together and tiltable in relation to each other, and resilient means for normally holding said parts in alignment with each other.

\section*{No. 101,455. Try and Bovel Square.}

Equerre simple et fausse.
Edwin H. Horton and Bennett W. Donaldson, assignee of a half interest, both of Pontiac, Michigan, U.S.A., 9th October, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,621.
Claim.-1. In a combined try and bevel square, the combination of a two-part handle, a plate in the form of a right angle triangle pivoted between the sides of the handle, said plate being adapted to swing from side to side, means for arresting the movement of the plate in either direction, and means for indicating the angle at which the plate may be set.
2. In a device for the purpose set forth, the combination of the angular plate, a two-part handle between the sides of

which the plate is pivoted, a tightening screw seated in the handle to lock the plate against movement, and means for indicating the angle at which the plate is set.
3. In a device for the purpose set forth, the combination of the triangular plate, a two-part handle embracing the opposite sides of the plate and pivoted thereto, said plate having \(a\) central opening one of whose margins is curved in the arc of a circle, the parts of the handle being united through said opening, and means for arresting the movement of the plate between the sides of the handle so as to cause its right angle sides to stand parallel with the sides of said handle.
4. In a device for the purpose set forth, the combination of a triangular plate, a two-part handle embracing the plate and plvoted thereto at the corner between the right angle sides thereof, said plate having a central opening, means jolning the opposite sides of the handle through said opening and means mounted on the handle engaging the margins of the opening through the plate to limit the movement thereof through the handle in opposite directions.
5. In a try and bevel square, the combination of the triangular plate having an opening therethrough, the two-part handle embracing the plate, said plate having an annular opening at the corner thereof, a rotatable washer in said opening a pivot passing through the sides of the handle and through said washer, and means for joining the outer ends of the sides of the handies through the opening in said plate to tie them together and allow the plate or blade to swing therethrough upon said pivot.
6. In a device for the purpose set forth the combination with the square, of a slotted handle embracing the opposite sides of the square and pivoted thereto to have movement only on said pivot, a set-screw in one side of the handle, a disc set into the inner face of that side of the handle carrying the set-screw lying upon the face of the square and engaged by said screw, whereby by tightening the screw the handle and the square may be locked together.
7. In a device for the purpose set forth the combination of the triangular plate having a central opening, the two-part handle pivoted thereto to embrace the opposite sides thereof and through which the plate is adapted to swing in the arc of a circle, and means at the outer end of the handle for locking the handle and plate together to prevent independent movement of sald parts.

\section*{No. 101,456. Pump. Pompe.}

James Alston, South Melbourne, Victoria, asslgnee of Charles Cannell, St. Mary's, Tasmania, both in Australla, 9th October, 1906; 6 Jears. Flled 26th March, 1906. Recelpt No. 134,260.
Claim.-1. Improved gear for increasing the stroke of pumps comprising a pinion mounted on the power shaft and geared with a rack bar provided with an endless series of teeth attached to a guide casing having seml-circular ends and detachably connected to the pump rod.
2. In a pump gearing the combination with the operating pinion on the power shaft, and a guide casing detachably connected to the pump rod and containing a rack bar provided with an endless series of teeth, of one or more friction rollers mounted on elther or both sides of the pinion between the rack bar and the sides of the casing, substantially as set forth.
2. In a pump gearing the combination with the operating pinion on the power shaft, and a guide casing detachably containing a rack bar provided with an endless serles of teeth, of vertical friction rollers mounted on elther side of the pinion between the rack bar and the sides of the casing
and projecting on elther side of the teeth of sald bar, substantially as eet forth.

4. In pump gearing the combination with the operating pinion on the power shaft, and a guide casing detachably connected to the pump rod and containing a rack bar provided with an endless series of teeth, and having vertical guides formed thereon, of one or more vertical friction rollers mounted on either cir both sides of the pinion between the rack bar and the sides of the casing and on either side of the teeth of caid bar, and horizontal rollers mounted on the gear frame and situated between the face of the casing and the vertical guides formed thereon, substantially as set forth.
6. In pump gearing the combination with the operating pinion on the power shaft, and a guide casing detachably connected to the pump rod and containiag a rack bar provided with an endless series of teeth, of means forming a part of the pump rod connections to allow of a emall vertical and horizontal movement independent of the pump itself, substantially as set forth.
6. In gear for increasing the stroke of pumps, a pinion mounted on the power shaft gearing with a rack bar attached to a casing having semi-circular ends and detachably connected to the pump rod and also provided with means to allow of a small vertical and horizontal movement independent of the pump itself, said rack bar having an endless series of teeth down the centers of its sides and ends, roller tracks on either side thereof, one or more vertical iriction rollers on either or both sides of said pinion fitting on either or both sides of the teeth of the bar and between the latter and the sides of said casing, and a pair of horizontal rollers mounted in a bracket on the gear frame and fitting between the face of the casing, and vertical guldes attached thereto, substantially as set forth and as lllustrated.

No. 101,457. Rotary Bngine. Machine rotatotre.


James Frederick Reilly, Seattle, Washington, U.S.A., and Thomas R. E. McInnes, assignee of a haif interest, Vancouver, British Columbia. Canada, 9th October. 1906; 6 years. Filed 16th May, 1906. Rceipt No. 135,978 .
Claim.-1. An improved internal rotary engine comprising two concentric rotors, abutments on each having sliding contact with the opposite rotor, means for intermittently causing an expansive fluid to act against the abutment of each rotor, a shaft, means for communicating the motion of the rotors to the shaft in one direction and means for preventing the backward rotation to each rotor, as and for the purpose specifled.
2. An improved internal combustion rotary engine comprising two concentric rotors, means for intermittently rotating the same, a shaft, a cylinderical block thereon, a plurality
of ratchet teeth on the periphery of the block, two series of rollers thereon and connecting means extending between each series of rollers and each of the rotors, as and for the purpose specifled.
3. An improved internal combustion rotary engine comprising two concentric rotors, means for intermittently rotating the same, a shaft, a cylindrical block on the shaft, a plurality of ratchet teeth on the periphery thereof, two series of rollers located in the ratchet teeth, a plate supporting the same, cylindrical members bearing respectively against each of the series of rollers and connecting means extending between the cylindrical members and each of the rotors, as and for the purpose specified.
4. An improved internal combustion rotary engine comprising two concentric rotors, abutments on each having sliding contact with the opposite rotor, means for preventing the backward motion of each rator, means for introducing an explosive mixture between the abutments of opposite rotors, means for exploding the same at predetermined times, a shaft and means for communicating the motion of the rotors explosions, as and for the purpose specified.
5. An improved internal combustion rotary engine comprising two concentric rotors \({ }^{3}\), abubments on each having sliding contact with the opposite rotor. means for preventing the backward rotation of each rotor, means for introducing an explosive mixture between the abutments of opposite rotors, means for exploding the same at predetermined times, a shaft, mêans for communicating the motion of the rotors to the shaft and means operated by the rotation of the rotors for exhausting the products of the explosions as and for the purpose specified.
6. An improved internal combustion rotary engine comprising two concentric intermittently fotating rotors, abutments on each rotor having sliding contact with the opposite rotor, means for introducing an explosive mixture between two abutments of opposite rotors, means for exploding said mixture after compression by rotation of the moving rotor, a shaft, and means for communicating the rotation of the rotors to the shaft, as and for the purpose specified.
7. An improved internal combustion rotary engine comprising two concentric intermittently rotating rotors, two abutments on the inner rotor baving sliding contact with the inner side of the outer rotor, two abutments on the outer rotor having sliding contact with the periphery of the inner rotor, means for introducing an explosive mixture between the two abutments of the opposite rotor when a predetermined distance apart, means for exploding said mixture when compressed, means operated by the rotation of the rotor for exhausting the waste products of the explosion, a shaft, and means for communicating the rotation of the rotors to the shaft, as and for the purpose specified.
8. An improved internal combustion rotary engine comprising two concentric intermittently rotating rotors, a plurality of abutments on the inner rotor having sliding conlact with the inner side of the outer rotor, a plurality of abutments on the outer rotor having sliding contact with the periphery of the inner rotor, means for successfully introducing an explosive charge between each pair of abutments on opposite rotors, means for exploding said charge when compressed, a suitably mounted shaft, and means for communicating the rotation of the rotors to the shaft, as and for the purpose specified.
9. An improved internal combustion rotary engine comprising two concentric intermittently rotating rotors, a plurality of abutments on the inner rotor having sliding contact with the inner side of the outer rotor, a plurality of abutments on the outer rotor having sliding contact with the periphery of the inner rotor, means for successfully introducing an explosive mixture between each pair of abutments of opposite rotors, means for exploding the same when compressed, and means operated by the rotor moving after each explosion for exhausting the gases of the preceding explosion, a shaft, and means for communicating the motion of the rotors to the shaft, as and for the purpose specified.
10. In an internal combustion rotary engine in combinaLion a fixed core, a rotor supported thereon, a plurality of outwardly protruding abutments thereon arranged symmetrically about the periphery, a second rotor concentric with the first, a plurality of abutments thereon symmetrically disposed around the inner surface having sliding contact with the first rotor, means for successfully introducing an explosive mixture between the abutments of opposite rotors when a predetermined distance apart, means for preventing the rotation of the rotors except in one direction, a shaft, and means for communicating the rotation of the rotors to the shaft, as and for the purpose specified.
11. In an internal combustion rotary engine in combination a fixed cylindrical core, a rotor supported thereon, a plurality of outwardly protruding abutments thereon, symmetrically arranged around the periphery, a second rotor concentric with the first, a plurality of abutments on the

Inner side thereof symmetrically arranged around the same having sliding contact with the periphery of the first rotor, an admission port in the core for the explosive fluid, a valve controlling the same, an ignition chamber in the periphery of the fixed core, a plurality of ports in the irst rotor adapted to afford communication between the admission port, the ignition chamber and the space between the rotors, an exhaust port in the periphery of the fixed core, a shaft and means for communicating the rotation of the rotors to the shaft as and for the purpose specified.

No. 101,458. Bngino. Machine d vapour.


Theodore Shade and John Wilson Griffin, assignee of a half Interest, both of Greensburg, Pennsylvania, U.S.A., 9th October, 1906; 6 years. Filed 3rd March, 1906. Receipt No. 133,519
Claim.-1. In an engine the combination with the cylinder and ports therethrough of a cylindrical valve seat in the cylinder traversing the port, a cylindrical valve fitting in said valve seat, a transverse port therethrough adapted when the valve is moved to a certain position to permit the passage of steam through the valve and port and means operated by the rotation of the engine for moving the valve into position to permit the passage of steam through the port, as and for the purpose specified.
2. In a reciprocating engine the combination with the cylinder and steam ports located at each end thereof extending therethrough, of a plurality of longitudinally extending cylindrical valve seats formed in the cylinder transversing the steam ports at each end, cylindrical valves therein and transzerse ports through said valves opposite the steam ports permitting the free passage of steam through the ports and valves when the Latter are moved into predetermined positions, as and for the purpose specifled.
3. In a reciprocating engine the combination with the cylinder and steam and exhaust ports at each end thereof, of two longitudinally extending cylindrical valve seats formed in the cylinder transversing respectively the steam and exhaust ports, two cylindrical valves located in sald valve seats, ports therein opposite the steam and exhaust ports adapted to permit the passage of the steam through the ports when the valves are in predetermined positions and means operated by the rotation of the engine for simultaneously oscillating both valves, as and for the purpose specifed.
4. In a reciprocating engine the combination with the cylinder and steam and exhaust ports at each end thereof of two longitudinally extending cylindrical valve seats formed in the cylinder transversing respectively the steam and exhaust ports, two cylindrical valves located in sald valve seats, ports therein opposite the steam and exhaust ports adapted to permit the passage of the stean through the ports when the valves are in predetermined positions, radial pins secured to said valves extending through slots in the cylinder, a transversely slidable plate connected to said pins and means operated by the rotation of the engine for reciprocating said plate, as and for the purpose specified.

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5. In an engine the combination with the cylinder and steam and exhaust ports at each end thereof, of a four-way throttle valve connected respectively to the steam and exhaust ports and to the supply of steam and the exhaust of the engine and a lever for operating sald valve, as and for the purpose specified.

No. 101,459. Window Frame and Sash. Cadre ct chissis de fenstre.


Ester Hodgson. Ottawa, Ontario, Canada, 9th October, 1906; 6 years. Filed 4th July, 1906. Recelpt No. 137,519.
Claim.-1. In a window, an upper sash of less width than the lower sash, a guideway in the frame for sald upper sash, . parting strip of the length of the upper sash less the width of the lower bar of sald upper sash, and a lower bar for said upper sash being oi a thickness to correspond to the width or space occupied by the guideway and the parting strip, substantially as shown and described.
2. In a window, a lower sash of greater widih than the upper sash, a guldeway in the iname for sald lower sash, the outside rail of said guldeway consisting partly of the side of the upper sash guideway, and partly of the parting strip and a sectional stop for the inner guide, as shown and described.
3. In a window, a frame, sash guideways in said frame adapted to receive sashes of unequal width and a parting strip for the upper sash only, said strip being of less length than said upper sash.
4. In a window, an upper sash of less width than the lower sash, a guideway in the frame for sald upper sash, a parting strip of the length of the upper sash legs the width of the lower bar of sald upper sash. a lower bar for said uppar sasb nf a chlckness to correspond to the width or space occupled by the guideway and parting strip, a lower sash of greater width than the upper sash, a guideway in the frame for sald lower sash, the outside rall of said guideway consisting partiy of the side of the upper sash guideway and partly of the parting strip and a sectional stop for the inner guide, as shown and described.

\section*{No. 101,460. Elagtic Flaid Truphimp.}

\section*{Turbine d fuide ciastique.}

The Canadian General Electric Company, Toronto, Ontario,
Canada, assignee of Richard H. Rice, Swampscott, Massachusetts, U.S.A., 9th October, 1906; 6 years. Filed 2nd May, 1906. Recelpt No. 135,464.
Claim.-1. In an elastic fluid turblne of the multi-stage type, the combination of a member containing an exhaust chamber, a ring having opposed flanges belted thereto, a fecond flanged ring at the opposite end of the turbine, an intermediate casing section between said rinss, a diaphragm Cormed integral with the section, shoulders between the inge and the section, and a plurailty of longitudinal bolts sltuated outside of the casing section which. pass through the opposed flanges on the range for securing the rings and easing section together.
2. In an elastlc fuld turbine, the combination of a casIng made up of sections, the plane of division being at right

angles to the axis, a diaphragm for dividing the casing into Wheel compartments, wheels for the compartments having cight rows of buckets for extracting the energy of the motive fluid by successive fractions, Intermediate buchets beiween the rows of buckets for reversing the direotion of fow of the mative fiuid, and a support for the intermediate buckets carrled by the diaphragm on the exhaust side of the wheel so that they can be aligned with the wheel buckets before the enclosing casing is mounted in place.
3. In a multi-stage turbine, the combination of a casing comprising a plurality of sections arranged to be mounted in place one after the other, the plane of division being at right angles to the wheel shaft, wheels for the sections, rows of buckets on the wheels for abstracting the energy of the motive fluld by successive fractions, intermediate buckets for reversing the direction of flow of the motive fluld between wheel buckets, diaphragms supported by the casing sections for supporting the wheels and forming stages of expansiop, devices discharging motive fluld to the buckets, and supports for the intermediate buckets of each stage that are supported by the dlaphragms on the lower pressure side of the wheels so that they can be successively aligped and the turbine assembled by alternately mounting the wheels and casing sections in place.
4. In a turbine, the combination of a casing arranged in sections, a diaphragm between sections, a wheel having rows of buckets for abstracting the energy of the motive guld by successive iractions, intermediate buckets between the rows of the wheel buckets for reversing the direction of the mptive fiuld, and a support for the intermediate buckets which is mounted on a diaphragm and extends longitudinally of the turbine axis to permit alignment of the intermediate and wheel buckets before one of the casing sections is mounted in place.
5. In a turbine, the combination of a casing. arranged in sections, a diaphragm between sections, a wheel having rows of buckets for abstracting the energy of, the motive fluld by successive.iractions, intermediate buckets between the rows of wheel buckets for reversing the direction of the mative fluld, a blank wall located between the wheel bucketa in the space not occupied by. the intermediate buckets to reduce rotation losses and a support common to the walis and the intermediates which is mpunted on.a diaphragmiand extonds longitudinally of the turbine axis to permit alignment of the buckets and walls before one of the casing sections is maunted in place.
6. In a multi-stage turbine, the, combluation of a caging made in sections, a diaphragm ca-operating with tha sections to form wheel chambers, wheela for the compartments having rows of buckets, Intermediate buckets between the rows of wheel bucketa, a blank. wall, located between the wheel buckets in, the space not occupied.hy. the intermadiate tuckets to reduce rotatiop, losses, mesns for supporting the
intermediate buckets and blank wall carried by a diaphragm, the said means being provided with passages communicating with the wheel chamber through which motive fluid leaking from the clearances is free to pass to a wheel chamber.
7. In a multi-stage turbine, the combination of a casing made in sections, a diaphragm co-operating with the sections to form wheel chambers, wheels for the compartments having rows of buckets, intermediate buckets between the rows of wheel buckets, a blank wall located between the wheel buckets in the space not occupied by the intermediate buckets to reduce rotation losses, a ring mounted on the diaphragm, projections on the ring to which the intermediate buckets and the wall are secured, and passages between the frojections on the ring to which the intermediate buckets and the wall are secured and passing between the projections communicating with a wheel chamber to discharge leakage from the clearances thereto.
8. In a multi-stage turbine, the combination of a casing made in sections, a diaphragm co-operating with the sections to form wheel chambers, wheels for the compartments having rows of buckets, intermediate buckets between the rows of wheel buckets, a blank wall located between the wheel buckets in the space not occupied by the intermediate buckets to reduce rotation losses, a nozzle having passages arranged to discharge motive fluid against a portion only of the wheel buckets, a blank wall forming a continuation of the nozzle and covering the idle wheel buckets and situated between the wheel buckets in line with the nozzle, a blank wall situated betwen the rows of idle wheel buckets and in line with the first-mentioned wall to further decrease the rotation losses, and a means for supporting the intermediate buckets and their adjacent blank wall from a diaphragm on the low pressure side of the wheel to permit alignment of the buckets before a casing section is mounted in place.
9. In an elastic fluid turbine, the combination of a wheel, rows of buckets on the wheel, a casing for the wheel comprising a surrounding wall, a wall on the high pressure side, and a wall on the low pressure side o fthe wheel, a nozzle located on the high pressure side o fthe wheel, intermediate buekets between the rows of wheel buckets, and a support for the intermediate buckets which is carried by the wall on the low pressure side, substantially as and for the purpose described.
10. In an elastic fluid turbine, the combination of a wheel, rows of buckets on the wheels, a casing for the wheel comprising a surrounding wall, a wall on the high pressure side, and a wall on the low pressure side of the wheel, a nozzle located on the high pressure side of the wheel, intermediate buckets between the rows of wheel buckets, a groove formed in the wall on the low pressure side of the wheel, support mounted in the groove, a groove in the support to receive the base portion of the intermediate buckets, and means for attaching the buckets to the support.
11. In a multi-stage turbine, the combination of a plurality of casing sections, each comprising a cylindrical portion and a diaphragm, the said sections being arranged to fit loosely on the other, retaining bolts that extend longitudinally of the casing for clamping them together, fluid discharging devices for the sections and a projection on each of the sections which engage a bolt to insure the proper angular alignment of the discharge devices when the sections are assembled.

No. 101,461. Loose Leaf Binder.
Reliure à feuilles volantes.


The Business Systems, Toronto, Ontario, Canada, assignee of Arthur A. Tate, Winnipeg, Manitoba, Ganada, 9th October, 1906. 6 years. Filed 19th June, 1906. Receipt No. 137,049. Claim.-1. A binder for loose leaves comprising a bottom board, posts projecting from the inner surface of the bottom
board, a top board having apertures therein to receive the posts, lock cases connected to the outer surface of the top board and enclosing the apertures, locking bars contained between the sldes of the lock cases having their outer ends to be depressed within the lock cases and their inner ends to engage the posts, fulorum pins inserted through the sides of the lock cases and through the locking bars between the inner and outer ends of the latter, and springs mounted on the fulcrum pins to hold the inner ends of the locking bars normally in engagement with the posts.
2. A binder for loose leaves comprising a bottom board, posts projecting from the inner surface of the bottom board, a top board having apertures therein to receive the posts, lock cases connected to the outer surface of the top board and enclosing the apertures, locking bars contained between the sides of the lock cases having their outer ends to be depressed within the lock cases and their inner ends to engage the posts, side fianges depending from the locking bars, fulcrum pins inserted through the sides of the lock cases and through the side flanges of the locking bars between the inner and outer ends of the latter, and springs mounted upon the fulcrum pins to maintain the locking bars normally in engagement with the posts.
3. A binder for loose leaves comprising a bottom board, posts projecting from the inner surfaces of the bottom board a top board having apertures therein to receive the posts, a plate secured to the outer surface of the top board having apertures therein aligned with the apertures in the top board, lock cases connected to the plate, locking bars contained between the sides of the lock cases having their outer ends to be depressed within the lock cases and their inner ends to engage the posts, flanges extending downwardly from the locking bars, fulcrum pins inserted through the sides of the lock cases and flanges between the inner and the outer ends of the locking bears, and springs mounted on the fulcrum pin to engage the bottom of the lock cases and the under surface of the locking bars adjacent to the outer ends thereof.
No. 101,468. Gromid Anchor. Anere de terre.


Oharles McLean Stinson, Montreal, Quebec, Canada, 9th October, 1906; 6 years. Filed 25th August, 1906. Receipt No. 138,969.
Claim.-1. A ground anchor comprising a foot member provided with inclined end portions extending in opposite directions, a pair of integral lugs mounted on the upper face of said anchor, an integral stop bar uniting said lugs, an integral strengthening rod in the lower face of said ancho, an integral counterpoise on one end of the upper face of said anchor, and a guy rod pivotally attached to the upper face of the anchor and nearer to one end than the other.
2. A ground anchor comprising a foot member having one end curved upwardly and the opposite end downwardly, a pair of integral lugs mounted on the upper face of sald anchor, an integral etop bar uniting said lugs, a strengthening rib on the lower face of said foot member, a counterpoise integrally mounted on one end of the upper face of said foot member, and a guy rod pivotally attached to said foot member slightly nearer to one end than the other.

Messrs. Kutnow Brothers, assignee of Timothy Bernard Powers, both of New York City, New York, U.S.A., 9th October, 1906; 6 years. Filed 22nd August, 1906. Receipt No. 138,926.
Olaim.-1. A moving display sign comprising a base board, a hollow standard centrally mounted thereon, an extensible display rack mounted on sald standard, one roller on each end of the display rack, two guides each secured under an angle of \(45^{\circ}\) above the hollow standard, and an endless tape provided with intelligible characters passing from the right
to the left over the display rack, Its end rollers and the central gutdes down and up within the hollow standard, and a tape actuating motor mechanism.

2. A moving display sign comprising a base board, a hollow standard centrally mounted thereon, an extensible harizontal display rack mounted on said standard one roller on each end of the display rack, two guldes under an angle of \(45^{\circ}\) above the hollow standard in reverse position to each other, an ondless tape provided with intelligible characters passing from the right to the left over the display rack, its ond rollers and the central guides down and up within the hollow standard, a tape actuating motor mechanism and means for transmitting the motion of the motor to the tape.
3. A moving display sign comprising a base board, a hollow standard centrally mounted thereon, an extensible horizontal display rack mounted on said standard, one vertical roller on each end of the display rack, two guides each secured under au angle of \(45^{\circ}\) above the hollow standard in reverse position to each other, two rollers mounted in different planes below said standard, an endless tape provided with intelligible characters passing from the right to the left over the front surface of the display rack. Its left-hand vertical end roller. one central gulde down through the standard, between the two rollers below said standard, up through the standard over a second central guide and around the right-hand vertical roller, and a tape actuating motor driving the rollers below the standard.
4. In a moving display sign a hollow central standard and an angular ring at its top end, an extensible horizontal disclay rack mounted on said standard and ring, supporting scrolls secured to the standard, vertical rollers one on each end of the display rack, and an endless tape passing from the right to the left over the front surface of the display rack. Its rear surface and down and up within the hollow standard, and means for actuating said endless tape.
5. In a moving display sign, a base board, a hollow standard mounted centrally thereon and having a strengthening angular ring at its botiom end and a like ring at the top end. an extensible display rack mounted on said standard and top ring, supporting scrolls secured to the standard, two Ruides each secured under an angle of \(45^{\circ}\) above the standard in reverse position to each other, an endless tape with Intelligible characters, and means for passing said tape continually over the display rack.
6. In a moving display sign an extensible display rack, one vertical roller on each end of same, two central guides under an angle of \(45^{\circ}\) in the rear of the said display rack in reverse position to each other, an endless tape, passing from the right to the left over the front surface of the display rack and successively over the central guldes, and means for actuating said tapr.

No. 101,464. Vohicle Wheel. Roue de vehicules.
Thomas Appleton, New York City, New York, U.S.A., 9th October. 1906; 6 years. Filed 2nd May, 1906. Receipt No. 135.485.
Chatm.-1. In vehicle wheels. a rim, a soltd rubber tire sccured to the rim, having transverse slots therein extend-
ing through from side to side, metal braces at the sides of the tire, and pins secured to the sald braces and passed


through the said slots, normally engaging their outer end walls.
2. In a vehicle wheel, a tire of resilient material presenting outwardly diverging cheeks nears the tread thereof, and having transverse slots, brace rods abutting sald cheeks, and transverse bolts lying in said slots and connecting sadd rings.
3. In vehicle wheels, a rim, a solid rubber tire secured to said rim, said tires having curved side faces adjacent to the rim, straight faces adjacent to the concaved faces and outwardly fiaring faces extending from the outer edges of the stralght faces to the tread of the tire, metal braces located in close engagement with the straight and out wardly fiared side faces of the tire, said tire boing provided with a series of transverse slots extending through from side to side, the outer ends of the slots being adjacent to the outwardly flared side faces of the tire, and pins secured to the said braces, which pins are passed through the slots in the tire, being normally adjacent to the outer end walls of said slots.

No. 101,465. Map Case. Fourreau pour cartes.


Clinton E. Case, Brockville, Indiana, U.S.A., 9th October, 1906; 6 years. Filed 27th August, 1906. Receipt No. 139,009.
Claim.-1. A map case comprising a supporting bracket. a series of map carrying sections having their rear walls engaging sald bracket, each section except the lowermost resting upon and supported by the section immediately below it, and means for securing the lowermost section.
2. A map case comprising a supporting bracket having bevelled edges, a series of map carrying sections provided on their backs with dovetalled recesses, adapted to engage sald bevelled edges, and means for securing the lowermost section.
3. A map case comprising a series of superpased sectlons. each section having its front wall fitting between the end walls of the next section above and its rear wall fitting between the end walls of the next section below.
4. A map case comprising a series of superposed sections, each having its front wall fitting between the end walls of the next section above, the front face of said front wall presenting a convex surface and the inner face of the same presenting a concave groove.
5. A map case comprising a serles of superposed sections, the front wall of each section projecting up betwern the end walls of the next section above and terminating short
of and out of contact with the lower edge of the front wall of said upper section.
6. In a map case, the combination of two sections, one resting on the other, map carrying rollers withln the sections, and supporting rollers within the upper section near the front of the same, the lower section having its front wall projecting up near the lower supporting roller and provided with a concave groove in its inner face.
7. In a map case, the combination of two sections, one superposed on the other, the end walls of the lower section projecting above the lower edge of the back wall of the upper section.

No. 101,466. Gas Manufacture. Fabrication du gaz.


Ellen Gertrude Elworthy, Battlefield Road, St. Albans, England, administratrix of the estate of Herbert Samuel Elworthy; deceased, 9th October, 1906; 6 years. Filed 30th May, 1905. Receipt No. 125,607.
Claim.-1. A process for the manufacture of gas for illuminating, heating or power purposes, said process comprising production of a gas produced by destructive distillation of carbonaceous material, separating therefrom hy-dro-carbons other than methane and afterwards passing the gas over metallic nickel at a suitable temperature to produce methane and water, the methane produced becoming mixed with the residue of the gas.
2. A process for the manufacture of gas for Hluminating. heating or power purposes, said process comprising the production of a gas produced by destructive distillation of carbonaceous material, separating therefrom hydro-carbons other than methane and afterwards passing the gas over metallic nickel in the presence of hydrogen in substantially theoretical proportion for the conversion of oxide of carbon present into methane and water, and at a suitable temperature for such conversion.
3. A process for the manufacture of gas for illuminating, heating or power purposes, sald process comprising the production of a gas produced by destructive distillation of carbonaceous material, separating therefrom hydro-carbons other than methane, mixing therewith a combustible gas rich in oxide of carbon and passing the mixture of gases over metallic ntckel at a suitable temperature for the production of methane and water, the methane produced becoming mixed with the residue of the gas.
4. A process for the manufacture of gas for illuminating. heating or power purposes, said process comprising the production of a gas by destructively distilling carbonaceous material, separating therefrom hydro-carbons other than methane, blending therewith any form of water gas and passing the mixture of gases over metallic nickel at a suitable temperature to convert oxide of carbon and hydrogen present therein into methane and water.
5. A process for the manufacture of gas for llluminating, heating or power purposes, said process comprising the production, by destructively distilling carbonaceous material, of a gas containing carbon monoxide and carbon dioxide,
separating therefrom hydro-carbons other than methane and afterwards passing the gas first over metallic nickel at a suitable temperature to convert the monoxide and a portion of the hydrogen present into methane and water and passing the resulting gas over a further quantity of nickel at a suitable temperature for the conversion of the dioxide and a further quantity of hydrogen, substantially as described.
6. A process for the manufacture of gas for Illuminating. heating or power purnoses, said process comprising the production, by destructively distllling carbonaceous material of a gas containing carbon monoxide and carbon dioxide, separating therefrom hydro-carbons other than methane, and afterwards passing the gas, in presence of hydrogen in substantially theoretical proportion for the conversion into methane and water of the monoxide and dioxide present, first over metallic nickel at a sultable temperature for the conversion of the monoxide and a portion of the hydrogen, and then over a further quantity of nickel at a suitable temperature for the conversion of the dioxide and a further quantlity of hydrogen, substantially as described.
7. A process for the manufacture of gas for illuminating, heating or power purposes, said process comprising the production of a gas by destructively distilling carbonaceous material, separating therefrom hydro-carbons other than methane, mixing therewith a combustible gas rich in oxide of carbon,the resulting mixture containing both carbon monoxide and carbon dioxide. and passing sald mixture first over metallic nickel at a sultable temperature for the conversion into methane and water of one of said oxides and a portion of the hydrogen present. and then over a further quantlty of nickel at a sultable temperature for the conversion of the other oxlde and a further quantity of the hydrogen, substantlally as described.
8. A process for the manufacture of gas for illuminating. heating or power purposes, said process comprising the production of a gas by destructively distilling carbonaceous material, separating therefrom hydro-carbons other than methane mixing therewith any form of water gas, the resulting mixture containing carbon monoxide and carbon dioxide, and passing said mixture in presence of hydrogen in substantially theoretical proportion for the conversion of both oxides into methane and water. first over metallic nickel at a suitable temperature to effect the conversion of the monoxide and then over a further quantity of nickel at a suitable temperature for the conversion of the dioxide, substantially as described:
9. A process for the manufacture of gas for illuminating, heating or power purposes. sald process comprising the production br destructively distilling carbonaceous material, of a gas containing carbon monoxide and carbon doxide. separating therefrom one of said oxides and hydro-carbons other than methave, and afterwards passing the gas over metallic nickel at a suitable temperature to convert the other oxide and hydrogen present into methane and water, substantially as described.
10. A process for the manufacture of gas for fllumirating; heating or power purposes, sald process comprising the production of a gas by destructively distiling carbonaceous material. mixing with said, gas a combustible gas rich in oxide o? carbon, as water gas, the resulting mixture containing carbon monoxide and carbon dioxide. separating therefrom one of said oxides and hydro-carbons other than methane, and afterwards passing the gas in presence of hydrogen in substantially theoretical proportion for the conversion into methane and water of the other oxide, over metallic nickel at a suitable temperature for such conversion, substantlally as described.
11. A process for the manufacture of gas for illurainating, heating or power purposes, said process comprising the production of a gas by destructively distiling carbonaceous material, said gas containing carbon monoxide and carbon dioxide, separating therefrom carbon dioxide and hydro-carbons other than methane and afterwards pasing che gas over metallic nickel at a suitable temperature to convert the other cxide and hydrogen present into methane and water, substantially as described.
12. In the manufacture of gas for llluminating. heating or power purposes by the passage in contact with hot nickel of a gas obtained by destructively distilling carbonaceous material, the process which consists in collecting the gas evolved at earlier and later stages of the distiliation separately, and subjecting the later portion to the action of the nickel for the production of methane. the methane formed mixing with the residue of the gas, substantlally as described.
13. In the manufacture of gas for illuminating, heating or power purposes by the passage in contact with hot nickel of a gas obtained by destructively distilling carbonaceous material, the process which consists in collecting the gas evolved at earlier and later stages of the distillation separately, mixing the later portion of the distillate with a combustible gas rich in oxide of carbon, and subjecting the resulting.gas to the action of the nickel for the production of
methane, the methane formed mixture with the residue of the gas, substantially as described.
14. A process for the manufacture of gas for illuminating, heating or other power purposes, said process comprising the production of a comblned coal and water gas, separating therefrom hydro-carbons other than methane, and afterwards passing the gas over metallic nickel at a sultable temperature to convert hydrogen and oxide of carbon into methane and water, substantially as described.
15. A process of the manufacture of gas for illuminating, heating or power purposes, sald process comprising the production of a combined coal and water gas, separating therefrom hydro-carbons other than methane, and afterwards passing the gas, in presence of hydrogen in substantially theoretical proportion for the conversion of oxide of carbon contained therein, over metallic nickel at a suitable temperautre to effect such conversion, substantially as described.
16. A process for the manufacture of gas for illuminating, heating or power purposes, said process comprising the production of a combined coal and water gas, containing carbon monoxide and carbon dioxide. separating therefrom hydro-carbons other than methane, and afterwards pasaing the gas in pressure of hydrogen in substantially theoretical proportion for the conversion of said oxides into methane and water, first over metallic nickel at a suitable temperature for the conversion of the monoxide and then over a further quantity of nickel at a suitable temperature for the conversion of the dioxide, substantially as described.
17. A process for the manufacture of gas for illuminating, heating or power purposes, said process comprising the produotion of a combined coal and water gas containing carbon monoxide and carbon dioxide, separating therefrom one of said oxides and hydro-carbons other than methane and afterwards passing the gas over metallic nickel at a suitable temperature to convert the other oxide and hydrogen present into methane and water. substantially as described.
18. In the manufacture of gas for illuminating, heating or power purposes by the passage in contact with hot nickel of a gas obtained by destructively distilling carbonaceous material, the process which consists in producing water gas, superheating the same and passing such superheated water gas through a chamber charged with gas coal. Whereby the coal is subjected to destructive distillation and the coal gas formed mixes with the water gas to form a combined coal and water gas, substantially as described.
19. In the manufacture of gas for illuminating, heating or power purposes by the passare in contact with hot nickel of a gas obtained by destructively distilling carbonaceous material, the sub-process which comprises passing the gas before it is subjected to the nickel, through a solvent of its hydro-carbons other than methane, as hydro-carbon oll, whereby sald hydro-carbons are removed, substantially as described.
20. In the manufacture of gas for illuminating, heating or pewer purposes, by the passage in contact with hot nickel of a gas obtained by destructively distilling carbonaceous material, the sub-process which comprises passing the gas, before it is subjected to the nickel, through a solvent of its hydro-carbons other than methane, as hydro-carbon oll, whereby said hydro-carbons are removed, and enriching the gas after subjection to the nickel, by restoration of the extracted hydro-carbons, substantialigy as described.
21. An apparatus for the manufacture of gas for illuminating, heating or power purposes, comprising in combination, (a)a plant for the destructive distillation of carbonaceous material, (b) scrubing apparatus for removing hydro-carbons other than methane of the gas produced in said distllation plant, (c) a conversion chamber charged with nickle in divided form and (d) suitable connections between sald plant., scrubing aparatus and converston chamber, and means for regulating the operation of sald plant, scrubbing aparatus and conversion chamber.
22. An apparatus for the manufacture of gas for illuminating, heating or power purposes comprising in combination (a) a coal gas plant, (b) scrubbing apparatus for removing hydro-carbons other than methane of the coal gas. (c) a conversion chamber charged with nickel in divided form and (d) uuitable connections between said plant scrubbing apparatus and conversion chamber, and means for regulating the operation of said plant, scrubbing apparatus and conversion chamber.
23. An apparatus for the manufacture of gas for flluminating, heating or power purposes comprising in combination. (a) plant for the destructive distillation of carbonaceous material, (b) scrubbing apparatus for removing hyrdo-carbons other than methase of the gas produced in said distilation plant, (c) plant for the production of a combustible gas rich in oxide carbon, (d) a conversion chamber for combining said gases in contact with nickel and (c) suitable connections between said plants, scrubbing apparatus and conversion chamber, and means for regulating the operation of eaid plant, scrubbing apparatus and conversion ohamber.
24. An apparatus for the manufacture of gas for Illuminating. heating or power purposes comprising in combination, (a) a coal gas plant, (b) scrubbing apparatus for removing hydro-carbons other than methane of the coal gas, ( \((\) ) a water gas plant, ( \(d\) ) a conversion chamber for combining said gas in contact with nickel and (e) suitable connections betwen said plant. scrubbing apparatus and conversion chamber, and means for regulating the operation of sald plants. scrubbing apparatus and convermion chamber.
25. An apparatus for the manufacture of gas for fllumiaaing, heating or power purposes comprising in combination (a) plant for the destructive distillation of carbonaceous material, (b) scrubbing apparatus for removing hydro-carbons other than methane, of the gas produced in sald distillation plant. (c) a conversion chamber for combining carbon mon-oxide of said gas with hydrogen in contact with nickel, (d) a second conversion chamber for combining carbon dioxide of said gas with hydrogen in contact with nickel and (e) suitable connections and means for regulating the operation of said parts.
26. An apparatus for the manufacture of gas for Illuminating, heating or power purposes comprising in combination (a) plant for the destructive distillation of carbonaceous material. (b) scrubbing apparatus for removing hydro-carhnns other than methane of the gas produced in sald distillation plant. (c) plant for the production of a gas rich in nxide of carbon, as water gas, (d) means for mixing said gases, (e) conversion chamber for combining carbon monoxide of said gases wih hydrogen in contact with nickel, ( \(f\) ) a second conversion chamber for combining carbon diozide of said cases with hydrogen in contact with nickel and (6) suitable connections, and means for regulating the operation of said parts.
27. In apparatus for the manufacture of gas for illuminating. heating or power purposes by the passage in contact with hot nickel of a bas obtained by destructively distilling carbonaceous material, a combined coal and water gas producer comprising in combination (a) a water gas producer, (b) a superheater for said water gas, (c) a coal gas producer and (d) suitable means for connecting said producers and superheater for passing the water gas through the superheater and thence through the coal gas producer to effect the destructive distillation of the material in said coal gas producer and form the combined coal and water gas.
28. In apparatus for the manufacture of gas for illumfating, heating or power purposes, by the passage in contact With hot nickel of a gas obtained by destructively distilling carbonaceous material, a combined coal and water gas producer comprising three furnaces each adapted to be worked in rotation as a water gas producer. water gas superheater and coal gas producer respectively, in combination with passages between said furnaces and valves in sald passages whereby the water gas producd in the furnace serving as the water gas producer can be ofrected through the furnace serving as the superheater and thence through that serving as the coal gas producer, substantally as descirbed.
29. In apparatus for the manafacture of gas for thtumanting, heating or power purposes by the passage in coataet with hot nickel of a gas obtained by destructively alstilfing carbonaceous material, a conversion chamber charged with metallic nickel and a heater for the gas to be converted, aaid heater being arranged to deliver satd gas fato sald conversion chamber in combination with a by-pass aad vaives whereby any desired quantity of the gas to be converted can be passed direct to said conversion chamber without passing be passed direct to said conversion chamber w
through the heater. for the purpose speclied.
30. In apparatus for the manutacture of gas for thanifrating, heating or power purposes, by the passage to contact with hot nickel of gas obtained by destructively distilling carbonaceous materiai, a conversion chamber comprising a series of pipes for containing nioker in divided form, said pipes each communicating at one end with a common inlet pipe for the gas to be converted and at the other end with a common outlet pipe for the converted gas, whereby the gas to be converted is caused to pass through said pipes in intimate contact with the nickel. 31. In apparatus for the manafacture of gas for flluminating, heating or power purposes, by the passage in con tact with hot nickel of a gas obtained by destructively distiling carbonaceous material, a conversion chamber comprising a structure fitted internally with a series of pipes for containing nickel in divided form, said pipes each communicating at one end with a common infet pipe for the gas to be converted and at the other with a com mon outlet pipe for the converted gas, in combination with a combustion chamber in the base of the sald structur and a series of gas jets in sald combustion chamber. salid conversion chamber being provided with valve controile air and steam inlets and a vaive controlled outlet
products of combustion. substantially as describor inuminating, heating or power purposes by the passage in contact with hot sickel of a gas ontamed by destructively
distilling carbonaceous material, a scrubber for the removal from said gas of hydro-carbons other than methane, said scrubber consisting of a closed chamber provided with inlet and outlet for the gas and fitted in its upper portion with bafles adajted to cause the gas to take a sinuous course therethroush, in combination with means for passing a solvent as hydro-carbon oil through said chamber and a brush adapted to be rotated in the base of sald chamber and to spray said solvent up into the spaces between the said bafles, substantially as described.

\section*{No. 101,467. Gas Mannfacture. Fabrication du gaz.}

Ellen Gertrude Elworthy, Battlefield Road, St. Albans, Eng-
land, administratrix of the estate of Herbert Samuel Elworthy, deceased, 9th October, 1906 ; 6 years. Filed 30th May, 1905. Receipt No. 125,608.
Claim.-1. A process for the manufacture of a gas for lighting, heating or power purposes, comprising the passage of a combustible gas containing oxide of carbon and hydrogen in contact wioh nickel at a suitable temperature for the conversion of said oxide and hydrogen into methane and water, and in the presence of a combustible gas inert to the nickel and conversion products.
2. A process for the manufacture of a gas for lighting, heating or power process comprising the production of a combustible gas containing carbon monoxide, carbon dioxide and hydrogen, removing one of sald oxides and pussing the remaining gas in contact with nickel at a suitable temperature for the conversion of the remaining oxide and hydrogen into methane and water in the presence of a combustible gas inert to the nickel and conversion products.
3. A process for the manufacture of a gas for Hghting, heating or power purposes comprising the production of a combustible gas contalining carbon monoxide, carbon dioxide and hydrogen and passing said gas in the presence of a combustible gas inert to the conversion products first over nickel at a suitable temperature for the conversion of the monoside and then over further nickel at a suitable temperature for the conversion of the dioxide.
4. A process for the manufacture of a gas for lighting, heating or power purposes comprising the passage in contact with nickel of a gas containing oxide of carbon in the presence of hydrogen in considerable excess above the propontion theoretically required for the conversion of said oxide of carbon into methane and water and at a suitable temperature for suah conversion.
5. A process for the manufacture of a gas for lighting, heating or power purposes comprising the passage in contact with nlckel of any form of water gas in the presence of hydrogen in considerable excess above the proportion theoretically required for the conversion into methane and water of oxide of carbon present therein and at a suitable temperature for such conversion.
6. A process for the manufacture of a gas for lighting, heating or power purposes comprising the passage in contact with nickel of water consisting practically of carbon manoxide and hydrogen in the presence of hydrogen in considerable excess above the proportion theoretically required for the conversion into methane and water of the monoxide and at a suitable temperature for such conversion.
I. A process for the manufacture of a gas for lighting. heating or power purposes comprising the production of water gas containing monoxide and dioxide of carbon, removing one of said oxides and passing the remaining gas in contact with nickel in the presence of hydrogen in considerable excess at a suitable temperature for the production of methane.
8. A process for the manufacture of a gas for lighting, heating or power purposes comprising the production of water gas containing monoxide and dioxide of carbon, and passing said gas in presence of hydrogen in considerable excess above the theoretically necessary for the conversion of said oxides into methane and water, first over nickel at a suitable temperature for the conversion of the monoxide and then over further nickel at a suitable temperature for the conversion of the dioxide.
9. A process for the manufacture of a gas for lighting, heating or power purposes comprising the passage in contact with nickel of any form of water gas in the presence of added methane and at a suitable temperature for the conversion of oxide of carbon and hydrogen present in the water gas into methane and water.
10. A process for the manufacture of a gas for lighting, heating or power purposes comprising the passage in contact with nickel of any form of coal gas in the presence of hydrogen in considerable excess above the proportion theoretically required for the conversion into methane and water of oxide of carbon present in the coal gas and at a suitable tempersture for such conversion.
11. A process for the mannfacture of a gas for lighting, heating or power purposes comprising the produotion of any
form of coal gas and paesing sait gas in contact with niokel In the presence of added methane and at a suitable temperature for the conversion of oxide of carbon and hydrogen present in said gas into methane and water.
12. A process for the manufacture of a gas for lighting, heating or power purposes comprising the production of any form of coal gas, adding thereto a combustible gas rich in oxide of carbon as water gas, and passing the mixture over nickel in the preeence of hydrogen in considerable excess above the proportion theoretrically required for the conversion into methane and water of oxide of carbon present in the mixture and at a suitable temperature for such conversion.
13. A process for the manufacture of a gas for lightiog, heating or power purposes comprising the production of any form of coal gas containing carbon monoxide and carbon dioxide, removing one of said oxides and passing the remaining gas over nickel in the presence of hydrogen in considerable excess above the proportion theoretically requilred for the conversion into methane and water of the remaining oxide of carbon and at a suitable temperature for such conversion.
14. A process for the manufacture of a gas for lighting. heating or power purposes comprising the production of any form of coal gas containing carbon monoxide and carboll dioxide and passing such gas in the presence of hydrogen in considerable excess above the proportion theoretically required for the conversion of said oxides into methane and water, first over nickel at a sultable temperature for the conversion of the monoxide and then over further ntckel at a suitable temperature for the conversion of the dioxide.
15. A process for the manufacture of a gas for lighting, heating or power purposes, comprising the production of any form of coal gas adding thereto a combustible gas rich in oxide of carbon as water gas, the resulting mixture containing both oxides of carbon, removing one of alid oxides and passing the mixture over nickel in the presence of hydrogen In considerable excess above the proportion theortically required into methane and water of the remaining oxide of carbon and at a sultable temperature for such conversion.
16. A process for the manufacture of a gas for lighting, heating or power purposes, comprising the production of a combined coal and water gas and passing said gas in contact with nickel in the presence of hydrogen in considerable excess above the proportion theoretically required for the conversion into methane and water of oxlde of carbon present in the gas and at a suitable temperature for such conversion.
17. A process for the manufacture of a gas for lighting, heating or power purposes, comprising the production of a combined coal and water gas containing carbon monoxide and carbon dioxide, removing one of said oxides and passing the remaining gas over nickel in the presence of hydrogen in considerable excess above the proportion theoratically required for the conversion of the remaining oxide into methane and water and at a suitable temperature for such conversion.
18. A process for the manufacture of a gas for lighting, heating or power purposes, comprising the production of a combined coal and water gas containing carbon monoxide and oarbon dioxide, and passing such gas in the presence of hydrogen in considerable excess above the proportion theoretically required for the conversion of said oxides into methane and water first over nickel at a suitable temperature for the conversion of the monoxide and then over nickel at a suitable itemperature for the conversion of the dioxide.
19. A process for the manufacture of a gas for lighting, heating or power purposes, comprising the production of a comblned coal and water gas and passing said gas in contact with nickel in the presence of added methane at a suitable temperature for the conversion of oxide of carbon nd hydrogen present into methane and water.
20. A process for the manufacture of gas for illuminating, heating or power purposes, comprising the passage of a combustible gas containing oxide of carbon and hydrogen in contact with nickel at a suitable temperature for the conversion of said oxide of carbon and hydrogen into methane and water and mixing hydrogen with the resulting gas.
21. A process for the manufacture of gas for illuminating, heating or power purposes, comprising the passage of any form of water gas in contact with nickel at a suitable-temperature for the convorsion of oxide of carbon and hydrogen into methane and water and mixing hydrogen with the resulting gas.
22. A process for the manufacture of gas for llluminating, heating or power purposes, comprising the passage of any form of coal gas in contact with nickel at a suitable temperature for the conversion of oxide of carbon and hydrogen into methane and water and mixing hydrogen with tho resulting gas.
23. A process for the manufacture of gas for illaminating, heating or power purposes, comprising the passage of a coms. bined coal and water gas in contact with nickel at a suitabje temperature for the converston of oxfle of carbon and hydro-
gen into methane and water and mixing hydrogen with the resulting gas.
24. A process for the manufacture of a gas for lighting, heating or power purposes, comprising the passage of a combustible gas containing oxide of carbon and hydrogen in contact with nickel at a suitable temperature for the conversion of sald oxide and hydrogen into methane and water, and in the presence of a combustible gas inert to the nickel and conversion products and thereafter carburetting the gas by passing the same through retorts wherein coal is undergoing distillation.
25. A process for the manufacture of a gas for lighting, heating or Dower purposes, comprising the passage of any form of water gas in contact with nickel in the presence of a considerable excess of hydrogen over that theoretically required for the conversion of oxide of carbon present In said gas into methane and water and at a suitable temperature for such conversion, and thereafter carburetting the gas by passing the same through retorts wherein coal is undergoing distillation.
28. As a new article of manufacture, a gas suitable for lighting, heating or power purposes composed substantially entirely of methane and hydrogen and substantially free from carbon monoxide.
27. As a new article of manufacture, a gas suitable for lighting, heating or power purposes composed substantially entirely of methane, hydrogen and a carburetting constituent.

No. 101,468. Acetylene Gas Generator. Générateur de gaz acêtylène.


Jacob Kuljls, Portland, Oregon, U.S.A., 9th October, 1906; 6 years. Filed 31st August, 1904. Recelpt No. 118,128.
Clalm.-1. A carbide receptacle for gravity feed acetylene gas generator consisting of a pan made with concentric inner walls \(n, 0\) and radial partitions \(p, p^{1}\) providing a series of padially tisposed carbide cells \(q\), a central water chamber and intermediate wells \(q^{1}\), the portions of the wall \(n\) between said radial partitions having perforations, the portions of the wall o between sald partitions having a series of perforations arranged in upwardly progressing steps, and that portion of the bottom of the pan enclosed by the wall \(o\) being also perforated, substantially as set forth.
2. A carbide receptacle for gravity feed acetylene gas generator consisting of a pan made with concentric inner walls \(\boldsymbol{n}, \boldsymbol{o}\) and radial partitions \(p, \boldsymbol{p}^{1}\) providing a series of radially disposed carbide cells \(p\), a central water chamber and intermediate walls \(g^{2}\), the portions of the wall \(n\) between said radial partitions having perforations vertically aligned, the portions of the wall o between said radial partitions having a series of perforations arranged in upwardly progressing
steps, and that portion of the bottom of the pan enclosed by the wall o being also perforated and a cover enclosing the space interior of the wall \(n\) and provided with sultable perforations, substantially as set forth.

\section*{No. 101,469. Tablet and Pencil Box. \\ Tablette de boite de crayons.}


Addison B. Corbett, Waldo, Wisconsin, U.S.A., 9th October, 1906;6 years. Filed 2nd August, 1906. Receipt No. 138,362.

Claim.-1. A combined writing tablet support and receptacle, consisting of a base upon which the writing tablet is adapted to be gecured and having a receptacle transversely disposed at one end, a closure to said receptacle, a blotter sheet extending from said closure, and means for morably connecting said closure to said receptacle.
2. A combined writing tablet support and receptacle consisting of a base upon which the writing tablet is adapted tc be secured and having a receptacle transversely disposed at one end, a closure for said receptacle, a blotter sheet extending from said closure, a flexible element secured to the outer face of said closure and extending over the rear wall of the receptacle and beneath the same and extending for a distance beneath sald base.
3. A combined writing tablet support and receptacle, consisting of a base upon which the writing tablet is adapted to be secured and having a receptacle transversely disposed at one end, a closure to sald receptacle, a blotter sheet extending from said closure and foldable thereover, and means for movably connecting said closure to said receptacle.
4. A combined writing tablet support and receptacle consisting of a base upon which the writing tablet is adapted to bc secured and having a receptacle transversely disposed at one end, a closure to sald receptacle, a blotter sheet extending from said closure and foldable thereover, and a flexible element secured to the outer face of said closure and extending over the rear and bottom portions of said receptacle and for a distance beneath the base.
No. 101,470. Holder for Pens and Pencils. Porte-plume et crayon.


Whlliam I. Ferris, Stamford, Connecticut, U.S.A., 9th October, 1906; 6 years. Filed 5th June, 1905. Recelpt No. 125,749.
Claim.-1. In a safety holder or clip for pen holders or pencils the combination with a pencil or pen holder of a spring having one end thereof abuting the pencil or pen holder, and non-rotatably secured thereto, and projecting in
a direction substantially parallel with the long axis of the pencil or pen holder, a ball point on the flat end of the spring adapted normally to bear on the pencil or pen holder and so related thereto as to form in conjunction therewith a clip or clamp to engage the pocket, substantially as described.
2. In a gafety holder or cllp for pen holders or pencils the combination with a pencil or pen holder of a spring extending parallel with the long axis thereof, an attaching means located within the width of the spring for securing ore end of the spring to the pencil or pen holder, substantially as and for the purpose specified. 1
3. In a safety holder or clip for pen holders or pencils the combination with the pencil or pen holder of a spring projecting in the direction parallel with the long axis thereof, attaching means located within the width of said spring for securing one end of the same to the pencil or pen holder and a ball on the free end of the spring adapted normally to bear upon the pencll or pen holder and so related thereto as to form in conjunction therewith a clip or clamp to engage the pocket, substantially as shown and described.
4. In a safety holder or clip for pen holders or pencils, the combination with the pencil or pen holder of a spring projecting in the direction substantially parallel to the long axis thereof, attaching means extending through one end of the spring and into the pencil or pen holder and a ball point on the free end of the spring adapted normally to bear upon the pencil or pen holder and so related thereto as to form in conjunction therewith a clip or clamp to engage the pocket, substantially as shown and described.
5. In a safety holder or clip for pen holders or pencils the combination with the pencil or pen holder of a spring projecting in a direction substantially parallel to the long axis thereof, attaching means for securing one end of the spring directly to the pencil or pen holder, extending slightly on the same side as the spring whereby the remainder of the surface of the pen or pencil will be left free and smooth and a ball point on the free end of the spring adapted to uormally bear on the pencil or pen holder and so related thereto as to form in conjunction therewith a clip or clamp to engage the pocket, substantially as shown and descrbed.

No. 101,471. Holder for Ribbon. Porte-ruban.


Almon H. Gardyne, Brownington Center, Vermont, U.S.A., 9th October, 1906; 6 years. Filed 18th August, 1906. Receipt No. 138,786 .
Claim.-1. A ribbon holder comprising spaced links having journal terminals at corresponding ends, spring pressed arms carried by the other ends of the links, and endwise adjustable crossbar members carried by the free ends of the arms.
2. A ribbon holder comprising spaced links having journal terminals at corresponding ends, spring pressed arms carried by the other ends of the links, and telescoped crossbar members carried by the arms.
3. A ribbon holder comprising a pair of spaced links having corresponding terminal transversely disposed journals, spring pressed arms carried by the other ends of the links and having inturned extensions, and telescoped crossbar members recelving the respective extensions of the arms, the outer crossbar member having a longitudinal slot, and that arm extension which intersects the inner crossbar having its inner end provided with a shoulder lying across said member and working in the slot of the outer crossbar member.

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No. 101,472. Tire. Bandage.


Raymond Healey, Brooklyn, New York, U.S.A., 9th October, 1906; 6 years. Filed 1st April, 1905. Receipt No. 123.896. Claim.-A detachable leather tire having a tread and edges of one plece of leather, said edges being crimped and provided with clamping strips, as and for the purpose described.

No. 101,473. Brick Manufacture.
Fabrication de briques.


Thomas Henderson, Renirew, Ontario, Canada, 9th October, 1906. 6 years. Filed 9th August, 1906. Recelpt No. 138,538.
Claim.-1. The herein described process of treating clay for brick making purposes which consists in first mixing iron oxide and water together and then injecting the mixture into the mass of clay at some stage during the preparation of the clay for moulding, substantially as described.
2. The herein process of treating white clay for brick making purposes which consists in mixing one part of iron oxide with water and then injecting the mixture into twelve hundred parts or thereabouts of clay at some stage during the preparation of the clay for moulding, substantially as described.

\section*{No. 101,474. Loose Leaf Holder.}

\section*{Reliure à teuilles volantes.}

Wilber H. Horner, Toronto, Ontario, Canada, 9th October, 1906; 6 years. Filed 22nd May. 1906. Recelpt No. 136,141.
Claim.-1. A loose leaf holder, comprising a bar, a hinged portion connected to the end thereof, and cords secured to the end of the bar and to the end of the hinged portion in alignment with the major portion of the bar, as and for the purpose specified.
2. A loose leaf holder, comprising a bar, a hinged portion connected to the end thereof, cross pleces secured

to the ends of the bar and to the end of the hinged portion, cords secured to the ends of the bar and hinged portion and means for locking the hinged portion in alignment with the major portion, as and for the purpose specified.
3. A loose leaf holder comprising a dovetall bar formIng a way, a longitudinal movable bar designed to fit the way and provided with a hinged portion at one end and cords secured to the ends of the slidable bar and to the end of the way, as and for the purpose specified.
4. A loose leal holder comprising a dovetail bar forming a way, a longitudinal movable bar designed to fit the way and provided with a hinged piece at one end, cross pieces secured to the outer end of the hinged portion and cords secured beneath the cross pleces to the bar and hinged portion, as and ior the purpose specifled.
b. A loose leal holder, the combination with the cover and a bar forming a way rivetted to the back of the cover and dovetail in cross sectional form, of a slidable piece designed to fit the way and provided with a hinged end portion, cross pleces secured to the ends of the slidable plece, loops fromed beneath the cross pleces to the slidable portion and endless cords or bands held in such loops and designed to pass over the cross pleces parallel with the slidable portion, as and for the purpose specified.
6. A loose leaf holder, comprising a bar, an end portion retractably secured thereto, and cords connected to one and of the bar, and to the retractable portion, as and for the purpose specified.
No. 101,475. Adding Machine. Machine d additionner.


Andrew Rawson, Jennings, London, England, 9th October, 1906; 6 years. Filed 12th February, 1906. Recelpt No. 132.838.

Claim.-1. An adding machine comprising a pair of quadrants, and means for moving said quadrants in unison in the same parallel plane for each column of figures.
2. An adding machine comprising a plurallty of key quadrants for setting the items, a plurality of type quadrants, said type quadrants arranged in pairs, one pair for each column and means for operating the key and type quadrants.
3. An adding machine comprising a plurality of key quadrants for setting the items, a plurality of type quadrants, sald type quadrants arranged in palrs, one palr for each column, means for operating the key and type quadrants. levers for shifting certain of the type quadrants and operating means for said levers.
4. In an adding machine a total lever, toothed wheels, a locking bar and detent for the toothed wheels and a tension releasing means, for the purpose set forth.
5. In an adding machine a purality of shifting levers and mechanism co-acting with said shifting levers for causing the carrying forward of the aggregate of the columns added.
6. An adding machine comprising a plurality of toothed wheels, pawls assoclating with said wheels, key quadrants, type quadrants, a bar associating with said wheels for the purpose set forth, a clearing lever and a clearing lever arm.
7. An adding machine comprising an operating bandle, a printing mechanism, a connection between the handle and the printing mechanism for operating the lever, a paper feeding mechanism, connections between the handle and the papor feeding mechanism for operating the lever, an inking ribbon. mechanism for shifting the ribbon and a connection between said shifting mechanism and the handle for operating the shifting mechanism.
8. An adding machine comprising the combination with a plurality of type quadrants embodying cypher carrying elemonts, of means for shifting said cypher carrying elements. said means consisting of a sliding arm adapted to be moved in the direction of its length at right angles to the plane of the quadrants for shitting the cypher carrying elements from normal position with regard to the other type quadrants when the cypher carrying elements are not required to be grinted form.
9. An adding machine comprising the combination with a plurality of type quadrants embodying cypher carrying elements, of means for shifting sald cypher carrying elements, said means consisting of a sliding arm adapted to be moved in the direction of its length at right angles to the plane of the quadrants for shifting the cypher carrying elements from normal position with regard to the other type quadrants when the cypher carrying elements are not required to be printed form. a record mechanism embodying an inking ribbon and a recording sheet associating with said quadrants. and a common operating means for said quadrants, sliding arm and recording mechanism.
10. An adding machine comprising a plurality of cypher levers and means for shifting the same, for the purpose set forth.
11. An adding machine comprising a total lever, a tension releasing means operated by said lever and a clearing lever. for the purpose set forth.
12. An adding machine comprising a plurality of key quadrants for setting the items, a plurality of type quadrants, a shiftable cypher carrying element connected to each of the type quadrants and shiftable independently of the type quadrants, a connection between the type quadrants and the key quadirants for operating the type quadrants when the key quadrants are operated, means for shifting the cypher carrying elements Independently of the type quadrants, and operating means for the means for operating the cypher carrying elements.
13. An adding machine comprising a plurality of key quadrants for setting the items, a plurality of type quadrants, a shiftable cypher carrying element connected to each of the type quadrants and shiftable independently of the type quadrants, a connection between the type quadrants and the key quadrants when the key quadrants are operated, means for shifting the cypher carrying elements independently of the type quadrants, operating means for the means for operating the cypher carrying elements and a recording mechanlsm associating with the type quadrants.
14. An adding machine comprising a plurality of key quadrants for setting the items, a plurally of type quadrants, a shiftable cypher carrying element connected to each of the type quadrants and shiftable independently of the type quadrants, a connection between the type quadrants and the key quadrants for operating the type quadrants when the key quadrants are operated. a plurality of toothed wheels, means for shifting the cypher carrying elements independently of the type quadrants, means engaging the wheels for retaining the type quadrants in shifted position, operating means for the means fov operating the cypher carrying elements, a recording mechanism associating with the type quadrants, and means for carrying forward figures when a wheel passes the ninth tonth from a zero point.
15. An adding machine comprising a plurality of key quadrants for setting the items, a plurallty of type quadrants. a shiftable cypher carrying element connected to each of the
type quadrants, a connection between the type quadrants and the key quadrants for operating the type quadrants when the key quadrants are operated, a plurality of toothed wheeds, means for shifting the cypher carrying elements independently of the type quadrants, means engaging the wheels for retaining the type quadrants in shifted position, operating means for the means for operating the cypher carrying elements, a recording mechanism associating with the type quadrants, means for carrying forward figures when a wheel passes the ninth tooth from a zero point, a total lever, a tension releasing means operated by saild lever and a clearing lever.

No. 101,476. Pump. Pompe.


Hugh Johnston, Ottawa, Ontario, Canada, 19th October, \(1 * 06 ; 6\) years. Filed 18th December, 1905. Receipt No. 131,155.
Claim.-In a pupap the combination with a wooden pump barrel having the inner diameter greater at the top than at the bottom of a metal cylinder provided with an outwardly flared end extending around the lower end of the pump barrel, the inner diameter of the cylinder being the same as that of the pump barrel, a pump bucket reciprocating in the cylinder comprising a lower portion having a central liquid passage way therethrough, an upper portion of reduced diameter integral therewith, a flapper valve in the liquid passageway, conducting channels extending from the central passageway to the sides of the bucket and a sealing ring of impervous flexible material extending around the upper portion and abutting the shoulder formed at the junction of the lower portion adapted to contact with the wahs of the pump cylinder and a front slide for admitting air to the pump cylinder intermediate of the length of the barrel comprising a slidably supported rod having a lower bevelled edge adapted normally to close an aperture in the pump barrel and a bracket having the under surface thereof bevelled, substantially as described.

1No. 101,477. Turbine Pump. Pompe-turbine.
Albert Mainot Damplerre. Jura, France. 9th October, 1906; 6 years. Filed 12th December, 1905. Receipt No. 130,927.
Claim.-1. In apparatus of the character herein described. the combination of a turbine having a movable annular diffuser formed by the extensions of the cheeks of the blades with a fixed diffuser.
2. In apparatus of the character herein described, the arrangement in two parts along a diametrical joint situated in the plane of the longitudinal joint of the pump casing, of partitions or diaphragms that separate consecutive turbines, as also of flxed discs with guide blades interposed between the rear tace of each turbine and said partitions.
3. In apparatus of the kind herein described, means for reutralizing one or more of the cells comprising discs havgutde blades removably fixed to partitions or diaphragms separating successive turbines, substantially as described.
4. In apparatus of the character described, the baffle joint arranged at the rear of the turbine in direct communication with the pump casing. said joint being combined with a chamber, passages and a duct for this purpose, and means
for placing said chamber in communication with the suction casing, and regulating the intensity and the direction

of the axial reaction on the shaft and of obviating an undue tightening of the stuff box when the controlling of the pump is effected from the delivery side, substantially as described.
5. In a multicellular centrifugal turbine the combination comprising a plurality of annular movable dimusers, formed by the extensions of the blade of the turbines, which extensions constitute the lips of said diffusers and a plurality of fixed annular diffusers, arranged to operate in connection with the movable diffusers and adapted to utilize the residual absolute velocity pressed by the fluid on leaving the said movable diffusers and to convert the said speed into pressure.
6. In a multicellular centrifugal turbine in combination with a shaft, fixed diffusers on the shaft, movably diffusers on the shaft, said parts being divided along a horizontal plane and secured on the shaft.
No. 101,478. Refrigerating Machine. Machine réfrigórante.


Maurice Leblanc, Paris, France, 9th October, 1906; 6 years. Filed 30th November, 1905. Recelpt No. 130,581.
Claim.-1. A freezing machine comprising a vacuum chamber, a fluld actuating ejector communicating with said chamber, a jet condenser communicating with the exhaust of said ejector, and a liquid actuated ejector communicating with said condenser and arranged to discharge the liquid therefrom.
2. A freezing machine comprising a vacuum chamber, a lluid actuated primary ejector communicating with said
vacuum chamber, an auxiliary fluid actuated ejector communicating with the exhaust of the said auxiliary efector, and a liquid actuated ejector communicating with the exhaust of sald auxiliary ejector and arranged to recelve and discharge the liquid from said condenser.
3. A freezing machine comprising a vacuum chamber, a fluid actuated ejector communicating with the exhaust of sald fluid actuated ejector.

4 A freezing machine comprising a vacuum chamber, a fluid actuated primary ejector communicating with sald chamber, an auxiliary fluid actuated ejector communicating with the exhaust of said primary ejector, and a liquid actuated chamber communicating with the exhaust of said auxlllary ejector.
5. A freezing machine comprising a vacuum chamber, the inlet of the first ejector communicating with said vacuum chamber, the inlet of the first ejector communicating with sald chamber and the outlet of each ejector of the serics. with the exception of the last, communlcating with the inint of the next ejector of the series, a condenser communicating with the outlet of the last ejector of the series, and a iiquid actuated ejector communicating with said condenser and arranged to discharge the liquid therefrom.
6. A freezing machine comprising a vacuum chamber, a series of ejectors communicating with said vacuum chamber, the inlet of the first ejector communicating with said chamber and the outlet of each ejector of the series. With the exception of the last, communicating with the inlet of the next ejector in series, and a liquid actuated ejector communicating with the exhaust of the last fluid actuated ejector and arranged to discharge the liquid therefrom.
7. A refrigerating machine comprising a vacuum chamber, a series of ejectors for producing and maintaining a desired degree of vacuum in said chamber, the inlet of the first ojector connecting with said chamber and the outlet of each ejector of the series, with the exception of the last. connecting with the inlet of the next ejector of the series, a condenser in connection with the outlet of the last ejector of the series, a source of fluid pressure for the series of ejectors, and means for gradually introducing a liquid into said chamber during the maintaining of the degired vacuum. 8. A refrigerating machine comprising a vacuum chamber, n series of ejectors for producing and maintaining a desired degree of vacuum in said chamber, the inlet to the first ejector connecting with said chamber and the outlet of each ejector of the series. with the exception of the last, connecting with the inlet of the next ejector in the series, a condenser in connection with the outlet of the last ejector In the series, a source of fluld pressure for the serles of efectors, a source of liquild supply and means for introducing the liquid in the form of spray into said chamber durIng the malntenance of the desired vacuum.
9. A refrigerating machine comprising a removable mould, a stationary head for sald mould. means for making a fluid t!ght joint between said head and said mould, a serics of ejectors for producing and maintaining the desired degree of vacuum in sald mould and hrad, the inlet of the first ejector connecting with sald head and the outlet of each ejector of the series. With the exception of the last, connecting with the inlet of the next ejector of the series, a vacuum condenser in connection with the outlet of the last ejector of the scries, a source of fluid pressure for the series of ejectors, a source of liquid supply and means for introducing the liquid in the form of spray into sald mould during the maintenance of the desired varuum.
10. A refrigerating machine comprising a vacuum chamber provided with a removable head, means for making a fluid tight joint between said head and sald chamber, a removable receptacle located in sald chamber, a series of ejectors for producing and maintaining the desired degree of vacuum In said chamber. the inlet of the first ejector connecting with said chamber, and the outlet of each ejector of the series. with the exception of the last, connecting with the inlet of the next ejector in the serles, a vacuum condenser in connection with the outlet of the last ejector of the series, a source of fluid pressure for the series of ejectors, and means for gradually introducing a liquid into said chamber during the maintenance of the desired vacuum.
11. A refrigerating machine comprising a vacuum chamher provided with a removable head, means for making a fluid tight joint between said head and said chamber, a removable receptacle located in said chamber, a series of ejectors for producing and maintaining the desired degree of vacuum in said chamber. the inlet of the first ejector connecting with the said chamber and the outlet of each ejecttor of the series, with the exception of the last, connecting with the inlet of the next ejector of the series, a vacuum condenser in connection with the outlet of the last ejector of the series, a source of fluid pressure for the series of efectors, a source of liquid supply and means for introducing the liquid in the form of spray into said chamber during the maintenance of the desired vacuum.

No. 101,479. Furnace. Fournaise.


Fig. 1.
James Lees, Aontreal. Quebec, Canada, 9th October, 1906; 6 yciars. Filed 2ith April, 1906. Receipt No. 135,233.
Claim.-1. In a furnace the combination with an outer wall or casing having supporting ledges arranged in the sides thereof, and suitable passages from said ledges to the lower interior portion and a bridge wall adjacent to said ledges and grate forming a firebox and ash pit within said outer wall, of a hollow arch supported on sald ledges having inlet openings registering with said passages and a plurality of radially arranged ports through its under arched wall and forming the means of communication between the interior thereof and said firebox, as and for the purpose specified.
2. In a furnace the combination with an outer wall or casing having supporting ledges arranged in the sides thereof and sultable passages from said ledges to the lower interior rortion and a bridge wall adjacent to said ledges and grate forming a fircbox and ash pit within said outer wall, of a hollow arch resting on said ledges and having inlet openings registering with said passages and a row of ports arranged in a cresent through its under arched wall. and forming the means of communication between the interior thereof and the firebox, a boiler sultably supported within the outer walls, and a baftle wall formed above said arch and partlally encircling said boiler, as and for the purpose specifled.
3. In a furnace the combination with an outer wall or casing having supporting ledges arranged in the sides thereof and suitable passages from sald ledges to the lower interior portion and a bridge wall adjacent to said ledges and grate forming a firebox and ash pit within sald outer wall, of a hollow arch formed in sections, said sections having openings registering with the openings in the adjoining section and inlet openings in the outer sections registering with caid passages, said outer sections resting on said ledges and having radially arranged ports through the under and arched wall forming the means of communlcation between the interior thereof and said firebox, as and for the purpose specifled.
4. In a furnace the combination with an outer wall or casing having supporting ledges arranged in the sides thereof and suitable passages from said ledges to the lower interior portion and a bridge wall adjacent to said ledges and grate forming a firehox and ash pit within said outer wall. or a hollow arch formed of three sections. the outer sections resting on said ledges and having inlet openings registering with said passages, the middle section having convergent onds supported and fitting on correspondingly shaped surfaces on said outer ends and having openings to the interlor thereof registering with the openings to the interior of sald outer sections, sald sections in the under and arched wall having a row of ports arranged in a cresent and forming the means of communication between the interior thereof and said flrebox, as and for the purpose specifed. 5. In a furnace the combination with an outer wall or casing having supporting ledges arranged in the sides thercof and sultable passages from sald ledges to the lower interior portion and a bridge wall adjacent to said ledges and grate forming a firebox and ash pit within sald outer wall, of a hollow arch formed in three sections, the outer section restfing on said lodges and having inlet openings registering with said passag s, the middle section having convergent ruds and tongues projecting from the faces of said ends fitting into corresponding grooves in the correspondingly shaped surfares of the outer ends, said middle section having openiags to the interior thereof registering with openings to the interior of sald outer sections and a plurality of radial ports through the under and arched wall and forming the means of communication between the interior thereof and said firebox. as and for the purpose specified.
6. In a furnace the combination with an outer wall or casIng having supporting ledges arranged in the sides thereof. and suitable passages from said ledges to the lower interior
portion and a bridge wall adjacent to said ledges and grate forming a firebox and ash pit within said outer wall, of a hollow arched wall formed in tongued and grooved sections, the outer section thereof resting on sald ledges and having inlets registering with said passages, and a groove in the upper and side walls of said arch from the outer surface thereof and a plurality of ports through the under and arched wall forming the means of communication between the interior thereof and said firebox, and a tie rod of angular formation and introduced into said groove in the upper and side walls of said arch, as and for the purpose specified.
7. In a furnace the combination with an outer wall or casing having supporting ledges arranged in the sides thereof and suitable passages from said ledges to the lower interior portion and a bridge wall adjacent to said ledges and grate forming a firebox and ash plt within said outer wall, of a hollow arch formed in sections tongued and grooved. the outer sections resting on said ledges and having inlets registering with said passages and a plurality of ports through the under and arched wall forming means of communication between the interior and the fire box, a tie rod of angular formation surrounding the outer walls of said arch, a boiler suitably supparted within said outer wall and a baffe wall supported on said arch and partially encircling said boiler, as and for the purpose specified.
8. In a device of the class described, in combination, an outer wall or casing forming an enclosure, a bridge wall and grate extending across said enclosure and forming a firebox and ash pit, sald outer wall having ledges at the sides thereof and communicating passages from said ledges to the ash pit beneath said firebox. a hollow clay arch supported on said ledges and having inlets communicating with sald passages and formed of tongue and grooved sections and located to the rear of said firebox in proximity to said bridge wall said sections having communicating openings from one to the other and radially arranged ports through the under and arched wall, forming the means of communication with said firebox, a boiler supported within said outer wall or casing, and a baffle wall extending from the top of said arch and partially surrounding said boiler, as and for the purpose specified.

No. 101,480. Sheep Shears. Forces.


Mary A. Lipscomb, Eureka, California, U.S.A., 9th October 1906; 6 years. Filed 27th September, 1906. Receipt No. 139,839.
Olatm.-1. In sheep shears, the combination with handles, of blades pivotally mounted on the handles and having the effective portions of their cutting edges lying beyond the pivotal points, whereby the blades are adapted to swing inward on their pivotal points to compensate for the wear of the effective portions of the cutting edges, and means for securing the blades in their adjustment.
2. In sheep shears, the combination with handles, of blades pivotally mounted on the handles and having the effective portions of their cutting edges lying beyond the pivotal points, whereby the blades are adapted to swing inward on their pivotal points to compensate for the wear of the effective portions of the cutting edges, and means for securing the blades in their adjustment, said means embodying an arcuate slot, and a fastening device operating in the slot.
3. In shears, the combination with handles provided at their front ends with longitudinal shanks and having lateral extensions projecting inwardly from the inner ends of the shanks, and blades pivoted at their inner portions to the front or outer ends of the shanks and having longitudinal
extensions projecting from the inner ends of the blades and adjustable on the lateral extensions of the handies.
4. In shears, the combination with handles provided at their front ends with longitudinal shanks and baving lateral extensions projecting inwardly and curved longitudinally of the shears, blades pivoted at their inner portions to the outer edges of the shanks and provided at their inner ends with longitudinal extensions curved to fit the lateral extensions, and means for adjustably connecting the extensions.

\section*{No. 101,481. Street or Station Indicator.}

Indicatcur de rues ou stations.


Stewart Percival McMordie, Niagara Falls, Ontario, Canada, 9th October, 1906; 6 years. Filed 17th August, 1906. Receipt No. 138,762
Claim.-1. In a street or station indicator, the combination with the casing and the shaft journalled therein, of a drum located on the shaft provided with supporting eyelets and flaps pivotally connected to the same, a spring secured to the end of the drum and to the shaft, a pinion secured on the end of the shaft and a pawl engaging the same, a pin gear wheel at the opposite end of the shaft, a lever provided with a double escapement pocket engaging the gear pin and the means for restraining the dropping of the flaps, so that they fall one at a time, as and for the purpose specified.
2. In a street or station indicator, the combination with the casing and a shaft journalled therein, of a drum located on the shaft provided with supporting eyelets and flaps pivotally connected to the same, a spring secured to the end of the drum of the shaft, a pinion secured on the end of the shaft and a pawl engaging the same, a pin gear wheel at the opposite end of the shaft, a lever provided with a double escapement pocket engaging the gear pin, and a ledge against which the flaps fall previous to their dropping to expose the name of them, as and for the purpose specifled.

No. 101,482. Road Locomotive. Locomotive de routes.
David Roberts, Grantham, England, 9th October, 1906; 6 years. Filed 14th October, 1905. Recelpt Na. 129,238.
Claim.-1. In a road locomotive or other chain vehlcle the combination with the body, of a pitched chain track upon which the whole of the weight of the body is supported through the medium of lateral rollers forming a curved bearing surface, the said chain track being composed of a number of sections interlocking at the upper and lower eiges so as to form a solid girder track, substantially as described.
2. In a road locomotive or other vehicle wherein the propulsion is effected by one or more pitched chain tracks upon which the body of the vehicle rolls, the arrangement
wherein the steering is controlled by means of brakes applied to the bevel wheels of the differential gear or to one of the

sprocket wheels upon which the pitched chain track is mounted, substantially as hereinbefore described.

No. 101,488. Controlling Epming for Vohicles. Ressort de contrôle pour véhicules.


James H. Sager, Rochester, New York, U.S.A., 9th October, 1906; 6 years. Filed 13th February, 1906. Recelpt No. 132,889.
Claim.-1. In combination with the main supporting spring of the body of a wheeled vehicle, an endwise compressible secondary spring disposed at right angles to and connected at its ends with said main spring, each spring having a form of inaction, satd forms occurring in succession during the movements of the springs and lateral rests for the auxillary spring, with means connecting the ends of the spring with the rests.
2. In combination with the main supporting spring, of the body of a wheeled vehicle, an endwise compressible secondary spring disposed at right angles to and connected at its ends with said main spring, said secondary spring acting at intervals with the load to compress the main spring and lateral rests for the auxiliary spring. with means connecting the ends of the spring with the rests.

No. 101,484. Folder for Tires, Eta.
Porte-dormants, etc.


Charles E. Schilling, Los Angeles, California, U.SA, 9th ber, 1906; 6 years Filed 27th August, 1906. Receipt No. 139,032.
Claim.-1. A display rack and holder comprising side members with retaining standards thereon extending above such side members, lazy tongs connecting said side members, said lazy tongs comprising two links with one of their ends pivoted together and their other ends pivotally and permanently attached to their respective side members near the ends of such side members, and two other links pivoted together at their ends and crossing the first-named two links and plvoted thereto at the points of crossing, their other ends projecting beyond such points of crossing. being pivotally and slidably connected to the side members intermediate their length.
2. The display rack and holder comprising side members with retaining standards thereon extending above such side members, sald standards being bent to form handles, lazy tongs connecting said side members and each comprising links of equal length crossing and pivoted to one another, two of said links being pivotally connected together at one erd, and extend!ng beyond the points at which they cross the other links and pivotally connected at such extended parts to fixed parts of the sald respective side members ntar the ends thereof. and the other two links being pivoted together at one end, and pivotally and slidably connected at their other ends to the side members intermediate the onds thereof, the space above the lazy tongs being unobstructed at each end.
3. A display rack and holder comprising side members with retaining standards thereon extending above such side members, said standards being bent in U-shape to form handles, lazy tongs connecting said side members and consisting of links of equal length crossing and pivoted to one another, two of said links extending beyond the crossing points of the members and being pivotally and permancontly connected at such externded portions to the sa!d side members near the ends thereof, two other links extending beyond the crossing points and pivotally and slidably conrected at such extיnded portions to the side members intermediate the ends theroof. the space above the lazy tongs heing unobstructed at cach end. and rubber feet attached to the side members near the ends thereof.
4. A display rack and holder comprising side members. each formed of a bar having its ends bent up over and dewn in C'shape to form a combined standard and handle at each end of each side member, the inner end of each 1 -
shaped handle being attached to the side member, fixtures attached to each side member near the end thereof, sleeves sliding on each side member at a point between the end fixtures and the middle of the side member, a link pivotally connected to each end fixture of each side member, and two said links at each end of the device being pivotally connected together at their inner ends, other links pivotally connected at their middle portions to the middle portion of the aforesaid links and having their outer ends pivotally connected together and their inner ends pivotally connected tc the sliding sleeves aforesaid, the said links forming lazy tongs to enable lateral adjustment of the base without variation in the length thereof.
5. A display rack and holder comprising side members, each formed of a bar having its ends bent up over and down in U-shape to form a combined standard and handle at each end of each side member, fixtures attached to each side member near the end thereof, sleeves sliding on each side member at a point between the end fixtures and the middle of the side members, a link pivotally connected to each end fixture of each side member, the two said links at each end of the device being pivotally connected together at their inner ends, other links pivotally connected at their middle portions to the middle portions of the aforesaid links and having their outer ends pivotally connected together, and their inner ends pivotally connected to the sliding sleeves aforesald at the corresponding end of the device, the said links forming lazy tongs to enable lateral adjustment of the base without variation in the length thereof, and feet of cushioning material secured to the said end fixtures.
6. A display rack and holder comprising side members, each formed of a bar having standards rising therefrom, fixtures attached to each side member near the end thereof, sleeves sliding on each side member at a point between the end fixtures and the middle of the side members, a link pivotally connected to each end fixture of each side member, the two said links at each end of the device being plvotally connected together at their inner ends, other links pivotally connected at their middle portions to the middle portions of the aforesald links and having their outer ends pivotally connected together and their inner ends pivotally connected to the sliding sleeves aforesaid at the corresponding end of the device, the said links being of equal length and forming lazy tongs to enable lateral adjustment of the base without variation in the length thereof.
7. A display rack and holder comprising side members, each formed of a bar having standards rising therefrom, fixtures attached to each side member near the end thereof, sleeves sliding on each side member at a point between: the end fixtures and the middle of the side members, a link pivotally connected to each end fixture of each side member, the two said links at each end of the device being of equal length and pivotally connected together at their inner ends, other links of equal length pivotally connected at their middle portions to the middle portions of the aforesaid links and having their outer ends pivotally connected together and ther inner ends pivotally connected to the sliding sleeves aforesaid at the corresponding end of the device, the said links forming lazy tongs to enable lateral adjustment of the base without variation in the length thereof, and feet of cushioning material secured to the said end fixtures.
8. A display rack and holder comprising side members with retaining standards thereon extending above such side nembers, each side member having pivot bearings fixed at their respective ends and two sleeves slidably mounted on the side members between said fixed bearings, and a base connecting the side members and consisting of lazy tongs, each lazy tongs having link portions projecting beyond the pivotal connection of the links, one such projecting link portion being connected to one of the fixed bearings on the side member and the other projecting link portion being pivoted at its end to one of the sliding sleeves, so as to maintain an invariable length for the base of the rack, while providing for variation in width thereof.

\section*{No. 101,485. Folder for Razor Bladea. Porte-lames de rasoirs.}

Joseph Leonard Stewart, Chanute, Kansas, U.S.A., 9th October, 1906 ; 6 years. Filed 21st September, 1906. Receipt No. 139.696.
Claim.-1. A holder for razor blades consisting of a body, a movable side for the body and a handle detachable from the body and arranged to co-act with the movable side to clamp the latter to cause clamping action of the latter with reference to the body.
2. A holder for blades of safety razors consisting of a body including a movable side, sald body being formed with a small threaded tang and a detachable handle having threaded connection with the tang aforesald and engageable with the
movable side to effect clamping action of the latter with respect to the body.

3. As a new article of manufacture, a holder for blades of safety razors consisting of a body including a movable side connected at one end therewith, opposite ends of the body being provided with handles, one integral and the other deItachable, the detachable handle being engageable.with the movable side, as specified.
4. As a new article of manufacture, a holder for blades of safety razors consisting of a body formed with an integral handle at one end, a movable side connected at one ond with the body and having the opposite end free with respect thereto, said body being formed adjacent to the free extremity of the movable side with a threaded tang, and a detachable handle having a threaded socket to recelve the threaded tang and the free extremity of the movable side to cause clamping action of the latter with respect to the body.
5. A holder for blades of safety razors consisting of a body having a handle at an end thereof, a movable side between which and the body a razor blade is adapted to be clamped, and means for effecting clamping action of the movable side with respect to the body.

No. 101,486. Meang of Diseharging rivinis from Drging Cylinderg.
Moyen de décharger le fluide des cylindres àsécher.


Robert Daniel Tackaberry, Lewiston, Maine, U.S.A., 9th October, 1906 ; 6 years. Filed 24th December, 1904. Receipt No. 121,030. .
Claim.-1. A steam trap comprising means controlling the outlet therefrom, such means including a lever, a link pivot. od to the lever, a slide to which the link is pivoted, means for mounting the slide within the case or shell of the steam trap, and an adjusting device extending from the slde to the extremity of the shell or case.
2. A steam trap comprising a shell, a dome mounted thereon, a valve commanding the dome for the purpose specifled, a stem attached to the valve and extending to the dome, a diaphragm case communicating with the dome, a dlaphragm in the case and engaged by the said stem, a second stem engaging the opposite side of the diaphragm, means for operating the second stem, and means for conducting the outfiow from the trap to the dome.
3. A steam trap comprising a shell, a dome mounted thereon, a valve commanding the dome for the purpose specified, a stem engaged with the valve and extending to the dome, a diaphragm case communicating with the dome, a diaphragm in the case and engaged by the said stem, a second stem engaging the opposite side of the diaphragm, means for operating the second stem, and means for conducting the outflow from the trap to the dome, such means including a plpe running from the bottom of the shell or case upward out of the same and into the dome inward of the valve.
4. A steam trap comprising a shell or case having a dome rising therefrom and a diaphragm case communicating with the base of the dome, a valve in the dome for the purpose specified, a diaphragm in the diaphragm case, means for placing the dome in communication with the interior of the trap, and means for operating the valve, said means compris ing elements bearing on opposite sides of the diaphragm.
5. A steam trap comprising means for controlling the out let from the trap, sald means including a pivoted member means for movably mounting the pivot of sa:d member, and a device connected with said means and extending to the outside of the case or shell of the trap. whereby to impart an adjusting movement to the pivot.
6. A steam trap comprising means for controlling the outlet therefrom, such means Including a pivoted member, means movably mounting the pivot of said member, and a device in connection with the latter means and extending to the out side of the case or shell of the trap and capable of imparting a back and forth movement to the sald plvot mounting means.
7. A steam trap comprising means for controlling the outlet therefrom, sald means including a plvoted member, means movably mounting the pivot of said member, and a device in connection with the latter means and extending to the outside of the case or shell of the trap and capable of imparting a back and forth movement to the said plvot mounting means, said device comprising a screw mounted to turn in the case and having threaded connection with the said pivot mounting means.
8. A steam trap comprising means controlling the outlet therefrom, such means including a pivoted member, a slide on which the pivot of said member is maunted, and a device connected with the slide and extending to the outside of the shell or case of the slide to impart a back and forth adjusting movement to the slide.
9. A steam trap comprising means controlling the outlet therefrom, such means including a pivoted member, a link to which said pivot is connected, a slide on which the link is plvoted, and a device connected with the slide and exlending to the outside of the shell or case of the trap, to impart an adjusting movement to the slide.
10. A steam trap comprising a shell or case having a dome rising therefrom and a diaphragm and a case, the latter communicating with the base of the dome, a valve in the dome for the purpose spectifed, means for yieldingly seating the valve, means for placing the dome in communication with the interior of the trap, and means for opening the valve against the action of cue said means for fieldingly seating the same, said means for opening the valve comprising elements bearing on opposite sides of the diaphragm.
11. A steam trap comprising a shell or case, a dome mounted thereon and having communication with the interiar of the shell or case at a point outward from the base of the dome, a valve mounted in the frame, a diaphragm case at the base of the dome, a diaphragm in the diaphragm case, and means for automatically operating the valve through the medium of the diaphragm, said means comprising elements bearing on opposite sides of the diaphragm.
12. A steam trap comprising a shell or case, a dome juxtaposed thereto, a valve mounted in the dome to control the outlet therefrom, a diaphragm closing communication between the dome and the shell or case, means for operating the valve through the medium of the diaphragm, and means establishing communlcation between the shell and dome at a point in the dome outward from the diaphragm.
13. A steam trap comprising a shell or case, a valve exterior of the shell or case and controlling the outlet therefrom, and means for operating the valve from the interior of the case, sald means including a diaphragm closing an opening in the shell or case, reciprocating elements bearing on opposite sides of the diaphragm to transmit move-
ment through the diaphragm, and means for operating said reciprocating elements.
14. A steam trap comprising a shell or case, a dome juxtaposed thereto, a diaphragm closing communication between the dome and the interior of the shell or case, a valve mounted in the dome outward from the diaphragm to control the outlet from the dome, means for operating the valve from the interior of the case through the diaphragm, and means establishing communication between the shell and dome at a point in the dome intermediate the diaphragm and valve.
15. A steam trap comprising a shell or chamber, means for leading the steam and water of condensation to the shell or chamber, means controlling the exit thereirom, and an additional means, said additional means establishing a communication between the interior of the shell or chamber and the source of steam and water of condensation whereby to equalize the pressure, substantially as described.

No. 101,487. Means of Discharging Fluids from Drying Cylinders.
Moyen de décharger le fluide des cylindres d sécher.


Kobert Daniel Tackaberry, Lewiston, Maine, U.S.A., 9th October, 1906; 6 years. Filed 1st March, 1906. Recelpt No. 133,471.
Claim.-1. The combination with a drying cylinder, of means for withdrawing the air and water therefrom, a trap to which the same means discharges and devices for venting the air from the trap.
2. The combination with a drying cylinder, of means for discharging the air and water therefrom, a trap to which said means lead, a pipe passing from the upper part of the trap and an alr vent valve in said pipe.
3. The combination with a drying cylinder, of means for discharging the air and water therefrom, a trap to which said means lead and an air vent valve communicating with the trap, for the purpose specifled.
4. The combination with a drying cylinder, of means for conducting the water and air therefrom, a trap to which said means discharge, an equalizing plpe establishing communicaton between the trap and the cylinder for the purpose specifled, and an air vent device in said equalizing dine.
5. The combination with a drying cylinder having a steam supply pipe communicating therewith, of means for withdrawing the water from the cylinder, a trap to which said means lead, an equalizing pipe extending from the upper part of the trap to the steam supply pipe of the cyllnder directly adjacent to the cylinder, for the purpose specified, and an air vent device in the equalizing pipe.
6. The combination with a drying cylinder having a steam supply pipe communicating therewith, of means for withdrawing the water from the cylinder, a trap to which said means lead, an equalizing pipe extending from the upper part of the trap to the steam supply pipe of the cylinder directly adjacent to the cylinder for the purpose specifed.
an air vent valve in said equalizing pipe and a stop cock In said pipe between the air vent valve and the steam supply pipe of the drying cylinder.
7. The combination with a drying cylinder, of means for withdrawing the air and water therefrom, a trap to which said means discharge, the discharge of said means to the trap being located above the normal water line thereof, whereby to permit air to enter the trap and devices for venting the air from the trap.
8. The combination with a drying cylinder, of means for conducting the air and water therefrom, a trap to which said means discharge at a point above the normal water line of the trap whereby to permit the air to pass into the trap, an equalizing plpe establishing communication between the trap and clyinder and an air vent device in said equalizing pipe.

No. 101,488. Transmission Mochanism.
Mécanisme de transmission.


Alaxander Winton, Cleveland, Ohio, U.S.A., 9th October, 1906; 6 years. Filed 28th May, 1906. Receipt No. 136,327.

Claim.-1. In a motor carriage the combination of an explosive engine having its power cylinder transversely arranged and provided with a crank shaft extending longtudinal the vehicle, a propelling wheel shaft provided with a compensating gear, a driven shaft extending longitudinal the vehicle, one end of which is operatively connected with the compensating gear, and clutch members connecting the opposite end of the driven gear with the said engine shaft, whereby the crank shaft is directly connected with the compensating gear.
2. In a motor vehicle the comblnation of an explosive engine having a crank shaft extending longitudinal the vehicle. a vehicle driving shaft provided with a compensating gear, springs connecting the vehicle driving shaft with the vehicle, and a flexible shaft having one end connected with the compensating gear, a clutch member carried by the opposite end of the flexible shaft, and a co-acting clutch member carried by said crank shaft.
3. In a motor vehicle the combination of an explosive engine provided with a balance wheel, a vehicle drive shaft, a connecting shaft having one end provided with a clutch member adapted to co-act with the inner surface of the rim of the balance wheel, the opposite end of the connecting shaft operatively connected with the vehicle drive shaft.
4. In a motor vehicle the combination of an explosive engine, a balance wheel therefor, a transmission mechanism including a clutch adapted to co-act directly with the balance wheel, and a reversing mechanlsm adapted to co-jointly co-act with the balance wheel and one of the clutch, members.
5. In a motor vehicle the combination of an explosive engine having a crank shaft, a driving axle for the vehicle, a connecting shaft having one end operatively connected with the driving axle of the vehicle, the crank shaft and the adjacent end of the connecting shaft having respectively a flange or collar and a co-acting transversely movable clutch member.
6. In a motor vehicle the combination of an explosive engine provided with a crank shaft, a connecting shaft, a motor shaft operatively connected with one end of the connecting shaft, the opposite end of the connecting shaft and crank shaft having respectively a gear and a flange or collar, one of said latter members provided with a co-acting movable clutch member, and a reversing mechanism including a gear reshing with the aforesaid gear, and a friction roller adapted to engage said collar.
7. In a motor vehicle the combination of an explosive engine having a crank shaft, a vehicle driving shaft, a conr necting shaft having one end operatively connected with the vehicle driving shaft, a transmission mechanism including two clutch members, a reversing mechanism adapted to engage both of said clutch members and provided with intermediate gears to transmit a reverse motion to the connecting shaft.
8. In a motor vehicle the combination of an explosive engine having a crank shaft provided with a collar or sleeve, a connecting shaft, a vehicle drive shaft operatively connected with one end of said connecting shaft, the opposite end of the connecting shaft having a clutch membtr adapted tc co-act with the inner surface of said collar, the adjacent end of the connecting shaft having a gear wheel and a reversing mechanism including a gear adapted to engage the aforesaid gear, and a friction roller adapted to engage the outer surface of the collar and co-acting with the said gears to impart a reverse motion to the connecting shaft
9. In a motor vehicle the combination of an explosive engine having a crank shaft. a vehicle drive shaft, a connect ing shaft having one end operatively connected with the vehicle drive shaft, the adjacent ends of the crank shaft and connecting shafts having respectively a gear and a friction collar, a clutching mechanism between the collar and the adjacent end of the connecting shaft, and a reversing mechanism including a movable frame having a friction roller adapted to be carried in engagement with the said collar the friction roller provided with a pinion, and a gear between said. pinion and the gear carried by the connecting shaft, whereby the reversing mechanism may be thrown into operation or entirely out of operation when not in use.

\section*{No. 101,489. Cufi Folder. Attache powr poignete.}


Charles Joseph Warwick, Kingston, Ontario, Canada; 9th October, 1906 ; 6 years. Filed 14th April, 1906. Recelpt No. 134,893.
Claim.-1. A cuff holder comprising a member adapted to be attached to the inside of the lining of the coat sleeve and a member provided with jaws designed to have the outer ends sprung past the shank of the connecting stud of the cuff, whereby the shank is held securely within the jaws, as and for the purpose specified.
2. A cuff holder comprising a plate, a curled loop at one end and a staple-like pin held therein and lips at the opposite end within which the ends of such pins are designed to be held after having been passed through the lining, the latter end being bent upwardly and backwardly, and spring
wire faws each member of which is held within the bent end of the plate and converge near their outer ends from which point the members diverge or flare to their extremities, as and far the purpose specifled.

No. 101,490. Cuff Holder. Attache pour poignets.


Matthias P. Zindorf, Connell, Washington, U.S.A., 9th October, 1006 ; 6 years. Filed 25th June, 1906. Receipt No. 131,239.
Claim.-1. In a cuff bolder the combination with a framo having a spring tongue, of a pad holder underlying said tongue, said holder being formed with clamping parts to engage said frame and secure the pad.
2. In a cuff holder the combination with a frame having a spring tongue, of a holder having its side edges bent to overlie the base of said holder and further bent to receive and engage the frame, and a pad having its side edges pressed between said holder base and sald overlying edges.
3. In a cuff holder the combination with a frame having a spring tongue, of a holder secured to the frame, a pad secured to the holder and having a flap extending outwardly to engage the cuff.
4. In a cuff holder, a frame having a spring tongue, a pad holder clamped to said irame and a pad carried by sald holder and having its outer face projecting teyond said irame to co-operate with said tongue.
5. In a cuff holder, a frame having a spring tongue and a pad co-operating therewith, prongs carried by the frame, and a pointed prong struck out from said frame and being disposed with the point in an opposite direction to the direction o? disposition of the points of said first-named prongs.
6. In a cuff holder a frame having a spring tongue, a pait holder clamped to said frame, a pad carried by said holder, and an extension carried by said holder and bent to embrace said pad and underlie the surface thereof.

\section*{No. 101,491. Grain Elevator. Elévateur d grain.}

The John S. Metcalf Company, Chicago, Illinois, U.S.A., assignee of John Sanborn Metcalf, of the same place, 16th October, \(1906 ; 6\) years. Filed 15 th September, 1906. Receipt No. \(13!, 535\).
Claim.-1. In a grain elevator equipment of the character described the combination of a series of bins provided with discharge openings, valves for opening and closing sald discharge openings, interlocking mechanism operatively connected with the several valves for opening and closing them, and a conveyer supported to travel across the series of bin discharge openings and leading to an inlet way of the elevator bullding. for the purpose set forth.
2. In a grain elevator equipment of the character described, the combination of a serles of bins provided with discharge openings, horizontally swinging valve for opening and closing said discharge openings, interlocking mechanism operatively connected with the several valves for swinging them to open and close said bin openings, and a conveyer supported to travel across the series of bin discharge openings and leading to an inlet way of the elevator building, for the purpose set forth.
3. In a grain elevator equipment of the character described. the combination of a series of bins provided with discharge openings, horizontally swinging double valves for opening and closing said discharge openings, stops for limiting the movement of sail valves, interlocking lever actuated mechanism operatively connectod with the several valves for
swinging them to open and. close said bln openings, and a conveyer supported to travel across the series of bin dis-

charge openings and leading to an inlet way of the elevator building, for the purpose set forth.
4. In a grain elevator equipment of the character described the combination of a series of bins, each provided with discharge openings, horizontally swinging valves for opening aud closing said discharge openings, each comprising a shutter pivotally supported near its center between adjacent discharge openings, interiocking lever actuated mechanism operatively connected with the several valves, for swinging them to open and close said bin openings, and a conveyer supported to travel across the serles of bin discharge openings, and leading to an inlet way of the elevator building, for the purdose set forth.
5. In a grain elevator equipment of the character described, ihe combination of a series of bins, each provided with a plurality of hoppers in its bottom having discharge openings, horizontally swinging valves for opening and closing said discharge openings, each comprising a shutter pivotally supported between its ends between adjacent discharge openings, interlocking lever actuated mechanism operatively connected with the several shutters for swinging them to open and close said hopper openings, and including horizontally movable rods each connected with all the valves of a different bin, and a conveyer supported to travel across the series of bin discharge openings and leading to an inlet-way of the elevator building, for the purpose set forth.
6. In a grain elevator equipment of the character described, the combination with a plurality of rallway tracks extending along one side of the elevator building, of bins provided at intervals along and beneath each track and forming series of bins extending across the tracks, said bins being provided with discharge openings, valves for opening and closing said discharge openings, interlocking mechanism opratively connected with the several valves of each transverse series of bins for opening and closing them, and conveyers supported to travel across the discharge openings of said series of bins and leading to inlet ways of th.. elevator building, for the purpose set forth.
\%. In a grain elevator equipment of the character described. the combination with a plurality of rallway tracks extending along one side of the elevator building. of a series of bins provided with discharge openings, horizontally swinging double valves for opening aud closing said discharge openings, stops for limiting the movement of said valves, interlocking lever actuated mechanism operatively connected with the several valves for swinging them to open and close said bin oponings, and a conveyer supported to travel across the series of bin discharge openlugs and leading to an inlet way of the elevator building. for the purpose set forth.
8. In a grain elevator equipment of the character described, the combination with a plurality of rallway tracks extending along one side of the elevator building, of a series of bins each provided with a plurality of hoppers in its bottom having discharge openings, horizontally swinging valves for oprning and closing said discharge openings, earh comprising a shutter pivotally supported betwern its ends between adjacent discharge openings. intorlocking liver actuated mechanism operatively connected with the suveral shutters for swinging them to open and closy said hopper openings. and including longitudinally movable rods cach connected with the valves of a different bin, and a conveyer supported to travel across the series of bin discharge openings, and leading to an inlet way of the elevator builling, for the purpose set forth.

No. 101,492. Cà Wheel. Roue de chars.


The Davies Car Wheel and Machine Company, Chicago, as signee of John Rees Davies, Waukegan, Illinols, U.S.A., 16th October, 1906; 6 years. Filed 15th September, 1906 Recelpt No. 139,536.
claim.-1. The combination with a wheel center and tire having registering recesses, of a dowl pin joining said parts having its inner end equipped with a bearing through which pressure may be exerted in drawing the dowel pin inwardly to free it from engagement with the tire, for the purpose set forth.
2. The combination with a tire having internal recesses, and a center having registering recesses and transverse channels intersecting the same, of dowel pins having stems provided with transverse channels, and means entered in said transverse channels and securing the dowel pins in place, for the purpose set forth.
3. The combination with a tire having internal recesses, and a center registering recesses and transverse channels intersecting the same, of dowels having transverse key receiving channels and narrower wedge recelving channels opening thereinto, and keys securing sald dowels in place, the wedge receiving channels serving to accommodate a relatively narrow wedge in the operation of withdrawing the dowel. for the purpose set forth.
4. The combination of a tire having at one edge an external rail engaging flange and at the opposite edge an internal center engaging flange, a wheel center engaging said secondnamed flange, normally projected radial dowels connecting the tire and center and provided within the center with transverse channels, and dowel locking keys entered in said transverse channels, for the purpose set forth.
5. The combination of a tire having in integral formation at one edge an external rall engaging flange and at the opposite edge an internal center engaging flange, a wheel center engaging said second-named flange, normally projected radial dowel pins connecting the tire and center and provided within the center with bearings through which force may be exerted to retract the dowel pins, and transverse dowel locking keys carried by the wheel center, for the purpose set forth.

\section*{No. 101,493. Car Bolster. Traversin de chars.}

Edwin Harry Benners, Elizabeth, New Jersey, assignee of John Green, St. Louis, Missouri, U.S.A., 16 th October, 1906; 6 years. Filed 11th September, 1906. Recelpt No. 139,431.
Claim.-1. An integral car bolster comprising a top member. a bottom member, and side members connecting the top and bottom members to form a substantially triangular cross section.
2. An integral car bolster comprising a wide top member. a narrow bottom member, and side members converging from the sides of said top member down to said bottom member.
3. A car bolster comprising a top member, a bottom member, and side members connecting said top and bottom members, said side members being externally convex at their upper portions and externally concave at their lower portions.
4. A car bolster comprising a top member, a bottom member, and substantially ogee-shaped side members connecting said top and bottom members.
5. A car bolster comprising a top member, a bottom member, downwardly converging side members connecting sald top and bottom members, and a king pin post extending from said top member to said bottom member and arranged to distribute load over the entire width of said bottom member.
6. A car bolster comprising a wide top member and side members connected to the side of said top members and

downwardly converging to form a substantially triangular cross section.
7. The combination of a car truck, having separated cross ties, and a bolster having a wide top member, a narrow bottom member and downwardly converging side members connecting said top and bottom members, said bolster being narrow enough at its lower edge to enter between said cross ties.
8. The combination of a car truck, transoms therein, a truck holsttr of substantially triangular cross section the middle lower portions of said bolster extending between and below the lower flange of said transoms, and a body bolster of substantially triangular cross section, the middle lower portions of said bolster extending between and below the tops of said transoms.
9. A cast metal bolster, comprising a top plate having a center and end bearings thereon, a bottom plate, inclined side webs connecting the top and bottom plates and enlarged ends on the bolster integrar with the top and bottom plates and side webs.
10. In a bolster the combination with a top plate throughcut the greater portion of its length, a bottom plate inclining or curving upward from its center toward the ends of the top plate, and inclined webs connecting side edges of the top and bottom plates.
11. A bolster of one integral casting, comprising a top plate, a bottom plate, inclined side webs connecting them, enlarged ribbed ends on the bolster having recesses in their sides, integral center and end bearings on the top plate, and a hollow post in the center of center bearing and depending therefrom.

No. 101,494. Soot Catcher. Attrappe-sute.


Joseph Kleinand Eugene J. Schoolcraft, assignee of a half interest, both of Port Huron, Michigan, U.S.A., 16th October, 1906; 6 years. Filed 8th August, 1906. Receipt No. 138,500 .
Claim.-A soot catcher for smoke conduits, comprising a casing having an inlet in its lower portion and an outlet in its upper portion, whereby it is adapted to form part of an uptake, a bearing fixed at the inner side of one of the upupight walls of the casing, a shaft journalled in the other
upright wall thereof and having a crank disposed outside of the casing. a framie having a trunnion journalled in the bearing, a frame fixed on the crank shaft, a cylindrical screen surrounding and connected to the said frames and located between the inlet and the outiet of the casing, and a device arranged to engage the outer side of the said screen, whereby when the screen is rotated it will be cleared of collected soot.

No. 101,495. Ash sifter. Tamis d cendres.


Thomas P. Bolger, Gloucester. Massachusetts, U.S.A., 16th October, 1906; 6 years. Filed 4th September, 1906. Receipt No. 139.222.
Claim.-1. A sifter comprising a cap provided with a casing having a sliding top, a hopper secured to one end of said casing and a sieve slidably mounted under said hopper and top. for the purpose set forth.
2. A sifter comprising a cap provided with a casing having flanged sides, a hopper secured to one end of sald casing. a spout secured to the other end of said casing, a sieve slidably mounted in said casing and a top slidably mounted on the flanged sides of the casing, for the purpose described.
3. A sifter comprising a cap provided with a casing having an inclined end, a hopper arranged over said end having a hinged top, a sieve mounted in the casing, a top slidably mounted on the side of the casing having an opening, at one end, and a spring provided with a bowed portion carried by the hopper adapted to fit in the opening in the top, for the purpose described.
4. A sifter comprising a casing having flanged sides, a hopper secured at one end, a spout secured to the other end, a sifter slidably mounted in said casing on brackets, a top provided with guides at its side mounted on the flanged sides and a spring carried by the hopper adapted to engage said top, for the purpose described.
5. A sleve comprising a top having a casing securtd thereon provided with flanged sides, a hopper formed on one end of said casing, a spout secured to the other end, a hook secured to the end adjacent the spout, brackets secured to the sides, a sieve mounted on said brackets provided with a handle extending out through an opening in the hopper, a top provided with guide edges adapted to fit over the flanged edges of the sides having an-opening adjacent one end and a spring carried by the hopper provided with a bowed portlon adapted to at in said opening, for the purpose set forth.
6. A sifter comprising a cap having a casing sccured thereto provided with flanged sides, a hopper formed at one end of said casing. provided with a hinged top, a spout secured In the bottom and in tht other end, a hook secured to said end. a top having flanged ends and guldes formed on its sides. adapted to slide on the flanges of the sides, spring actuated locking means secured to the casing adapted to ongage sald tod and sieve slidably mounted in said casing under sald top and hoppre provided with a handlo extruding out through an opening in the hopper, for the purpose

No. 101,496. Washing Machine. Machine d laver.


William George Burns, Boston, Massachusetts, U.S.A., 16th October, 1906; 6 years. Filed 20th September, 1906. Receipt No. 139,645.
Claim.-1. A washing apparatus a chamber open at both ends, a piston movable longitudinally in said chamber. a cover extending over one end of the chamber and connected thereto, the cover and chamber being formed to permit a practically unobstructed movement of water between the cover and the chamber.
2. A washing apparatus comprising a chamber open at both ends, a piston movable longitudinally in said chamber. a cover extending over one end of the chamber and having a flange surrounding the same and connected thereto. the lower edge of sald flange being located above the upper end of the chamber to permit a practically unobstructed movement of water between the cover and chamber.
3. A washing apparatus comprising a chamber open at both ends, a cover or head extending over one end and surrounding the same, connections joining the upper end of the chamber casing to the cover, the latter being separated on all sides from the casing except at the point of connection, said cover and chamber having provisions for a practically unobstructed flow between them, a piston movable longitudinally in the chamber. and means for moving the same extending through the cover or head.
4. A washing apparatus comprising a chamber open at both ends, a cover or head extending over one end and suprounding the same, connections joining the upper end of the chamber casing to the cover, the latter being separated on all sides from the casing except at the point of connection, said cover and chamber having provisions for a practically unobstructed fiow between them, a piston movable longitudinally in the chamber, a rod for actuating the same extending through the cciel, and hand engagiug means excured to the roi.
5. A washing apparatus comprising a chamber open at both ends, a cover or head extending over one end and surrounding the same, connections joining the upper end of the chamber casing to the cover, the latter being separated on all sides from the casing except at the point of connection, sald cover and chamber having provisions for a practically unobstructed flow between them, a piston movable longitudinally in the chamber, a rod for actuatiug the same extending through the cover, and a spring connected to the rod and abutting against the cover tending to retain the piston adjacent the inner end of the chamber.

\section*{No. 101,497. Glove. Gant.}

Hamilton Carhartt, Jr., Detroit. Michigan, C.S.A., 16th October, 1906; 6 years. Filed 17th Scptombor. 1906. Receipt No. 139,572.
Claim.-1. In a glove, a reinforcement section extending from the back of the glove, and covering the palm of th. glove only below the first two fingers and having narrowed extension passing down across the base of the thumb nor ticn of the glove.
2. In a glove, a reinforcement section extending over the palm of the glove only below the first two fingers and cover-

ing the crotch of the thumb, and having an elongated narrow extension passing across the base of the thumb, and a wrist section having a line of stitching at its upper edge where it is joined to the body of the glove, sald narrow exiension being carried under said upper edge of said wrist section.
3. In a glove, a reinforcement section extending across the palm below the first two fingers and terminating in a rounded corner below the middle finger and from thence extending lengitudinally toward the base of the glove in a narrow extension or tongue, and extending along the crotch of the thumb, said glove having a stitched wrist section and said extension secured under the upper edge of said wrist section.

\section*{No. 101,488. Hoof Pad.}

Bourrelet pour cornes d'animatkx.


Joseph M. Doke, Fostoria, Ohio, U.S.A., 16th October, 1906 6 years. Filed 20th September, 1906. Receipt No. 139,654.
Claim.-A hoof pad comprising an inner portion formed of layers of leather secured together and shaped to conform to the curvature of the inner edge of the shoe within which it fits, an outer ring of rubber secured to the edges of said inner portion, and extending beyond the same under the face o: the shoe, and a wire fastener embedded between said layers of leather and having a projecting loop at the front en-
gaging under the toe of the shoe and projecting ends at the rear engaging in compression under the heels of the shoe at the extremities thereof and bearing outwardly on the hecls of the hoof, to expand the same.

No. 101,499. Milk Pail Folder. Porte-seau d lait.


William Wilfred Edmanson, Melita, Manitoba, Canada, 16th October, 1906 ; 6 years. Filed 27th January, 1906. Receipt No. 132,319.
Claim.-1. In a device of the class described the combination with ear, of an extending adjustable arm, as and for the purpose specifled.
2. In a device of the class described the combination with the ear, of an extending adjustable arm, and a spring cooperating with the arm, as and for the purpose specified.
3. In a device of the class described the combination with the car, having a centrally disposed vertical slot, of an arm pivoted within the slot and extending therefrom, and a spring engaging the arm, as and for the purpose specified.
4. In a device of the class described the combination with the pail, of an ear, an extending curvilinear arm pivotally supported within a slot. within the car, said arm having the end and the lower rear face flat, and a fiat spring secured to the base of the ear and extending within the slot and bearing upon the arm, as and for the purpose specifled.
5. In a milk pail holder the combination with the pall and ears thereof, of arms adjustably connected one to each ear and adapted to extend substantially horizontal when in use as and for the purpose specified.

No. 101,500. Conveyer for Peat Collecting Machines.
Transport pout machine a ramasser la tourbe.


William Atkinson Milne, Brown's Corners, Untario, Canada, 16th October, 1906; 6 years. Filed 12th September, 1906. Receipt No. 139,448.
Claim.-1. In a tubular conveyer for peat collecting machines and the like, the combination with the tube, of a spiral wing secured to the interior periphery thereof, as and for the purpose specified.
2. In a tubular conveyor for peat collecting machines and the like. the combination with the tube, of two oppositely set wings secured to the interior periphery thereof, as and for the purpose specified.
8. In a tubular conveyer for peat collecting machines and the like, the combination with the tube, of a plurality of sets of spiral wings spcured to the interior periphery of the tube and located at desired distances apart, as and for the purpose specified.

No. 101,501. Colter. Coutre.


John Moeller, Bay Port, Michigan, U.S.A., 16th October, 1906; 6 years. Filed 19th September, 1006. Recelpt No. 139,630.
Claim.-1. In a device of the class described, a tubular bearing member adapted for connection thereto and provided with projecting lugs having inclined lower faces, clip plates having correspondingly inclined upper faces designed to bear on the inclined faces of the lugs, connecting bolts engaged with the clip plates and operatively engaged with the beam for attaching the bearing member thereto, a colter shank arranged for longitudinal adjustment in said member, and means for fixing the shank in its adjusted positions.
2. In a device of the class described, a beam, a tubular bearing member connected therewith and having a longitudinal groove, an operating lever pivoted to said bearing member, a locking key extended transversely through the latter and connected with the lever, a shank arranged for longltudinal movement in the bearing member and provisioned with a plurality of openings to receive the locking key, a spring seated in the groove and designed to act on the lever for maintaining the key normally in locking position, and a spring retaining pin extended transversely of the groove and terminally engaged with the wheels thereof.

No. 101,50\%. Hay Fork. Fourche.


Ifeinrich H. Pofahl, Vivian, Waseca. Minnesota. L.S.A.. 16th October. 1906; 6 years. Filed 13th August. 1:91t. Receipt No. 1:38.620.
Claim. The combination with the socketed ferrule provided with the side toothed jaw, of the tool having a shank provided with a co-operatiug side toothed jaw, a bolt having
a squared portion, and a quick screw-threaded end to engage the first-mentioned jaw, a wrench lever provided with a square hole to fit on the squared portion of the bolt, the latter being provided with a finer screw thread on the end opposite that bearing the quick thread, a milled nut turned on the fine screw thread of the bolt, and toothed bar fixed on the ferrule to engage the handle of the wrench lever.

No. 101,503. Fertilizer Distributor. Distributcur d'engrais.


Richard J. Taylor, Murireeboro, North Carolina, 16th October, 1906. 6 years. Filed 25th September, 1906. Receipt No. 139,766.
Claim.-In a fertilizer distributer, the combination with a sulky frame, pivot ears depending from the frame, the hop pers. a toothed rack seclured to the back of each hopper, and the T-shaped hangers, of the chutes pivoted in said ears and each having a pivot bolt connection with the hangers, a separate and independent hand lever attached to each chute and laving said bolts extending therethrough, and a pawl carried Wv each lever to hold the chutes in independent lateral adjustment.

No. 101,504. Caltivator and Planter.
Cultitateur et planteur.


Henry Warfleld, Topeka, Kansas, U.S.A., 16th October, 1906 6 years. Filed 14 th September, 1906. Receipt No. 139,506 Claim.-1. In an implement of the class described the combination with a central member including a head and vertically spaced plates projecting rearwardly from the head. of transwrse members secured between the plates forwardly of the rearward ends thereof and projecting there beyond in both dircctions, the sald transverse member.: having outwardly extending pins at their outer ends, said members having passages formed therein in which the plas. ar, removahly engaged, said members having other pas. arges adapted for the reception of pins. ground treating devices carried by the side members and arranged to lie
in operative position when certain of the passages of the side members are engaged by the pins and out of operative position when other of the passages are engaged by the pins, a transverse member removably engaged between the rearward ends of the plates, sald member having passages formed therethrough at right angles to each other. said plates having perforations formed therein adapted for registration with the passages of the last-named member interchangeably, said perforations and passages being adapted for the reception of a pin, and ground treating teeth carried by the last-named transverse member and extendtherefrom, said ground treating teeth lying in planes parallel with one of the passages of the members.
2. In an implement of the class described, the combination with a central member including a head, vertically spaced plates projecting from the head, and transverse members secured between the plates and projecting therebeyond in both directions, said transverse members having outwardly extending pins at their outer ends, of side members having passages formed therein in which the pins are removably engaged, said side members having other passages therein adapted for the reception of the pins, and ground treating devices carried by the side members, said side members being adapted to lie with their ground treating devices in operative position when certain of their passages are engaged by the pins, and to lle with their ground treating devices in inoperative position when their other passages are engaged by the pins.

\section*{No. 101,505. Disc Land Cultivator, Harrow Road Machine and Farm Wagon. \\ Cultivateur d disques, machine de route et wagon.}


Abram L. Foote, Fayette, Iowa, U.S.A., 16th October, 1906; 6 years. Filed 24th September, \(1906 . \quad\) Receipt No. 139,735.
Claim.-1. In a machine of the class described, the combination of a main frame, a bolster supporting the main frame and provided with a depending tapered portion, an axle receiving the tapered portion of the bolster, and a pivot composed of upper and lower sections mounted respectively on the bolster and on the axle and provided at their adjacent ends with eyes linked into each other and forming a flexible connection to permit the axle to swing transversely of the machine, whereby a wheel may drop into a rut or hole without straining the machine, or disturbing the horizontality of the frame.
2. A machine of the class described having a main frame and provided at opposite sides thereof with levers arranged in pairs, the levers at one side of the frame being provided with lower arms arranged in diagonal relation with and also at points diametrically opposite the lower arms of the levers at the opposite side of the frame, whereby cultivating devices may be hung from the frame either in a diagonal position or in parallelism with the median line of the machine.
3. In a machine of the class described, the combination with a frame and cultivating devices, of levers arranged In pairs at opposite sides of the frame and located in diagonal relation, the levers at one side of the frame being provided with supplemental arms arranged diametrically opposite the levers at the opposite side of the frame, and means for suspending the cultivating devices from the levers either in a diagonal position or in parallellsm with the median line of the machine.
4. In a machine of the class described, the combination with a frame and cultivating means, of front and rear operating levers arranged in pairs at opposite sides of the frame and having lower arms arranged in diagonal relation. the front lever at one side of the frame being also provided with a forwardly extending supplemental arm. and the corresponding rear lever having a supplemental rearwardiy
extending arm, the supplemental arms being disposed diametrically opposite the arms of the levers at the opposite side of the frame, and means for connecting the opposite levers with the cultivating menns.
5. In a machine of the class described, the combination of a wheeled irame, operating levers located at opposite sides of the main frame in diagonal relation, the levers at one side having supplemental arms arranged diametrically opposite the levers at the opposite side, and a harrow suspended from the supplemental arms and the levers from the opposite side of the frame.
6. In a machine of the class described, the combination of a wheeled frame, operating levers located at opposite sides of the main frame in diagonal relation, the levers at one side having supplemental arms arranged diametrically opposite the levers at the opposite side, and a harrow suspended from the supplemental arms and from the levers from the opposite side of the frame, and crossed inclined chains extending from the sides of the main frame to the opposite sides of the harrow.
7. In a machine of the class described, the combination of a wheeled frame provided with links, a harrow adjustably suspended from the frame and provided at its front with a draft attachment having a transverse rod arranged in spaced relation with the front of the harrow, and links provided at their rear ends with eyes slidable on the draft attachment, the front ends of the latter links being provided with hooks for detachably engaging the links of the frame.
8. In a machine of the class described, the combination of a wheeled frame, cultivating devices, means for suspending the cultivating devices either in diagonal or parallel relation with the machine, a seed box or hopper having feed mechanism and mounted on the frame in advance of the cultivating devices, and gearing for operating the feed mechanism of the seed box or hopper.

No. 101,506. Car Coupler. Attache de chars.


Landis G. Daniels and William B. Kirkpatrick, Highspire, Pennsylvania, U.S.A., 16th October, 1906; 6 years. Flled 10th September, 1906. Receipt No. 139,392.
Claim.-1. In a car coupler of the class described, the combination with a car body, of a drawbar, arms secured to the free end of said drawbar and having knuckles at their outer ends, and means to direct said arms toward or from each other wheneby a set of said arms will be interlocked with each other.
2. A car coupler of the class described, comprising a drawbar proper. locking arms at one end of said drawbar, and means carrled by said drawbar to dispose said arms toward or away from each other.
3. A car coupler of the class described comprising a drawbar proper, arms pivotally secured to one end thereof, controlling arms pivotally secured together and mounted upon sald drawbar and having one of their ends pivotally secured to the locking arms, and means at the opposite ends thereof to operate said controlling arms.
4. A car coupler of the class described comprising a drawhead proper, locking arms pivotally secured to one end of said drawbar, controlling arms pivotally mounted upon the drawbar, said arms having one of their ends pivotally secured to the locking arms, a controlling member secured to the opposite ends of said controlling arms, and means to operate said controlling member whereby the locking arms will be operated.
5 The herein described car coupler comprising a drawbar, locking arms pivotally secured to one end thereof, knuckles carried by the outer ends of said arms, controlling arms for said locking arms, a rod extending through said
irawbar, controlling member upon the upper end thereof and connected to the controlling arms, a cortrolling lever secured to said rod. a housing for said drawbar. and means carried thereby to engage the lever and operate the locking arms.
6. A car coupler of the class described comprising a drawhar. locking arms pivotally secured thereto, controlling levers for said arms. a controlling member operatively conucried to said levers, a rod carrying said controlling member, and means connected to the lower end of said rod Whereby said rod and controlling member may be manualls operated to operate the locking arms.
7. A car coupler of the class described comprising the combination with a drawbar having locking arms at one end thereof and means to operate sald locking arms, of a housing for sald drawbar and arms, supporting rods secured to the car body and extending through one end of the housing ind springs around said rods between the housing and car body.
8 . In a car coupler, the combination with the body of a car, of a drawbar to interlock the same with the adjoining urawbar, a housing for said drawbar. supporting rods secured to the car body and extending through one end of the housing, springs around said rods between the housing and car body. and means carried by the housing to operate said interlocking means.
9. In a car coupler the combination with a drawbar havling interlocking members at one end, of a housing for said drawbar and interlocking members, and means carried by said housing to automatically operate said locking members.
10. A car coupler having interlocking members at one end. levers to operate said interlocking members. a controlling members secured to said levers, a rod to control said memher, a housing for sald drawbar, a latch carried by said housing. a projection on said latch, a lever secured to said rod, and means carried by the drawbar to disengage said latch from said lever.

No. 101,507. Nnt Lock. Arríte-ér rou.


Poter Liberty. Warren. Pennsylvania, U.S.A., lith October, 1906; \(t\) years. Filed 31st July. 1906. Receipt No. 138,299. Claim.-1. In a nut lock the combination with a washer, and means for preventing it from turning, said washer havling its horn formed on different dlameters, and an orifier 'xoconding from the intermediate bore, of a spiral spring lawl soated in the intermediate bore, and having a lug al in:le rad whleh enters the inner end of the orifice, and the. obposite ond bent inward to constitute a pawl, of a nut havilig a shank which is fitted to turn in the smaller bore of tine washer. and is provided with ratchet tewth with which the end of the pawl engage, whereby to lock the nut to the washer. against turning in a reverse direction.
2. In a nut lork the combination with a washer, the bore of which is formed on several diameters, and provided with a radial orffer externing from the intermediate dlameter to the surfa:" of th. washer, and means for preventing the washor from turning, of a nut having a threaded bore and - ratcher toothed shank with a roduced portion, the shank filtal to firn in the smaller diameter of the bore of the washor and the reduced portion is the largest bore of the
washer, and a chamber being formed between the toothed , ortion of the shank and the wall of the intermediate bore of the washer, and a spring pawl seated in this chamber, and provided at one end with a lug adapted to enter the inner end of the orifice, while the opposite end engages the teeth of the nut and lock the latter against turning in the reverse direction.

No. 101,508. Mnt Look. Arrête ecrou.


Walter R. Mecherle, Bloomington, Illinois, U.S.A., 16th October, 1906; 6 years. Filed 10th September, 1906. Receipt No. 139,394.
Claim.-1. The combination with a plate having an aperture therein, of a bolt within the aperture, a nut upon the bolt. a dog pivoted to the plate and normally seated by gravity upon the bolt between the nut and plate, and means upon the nut adapted to overlap and contact with the dog at a point between fts ends.
2. The combination with a plate having an aperture therein, of a bolt within the aperture, a nut upon the bolt, a dog pivoted to the plate and normally seated by gravity upon the bolt between the nut and plate, and a lug extending from one face of the nut and overlapping the dog, said lug and dog adapted to contact at a point between the ends of the dog tc blad the dog upon the bolt.

No. 101,509. Lath Folder. Porte-Latte.


John Lynes. Fort William, Ontario, Canada, 16th October, 1906: 6 years. Filed 30th August, 1906. Recrlpt No. 1:3,100.
I'laim.-1. In a lath holdre the combination comprising a arapple. a body carried by the grapple, and holding elements -ivotally secured to the body.
2. In a lath holding device the combination comprising a Lrapole. a body carrind by the grapple, holding elements pivotally serured to the body, and means for locking the holding elements in position.
3. In a lath holding device the combination comprising a grapple, a body carried by the grapple, holding elements pivotally secured to the body and provided with hooks adapted to engage a portion thereof.
4. In a lath bolding device the combination comprising a grapple, a body secured to the grapple and provided with a flattened portion, and hooks pivotally secured to the body and provided with extensions having hooks adapted to engage said flattened portion of the body.
5. In a lath holding device the combination comprising a body provided with a bifurcated extremity terminating in eyes, lath holding elements provided with eyes in engagement with said eyes on said bifurcations and provided with hooks adapted to engage said body, and means for attaching the upper end of the body to a support.
6. In a lath holding device the combination comprising a body, lath! supporting elements pivotally secured to sald body and provided with locking means, and gripping members pivoted to the upper end of said body and provided with downwardly extending extensions.

No. 101,510. Composition Railwav Tie. Dormant artifioiel de chomin de fer.


Felix Jas. Baivier, Velva, North Dakota, U.S.A., 16th October, 1906: 6 years. Filed 26th September, 1906. Receipt No. 139.788.
Claim.-1. A railway tie formed of artificial stone having transverse grooves in its upper face, and bolt holes on opposite sides of said grooves, said bolt holes being made square in their lower portions and round in their upper part or portions.
2. A railway tie formed of artificial stone having a substantially rectangular body in cross section excepting as to its bottom which is given a form approaching the shape of a V.
3. A railway tie formed of artificial stone having a brace on one end to engage the top of the flange on the base of the rail and stay the web, and a clamp under the brace to engage the edge of the rail flange and keep the rails from spreading.
4. A railway tie formed of artificial stone composed of cement, sand, gravel and water, set and hardened.
5. A rallway tie comprising a body having its lower portion gradually reduced transversely.
6. A railway tie comprising a body portion having its lower portion gradually reduced transversely and having a longltudinal chamber therewithin, and longitudinally extending strengthening devices embodied in the tie.
7. A railway tie comprising a body portion having the lower portion of its side faces converged downwardly to give the lower portion of the tie a \(V\)-shape and having a longitudinal chamber therewithin, and strengthening devices embodied in the body portion at the upper portion thereof.

\section*{No. 101,511. Railway. Rail de croisemont.}

William Johnston Eicher, Smithton, Pennsylvania, U.S.A., 16th October, 1906: 6 years. Filed 20th September, 1906. Recelpt No. 139,652.
Claim.-1. A rallway frog comprising a frog plate provided centrally of its upper face with a groove extending from end to end of the plate, the said groove widening outward in a gradual taper from a point intermediate the ends of the plate to both ends, and being divided at one end by a V-shapet: frog point, the sald frog plate having notches in its upper face at one end forming rail seats, and ribs on the upper \(10-18\)
face of the plate extending from one end thereof to the inner wall of the notches at the other end in unbroken form

and conforming in outline to the side walls of the central groove.

No. 101,512. Railway Rail and Tie. Rail et dormant de chemin de fer.


David E. Lindsay, Etna, Pennsvivania, U.S.A., 16th October, 1906; 6 years. Filed 19th September, 1906. Receipt No. 139,633.
Claim.-1. The combination with ties having dovetail tongues, of a rall adapted to engage the tongues of said ties, said rail consisting of two parts, a head carried by one of said parts and common to both parts, a base fiange carried by each part and forming a dovetail groove when said parts are secured together, substantally as described.
2. The combination with ties having dovetail tongues, of a rail engaged by said tongues, said rall consisting of two parts alternately arranged together, base fianges carried by sald parts and forming a dovetail groove to receive the tongues of said ties, substantially as described.
3. The combination with ties having tongues, of a rail adapted to engage sald tongues, said rail consisting of two parts, the ends of one part being arranged centrally of the other part, base flanges carried by said parts and engaging said tongues, means to secure said parts together, substantially ás described.
4. A tie provided on its upper face with a tongue having inclined side edges, combined with a rail having base flanges resting on said tongue, and depending side franges carried by said base flanges, said depending side flanges having inclined inner faces enaging the inclined side edges of said tongue.
5. A rall formed in two members adapted to be secured together, each member having a base flange provided with a groove, and a tie having a tongue adapted to fit in said grooves in the base flanges of the rail members.
6. A rail provided in its base with a groove, combined with a tie, and means carried by the tie engaging in the groove of the rail and securing the rail to the tie.
7. A two-part rail provided in its base with a groove, combined with a tie, and means carried by the tle engaging in the groove of the rail securing said rail to the tle.
8. A rail provided with a base, and depending side flanges carried by said base, combined with a tie, and means locking the tie to said side flanges of the rall.

No. 101,513. Railway Slooper.
Dormant de chemin de fer.


Martin E. McGrath, Rio Grande, Ohio, U.S.A., 16th October, 1906; 6 years. Filed 25th September, 1906. Receipt No. 139,769.
Claim.-1. A sleeper for railroads comprising a hollow Work for pastic material adapted to extend lengthwise under ithe rail and having a longitudinal recess in the top in which the rail rests, and ground engaging ribs.
\(\because\) A sleeper comprising a hollow block having a longitudinal depression in the top in which the rail rests and ground angaging ribs and grooves in the bottom and sides, and bolt holes extending upwardly from the hollow through the top of the block.

\section*{No. 101,514. Railway System.}

Système de chemin de fer.


Henry Roy. Ottawa, Ontarlo. Canada. 16th October, 1906; 6
years. Filed 15th September, 1906. Receipt No. 139.519.
Cluin.-1. In a safety rallroad device the combination with a pair of parallel rails of a wheel adapted to bear on both ratls and means for preventing the lateral displacement of the same, as and for the purpose specified.
2. In a safety railroad device the combination with a pair of parallel rails of a wheel adarted to bear on each and
means extending between the two rails for preventing the Lateral displacement of the wheel, as and for the purpose perifled.
3. In a safety railroad device the combination with a psir of paralel rails of a wheel adapted to bear on both rails and an outwardly extending annular flange formed on the periphery thereof extending between the two ralls, as and for the purpose specifled.
4. In a safety railroad device the combination with a pair of parallel rails, a car wheel adapted to bear on each rail. and means on the periphery of the car wheel and outwardly extending therefrom for preventing the lateral displacement of the wheel, as and for the purpose specifled.
5. In a safety railroad device the combination with a pair of double rails having the individual rails breaking joint with each other, of a two-wheeled truck having the wheels thereof bearing simultancously on the four rails and means for proventing the lateral movement of the truck on the rails, as and for the purpose specified.
6. In a safety railroad device the combination with a double rail having the individual rails thereon breaking joint, of a wheel bearing on the rails and means for preventing the lateral displacement thereof, as and for the purpose syecifled.
7. An improved car wheel having two bearing surfaces adapted to bear simultaneously on the rails and dividing means between, as and for the purpose specifled.
8. An improved car wheel having two bearing surfaces adapted to bear simultaneously on the rails, and an outwardly extending annular flange between the said bearing surfaces, as and for the purpose speclfied.
9. An improved car wheel provided with an annular flange outwardly extending from the center of the periphery thereof, as and for the purpose specified.

No. 101,515. Selector Por Antomatic Telephone Exehange.
Sclcctewr pour échange automatique de téléphone.


The Bell Telephone Company of Canada, Montreal, Quebec. Canada, assignee of James L. McQuarrie, 16th October. 1906: \(\dot{b}\) years. Filed 1sth September, 1906. Receipt No. 139, 548.
Claim.-1. In a selector for an automatic telephone exchange the combination with a ratchet carrying a selector arm, of a plate upon which said ratchet is mounted an elec-tro-magnet for actuating said ratchet. said magent being disposed upon the rear of the plate with its core piece projecting through an opening in the same, and a bracket mounted upon the front of the plate and providing a support for the said core plece and magnet.
2. In a selector for an automatic telephone exchange, the combination with a ratchet carrying a selector arm, of a plate upon which said ratchet is mounted, an electro-magnet disposed upon the rear of said plate and having a cor, piren profecting through an opening in the same. a bracket noounted unon the front of the plate and providing a support for sald core piece and magnet, an armature for sald makn. pivotally secured to said bracket, and means controlled by said armature for actuating sald ratchet.
3. In a selector for an automatic exchange, the combination with a ratchet carrying a selector arm, of a plate upon which said ratchet is mounted, an electro-magnet for actuating said ratchet, said magnet being aisposed upon the rear of the plate with its core pleces projecting through openings in the same, a bracket mounted upon the front of the plate to which said core pieces are secured, a rod having a pivotal bearing in the yoke of the electro-magnet and extending through an opening in the plate, an armature secured to said rod above the plate and between the poles of the magnet, and mechanism actuated by said armature for controlling the movement of said ratchet.
4. The combination with a selector frame provided with a series of circularly arranged contact terminals, of a plate secured to said frame within the circle of said terminals, ratchet wheel rotatably mounted above said plate, a selector arm carried by said wheel and provided with contact brushes adapted to trail over said terminals, two electromagnets disposed upon the rear of the plate, each having its core pieces extending through openings in said plate, brackets mounted upon the front of the plate to which said core pleces are secured, an armature for each magnet pivoted to said brackets between the opposite poles of the magnet, and pawls controlled by said armature for advancing the ratchet wheel and for holding said wheel in its advanced position.
5. In an automatic telephone exchange system, the combination with a selector frame provided with a series of circularly arranged line terminals, of a plate secured to said frame within the circle of said terminals, a ratchet wheel rotatably mounted above said plate, a selector arm radially secured to said wheel and provided with contact brushes adapted to trail over said terminals, electro-magnets disposed upon the bottom of the plate having core pieces extending through openings in the same, a bracket for each magnet mounted upon the top of the plate and to which said core pieces are secured, rods pivotally mounted in adjustable bearings carried by the yokes of the electromagnets, an enlarged slotted head for each rod extending through an opening in the plate, an armature for each magnet secured within said slotted head and provided with a pin extending through an opening in the corresponding bracket. and means actuated by said armature for controlling the movement of said ratchet wheel and selector arm.
6. In a selector for an automatic telephone exchange, the combination with a ratchet carrying a selector arm. of a plate upon which said ratchet is mounted, an electro-magnet disposed upon the rear of the plate with its core pieces projecting through an opening in the same, an armature pivoted above the plate, and means controlled by the movement of said armature to control the movement of said ratchet.

No. 101,516. Controller for Machinery.
Controleur de machines.


The Pike Adding Machine Company assignee of William Henry Pike, Jr., all of Orange, New Jersey, U.S.A., 16th October, 1906; 6 years. Filed 7th March, 1906. Receipt No. 133,603.
Cltim.-1. The combination with the working shaft of an apparatus, of a motor, clutch device, yielding connections
between the driven member of the clutch device and the working shaft, a dash pot connected to regulate the speed of movement of the working shaft, and two stop devices for engaging the connecting means of the clutch device, one of said members connected to be held in stop position until the working shaft has completed its movement.
2. The combination with the working shaft of an apparatus, of a motor, clutch device, ylelding connections between the driven member of the clutch device and the working shaft, a dash pot connected to regulate the speed of movement of the working shaft, and two stop devices for engaging the connecting means of the clutch device, one of said members being connected to be held out of stop position only when the working shaft has completed its movement.
3. The combination with the working shaft of an apparatus, of a motor. clutch device, yielding connections between the driven member of the clutch device and the working shaft, a dash pot connected to regulate the speed of mover ment of the working shaft, two stop devices for engaging the connecting means of the clutch device, one of said members being connected to be held out of stop position only when the working shaft has completed its movement, a band key, and connections for shifting the other stop device.
4. The combination with the working shaft of an apparatus, of a motor, clutch device, yielding connections between the driven member of the clutch device and the working shaft, a dash pot connected to regulate the speed of movement of the working shaft, and two stop devices each arranged to engage the connecting means of the clutch, one of the said stop devices connected to be shifted by a hand key. the other combined with means actuated by the driven member of the clutch to shift said device to stop position as said driven member begins its rotation and hold it in such positign until the rotaton is completed.
j. The combination with the work shaft, dash pot, actuating shaft, and flexible connections, of a motor, clutch device, a shaft connected with the driven member of the clutch device and carrying a crank arm and crank pin, a link connected with the actuating shaft and provided with a shoulder and recelving the crank pin, a rock shaft carrying a stop arm for engaging the connecting means of the clutch device, and an arm for ongaging said shoulder.
6. The combination with the working shaft, dash pot and the driven member of a clutch device, of yielding connections between said member and said working shaft constructed to permit the work shaft to move to a limited extent independently of the said member, and a stop device and contacting parts arranged to carry the stop device out of stop position only when the working shaft is at the end of its movement.
7. The combination with the working shaft, dash pot, clutch device, motor, and yielding connections between the driven member of the clutch device and working shaft, of two stop devices arranged to engage the connecting means of the clutch device, one normally in stop position and a hand key for shifting it , the other normally out of stop position, and means for carrying it into stop position so long as the working shaft has not completed its movement.

No. 101,517. Controller for Machinery.
Contrôleur de machines.


The Pike Adding Machine Company, assignee of William Henry Pike, Jr., Orange, New Jersey, U.S.A., 16th October. 1906; 6 years. Filed 7th March, 1906. Receipt No. 133,604.
Claim.-1. The combination with a shaft for moving the operating parts of a machine and a dash pot connected to
limit the speed of movement of said shaft, of a clutch device having one part connected with a continuonsly operating motor and the other connected by yielding conncetions with said shaft, a stop device for arresting the rotation of the driven member of the clutch at the end of each rotation, and means for preventing the shifting of said stop device out oi stop position untll the working shaft has resumed its normal stop position.
2. The combination with a shaft for moving the operating parts of a machine and a dash pot connected to limit the speed of movement of said shaft, of a clutch device having une part connected with a continuously operating motor and the other connected by yie!ding conbections with said shaft, : stop device for arresting the rotation of the driven member of the clutch at the end of each rotation, a key and conrections for shifting the stop device, and means for preventing the shifting of said stop device by the key out of stop position until the working shaft has resumed its normal stop position.
3. The combination with the driving shaft. driven shaft, and intermediate clutch device, of a stop device for arresting the driven member, a key for shifting the stop device. out of stop position, means for restorng it to stop position before the completion of one rotation of the driven member, and means for operatively disconnecting the key and stop device until the key returns to starting position.
4. The combination with the driving shaft, driven shaft, and intermediate clutch device, of a working shaft for actutaing the working parts of a machine, yielding connecions between the driven member of the clutch and the working shaft, a stop device for arresting the driven member, a key for shifting the stop device out of stop position, means for restoring it to stop position before the completion of one rotation of the driven member, and means for operatively disconnecting the key and stop device until the key returns to starting position.
5. The combination with the working shaft, means for restricting the speed of said shaft, a motor an intermediate, clutch, and glelding connections between the driven member of the clutch and sald shaft, of a stop device for arresting the sald driven member on completion of each rotation, means for shifting the stop device to connect the clutich members, means for automatically restoring the stop device to stop position after the driven member begins its rotation, and means for preventing the action of the shifting means co the stop device until the rotation of the driven member is completed.
6. The combination with the working shaft, means for restricting the speed of said shaft, a motor, an intermediate -Hutch, and yielding connections between the driven member of the clutch and said shaft. of a stop device for arrest ing the sald driven member on completion of each rotation. means for shifting the stop device to conncet the clutch members, means for automatically reatoring the stop device to stop position after the driven member jegins its rotation. means for preventing the action of the shifting means \(c=\) the stop device untll the rotation of the dri;en member is completed, and means for preventing a second shisting of the stop device by the shifting means until after the later is restored to normal position.
7. The combination with a working shaft, and means restricting its speed, of a motor, a clutch having its driving member connected with the motor and its driven member yicldingly connected with the working shaft, a stop for arresting the movement of the driven member of the clutch on the completion of each rotation, key actuated means for shifting the stop from stop position when the working shaft is at rest, and means adapted to adjust the key actuated means to inoperative position on the commencement of each actuation of the working shaft and to maintain the parts in such position throughout the movement of said shaft.
8. The combination with a working shaft, and means for restricting its speed, of a motor. a clutch having its driving member connected with the motor, and its driven member yleldingly connected with the working shaft, a swinging stop for arresting the movement of the driven member of the clutch on the completion of each rotalion, a key, means adapted to be reciprocated by said key to swing said stop from operative position, and means for automatically disengaging said key actuated means from the stop as the rotation of the driven clutch begins.
9. The combination with a working shaft. and means for restricting its speed, of a motor, a clutch having its driving member connected with the motor and its driven member yleldingly connected with the working shaft. a stop carried by a rock shaft for arresting the movement of the driven clutch member on the completion of each rotation, a key, means operated by the key for rocking the stop shaft to move the step from engagement with the driven clutch member, and means actuated by the rotation of the driven clutch member for shifting sald key actuated means out of operative position relative to the stop shaft.

No. 101,518. Alidade for 8hip Compasses. Alidade pour compas de vaisseave.


Isabel B. Kilham, Allston, assignee of Harry Peyton Arbecam, Boston, both in Massachusetts, U.S.A., 16th October, 1906; 6 years. Filed 31st May, 1906. Receipt No. 100,437.
Claim.-1. The binnacle with its hood or top inclosing the compass, a rotatable vertical shaft section 16 formed with a concentric collar 17 by which it is supported centrally in the binnacle top, an adjustable extension thereof above the binnacle top, and a sighting tube or pointer pivoted to the lop of sald extension, for rotation with said shaft section and for movement independently thereof only in a vertical plane, in combination with an axial prolongation of sald shaft section within and wholly supported by the binnacle, such prolongation extending down almost to the compass dial, and with a transverse indicator having a short vertical stem 33 concentric with such prolongation, adapted to rest upon but not connected with the compass plate, and formed with a lateral lug 34 moving in a slot in the prolonged shaft. said indicator and stem having a limited vertical movement independent of the prolonged shaft, the indicator normally maintaining the same radial position as the sighting tube, substantially as set forth.
2. The binnacle and its hood or top inclosing the compass, \(\therefore\) central tubular shaft section 16 , mounted for rotation in the binnacle top and extending above and below it, a tubular upward extension 20 secured to sald section by screw 23 , and an inclosed adjustable member 25 , connected thereto hy a binding screw 27, these parts forming the upper shaft section, and a downward prolongation extending from the central part and forming the lower section of the shaft, said section being longitudinally grooved or slotted to receive a binding screw, whereby the parts are adjustable vertically without radial variation, in combination with the sighting tube pivoted to the top of the upper section, and the transverse indicator connected to the foot of the lower section by a vertical stem concentric therewith resting loosely on the compass dial, such tube and indicator having independent vertical movements, but normally maintained in the same radial plane, substantially as set forth.
3. The binnacle with its hood or top inclosing the compass. a vertical rotatable shaft extending above and supported by the binnacle top, and a sighting tube secured to the upper end thereof. in combination with a downward prolongation of the shaft formed in a single plece, having an open or ring-like portion spread in a plane at right angles to the sighting tube, so that the shaft will be removed from the line of vision and the compass dial will be unobstru ted where bearings are being taken, and with an indicator mounted over the face of the diel, loosely connected to the foot of sald shaft and maintained in radial alignment with said tube, substantially as set forth.
4. The described compass indicator and deviation corrector, comprising a sectional vertical shaft mounted rotatably in a supporting bearing in the binnacle top and pro vided at opposite termini with a sighting device and radial indteator normally maintained \(n\) the same vertical planc, the upper section of said shaft being rxtensible and consisting of an inner axial member having the sighting de. vice pivoted to its upper end and a deviation pointer projreting rigidly in the same vertical plane from a noint near its lower end, and of an oute: tubular momber surrounding said axial member, slotted lengthwise and crosswise to permit longitudinal and radial adjustment of the member and its protruding pointer, and with a terminally graduated sictor plate fixed to and extending horizontally from sald tubular member at the foot of said slots, for the purpose set forth.

No. 101,519. Miners' Candlestick and Match Safe. Chandelier et porte-allumettes de sûreté pour mineurs.


John B. Lindahl and Charles Phillips, assignee of a interest, both of Denver, Colorado, U.S.A., 16th October, 1906; 6 years. Filed 15th May, 1906. Receipt No 135,926.
Claim.-1. In a miner's candlestick, the combination of a hollow handle, constituting a match case, a removable cap inclosing one end of said handle, the opposite end of said handle provided with a threaded recess, a spear removably positioned within sald recess, a hook carried by the spear and a candle supporting member carried by said spear comprising a folded sheet of material provided with a slitted end producing tongues of different lengths and of substantially the same width, one of said tongues provided with an aperture, the opposite end of said sheet provided with a tongue having a tapering end and a body portion of the same width as the unapertured tongue formed upon the opposite end.
2. In a miner's candlestick, the combination of a hollow handle, constituting a match safe, a removable cap inclosing one end of said handle, the opposite end of said handle reduced in thickness and provided with a threaded recess, a removable spear positioned within said recess, a hook supported by said spear and handle, a candle supporting member carried by said spear and handle, said member comprising a body portion provided with an apertured tongue extending at right angles from the lower portion of said body portion, and said body portion provided with overlapping upper tongues, one of said tongues provided with an end extending at an angle to said apertured tongue.
3. In a miner's candlestick, the combination of a hollow handle provided with a penetrating point, said handle constituting a match safe. a cap closing one end of said handle, a removable hook supported upon said handle, and a candle supporting member carried by said handle, sald member comprising a single sheet of metallic material, said sheet provided with tongues of different lengths formed upon one end, and a single tongue formed upon the other end of the same width as one of said tongues.
4. In a miner's candlestick. the combination of a match receiving receptacle provided with a penetrating point. a removable hook assembled with said receptacle, and a candle supporting member carried by said receptacle, comprising a body portion provided with tongues of different lengths, some of said tongues overlapping and lying in substantially parallel position, and anothes tongue profecting at substantially right angles from said body portion and the other tongues.

\section*{No. 101,520. Furnace for Burning Producer Gas.} Fournaise à gaz.
The Harder Gas Furnace Company, ssignee of William \(L\). Harder, both of Birmingham, Alabama, U.S.A., 16 th October, 1906; 6 years. Filed 23rd May, 1906. Receipt No. 136,165.
Claim.-1. In a boiler furnace, a main casing, a combus'ion chamber, an auxiliary casing, an ignition chamber, said chambers having a continuous substantially horizontal flooring formed of heat radiating material and having an air admission opening or openings only at or near the outer end of sald ignition chamber, a port or ports for the admission of gas adjacent to the point of air admission. said ports being so arranged that the air and gas mix freely in ignition chamber and flow in a substantially straight course through both of said chambers.
2. In a boiler furnace, a casing in which the boiler is mounted, a bridge wall within the casing to the front of

which extends a heat radiating floor for the combustion rhamber disposed beneath the front end of the boiler, an auxiliary casing disposed to the front of the boiler, an ignition chamber therein the floor of which is iormed by an uninterrupted continuation of the heat radiating floor of sald combustion chamber, said flooring and chambers being without openings except at or near the outer end of said ignition chamber, and means to admit air and gas through said openings so that they commingle and flow in a substantially undeflected course through said chambers to the bridge wall.
3. In a furnace for burning producer gas, a combustion chamber, an ignition chamber which opens into the outer end of said combustion chamber and forms a free and unobstructed continuation thereof, a gas supply entering the front end of said ignition chamber and adapted to discharge the gas in a thin sheet so that it fiows in a substantially straight course through both of said chambers, whereby the draft is not obstructed, and valve controlled conduits disposed so as to be heated by the burning gas, which admit a regulated volume of highly heated air into said ignition chamber at a point adjacent to said nozzle.
4. In a furnace, a combustion chamber formed with an extension constituting an ignition chamber, a bridge wall air flues formed beneath said chambers and leading back toward said bridge wall, then forward to said ignition chamber, a foraminous plate through which said air enters said latter chamber, and means to introduce gas at a proper point for admixture with said air.
5. The combination with a steam boiler furnace and its casing, of a combustion chamber beneath said boiler, an ignition chamber formed in an extension of said casing forward of the boller and constituting a continuation of said combustion chamber, said chambers having a substantially continuous horizontal flooring formed of refractory material, means to admit air and gas only at the outer end of said ignition chamber, means to cause the air and gas to become highly heated before admission to said ignition chamber by conducting them through conduits within the rxtension of said furnace and communicating with said ignition chamber.
6. In a furnace for burning produce gas, the combination with the main casing and a combustion chamber therein, of an auxillary casing having an ignition chamber forming a continuation of said combustion chamber and having direct and trobstructed communication therewith, said ignition chamber having walls of refractory material and disposed without the main casing, means to heat the gas in said casing and to convey it in a highly hrated condition to the outer end of said ignition chamber, vilve means to control the flow of heated gas, and means io heat air in said casings and introduce it into the ignition chamber to rommingle therein with the heated gas.
50. 101,521. Lens. Lentille.


The Corning Glass Works. Corning. New York, assignee of Willian Churchill, New Britain. Connecticut, C.S.A., 16th October, 1906; 6 years. Filed 25th May, 1906. Heceipt No. 136,201.
Chim.-1. A lens of the type described having a series of zones, each element of which is focused upon a different point in the axis of the lens, substantially as set forth.
2. A lens of the character described having a series of zones, each clement of which is focused upon a different point in the axis of the lens and in front of a focal plane. substantially as set forth.
3. A lens of the character described having a series of zones, each element of which is focused upon a different point in the axis of the lens, the focal lines of said zones when projected across said axis converging on a definite plane or surface parallel to the plane or surface of the lens, substantially as set forth.
4. A lens in which the various parts or zones are focused upon various points of a definite luminous area whereby a maximum proportion of the light is thrown in a beam of parallel rays from the lens in the direction of its axis, and a maximum of the remaining rays are refracted convergently within the parallel beam. substantially as set forth.
5. An improvement in the art of signalling by light rays which consists in focusing the several parts or zones of a lens upon various points of a definite luminous area of the source of illumination. whereby a large proportion of the flame is thrown in a beam of approximately parallel rays from the lens in the direction of its axis or the axes of its various segments. substantially as set forth.

\section*{No. 101,522. Ingnlator. Isoloir.}

The Lock Insulator Manufacturing Company, assignce of Walter T. Goddard, both of Victor, New York, U.S.A.. 16th October, 1906: 6 years. Filed 7th August, 1905. Receipt No. 127.485.
Claim.-1. An insulator having a cap piece of substantially uniform thickness throughout, and a separate conductor seat secured to said cap piece, substantially as set forth.
2. An insulator having a porcelain cap plece of substantially uniform thickness throughout, and a separate conductor seat secured to said cap piece and consisting of a narrow strip having a retaining groove for the conductor, susbtantially as set forth.
3. An insulator comprising a cap piece of substantially uniform thickness throughout, a separate condurtor ses 1 having a retaining groove for the conductor, and a split sccuring band for the conductor seat clamped about the crown of the cap plecesubstantially as set forth.
4. An insulator provided with an insulating cap piece, a separate conductor seat, and a securing band for said con-

ductor seat clamped about said cap plece, substantially as set forth.
5. An insulator comprising a non-conducting body, a separate substantially trough-shaped conductor seat secured directly to said non-conducting body with its ends projecting beyond the body to form securing extensions for the conductor, said conductor seat being materially narrower than said body, and a narrow securing band for said conductor seat encircling said body and connected to said seat at separated parts thereof, whereby said seat and securing band cover only a relatively small portion of the bods, substantially as set forth.
6. An insulator comprising a non-conducting body having an insulating cap plece, a separate conductor seat extending across the crown of said cap piece, and a narrow securing band for said conductor seat secured about said crown, substantially as set forth.

No. 101,523. Press for Extracting Oil from Soeds. procédé pour ertraire l'huile des graincs.


The Sherwin Williams Company, assignee of Albert D. Anderson, both of Cleveland, Ohio, U.S.A.. 16th October. 1906; 6 years. Filed 19th May, 1906. Receipt No. 136,095.
Claim.-1. In comblation with a press, a strainer to recoive the oll therefrom, and means for returning the solid matter withdrawn from the oll to the press.
2. In combination with a press, means for separating the solid matter from the oil passing from the press and returning such solid matter to the press for further treatment.
3. In combination with a press, a strainer to receive the oil therefrom. means working within the strainer to with. draw the solid matter from the same, and means for returning the solid matter to the press for further treatment.
t. In combination with a press, a strainer to receive the oil therefrom, a screw working within the stralner and acting to remove the solld mattor from the oll, and a conveyer for returaing the solid matter thus removed to the press for further treatmont.
5. In combination with a press, a strainer to receive the oil therefrom, a screw working in the strainer, and means for maintaining the strainer in olose contact with said screw.
6. In combination with a press, a strainer to receive the oil therefrom, a screw working in the strainer, means for maintaining the strainer in close contact with said screw. and means for returning the solid matter withdrawn from the strainer by the screw to the press for further treatment.
7. In combination with a press, a strainer to receive the oll therefrom. a screw working in the strainer, sald screw having an independent section or flight adjacent to the discharge end of the strainer, a cover fitting over said section or flight, and means for maintaining the strainelin close contact with the screw.
8. In combination with a press, a strainer to receive the oil therefrom, means contained within the strainer for removing the solid matter therefrom in a relatively dry state, and means for returning said matter to the press for further treatment.
9. In combination with a press, a strainer mounted below the same, said strainer being inclined away from the head of the press, means contained within the strainer for removing the solid matter therefrom and discharging the same from the elevated end of the strainer, and means for returning said matter to the press for further treatment.
10. In combination with a press, a pan below the same, a strainer located beneath the pan and receiving the oil therefrom, means contained within the strainer for withdrawing the solid matter therefrom, and means for returning the solid matter to the press for further treatment.
11. In combination with a press, a pan below the same, said pan being provided with a discharge opening at or near one end thereof, a strainer located beneath the pan and inclining upwardly away from the opening, means for withdrawing the solid matter from the upper end of the strainer, and means for returning said matter to the press.
12. In combination with a press, a pan below the same, a stralner recelving the oil from the pan, means for withdrawing the solid matter from the strainer and returning the same to the press, a trough located beneath the strainer, and means for holding the strainer in close contact with the means working therein which removes the solid matter.
13. In combination with a press, a strainer to receive oil therefrom, a screw working in the strainer, a pan below the strainer, and means interposed between the pan and the strainer for maintaining the strainer in close contact with the screw.
14. In combination with a press, a strainer located beneath the same, a screw working in the strainer, a pan beneath the strainer, a series of \(U\)-shaped supports for the strainer, and means for securing adjustment of said supports.
15. In comblination with a press, a strainer comprising a substantially U-shaped foraminous body, members secured co the upper edges of said body, a head plece at the upper end of the foraminous body, andi a tail piece at the opposite end, a series eof \(U\)-shaped supports pivotally connected to the members secured to the body of the strainer, and means for adjusting said supports.
16. In combination with a press, a strainer comprising a substantially U-shaped body, a series of adjustable supports therefor, a screw conveyer working in said strainer, and adjustable bearings for the opposite ends of said conveyer, whereby the inclination of the U-shaped body and sorew may be varied as desired and the strainer held in close contact with the screw, substantially as described.
17. In combination with a press, a strainer comprising a substantially U-shaped foraminous body, a head casting, a tail casting, an angle plate and a bar sacured to each upper edge of the foraminous body, said plates and bars being seated at their ends in the head and tail castings, a series of U-shaped supports pivotally connected to said angle plates, a series of adjustable elbow levers pivoted below said supports, an adjustable pin mounted in one end of each of said levers and bearing against the under face of the U shaped supports, and a screw working in the strainer.
18. In combination with a press, a strainer, means for removing the solid matter therefrom and returning the same to the press, means for effecting a further separation of the solld matter from the oil which passes from the strainer, and means for returning to the press the solid matter thus recovered.
19. In combination with a press, a primary mechanism for receiving the oil directly therefrom, effecting a substantial separation of the foots from the oil and returning such foots to the press, and a secondary mechanism receiving the oil from the primary mechanism, said secondary mechanism effecting a final separation and returning the foots to the press.
20. In combination with a press, means for effecting a substantially complete separation of the foots from the oil after
the oll has passed from the press, and means for returning he foots to the press.
21. In combination with a press, a strainer, means for removing the solid matter therefrom and returning it to the press, a settling tank receiving the oil from the strainer, and means for withdrawing the solid matter from the tank.
22. In combination with a press, a strainer. means for removing the solid matter therefrom and returning it to the fress, a settling tank receiving the oll from the strainer, and means for removing the solid matter from the tank and returing it to the press.
23. In combination with a press, a strainer, means for removing the solid matter therefrom and returning it to the press, a settling tank receiving the oil from the strainer. means for heating said tank, and means for withdrawling the solid matter from the tank and returning it to the press.
24. In combination with a press, a strainer, means for removing the solid matter therefrom and returning it to the press, a settling tank receiving the oil from the strainer, means for heating said tank, and a sorew mounted in the tank. said screw serving to withdraw the solid matter from the tank.
25. In combination with a press, a strainer, means for removing the solid matter therefrom, a settling tank receiving the oil from said strainer, said tank being provided at one end with an oil outlet and at its oppos!te end with an elerated mouthpiece, and a screw mounted in said tank and serving to feed the solid matter toward the elevated mouthplece.
26. In combination with a press, a strainer, means for removing the solid matter therefrom, a settling tank receiving the oil from said strainer. said tank being provided at one end with an oll outlet and at its opposite end with an elevated mouthpiece. a screw mounted in sald tank and serving to feed the solid matter toward the mouthplece, and means for heating the tank.
27. In combination with a press, having a feed hopper, means for effecting a separation of the foots from the oil which passes from the press, an endless conveyer serving to return the foots thus separated to the hopper, and means for removing the material from the conveyer.
28 In combination with a press having a feed hopper, means for effecting a separation of the foots from the oil which passes from the press, an endless bucket conveyer serving to return the foots thus separated to the hopper, and means for withdrawing any adhering matter from the buckets and causing its discharge into the hopper.
29. In combination with a press having a feed hopper. means for effecting a separation of the foots from the oil which passes from the press, an endless bucket conveyer receiving the foots thus recovered, said conveyer having a spout which discharges into the hopper, and means working in line with said spout to clear the buckets and throw the matter thus removed into the spout.
30. In combination with a press having a feed hopper, means for effecting a separation of the foots from the oll which passes from the press, an endless bucket conveyer recelving the foots thus recovered, said conveyer having a spout which discharges into the hopper, a pivoted scraper standing in line with the spout and with the buckets, and spring actuated mechanism for throwing the scraper rearvardly as it passes out of contact with each of the buckets, whereby adhering matter will be removed from the buckets and directed into the spout.
31. In combination with a continuously operating press, a strainer to receive the oil therefrom, and means for returning the solid matter withdrawn from the oil to the press.
32. In combination with a continuously operating press, means for separating the solid matter from the oil passing from the press and returning such solid matter to the press for further treatment.
33. In combination with a continuously operating press, a strainer to receive the oll therefrom, means working within the strainer to withdraw the solid matter from the same, and means for returning the solld matter to the press for further treatment.
34. In combination with a continuously operating press, a strainer to receive the oil therefrom, a screw working within the strainer and acting to remove the solld matter from the oil, and a conveyer for returning the solid matter thus removed to the press for further treatment.
35. In combination with a continuously operating press. a strainer to receive the oll therefrom, a screw working in the strainer, and means for maintaining the strainer in close contact with said screw.
36. In combination with a continuously operating press, a strainer to receive the oil therefrom, a screw working in the strainer, means for maintaining the strainer in close contact with said screw, and means for returning the solid matter withdrawn from the strainer by the screw to the press for further treatment.
37. In combination with a continuously operating press, a stralner to receive the oil therefrom, a screw working in the
strainer, said screw having an independent section or filght adjacent to the discharge end of the strainer, a cover fitting over said section or flight. and means for maintaining the strainer in clos. contact with the serew.
38. In combination with a continuously operating press. a sirainer to receive the oil therefrom, means contained within the strainer for removing the solid matter therefrom in a relatively dry state, and means for returning said matter to the press for further treatment.
39. In combination with a continuously operating press, a strainer mounted below the same, said strainer being inclined away from the head of the press, means contained within the strainer for removing the solld matter therefrom and discharging the same from the elevated end of the strainer, and means for returning said matter to the press for further treatment.
40. In combination with a continuously operating press, a pan below the same, a strainer located beneath the pan and recelving the oil therefrom, means contained within the strainer for withdrawing the solid matter therefrom. and means for returning the solid matter to the press for further treatment.
41. In combination with a continuously operating press having a feed hopper, means for effecting a separation of the foots from the oll which passes from the press, and endless conveyer serving to return the foots thus separated to the hopper, and means for removing the material from the conveyer.

No. 101,524. Set Ring. Collet dessieur.


George H. Best, Hampton, New Brunswick, Canada, 16th October, 1906; 6 years. Filed 11th June, 1906. Receip: No. 136,785.
Claim.-1. A set ring for shafts comprising two separable sections, each of which is in two parts or nalves, one of said sections having an externally threaded portion and the other section having an internal thread to receive the externally threaded portion to force the same agains' the shaft, to grip the same, substantially as set forth.
2. A set ring for shafts comprising two separable sections. each of which is in two parts or halves. one of said sections having a projecting hollow stem externally threaded and tapered, in each half of which stem is a saw cut, and the other section interlocked or joined together by dovetailed ribs bearing in dovetalled channels and having an internal thread to receive the threaded stem, to force the same against the shaft, all substantially as set forth.
3. A set ring for shafts comprising a split ring having on one side a projecting hollow stem. externally threaded and tapered, fitting on the shaft, and having an annular groove or channel adapted to receive the annular shoulder of the nut, a spllt nut screwed on the stem for forcing it against the shaft to grip the same, and means for fastening the nut sections together, all substantially as set forth.

\section*{No. 101,525. Gas Bmrner. Brûleur d gaz.}

Frederick Egge, Bridg.port. Connecticut, U.S.A., 16th October. 1906; 6 years. Filed 2Jth May, 1906. Receipt No 136.229.

Claim.-1. In a device of the character described, the combication of the lower faction having a tubular passage, a diaphragm which by gravity normally closes the upper end of sald passage, a valve supported by sald diaphrasm and rapable of displacement. the upper section secured to the lower section and having a gas duct immediately above
sald valve whereby the upward movement of the diaphragm will cause the valve to close sald duct, and means for dis-

placing said valve thereby opening the duct and establishing a free passageway for the gas.
2. In a device of the character described, the combination of the lower section having a tubular passage, a diaphragm which by gravity normally closes the upper end of said passage, a valve supported by said diaphragm and capable of displacement, the upper section secured to the lower section an dhaving a horizontal partition through which extends a duct and whose lower central portion forms a depending valve seat surrounding said duct and immediately above said valve, and means for thrusting sald valve from its seated position.
3. In a device of the character described, the combination of the two sections one having a tubular passage while the other has a horizontal partition provided with a duct imin diately above the upper end of said passage, a gravity diaphragm which normally closes said end, a valve supported by said diaphragm whereby the gas pressure will clevate the diaphragm and cause the valve to close sald duct, and means for thrusting the valve away from the duct into a position between the diaphragm and the partition whereby said diaphragm will be prevented from closing the duct and a free passageway for the gas will thereby be afforded.
4. A gas burner comprising complementary section: concaining lower and upper gas passages separated from each other by an intervening space, a diaphragm which normally closes the lower passage, a mechanically displaceable valve supported by said diaphragm immediately below the upper passage whereby the diaphragm is elevated by gas pressure said passage will be closed by said valve, and means for thrusting said valve away from said passage and into a position where it will prevent the diaphragm from closing said upper passage.
5. A gas burner comprising complementary sections containing lower and upper gas passages separated from each other by an intervening space, a diaphragm which normally closes the lower passages and has a concave upper surface. a ball valve which normally rests frecly upon the center of said suriace immediately below the upper passage, a partition which horizontally divides the upper section and through which the upper gas passage is plerced said partition being recessed near sald passage, and means for forcing said ball into the recessed portion of said partition.
6. In a device of the character described, the combination of the lower section having a tube extending upward therethrough and an air space around said tube the latter being open at top and bottom and coustituting the Inlet passage for the gas, a cap shaped gravity diaphragm which normally rests upon the top of said thbe and whose sides extend loosely within said air space, a valve supported by said diaphragm and capable of displacement, the upper section secured to the lower section and having a gas duct immediately above sald valve whereby the upward movement of the diaphragm will cause the valve to close said duct, and means for displacing said valve thereby opening the duct and establishing a free pasageway for the gas.
7. In a device of the character described, the combination of the lower section having a tube extending upwardly therethrough and an air space around said tube the latter being op'n at top and bottom and constituting the inlet passag. for the gas. a cap-shaped gravity diaphragm which normally rosts upon the top of said tube and whose sides extenl looscly within said air space, a valve supported by suid dia phragm and capable of displacement, the upper section
secured to the lower section and having a horizontal partition through which extends a duct and whose lower central portion forms a depending valve seat surrounding said duct and immediately above said valve, and means for thrusting said valve from its seated position.
8. In a device of the character described, the combination of the two sections, one having a tubular passage and a surrounding air space while the other has a horizontal partition provided with a duct immediately above the upper end of sald passage, a cap-shaped gravity diaphragm whose upper face is concave and which normally closes the top of said passage and whose sides extend loosely within said alr space, and a ball valve loosely supported by said diaphragm.

No. 101,526. Truss. Bandage herniaire.


William S. Hobson, Grenada, Mississippi, U.S.A., 16th October, 1906; 6 years. Filed 16th May, 1906. Receipt No. 135,981 .
Claim-In a truss, a pad comprising a cup baving one face provided with a cavity and with a centrally disposed orifice, a colled spring seated in the orifice and having one terminal disposed along the back of the pad and secured thereto, a pressure knob having a stem secured between the coils of the outer end of the spring, and a plate secured to the back of the pad and subserving the double function of an abutment for the spring, and a means of connection with the truss belt.

\section*{No. 101,527. Bracket for Electric Lights. Console pour lumières électriques.}


Eugene Feodor Hug, Elgin, Oregon, U.S.A., 16th October, 1906; 6 years. Filed 26th May, 1906. Receipt No. 136,278.
Claim.-1. An electric light support or fixture comprising an arm pivotally supported to swing in an approximately 10-19
horizontal plane and constituting a conductor, and an electric lamp mounted to travel upon said arm and deriving current therefrom by direct contact in any adjusted position.
2. An electric light fixture comprising a pivotally mounted arm composed of longitudinally arranged bars electrically insulated from each other and forming conductors, an electric lamp mounted to travel upon the members of said arm and receiving current therefrom in any adjusted position, and means for adjustably connecting the lamp with the said arm.
3. An electric light fixture comprising a swinging arm embodying longitudinal sections electrically insulated from each other, means for supplying an electric current to said sections, and an electric lamp mounted to travel upon the arm and in electric connection with the respective sections thereof.
4. An electric light fixture comprising a pivotally mounted arm comprising longitudinal sections electrically insulated from each other, a carrier mounted to travel upon said arm and having electrically insulated parts in electrical connection with corresponding sections of the arm, an electric lamp, an electric cord connecting said lamp with the respective parts of the carrier, and a take-up in the length of said electric cord to admit of lengthening and shortening it.

No. 101,528. Process of Preparing Skins and Furg. Procédé pour la préparation des peaux.

Jacob Klugmann, Riga, Russia, 16th October, 1906; 6 years. Filed 17th May, 1906. Receipt No. 136,005.
Claim.-1. The process for the treatment of skins and furs, consisting of the application of a coating of rubber or caoutchouc with the addition of oxide of zinc, chalk and liquid hydro-carbons to the tanned flesh side of the hide, such coating being fixed thereon by vulcanization.
2. In the treatment of skins and furs, applying a mixture of caoutchouc, oxide of zinc, chalk, and liquid hydro-carbons, and vulcanizing such mixture by means of bisulphide of carbon and chloride of sulphur.
3. In the treatment of skins and furs, applying a mixture of caoutchouc, oxide of zinc, chalk, and liquid hydro-carbons with the addition of mineral colours or the like, and vulcanizing such mixture by means bisulphide of carbon and chloride of sulphur.

No. 101,529. Lamp Burner. Bec de lampe.


FIG 3


FIG 5


Roy H. Maple, Minneapolis, Minnesota, U.S.A., 16th October, 1906; 6 years. Filed 25th May, 1906. Recelpt No. 136,218. Claim.-1. The combination with a burner having a wick tube. of a retaining band having means for attachment to said burner, and a series of inwardly turned prongs on its upper edge, and a glass cone inserted into sald band from the under side and having a flame opening to coincide with said tube and an annular groove near its lower edge to receive said prongs, substantially as described.
2. The combination with a lamp burner having a wick tube and an air inlet plate, of a retaining band having means for attachment to said burner and provided on its upper edge with a series of inwardly turned prongs having outwardly turned tips, a glass cone inserted into said band from the under side, and having an annular groove near its base to receive said prongs, and said groove having a square upper face or shoulder, substantially as described.
3. The combination of a burner having a wick tube, of a retaining band having means for attachment to said burner and having a cone locking means and upwardly projecting caps, a glass cone inserted into said band from the under side and having a flame opening to coincide with said tube and held by said locking means, and shoulders or bosses provided on said cone and adapted to enter said caps and lock said cone against rotation, substantially as described.
4. The combination of a burner having a wick tube, and a band having means for attachment to said burner, and a glass cone fitting in said band, and having a flame opening to colncide with said tube, the lower diameter of said cone being greater than the diameter of the opening in the upper portion of said band and the upper portion of said band: grasping the cone and constituting a seat and holder therefor, whereby the cone may be inserted through the band and brought to position on its seat from beneath the band and be held by the seat against accidental displacement therefrom, substantially as described.
\(\overline{5}\). The combination with a burner having a wick tube, of a bend, and glass cone inserted into said band from the under side and having a flame opening to coincide with said tube and said band having means for attachment to said burner, and a retaining means for said cone, and said band being also provided with means to prevent the accidental rotation of said cone therein.
6. The combination with a burner having a wick tube, of a band having means for attachment to said burner, and a glass cone composed of two sections fitting in said band and having a flame opening to coincide with said tube, the lower diameter of the cone being greater than the diameter of the opening in the upper portion of the band, and the upper portion of the band grasping the cone and constituting a seat and holder therefor, whereby the cone may be inserted through the band and brought to its seat from beneath the band and be held by the seat against accidental displacement tharefrom, substantially as described.

No. 101,530. Type Casting Machine.
Machine pour la fonte des caractères.


Sylvester J. Sennett, Chicago, Illinois, U.S.A., 16th October, 1906: 6 years. Filed 11th August, 1906. Recelpt No. 138,608.
Claim.-1. In an automatic type casting and finishing machine, the combination with a casting pot having a piston chamber and piston, a discharge nozzle, a valve chamber and choker and nozzle valves, of a reciprocating bottom mould member, laterally movable side mould members, a recipro-
cating plunger or extractor blade having a head furnished with a type set stop shoulder and adapted to slide between said side mould members and move laterally therewith and iorming the upper face of the mould, and an adjustable type set stop or finger adapted to engage said type set stop or shoulder on the head of sald plunger or extractor blade, a rocking carrier upon which said side mould members and said extractor blade are mounted, a matrix and matrix holder mounted on said rocking carrier and independently morable to and from said side and bottom mould members, said matrix forming the face end of the mould, an end plate forming the opposite end of the mould and interposed between said side mould members F F and said nozzle, a guide for the cast type, a sprue or jet removing device, a grooving tool for the sprue or jet end of the type, and one or more rotary nicking tools for nicking the body face of the type as the same are forced along the guide by the extractor plunger or blade, substantially as specified.
2. In a type casting machine the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members. a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and a matrix holder movable to and from said side and bottom mould members. substantially as specified.
3. In a type casting machine, the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould nember, laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and a matrix holder movable to and from said side and bottom mould members. and a type guide to receive the type as they are discharged from said side mould members by the extractor blade, substantially as specified.
4. In a type casting machine, the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and a matrix holder movable to and from said side and bottom mould members, a type guide to receive the types as they are discharged from said mould members by the extractor blade, and a sprue or jet removing device, substantially as specifed.
5. In a type casting machine, the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and a matrix holder movable to and from said side and bottom membery, a type guide to receive the type as they are discharged from said side mould members by the extractor blade, a sprue or jet removing device, and a finishing tool for the sprue or jet end of the type, substantially as specified.
6. In a type casting machine the combination with a casting pot and piston and discharging nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and a matrix nolder movable to and from said side and bottom members. a type guide to receive the type as they are discharged from said side mould members by the extractor blade, a sprue or jet removing device, a finishing tool for the sprue or jet end of the type, and a rotary nicking tool, substantially as srecifled.
7. In a type casting machine the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and a matrix holder movable to and from said side and bottom mould members, a type gulde to receive the type as they are discharged from sald side mould members by the extractor blade, and a rocking carrier upon which said side mould members, extractor blade, matrix and matrix holder are mounted, substantially as specified.
8. In a type casting machine the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extrartor blade sliding between said side mould members, a matrix and a matrix holder movable to and from said side and bottom mould members, a type guide to receive the type as they are discharged from said side mould members by the extractor blade, a rocking carrier upon which said side mould members, extractor blade matrix and matrix holder are mounted, and a finishing tool for the sprue or jet end of the type, substantially as speciffed.
9. In a type casting machine the combination with a castin pot and piston and discharge nozzle, of a reciprocating bottom mould member. laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and matrix holder movable to and from said side and bottom mould members,
a type guide to receive the type as they are discharged from sald side mould members by the extractor blade, a rocking carrier upon which said side moulds, extractor blade, matrix and matrix holder are mounted, and a rotary nicking tool, substantially as specified
10. In a type casting machine the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding be tween said side mould members, a matrix and matrix holder movable to and from said side and bottom mould members, a movable carrier upon which said side mould members, plunger or extractor blade, matrix and matrix holder are mounted, and an end plate interposed between said discharge nozzle and said side and bottom mould members, substan tially as specifed.
11. In a type casting machine the combination with a cast ing pot and piston and discharge nozzle, of a reciprocating hottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding be tween sald side mould members, a matrix and matrix holder movable to and from said side and bottom mould members. a movable carrier on which said side mould members, plunger or extractor blade, matrix and matrix holder are mounted, an end plate interposed between said discharge nozzle and said side and bottom mould members, and a type guide to receive the type as they are discharged from said side mould members, substantially as specifled.
12. In a type casting machine the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sllding hetween said side mould members. and a type set finger or stop, said plunger or extractor blade having a head furnished with a stop shoulder to engage sald type set stop or finger, a matrix and a matrix holder movable to and from sald side and bottom mould members. a movable carrier on which said side mould members. plunger or extractor blade. matrix and matrix holder are mounted, an end plate interposed between said discharge nozzle and said side and bottom mould members, a type guide to receive the type as they are discharged from said side mould members, substantially as specified.
13. In a type casting machine the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members. a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and matrix holder movable to and from said side and bottom mould members. a movable carrier on which said side mould members, plunger or extractor blade, matrix and matrix holder are mounted, an end plate interposed between said discharge nozzle and sald side and bottom mould members. a type guide to receive the type as they are discharged from said side mould members. and nicking tools engaging the type as they are pushed along the type gulde by said plunger or extractor blade, substantlally as specified.
14. In a type casting machine the combination with a casting pot and piston and discharge nozzle. of a reciprocating bottom mould member, laterally movable side mould memters, a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and matrix holder movable to and from said side and bottom mould members, a movable carrier on which said side mould members, plunger or extractor blade, matrix and matrix holder are mounted. an end plate interposed between said discharge nozzle and said side and bottom mould members, a type guide to receive the type as they are discharged from said side mould members, and a finishing tool or the sprue or neck end of the type engaging the type as they are pushed along said guide by said plunger or extractor blade, substantially as specified.
15. In a type casting machine the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and matrix holder movable to and from said side and bottom mould members, movable carrier on which said side mould members, plunger or extractor blade, matrix and matrix holder are mounted, an end plate interposed between said discharge nozzle and said side and bottom mould members, a type guide to recelve the type as they are discharged from said mould members, a grooving tool for the sprue or neck end of the type engaging the type as they are pushed along the type guide by said plunger or extractor blade, and a spring actuated type holding finger or device for pressing or holding the type endwise against said grooving tool, substantially as specifled.
16. In a type casting machine, the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, \(a\) reclprocating plunger or extractor blade sliding
hetween said side mould members, a matrix and a matrix holder movable to and from said side and bottom mould members, a movable carrier on which sald side mould members, plunger or extractor blade, matrix and matrix holder are mounted, an end plate interposed between said discharge vozzle and said side and bottom mould members. a type suide to receive the type as they are discharged from said mould members, nicking tools engaging the type as they are pushed along the type guide by said plunger or extractor blade, said type guide having a spring pressed back plate, substantially as specified.
17. In a type casting machine. the combination with a cast ing pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members. a matrix and a matrix hold er movable to and from said slde and bottom mould members, a movable carrier on which said side mould members plunger or extractor blade, matrix and matrix holder are mounted, an end plate interposed between said discharge rozzle and said side and bottom mould members. a type guide to receive the type as they are discharged from said side mould members, and a sprue or jet removing device, substantially as specified.
18. In a type casting machine, the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and a matrix holder movable to and from said side and bottom mould members, a movable carrier on which said side mould membors, plunger or extractor blade, matrix and matrix holder are mounted, an end plate interposed between said discharge nozzle and said alde and bottom mould members, a type guide ts receive the type as they are discharged from said side mould members, a sprue or jet removing device, and a finishing tool for the sprue or jet end of the type, substantially as specified.
19. In a type casting machine, the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members, a member and a matrix holder moving to and from said side and bottom mould memhers, a movable carrier on which said side mould members plunger or extractor blade, matrix and matrix holder are rounted, an end plate interposed between said discharge nozzle and said side and bottom mould members, a type guide to receive the type as they are discharged from sald side mould members, a sprue or jet removing device, a finishing tool for the sprue or jet end of the type, and a spring actuated type holding or pressing device for pushing the type endwise against said finishing tool, substantially as specified
20. In a type casting machine, the combination with a cast irg pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding between sald side mould members, a matrix and a matrix lolder movable to and from said side and bottom mould members, a movable carrier on which said side mould members, plunger or extractor blade, matrix and matrix holder are mounted, an end plate interposed between said discharge riczzle and said side and bottom mould members, a type guide to recelve the type as they are discharged from said mould members, a sprue or jet removing device, a finishing tool for the sprue or jet end of the type, and a rotary nicking tool substantially as specified.
21. In a type casting machine, the combination with a cast ing pot and piston and discharge nozzle. of a reclprocatng bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and a matrix holder movable to and from said side and bottom mould. m:embers, a movable carrier on which said side and bottom mould members, plunger or extractor blade, matrix and matrix holder are mounted, an end plate interposed between said discharge nozzle and said side and bottom members, a type guide to receive the type as they are discharged from said side mould members, a sprue or jet removing device, a finish ing tool for the sprue or jet end of the type, a spring actuated type holding or pressing device for pushing the type endwise against said finishing tool, and a rotary nicking tool, substantially as specified.
22. In a type casting machine, the combination with a casting pot and piston and discharge nozzle, of a reciprocating bottom mould member, laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and a matrix holder movable to and from said side and bottom mould members, a movable carrier on which said side mould member, plunger or extractor blade, matrix and matrix holder are mounted, an end plate interposed between said discharge
nozzle and said side and bottom mould members, a type guide to receive the type as they are discharged from said side mould members and provided with a spring held back plate, a sprue or jet removing device, a finishing or grooving tool for the sprue or jet end of the type, a spring actuated type kolding or pressing device for pushing the type endwise against said grooving or finishing tool, and a rotary nicking tool, substantially as specified.
23. In a type casting machine, the combination with a reciprocating bottom mould member, of laterally movable side mould members, a reciprocating plunger or extractor blade sllding between said side mould members, a matrix and an independently movable matrix holder, and a movable carrier upon which said side mould members, extractor blade and matrix and matrix holder are mounted, substantially as, specified.
24. In a type casting machine, the combination with a reciprocating bottom mould member, of laterally movable side mould members, a rectprocating plunger or extractor blade sliding between said side mould members, a matrix and an Independently movable matrix holder, a movable carrier upon which said side mould members, extractor blade, and matrix and matrix holder are mounted, and a type guide, substantially as specifled.
25. In a type casting machine the combination with a reciprocating bottom mould member, of laterally movable side mould members. a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and an indepenfently movable matrix holder, a movable carrier upon which sald side mould members, extractor blade and matrix and matrix holder are mounted. a type guide. and means for operating said carrier, substantially as specified.
26. In a type casting machine the combination with a reciprocating bottom mould member, of laterally movable side mould members, a reciprocating pluncer or extractor blade sliding between said side mould members, a matrix and matrix holder movable indenendently of said side mould members, a movable carrier upon which said side mould members. extractor blade and matrix and matriy helfer are mounted, means for operating said carricr. means for moving sald bottom mould member to and from said side mould members, and a type guide. substantially as specifled.
27. In a type casting machine the combination with a reciprocating bottom mould member of laterally movable side mould members, a reciprocating plunger or extractor blade sliding between said side mould members, a matrix and matrix holder movable independently of said side mould members, a movable carrier upon which said side mould members, extractor blade and matrix and matrix holder are mounted. means for onerating said carricr, means for moving sald bottom mould member to and from said side mould members. means for moving said matrix and matrix holder to and from said side mould members, and a type guide, substantially as specified.
28. In a type casting machine the combination with a reciprocating bottom mould member, of laterally movable side mould members, a reciprocating plunger or extractor blade sliding between sald side mould members, a matrix and matrix holder movable independently of sald side mould members, a movable carrier upon which sald side mould members. extractor blade and matrix and matrix holder are mounted. means for operating said carrier, means for movIng said bottom mould member to and from said side mould members, means for moving said matrix holder to and from said side mould members. means for operating said plunger or extractor blade to discharge the cast type, and a type gulde, substantfally as specified.
29. In a type casting machine the combination with a reciprocating bottom mould member, of laterally movable side mould members a reciprocating plunger or extractor blade sliding between said side mould members, an adjustable type set finger or stop, said plunger or extractor blade having a type set shoulder engaging said adjustable type set finger or stop, a matrix and matrix holder movable independently of said side mould members, a movable carrier upon which said side mould members, extractor blade and matrix and matrix bolder are mounted, means for operating sald carrier, means for moving said bottom mould member to and from sald side mould members, means for moving sald matrix and matrix holder to and from said side mould members, means for operating said plunger or extractor blade to discharge the cast type into a type guide, and a type gulde. substantially as specified.
30. In a type casting machine the combination with a reciprocating bottom mould member. of laterally movable side mould members, a reciprocating plunger or extractor blade sliding between sald side mould members, a matrix and matrix holder movable independently of said side mould members, a movable carrier upon which said side mould members, extractor blade and matrix and matrix holder are mounted, means for operating said carrier, means for moving said bottom mould member to and from said side
mould members, means for moving said matrix and matrix holder to and from said side mould members, means for operating said plunger or extractor blade to discharge the cast type into a type guide, a casting pot having a piston chamber, discharge nozzle and valve chamber, a piston and a valve, means for operating sald piston, means for operating said valve, and a type guide, substantially as specifled.
31. The combination with a type casting mechanism having an ejector blade or plunger, of a laterally movable carricr on which said casting mechanism is mounted, a stationary guide for the cast type, and a device for removing or ireaking off the sprue as the type are forced along the type suide by said ejector blade or plunger, substantially as \(\because e c i f i e d\).
32. The combination with a type casting mechanism having an ejector blade or plunger, of a laterally movable carrier upon which said casting mechanism is mounted, a stationary guide for the cast type, and a device for removing or breaking off the sprue as the type are forced along the type guide by said ejector blade or plunger, and a finishing tool for finishing the sprue or fet end of the type, substantlally as specified.
33. The combination with a type casting mechanism having an ejector blade or plunger, a laterally movable carrier upon which said casting mechanism is mounted, a stationary guide for the cast type, a device for removing of breaking off the sprue as the type are forced along the type guide by said ejector blade or plunger, a finishing tool for finishing the sprue or jet of the type, and a spring actuated device for pushing the type endwise against said tool, substantially as specified.
34. The combination with a type casting mechanism having an ejector blade or plunger, of a laterally movable carrier upon which said casting mechanism is mounted, a guide for the cast type, a device for removing or breaking off the sprue as the type are forced along the type guide by sald ejector blade or plunger, a grooving tool for grooving the sprue or jet fnd of the type. a spring actuated device for pushing the type cndwise against said tool, and a rotary nicking tool. substantially as specified.
35. The combination with a type casting mechanism havIng an ejector blade or plunger, of a laterally movable carrier upon which said casting mechanism is mounted, a sta1.ionary guide for the cast type, a device for removing or breaking off the sprue as the type are forced along the type guide by said ejector blade or plunger, a grooving tool for grnoving the sprue or jet end of the type, a spring actuated device for pushing the type endwise against said tool, a rotary nicking tool, and a spring pressed plate for said type guide. substantially as specifled.
36. The combination with a type casting mechanism having an ejector blade or plunger. of a guide for the cast type. a rotary nicking tool for nickng the type as they are forced along the guide by said ejector blade or plunger, and a spring pressed back for said guide, substantially as specified.
37. In a type casting machine the combination with a bottom mould member, of a reciprocating holder for said bottom mould member, a rocking carrier, mould members mounted thereon, a matrix and a movable matrix holder mounted on said rocking carrier, substantially as specifled. 38. In a type casting machine the combination with a bottom mould member. of a reciprocating holder for sald bottom mould member. a rocking carrier, mould members mounted thereon, a matrix, a movable matrix holder mounted on said rocking carrier. and an extractor blade or plunger forming the top face of the mould, substantially as specifled.

No. 101,531. Stove, Range, Etc. Poêlcs, etc.
Frederick J. Willock, New York City. U.S.A., 16th October,
1906; 6 years. Filed 14th May, 1906. Receipt No. 135,904.
Claim.-1. As a new article of manufacture, a portable attachment for stoves, ranges and furnaces, adapted to fit within or below the frebox or combustion chamber thereof. comprising a pipe and a burner connected therewith, and provided with means for retaining the burner in a vertics! or a horizontal position as desired, while within or below the firebox or combustion chamber thereof, substantially as described.
2. As a new article of manufacture. a portable attachment for stoves, ranges and furnaces, adapted to fit within or below the firebox or combustion chamber thercof, comprising a pipe and a burner connected therewith, and provided with plates carried upon said pipe, at opposite sides of the burner, for retaining the latter in a vertical or \({ }^{2}\) horizontal position as desired, while within or below the firebox or combustion chamber aforesaid, substantially as described.
3. As a new article of manufacture, a portable attachment for stoves, ranges and furnaces, adapted to fit within or below the fire box or combustion chamber thereof, com-
prising a pipe and a burner connected therewith, the attachment being provided with a handle for moving the

same as desired and with means for retaining the burner in a vertical or a horizontal position as. desired while within or below the frebox or combustion chambe, aforesaid, substantially as described.
4. As a new article of manufacture, a portable attachment for stoves, ranges and furnaces, adapted to fit within the frebox or combustion chamber thereof, comprising a pipe provided with a rotatable supply connection having a projecting tubular end, a burner connected with said pipe and means for retalning the burner, while within the fire box or combustion chamber aforesaid, in position to direct the flames therefrom forwardly, upwardly or rearwardly as desired, substantially as described.
5. The combination with the fire box or combustion chamber of a stove, range or furnace, of an attachment adjustably fitted thereinto and above the grate, and provided with a burner and means for retaining the same in positlon to direct the flames therefrom forwardly, upwardly or rearwardly as desired, and a tubular connection pivoted upon and leading into the attachment and projecting through the grate aforesaid to the exterior of the stove, substantially as described.

No. 101,532. Gas Making Apparatus.
Apparedl pour la fabrication du gaz.


Adolph Schwartz, Minneapolis, Minnesota, assignce of Louis Aljerne Watts, Spokane, Washington, U.S.A., 16th October, 1906; 6 years. Filed 18th September, 1906. Recelpt No. 139,595.
Claim.-1. An apparatus of the class described, comprising a storage tank, a gasometer connected therewith consisting of a water receptacle being provided with inner and outer chambers, means for soparately supplying gas and air to the chambers, controlling valves arranged in the gas inlet and outlet pipes of the chambers, a connection between said valves, a pivotally supported tripping lever
arranged in conncction with one of said valves, and a lever connecting the tripping lever with the bell of the gasometer.
2. In an apparatus of the class described, the combination with a storage tank comprising a water receptacle and a telescoping bell. of a similar gasometer provided with separate chambers, air inlet and outlet pipes for one chamber, gas inlet and outlet pipes for the other chamber, valves arranged in the gas inlet and outlet pipes, a rod connecting said valves, a handle carried by one of the valves, a lever having fulcrum support adjacent to the handle, and a connection between the outer end of the lever and the bell of the gosometer.
3. In an apparatus of the class described, the combination with a storage tank comprising a water receptacle and telescoping bell, of a similar gasometer provided with separate chambers, air inlet and outlet pipes for one chamber, valves arranged in the gas inlet and outlet pipes, a connection between said valves, a triangular lever having fulcrum support adjacent to one of the valves, a connection between the outer end of the lever and the bell of the gasometer, and an operative connection between the outer and inner ends of the lever and valve.

No. 101,533. Knitted Fabric. Tissu tricoté.


Frederick Conde, Oswego, New York. U.S.A., 16th October 1906; 6 years. Filed 22nd August. 1906. Receipt No. 138.907.

Claim.-A knitted fabric having a transferred stitch and immediatoly below the space caused by such transferred stitch, a loop in tre first course thereafter, and a loop in the second course thereafter. substantially as described.
No. 101,534. Cattle Stanchion. Etançon pour bétail.


Henry 1). Elliott, Morgan Center. Vermont, U.S.A., 16th October, 1906; 6 years. Filed 18 th August, 1906. Receipt No. \(138,787\).

Claim.-1. In a cattle stanchion structure, a head frame including longitudinal ralls spaced apart and disposed above the stall floor, pins spaced apart and extending transversely through said head rails, a plurality of neck bars arranged in pairs and extending at one end between said head frame members, one bar of each of said pairs of neck bars swinging upon said pins transversely of said head frame and the other of each of siid pairs of neek bars movable at one end longitudinally or the head frame and movable at the other end transversely of the head frame, and means carried by the head frame for operating the bars which are movabla, iongitudinally of the head frame.
2. In a cattle stanchion structure including a stall space floor and a head frame spaced from the floor, said floor having spaced sockets extending longitndinally of the same, weck bars swinging from said head frame and movably engaging said sockets, and one of said bars also swinging transversely of said floor, and means carried by said head frame for actuating said transversely movable bar.
3. In a cattle stanchion structure including a stall floor, a head frame formed with rails spaced apart, and likewise spaced above the floor, said floor having spaced sockets extending longitudinally of the same, a neck bar swinging at one end between said rails and with the free end movably rengaging one of said sockets, a neck bar movable longltudinally of said ralls at one end and with the other end movably engaging the other of said sockets, and means for locking said longitudinally movable bar in position between said rails
4. In a cattle stanchion structure including a stall floor and a head frame spaced above the floor, said floor having sockets arranged in pairs spaced apart centrally of each stall space, a plurality of neck bars arranged in pairs, one bar of each pair swinging at one end from said head frame and with the free end movably engaging one socket of each pair of the same, and the other bar of each pair movable at one end longitudinally of said head frame and with the other end movably engaging the other socket of each pair of the same, means for simultaneously actuating said longitudinally movable bars, and means for independently releasing sald longitudinally movable bars.
5. In a cattle stanchion structure including a stall floor and a head frame spaced above the floor, said floor having sockets arranged in pairs spaced apart centrally of each stall space, a plurality of neck bars arranged in pairs, one bar of each pair swinging at one end from said head frame and with the frec end movably engaging one socket of each pair of the same, and the other bar of each pair extending at one end above said head frame and movable longitudinally ihereof and with the other end movably engaging the other socket of each pair of the same, a shlpper member movably bearing upon said head frame and through which the extended ends of said longitudinally movable bars project, and means for actuating said shipper member.
6. In a cattle stanchion structure including a stall floor and a head frame spaced above the floor, said floor having sockets arranged in pairs spaced apart centrally of each stall space, a plurality of neck bars arranged in pairs, one bar of each pair swinging at one end from said head frame and with the free end movably engaging one socket of each pair of the same, and the other bar of each pair extending at one end above said head frame and movable longitudinally thereof and with the other end movably engaging the other socket of each pair of the same, a shipper member movably bearing upon said head frame and provided with slots corresponding to and adapted to receive the extended ends of said longitudinally movable bars, means for actuating said shipper member, and locking members adapted to maintain said extended bars at one end of said slots and independently releasable from the same.

\section*{No. 101,535. Mould for Stone. Moule pour picrre.}

Willie Herman Fisher, Baltimore, Maryland, U.S.A., 16th October, 1906; 6 years. Filed 28 th March, 1906. Recelpt No. 134,360 .
Claim.-1. In a press the combination with supports, of a movable platen guided by said supports, means for moving said platen, a head supported by said supports, a mould box frame, means for adjusting said frame, and cushion means for said frame.
2. In a press the combination with supports, a movable platen, means for moving said platen, a head supoprted by said supoprts, a mould box frame provided with guides engaging the supports and cushioning means carried by the guides.
3. In a press the combination with supports, of a movable platen, means for moving sald platen, a head supported by said supports, a mould box frame, guides for the mould box frame engaging the supports, means for permitting the frame to be moved in relation to its guides to permit the sides of the mould box frame to be drawn together and means to draw the sides thereof together.
4. In a press the combination with supports, of a movable platen, means for moving said platen, a head supported by said supports, a mould box frame. guides for the mould frame engaging the supports and yielding means connecting the guides and the frame.
5. In a press. the combination with supports, of a movable platen, means for moving said platen, a head supported by said supports, a mould box frame, guides.encircling the supports, a bolt projecting form one side of the guides, a projection on the frame through which the bolt passes and a spring mounted on the bolt and adapted to be put under innsion by the movement of the frame in one direction.
6. In a press the combination with supports, of a movable platen, means for moving said platen, a head supported by

said supports, a mould box frame, a guide mounted upon the supports, a bolt pivoted at one end to the guide, a projection on the frame through which the bolt passes, and means for permitting movement between the bolt and projection on the frame.
7. In a press the combination with operating means, of a vertically movable platen connected thereto, sald platen being adapted to receive a wheeled truck, openings in the platen, crickets projecting through the openings and normally engaging the whecis of the truck for supporting the body of the same above the platen, but allowing the wheels of the truck to project into the openings and the body of the truck to contact with the platen when the platen is raised.
8. In a press the combination with operating means, of a vertically moving platen connected thereto and provided with tracks and openings in the tracks, said platen belag adapted to recelve a wheeled truck, crickets projecting through the openings normally engaging the wheels of the truck for supporting the body of the same above the plates, but allowing the wheels of the truck to project into the openings and the body to contact with the platen when the platen is raised.
9. In a press, the combination with a platen, means for operating the platen, a head, a mould box frame comprising two sides and two end gates pivoted to the sides. means for adjusting the sides toward and away from each other, latching means transversely of the end gates.
10. In a press the combination with a movable platen, means for operating the same, of a head, a mould box frame supported by the platen comprising two side plates and end gates hinged to the side plates, means for adjusting the side plates toward and away from each other, a latching means carried by the end gates adapted to engage cooperating parts carried by the sides for securing the free ends of the gates to the sides and means for moving the latching means transversely of the end gates.
11. In a press the combination with a platen and a head, a mould box frame supported upon the platen consisting of two sldes and two ends hinged to the sides, means for adjusting the sides toward and away from each other, 2 plate adjustably mounted upon the ends and means for securing the ends and sides together carried by the plate.
12. In a press the combination with a platen and a head. of a mould box frame supported upon the platen, consisting of two sides and two ends hinged to the sides. means for adjusting the sides toward and away from each other. \({ }^{8}\) nlate adjustably mounted upon the ends and latching means for the ends mounted upon the plate.
13. In a press the combination with a platen and a hesd, of a mould box frame supported upnn the platen, consisting of two sides and two ends hinged to the sides. means for adjusting the sides toward and away from each other, latch hooks projecting from the slde plates, a plate adiustablv mounted upon the end gates and a latch carrad by said plate whereby said latch can engage the latel hooks when the side plates are in different positions of adjustment.
14. In a press, the combination with a moving platen, operating means in connection therewith and a head, of a mould frame supported by the platen, comprising side plates, end gates pivotally supported from the side plates, latching means carried upon the end gates, and pivoted rack bars engaging the latching means and adapted to release the same when the mould frame is moved in one direction.
15. In a press, the combination with a morable platen, means for operating the same, a head a mould box irame supported by the platen comprising side plates and end gates hinged to the side plates, latching means carried by the end gates, pivoted rack bars engaging the latching means and adapted to release the same when the mould frame is moved in one direction and means independent of the bars for causing the gates to swing after they have been released and started by the rack bars.
16. In a press the combination with supports, and a movable platen, of a mould irame adjustably supported from the platen, stiffening and strengthening means projecting on the frame, and means for adjusting the frame connected to the supports and arranged on the stiffening means.
17. In a press the combination with a movable platen and means to operate the same, of a head, a mould box frame comprising two sides and two ends, and means for automatically causing the sides to move toward and away from each other by the opening and closing of the ends.
18. In a press, the combination with a movable platen, of a mould box composed of two sides. end gates hinged to the sides and automatic means for moving the sides toward each other to decrease the size of the frame to clamp a mould, said means being operated by the closing of the gates.
19. In a press the combination with supports and a moving platen, of a mould frame having adjustable sides, end gates mounted upon the frame, and adapted to draw the sides together when they are closed, and resilient means for withdrawing the sides when the gates are opened.
20. In a press the combination with a platen, and a head, of a mould box adapted to be pressed by the platen against the head, a frame having two sides movable toward and away trom each other in parallel planes and ends hinged to the sides to open and close the frame, said frame being provide with means to cause the sides to move toward each other when the ends are closed.
21. In a press the combination with a platen and a head, of a mould box adapted to be pressed by the platen against the head, a frame having two sides movable toward and away from each other in parallel planes and ends adapted to close the frame and means actuated by the motion of the ends to move the sides toward each other.
22. In a press the combination with a platen and a head, of a mould box adapted to be pressed by the platen against the head, a frame having two sides and two ends, one end and one side being hinged together and automatic means for moving the sides toward each other to decrease the size of the frame to clamp a mould box, said means being operated by the closing of the ends, and means tor locking the ends and sides together.
23. In a press the combination with a platen and a head, of a mould box adapted to be pressed by the platen against the bead, a frame having two sides and two ends, one side and one end being hinged together, means for securing the free ends of the sides and ends tolgather and simultaneously causing the sldes to approach each other in parallel planes.
24. In a press the combination with a platen and a head, a mould box adapted to be pressed by the platen against the head, a frame having two sides and two ends, means for automatically moving the sides away from each other when the frame is opened and means for causing them to approach each other when the irame is closed.
25 . In a press the combination with a platen and a head, of a mould box adapted to be pressed by the platen against the head, a frame having two sides and two ends, means for adjusting the sides toward and away from each other, means independent of the adjusting means for causing the sides to approach each other and means for moving the sides away from each other.
26. In a press the combination with a platen, and a head, of a mould box adapted to be pressed by the platen against the head, a frame having two sides and two ends, the sides being adapted to move toward and away from each other in parallel planes, means for moving the sides toward each other when the frame is closed and automatic means for moving the sides away from each other when the frame is opened.

\section*{No. 101,536. Rnitted Fabric. Tissu tricoté.}

Josiah Johnson, Leicester. England, 16th October. 1906; 6 years. Filed 28th August, 1906. Receipt No. 139,043.
Claim.-1. A machine knitted seamless tubular ribbed fabric having a uniform number of ribs throughout its
length and a uniform number of loops in each course, and the diameter of which is contracted or expanded by chang-

ing the position of certain ribs from one side of the fabric to the other side thercof for the purpose of shaping or fashioning such fabric, substantially as described.
2. A machine made seamless ribbed stocking or sock, the leg of which is shaped or fashioned by changing at intervals ribs from one side of the fabric to the opposite thereof the number of loops in each course remaining uniform throughout, substantially as descibed.
3. The method of shaping or fashioning machine knitted seamless ribbed fabrics consisting in knitting the fabric upon the full complement of needles throughout and in changing a rib on one face or side of the fabric to the opposite face thereof, then knitting a few courses and repeating these operations at intervals, substantlally as described.

No. 101,537. Horse Controller. Contrôleur de cheval.


Albert M. McGeary, Canon City, Colorado, U.S.A., 16th October, 1906 ; 6 years. Filed 13th August, 1906. Receipt No. 138,630.
Cluim.-1. The combination with a vehicle provided with two bearings one on each side of the reach, of a device composed of two parts one being hollow to receive the other, the latter being provided with a tee-head engaging the said bearings whereby the upper end of the device is plvotally connected with the vehicle, a coil spring located within the hollow member of the device and acting on the other member which is freely movable therein. the spring actuated member having a collar, and the hollow member a stop at its outer extremity to limit the outward movement of the spring actuated member, the length of the device being such that its spring actuated member is adapted to engage
and eatch in the surface forward of the pivot, and a connection between the device and the animal to be checked or hitched.
2. In a horse hitching attachment for vehicle, the combination with a vehicle provided with two bearings centrally located, and a device having a tee-head engaging the said bearings, the said device being composed of a hollow member, and a second member engaging the hollow member and moving frecly therein. a coil spring located within the hollow member and acting to throw the telescoping member outwardly. the members heing constructed to limit the outward movement of the telescoping member, the free extremity of the telescoping member being adapted to engage and catch in the surface engaged by the vebicle, and means for connecting the device with the animal to be hitched.
3. The combination with a vehicle, of a clip secured thereto and provided with two bearings located on opposite sides of the longitudinal center of the vehicle, a hitching device having a tee-head engaging the bearings of the clip at one extremity, its opposite extremity being pointed and adapted to catch in the surface which forms a stop for the engaging extremity of the device, the said device consisting of two members having a telescoping connection, a coil spring being located within the one member and acting to throw the other member outwardly, for the purpose set forth.

\section*{No. 101,538. Calf Weaner.}

Appareil d sevrer les veaux.


Samuel Parry, Clay Center. Kansas. U.S.A., 16th October, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,866.
Claim.-1. The calf weaner consisting of the sack suspended beneath the udders of the mother animal, a girth attached to the forward end of said sack, a pair of straps attached to the rear end thereof extending out between the rear legs and up over the rump and secured to said girth and a crossstrap connecting such suspension-straps, all substantially as shown and described.
2. The call weaner consisting of the sack provided with vent boles, a girth attached to the forward end of said sack, straps attached to the rear end thereof and passing between the hind legs and up over the rump and secured to said girth and a cross strap connecting such suspension straps, all substantially as shown and described.
3. A device as described consisting of a triangular shaped and perforated sack having rings secured at its corners, a girth having hooks attached at its ends and sald hooks connected each to a ring at the front of the sack, a pair of straps having hooks attached thereto connected at the rear of the sack to the third ring and their other ends號 pair of straps.

No. 101,539. Binder. Liellse.
William J. Rhorles, Elizabeth, Indiana, U.S.A., 16th October, 1906; 6 years. Filed 8th August, 1906. Receipt No. 138,476.
Claim.-1. A tension device of the character described, comprising a stem, a non-rotatable bracket mounted thereon, a crossbar engaging the bracket and slidably mounted on the stem, a spool section rotatably mounted on the on the stemaring a grooved tubular extension, another stem and having a coor mounted on the extension and rotaspool section slidably moth of the spool sections being interposed table therewith, both ond by the bracket and crossbar, and hetween and contacted tensioning means contacting with and adapted to actuate the crossbar.
2. A tension device comprising a stem, a bracket fixediy mounted thereon, a spring pressed crossbar slidsbly

mounted on the stem and engaging the bracket and a sectional spool interposed between the bracket and crossbar, one of said sections constituting a support for the cther section and said sections being normally clamped together by the bracket and crossbar.
3. A tension device comprising a stem, a bracket fixedly connccted thereto and having guide spools thereon, a crosshar slidably mounted on the stem and engaging the bracket, a tension spring upon the stem and bearing on the crossbar and a sectional spool rotatably mounted on the stem and interposed between the bracket and crossbar, one of the sections of the spool being slidably mounted on, but rotatable with the other section and both sections being normally clamped together by the bracket and crossbar.

No. 101,540. Wire Stretcher. Tendeur de al de fer.


Joseph Savage, Kingsley Falls, Quebec, Canada, 16th Octo ber, 1906; 6 years. Filed 8th August, 1906. Recelpt No. 138,489.
Claim.-1. In a whre stretcher, the combination com prising a handle provided with a solid jaw, a movable jav pivoted to the solid jaw and provided with means for rock ing the same, and a clamping block secured adjacent movable jaw.
2. A wis stretcher comprising a handle provided with a. solid jaw a stretcher comprivoted to the solld jaw, and pro vided with means for rocking the same, recessed clampustteeth carried by the jaws, and a clampio
ably secured adjacent the morable jaw. with a solid jam
3. In a wire stretcher, a hancule provided with a solded with a movable jaw pivoted to the solid jaw and proviad the an extension, and a block adjustably secured adjacent movable jaw.
4. In a wire stretcher. a handle provided with a solid jaw, a movable jaw pivoted to the solid jaw and provided with a lever and with a cam shoulder, a block provided with a slot and with a bevelled face disposed adjacent the palth of movement of the cam shovider on the movable jaw, ant a bolt disposed through the slot and secured to the handle. 5. In a wire stretcher, a handle provided with a solid jaw, a clamping jaw pivotally secured to the solid jaw and provided with an extension, a clamping block adjustably secured adjacent the clamping jaw, and a cutting member on the handle.

\section*{No. 101,541. Mould for Building Blocks. Moule pour blocs de construction.}


Frank McMurray Sawyer, Charlotte, North Carolina, 'U.S.
A., 16th October, 1906; 6 years. Filed 20th August. 1906. Receipt No. 138,834.
Claim.-1. A mould box having removable mould plates. each provided on one side with a spacer and core iormer, to space such plate from the next adjacent mould plate and form an opening, recess or core in the moulded aci.cic.
2. A mould box having a bottom and sides, partition plates between the sides subdividing the mould box into mould spaces. and mould plates between such partition plates and subdividing the mould spaces into individual mould chambers, each of such mould plates having a spacer and core former on one side, to bear against the next adjacent mould plate, for the purpose set forth.
3. A mould box having removable mould plates, and a spacer and core former between them to space said plates apart and form an opening, recess or core in the moulded article.

\section*{No. 101,542. Check Printer and Protector.} Appareil pour imprimer et protéger les chèques.
Alfred J. Ware, Seattle, Washington, U.S.A., 16th October, 1906; 6 years. Flled 25th July, 1906. Recelpt No. 138,156.
Claim.-1. In an apparatus of the class described, in combination, marking mechanism including type wheels and inking devices for said type wheels, a movable platen for supporting the article to be marked, spring pressed devices for holding the article upon the platen, locking devices for the type wheels, and means for successively operating the inking mechanism and elevating the platen, and means automatically operating to release the type wheels when the printing operation is completed.
2. In a check printer, a plurality of type wheels mounted tos be rotated, and means for individually moving said wheels, inking devices for said wheels, a platen on which the article to be printed is supported, means for successively actuating the inking devices and the platen, means for locking said type wheels in the set position comprising spring pressed brake wheels normally held in engagement with the type wheels, substantially as described.
3. In a check printer, a plurality of type wheels mounted te be rotated, and means for individually moving said wheels, fuking devices for said wheels, a platen on which the article
ti be printed is supported, means for successively actuating the inking devices and the platen, means for locking said

type wheels in the set position comprising spring pressed brake wheels normally held in engagement with the type wheels, and means operating automatically with the return movement of the platen to release said brake wheels, substantially as described.
4. In a check protector, a plurality of type wheels, means for individually setting the wheels in marking position, a vertically movable platen, means for actuating said platen to elevate article being marked into enogemen. with the typ. wheels, spring pressed brake wheels engaging the type wheels to hold the same in the set position, means operating automatically with the return of the platen to its normal position to release said brake wheels, and means for returning the type wheels to their initial position when the brake wheels are released.
5. In a marking machine in combination, marking mechanism including type wheels and inking devices for sald type wheels, brake devices for the type wheels, the vertically movable platen for supporting the article to be marked, spring pressed devices for holding the article to be marked upon the platen, means for successively operating the inking devices and elevating the platen and likewise release said brake devices from their engagement with the type wheels.
6. In a marking machine the combination with the type Wheels rotatably mounted, the platen, the brake devices for locking the wheels in adjusted positions, and means for elevating the platen, and devices co-acting with the platen and adapted to disengage sald brake devices.
7. In a marking machine the combination with the containing case, a shaft, a plurality of adjustable type wheels, springs connecting the shaft with the type wheels, and rods connected with said wheels and extending exteriorly through the case for individually setting said wheels, of inking devices for the wheels, a vertically movable platen for supporting the article to be marked, a presser foot for holding such article firmly upon the platen, means for locking the type wheels in set positions during the printing operation, and means whereby the type wheels may be predeterminately retained in their set positions or automatically released to be acted upon by said springs and returned to their inltial positions.

\section*{No. 101,543. Stock and Freight Car. Char à bétail et marchandises.}

Everett Wyatt, Fort Worth, Texas, U.S.A., 16th October, 1906; 6 years. Filed 18th September, 1906. Receipt No. 139,607.
Claim.-1. A stock car having permanent side and end walls and a permanent floor, a temporary floor movable vertically therein and means for lowering said floor and means for simultaneously forming temporary side and end walls.
2. In a stock car provided with permanent floor and side atd end walls, means for converting said car into a freight
car comprising a temporary floor movable vertically therein side and end walls capable of being rolled up or unrolled attached to said temporary floor, and means for rolling up or unrolling said side and end walls and simultaneously \(\cdot 1\). vating said temporary Hoor or lowering said floor.
3. In a stock car provided with permanent end and sid walls, and a permanent floor, a temporary floor, rollable sheets attached to said floor and capable of forming side and end walls for sadd car, and means for rolling or unrolliut satd sheets whereby said temporary floor is elevated or lowered.
4. In a stock car provided with a permanent floor and end and side walls, a temporary floor, sneets attached to said floor and capable of forming und and side walls, roller shates engaged by said sheets, and gearing for operating said shafts.
5. In a stock car provided with a permanent floor and ent and side walls, a temporary floor, sheets attached to said fleor and capable of forming end and side walls, roller shafts ungaged by said sheets, guides for said sheets, and gearing for operating said shafts.
6. In a stock ear provided with a permanent floor and end and side walls, a temporary floor, sheets attached to said floor and capable of forming end and side walls, roller shafts engaged by said sheets, spring actuated roller sheet metal oors co-operating with said sheets, and gearing for actuat ing said roller shafts.
T. In a stock car provided with a permanent floor and end and side walls, a temporary floor, sheets attached to saiu floor and capable of forming end and side walls, roller shafts ngaged by said sheets, spring actuated roller sheet metal oors with said sheets, guides for said sheets and doors, and gearing for actuating said shafts.
S. In a stock car provided with a permanent floor and end and side walls, a temporary floor, rollable sheets attached to said floor and capable of forming end and side walls for said car, spring actuated roller sheet metal doors co-operating with said sheets, and means for rolling or unrolling said sheets whereby said temporary floor is elevated or lowered.
9. In a stock car provided with a permanent floor and end nd side walls roller shafts, gearing mounted on said shafts for rotating the same, and rollable sheets attached to said shafts for forming temporary side and end walls within safd ear and flush with said permanent end and side walls.

\section*{No. 101,544. Dust Pan. Porte-orlwcs.}

Jehiel F. Wynkood, Minneapolis. Minnesota, U.S.A.. 16th October, 1906; 6 years. Filed \(1 / \mathrm{th}\) September, 1906. Recejpt No. 139,558.
Claim.-A blank adapted to be folded upon itself to form a onc plece dust pan, said blank consisting of a rectangular shent of metal having a depiession adjaennt the center
of one edge thereof and openings adjacent the ends of said edge, opposite portions of said edge adapted to inter-

lock and form a seam between the 'openings, said openings being surrounded by angular beads.

\section*{No. 101,545. Method of Making Nuts.}

Metrode de faire des écrous.


Otto Briede, Benrath, near Dusseldorf, Germany, 16th (i. tober, 1906; 18 years. Filed 29th May, 1905. Receipt No. 125,573.
C'laim.-1. As an improvement in the art of manufacturing nuts the method herein described which consists in peripherally grooving a rod or bar thereby forming a series onpreliminary blanks connected by necks of metal, and enlarging said blanks by forcing thereinto a portion of the metal of the adjacent blank and the neck of metal connecting said blanks, substantially as set forth.
2. As an improvement in the art of manufacturing nuts the method herein described which consists in forming \({ }^{8}\) series of blanks smaller than the desired article and then laterally enlarging said blanks, by forcing into one blank a portion of the metal of an adjacent blank.
3. As an improvement in the art of manufacturing nuts. the method herein described which consists in forming \({ }^{2}\) serics of connected blanks having reduced connecting neck and separating one of the blanks from the succeeding blank by forcing the connecting neck into the succeeding blank
4. As an improvement in the art of manufacturing nuts, the method herein described which consists in transversely grooving a rod or bar thereby forming a series of connected blanks, and by a single punch stroke punching out the metal at the center of one blank and forcing the metal so removed into the next blank.
5. As an improvement in the art of manufacturing nuts. the method herein described which consists in transversely grooving a bar or rod thereby forming a series of connected blanks, punching out the metal at the center of one blank and forcing the metal so removed and the connecting neck into the next blank. thereby severing the first blank from the next adjacent blank
6. As an improvement in the art of manufacturing nuts, the method of oneration herein described which consists of completing the perforation of a previously formed and partially perforated nut blank, severing the same from the parent rod, and effecting the partial or preliminary perforation of another blank, and all at and by a single punch stroke, substantially as described.

No. 101,546. Fastener Por 8tair Carpet. Attache pour tapis d'escaliers.


Ephraim Corbett, Toronto, Ontario, Canada, 16th October, 1906; 6 years. Filed 9th August, 1906. Receipt No. 133,525.
Claim.-1. A stair carpet fastener comprising a clip substantially triangular in cross section, having two of its sides adapted to engage the tread and riser of the step respectively, and having in its other side a slot extending lengthwise of the clip to permit of the entry of the stair carpet therein, and form two resilient carpet holding jaws to engage and hold the carpet within the clip.
2. A stair carpet fastener comprising a clip substantially triangular in cross section, having two of its sides adapted to engage the trear and riser of the step respectively, and having in its other side a slot extending lengthWise of the clip to permit of the entry of the stair carpet therein, and form two resilient carpet holding jaws to engage and hold the carpet within the clip, and a removable locking member co-acting with the elip and engaging the face side of the carpet within the loop contained in the elip.
3. A stair carpet fastener comprising a clip substantially triangular in cross section, having two of its sides adapted to engage the tread and raiser of the step respectively, and having in its other side a slot exterding lengthwise of the clip to permit of the entry of the stair carpet therein, and form two resilient carpet holding jaws to engage and hold the carpet within the clip, and a screw nail inserted through the clip, and having an innular groove to receive the edge of the aperture through which it is inserted.
4. A. stair carpet fastener comprising a clip substantially triangular in cross section, having two of its sides adapted to engage the tread and raiser of the step respectively, and having in fts other side a slot extonding lengthwise of
the clip to permit of the entry of the stair carpet therein, and form two resilient carpet holding jaws to engage and hold the carpet within the clip, a removable locking member co-acting with the clip and engaging the face side of the carpet within the loon contained in the clip, and a serew nail inserted through the clip, and having an onnular groove to receive the edge of the aperture through which it is inserted.

No. 101,547. Motion Reversing Mechanism.
Mécanisme de remersement.


Dugald Calcb Jackson. Madison, Wisconsin, U.S.A., 16th October, 1906; 6 years. Filed 12th September, 1904. Receipt No. 118,358.
Claim.-1. In electric motor driven machinery the combination with a moving member thereof, of means controlled by the position of said member whereby the electric votor driving said machincry is controlled to alternate the direcdion of motion of said moving member, and means whereby the forward and reverse speeds of said motor may be caused to differ from each other, substantially as described.

2 In electric motor driven machinery the combination with a moving member thereof, of switching means adapted to be controlled by the position of said member whereby the electric motor driving said machinery is controlled to alternate the direction of motion of said moving membir. and means whereby the forward and reverse speeds of said motor and said member may be caused to differ from each other substantially as described.
3. In electric motor driven machinery the combination with a moving member thereof, of switching means, the operation of said switching means being controlled by thi position of said member to change the connections of said motor to alternate the direction of rotation thereof, and to vary the resistance of the feld circuit of said motor, thereby to cause a difference between the forward and reverse speeds of said motor and said member, substantially as described.
4. In combination an electric motor, machinery driven theroby, a moving member of said machinery, switching means controlled and operated by the motion of said member alternately co reverse the direction of a supply current through the armature of said motor and alternately to increase and d.erease the resistance of the fleld circuit of said motor to causc a difference between the forward and reverse speeds of said motor and of said member, substantially as described.
5. In combication an electric motor, machinery driven thereby. a moving member of sald machinery, means controlled by the position of said member whereby the clectric driving motor is gradually connected into a supply circuit, and means whercby said motor is controlled to alternate the direction of motion of said moving member, substantially as described.
6. In combination an electric motor, machinery driven thereby, a moving member of sald machinery. and means controlled by the position of said member whereby the electric driving motor s gradually connected into a supply circuit. whercby said motor is controlled to alternate the direction of motion of said moving member, and whereby the forward and reverse speeds may be caused to differ from each other, substantially as described.
i. In combination an clectric motor, machinery driven thereby, a moving member of said machinery, switch blades, and switch terminals suitably connected to a current supply source and to the electric driving motor, said blades being adapted to be controlled by the position of sald moving member to engage said switch terminals to change the electrical
connections thereby to alternate the direction of motion of said motor and said member and to cause a difference between the forward and reverse speeds of said motor, substantially as described.
S. In combination an electric motor, machinery driven thereby, a moving member of said machinery, a switch arm, switch blades, and switch terminals suitably connected to a current supply circuit and to said motor, said arm being adapted to be operated by the position of said member to carry sald blades to engage said switch terminals to reverse the direction of current therethrough, whereby the direction of motion of said motor and said moving member may be alternated, and of controlling means operatively associated with said member whereby said motor may be gradually connected into said supply circuit, substantially as described.
9. In combination an electric motor, machinery driven thereby, a moving member of said machinery, a switch arm, switch blades, and switch terminals suitably connected to a current supply circuit and to said motor, said arm being adapted to be operated by the position of said member to carry said blades to engage said switch terminals to reverse the direction of current therethrough, whereby the direction of motion of said motor and said moving member may be alternated, of controlling means operatively assoclated with said switch arm whereby said motor may be gradually connected into said supply circuit, and of further means operatively associated with said switch arm whereby the forward and reverse speeds may be caused to differ from each other, substantially as described.
10. In combination an eltetric motor, machinery driven thereby, a moving member of said machinery, a switch arm and switch blades, said switch arm being adapted to be operated by said member to carry said blades to alternately engage two sets of switch terminals suitably connected to a current supply source and to the electric driving motor whereby to change connections of said motor to alternate the direction of motion thereof and of said moving member, and whereby reslstance may alternately be cut out of and into the fleld circuit thereby to cause the forward and reverse speeds to be different from each other, substantially as described.
11. In combination an electric motor, machinery driven thereby, a moving member of said machinery, switch mechanism controlled by the position of said member to govern the operative condition of said motor, cam mechanism also controlled by the position of said member, rheostat mechanism co-operating with said cam mechanism, and means whereby said rheostat mechanism may be controlled to gradually start said motor, substantially as described.
12. In combination, an elentric motor, machinery driven thereby, a moving member of said machinery, a switch arm controlled by the position of said moving member to engage switch terminals whereby to control the operative condition of said motor, cam mechanism controlled by the position of said member, and rheostat mechanism cooperating with said cam mechanism and governed thereby to cause current to be gradually supplied to said motor. substantially as described.
13. In combination an electric motor. machinery driven thereby, a moving member of sald machinery, a switch arm controlled by the position of said moving member to engage switch terminals whereby to conirol the operative condition of said motor, cam mechanism associated with said switch arm, a rheostat resistance, a rheostat lever, the actuation of said lever being controlled by the position of sald calm mechanism, and means whereby said rheostat lever may be actuated to gradually cut said resis. tance out of circuit thereby to allow current to be gradually supplied to said motor, substantially as described.
14. In comblation an electric motor, machinery driven thereby, a moving member of said machinery, a switch arm controlled by the position of said moving member to engage switch terminals whereby to control the operative condition of said motor, cam mechanlsm associated with said switch arm, a rheostat resistance, a rheostat lever, the actuation of sald lever being controlled by the position of said cam mechanism, means for actuating said lever to engage said resistance, and means whereby the motion of said lever may be retarded whereby sald resistance is gradually cut out of circuit thereby to allow current to be gradually supplled to said motor, substantially as described.
15. In combination an electric motor, machinery driven thereby, a moving member of said machinery, switch mechanism controlled by the position of said member to ism also controlled by the position of said member, a rheostat mechanism co-operating with said cam mechanism, and dash pot mechanism whereby the actuation of said rheostat mechanism may be retarded to gradually start said motor, substantially as described.
16. In a device of the class described, the combination with a moving member, of switching means adapted to be
controlled by the position of said member, an electric motor for driving said moving member, means controlled by said switching means for causing reciprocation of said moving member, and means whereby said electric motor is gradually connected with a supply circult, substantlaily as described.
17. In a device of the class described, the combination with a moving member, of switching mechanism adapted to be controlled by the position of sald member, an electric motor for driving said moving member, reversing mechanism controlled by said switching mechanism for causing a reciprocation of said moving member, and means whereby the electric motor is gradually connected with a suppiy circuit.
18. In a device of the class described the combination with a moving member thereof, of switching means adapted to be controlled by the position of said member. an electric motor for driving said member, means controlled by said switching means for causing a reciprocating of said moring member, and means for causing the forward and reverse speeds to differ from each other, substantially as described. 19. In a device of the class described the combination with a moving member thereof, of switching mechaniem adapted to be controlled by the position of said member. an electric motor for driving said moving member, reverse mechanism controlled by sald switching mechanism for causing a reciprocation of said moving member, and means for causing the forward reverse speeds of said motor to differ from each other, substantailly as described.
20. In a device of the class described the combination with a moving member thereof, of switching mechanism adapted to be controlled by the position of said member, an electric motor for driving said moving member, reverse mechanism controlled by said switching mechanism for causing a reciprocation of said moving member, means for causing the forward and reverse speeds to differ from each other and means whereby the electric motor is gradually connected with a supply current, substantially as described.
21. In a device of the class described the comblation with a moving member thereof, of switching mechanism adapted to be controlled by the position of sald member, an electric motor for driving said moving member, reverse mechanism controlled by said switching mechanism for causing a reciprocation of said moving member. means for causing the forward and reverse spenis to differ from each other anyl rhcostat mechanism controlled by said switching mechanism whereby said motor may be gradually connected with a supply circuit. substantlally as described.

No. 101,548. Method of Printing Music.
Méthode d'imprimer de la musique.


William Emmanuel Nanton, No. 6 Rae St., North Fitzroy, near Melbourne, Victoria, Australia, 16th October, 1906: 6 years. Filed 2nd February, 1905. Recelpt No. 122.1:0.
Claim.-1. The herein described method of printing music consisting in placing the musical characters on or between lines or groups of lines corresponding with the black keys of the piano, the two center black keys being represented by two heavy black lines, whilst the spaces between indlcate the white keys, substantially as and for the purposes specified.
2. The herein described method of printing music consisting in placing the musical characters on or between lines or groups of lines coresponding with the black keys of the piano. the two center black keys being represented by two heavy black lines and the other black keys by light lines, whilst the spaces between indicate the white keys, substantially as and for the purposes specifed.
2. Music printed or otherwise delineated upon a staff in which the two central black keys of the piano are specially represented by two black lines, substantially as and for the purposes specified.
4, Music in which the staff is printed with two heavy black lines corresponding with the two central black keys of the piano, and in which the horizontal lines of the staff are ruled to a certain proportional length corresponding with the exact duration of sound of each musical character, substantially as and for the purposes specified.
5. Music in which the staff is printed with two heavy black lines corresponding with the two central black keys of the piano with other light lines in groups of three and two above and below said central lines, said lines representing the black keys of the piano and the part of the staff above the central notes representing the treble and that beneath the bass, substantially as and for the purposes specified.

No. 101,549. Wrench. clé décrou.


Joseph N. Noyer, Gould City, Washington, U.S.A.. 16th October, 1906 ; 6 years. Filed 25th June, 1906. Receipt No. 137,248.
Claim.-The herein described wrench comprising the handle having a cylindrical socket in one side at one end, the bearing opening concentric and communicating with said socket and extending to the other side of the handle, and the longitudinal opening extending to said socket, the spring pressed pawl in said opening, the revoluble head having the circular ratchet element on one side in the said socket, the cylindrical boss in the said bearing opening, and provided on the opposite side with the transverse passage and guide grooves in the opposing walls thereof, a pair of jaws, each having an arm movable in said passage and provided on its outer side with a rib engaging one of the guide grooves and provided nith gear teeth. worm gears mounted for revolution in said head on the outer sides of the said jaws an each cogaging the gear teeth of one of said jaws, a can ou the side of the handle in which the head has its bearing, and the screw conbecting the center of said cap to the center of the said head.

\section*{No. 101,550. Door Hinge and Check. Charnière et arrêt de porte.}

Charles E. Treadwell, Denver, Colorado, U.S.A., 16th October, 1906; 6 years. Filed 29th August, 1906. Receipt No. 139,086.
Claim.-1. A hinge embodying a stationary leaf having a barrel diametrically enlarged in its lower portion which is liosely mounted upon the exterior unper surface of the other barrel, a pintle rod hung loosely from the upper portion of the mounted barrel and pendant therein, and means intervening between the spiral channel and the pendant pintle rod, adapted for communicating a combined rising and turning movement to the mounted barrel when the leaf thereon is swung from the stationary leaf.
2. A hinge comprising two leaves, each having a barrel, one barrel having a spiral groove extending longitudinally therein, the other barrel being loosely mounted upon and ercasing the first-named barrel, a pintle rod pendant from the upper end of the mounted barrel and depending in both barrels, and a male spiral connection between the pintle rod and spiral groove.
3. A door hinge and check, comprising twa leaves, cach having a barrel a spiral connection between the harrels adapting one barrel to rise when turned on the other barrel, a hollow piston reciprocal in one burrel helow said spiral connection, and having a slot or port in its botiom wall, : gate valve seated over the port when the door is closed, and means actuated by opening the door and thus turning
one barrel on the other one, adapted to lift the gate valve from its seat and simultaneously turn it away from

the port, the closure of the door seating the gate valve, and gradually closing the port.
4. A hinge and check, embodying a pair of hinge leaves, a spiral connection between said leaves adapting one leaf to turn and rise on the other leaf, a chamber below the spiral connection and carried by one leaf, a piston slidable in said chamber and having a port in its bottom wall, a gate valve movably seated on said wall and mounted to turn thercon, and a lazy tongs device actuated by the turning movement of one leal on the other ono, and adapted for lifting and turning the gate valve.
5. In a door hinge and check, the combination with two rotably connected hinge leaves, each having a barrel on one side edge thereof, a pintle rod, and means for giving a turning and rising movement to said pintle rod when the barrels are turned one upon the other by divergence of the leaves, of a chamber in the lower portion of one barrel, a piston having a bottom wall with an arcuate slotted port therein. said piston being slidable in the chamber, a gate valve seated upon the bottom wall, and a lazy tongs device connecting the lower portion of the pintle rod with the piston, said device giving lifting movement to the piston and simultancously turning the gate valve when the pintle rod is flevated and turned.
6. In a hinge, the combination with a hinge leaf having a barrel on one side edge, and an internal spirally grooved nut block mounted upon and extended upward from said barrel, of a mating hinge leaf, a barrel thereon having the lower end thereof swivelly connected with the upper end of the other barrel, a pintle rod hung from the upper barrel and extended centrally down into the nut block, and a spiral formation on the pintle rod having a loose engagement within the grooved nut block, the loose engagement of the upper end of the pintle rod with the barrel that supports it preventing improper friction between the spiral formation and walls of the spiral channel.
7. In a hinge and check, the combination with a .hinge leaf having a barrel on one side edge thercof, a chamber in said barrel, and an internally splrally grooved nut block extended unward from the barrel, of a mating hinge leaf. a barrel thereon which is swivelly connected with the upper end of the lower barrel and loosely encases the nut block, a pintle rod engaged loosely at its upper end within the upper end of the upper barrel, and extended down through the spirally grooved bore of the next block into the chambet. a piston working in said chamber, neans for connecting said piston with the pintle rod at its lower end, and means carried by the pintle rod for engaging said rod with the spiral groove in the nut block, said means causing the rod to travirse and turn in the chamber for actuating the piston.
S. A hinge and check embodying two leaves, a spiral connowtion betwern the laves adapting one to turn on the olhor loaf, a chamber below said spiral connection, a piston shilable in said chamber and having a port in its botom "all. a gate valve held to turn laterally over and from the port. and means actuated by turning one leaf on the other one ada!ted for lifting the gate valve from its seat and simultaneously turning it from the port.
!. In a hinge, the combination with a stationary hinge l-af having a barrel on one side edge of the leaf forming a chamber. a closure at the lower end of said chamber, and an internally spirally grooved nut block mounted on the upper end of the fixed chambered barrel, of a cylindrical barrel on a like edge of a mating hinge leaf, said barrel having a diametrically enlarged lower end that is mounted to turn upon the upper end of the lower barrel, a pintle rod loosely connected with the upper barrel by a transverse crossheall, said rod passing down through the nut block and having means engaging grooves in the nut block. which means causes the pintle rod to longitudinally and -pirally traverse the nut block when the upper barrel is turned on the lower one.
10. In a door hinge and check, the combination with a leaf having a barrel, and a spiral channel longitudinally therein, another leaf having a barrel mounted upon the first-mentioned barrel, a pintle rod hung from the upper portion of the mounted barrel and a pendant in both barrels, and means intervening between the spiral channel and said rod adapted for traversing said channel and giving the upper barrel an upward trend when turned by divergence of the hinge leaves, of a piston having a slotted bottom wall, a gate valve, and a lazy tongs device connecting the piston and said gate valve with the lower portion of the pintle rod, comprising a yoke. two links pivoted at their upper ends on depending members of the yoke, a foot block on the lower end of the pintle rod, two short links loosely connecting the foot block with the upper porlions of the other links, and two long depending links, said links being pivoted at their upper ends on the lower ends of the last-mentioned links. and at their lower ends loosely connected with a stem which engages the piston and gate valve.
11. In a door hinge and cheek of the character diseribed the combination with two hinge laves supported to turn one in the other, and a chamber on the lower portion of oue liaf, of a piston having an arcuate port in its bottom wall, a flat kate valve ragaging said bottom wall, and means for turning and simultanously lifting the gate.
12. In a door hinge and eheck of the character described, the combination with two hinge leaves and soiral connertions therefor, of a chamber formed in a barrel on one of said leaves, a piston slidable in said chamber and having a port in its botion wall, a gate valve seated in said piston and allapted \(10 \mathrm{~h} . \mathrm{turned}\) upon and lifted from said botom wall, and means for turning and lifting said gate valve.
13. In a door hinge and check of the character described. the combination with wo hinge leaves each having a barrel, one harrel having a chamber in its lower portion, and the other barrel turning on the last-mentioned barrel, of a piston fitted liquid tight in said chamber, a pin and grooved connection between the side wall of the chamber and corresponding wall of the piston, sald piston having a bottom wall and a port therein. a gate valve, and means for turning and lifting said gate valve.
14. In a door hinge and check of the character described, the combination with two hinge leaves, each having a harrel on one edge. one barrel being mounted upon the other one. and a cylindrical nut block on the lower barrel having a ientral bore, and a spiral channel in the wall of :aid bore, of a pintle rod having a male thread formed Hereon that engages the spiral channel, a crosshead loosely mounted on the upper end of the pintle rod and having trunnions on its ends which loosely engage opposite perforations in the side wall of the mounted barrel, thus adtating the rotatable movement of said barrel to corresboudingly turn the pintle rod and cause it to traverse the nut block upwardly.

No. 101,551. Window Hinge. Charniere de fenctirs.
Kobert Southgage Dana. Hampton Falls. New Hampshire. and Edwin L. Sprague, assignee of a half interest, Newton. Massachusetts, U'S.A.. 16th October, 1946; 6 years. Filod 13th August, 1:00t. Receipt No. 138.675.
Floim..-1. In combination with a window frame and sash. -o-opratine hinge anl socket members on the frame and sash adapted to be detachatly engased and whereon the tash may swing inwardy, and interlocking members on the Hamb and sash arrangel to enkage when the sash is swung in. To assist in supporting and steadying the same.

II combination with a window frame and sash. coopriatilig hinge. and socket members on the frame
and sash adapted to be detachably engaged and whereon the sash may swing inwardly. plates or the frame and sash res.

pertively, one having a recess and the other a tongue adapted to project into the recess and engage the plate containing the same when the sash is connected with the hinge and swung inwardly.
3. In combination with a window frame and sash, co-operating hinge and socket members on the frame and sash adapted to be detachably engaged and whereon the sash may swing inwardly, a member having a lateral shoulder and an upward bar, and a curved co-operating tongue member. one of said last-named members being secured to the irame and the other to the sash and arranged for inter-- ngagement when the sash has been swung in.
4. In combination with a window frame and sash, cooperating hinge and socket members on the frame and sash adapted to be detachably engaged and whereon the sash may swing inwardly, a plate having an inturned edge and a recess within such edge and above the bottom end thereof and a blate having a curved tongue adapted to enter such recess and embrace said edge, one of the plates being on the sash and the other on the frame in position to engage when the sash is swung inward about the hinge:
5. In combination with a window frame and sash, discimilar engaging couples at the upper and lower portions of the sash. one of said couples constituting a hinge adapted for detachable connection and on which the sach may swing after such connection and the other couple being normally unconnceted and adapted to engage after the sash has been swung laterally to assist in supporting and steadyfing the same
6. In combination with a window frame and sash. a detachable hinge consisting of a ductile metal plate having a central recess and wings on either side of such recess, in the adjacent edges of which wings are narrow offsets forming open sided sockets, a piate having a notch in an edge thereof. one of said plates being fastened to the sash and the other to the frame. and a swinging connecting plece having two lateral projections forming pintles on one end contained within the sockets of the firsa plate and having its other end bent over to form a head, the connecting plece when swung back lying between the wings of the first plate and its bent end adapted when swung forward and the sash is moved down from a raised portion to enter the noteh of the second plate and support the sash whereby the latter may be swung laterally inward from the frame.
7. In combination with a window frame and sash, a detachable hinge consisting of a ductile metal plate having a contral recess and wings on either side of such recess, in the adjacent edges of which wings are narrow offsets forming open sided sockets, a plate of sheet metal having its side and edges bent over to form an inclosure and offset the central portion. said portion having a notch in an edge therrof. one of said plates being fastened to the sash and the other to the frame and a swinging connecting piece havthit two lateral projections forming platles on one end conlained within the sockets of the first plate and having its other end bent over to form a head, the connecting plece when swung back lying between the wings of the first plate and its bent end adapted when swung forward and the sash
is moved down from a ralsed position to enter the notch of the second plate and support the sash whereby the noteh may be swung laterally inward from the frame.
8. In combination with a window frame and sash. a detachable hinge consisting of a ductile metal plate having a central recess and wings on either side of such recess in the adjacent edges of which wings are narrow offsets forming open sided sockets, a face plate lying against said plate and extending over the sockets, a plate having a notch in an edge thereof, one of sald plates being fastened to the sash and the other to the frame and a swinging connecting piece having two lateral projections forming pintles on one end contained within the sockets of the first plate and baving its other end bent over to form a head, the connecting piece when swung back lying between the wings of the first plate and its bent end adapted when swung forward and the sash is moved down from a raised position to enter the notch of the second plate and support the sash whereby the latter may be swung laterally inward from the frame.
9. In combination with a window frame, sash, sash suspenders and pulleys, detachable hinge means whereby the sash may be swung inward, and a catch for a detached suspender mounted adjacent the guide pulley to grip the suspender between itself and a flange of the pulley.
10. In combination with a window frame, sash, sash suspenders and pulleys, detachable hinge means whereby the sash may be swung inward, and a catch for a detached suspender having a tongue projecting adjacent the groove of the pulley over which such suspender is carried, arranged to confline the suspender between said tongue and a flange of the pulley when the suspender is deflected sidewise.
11. In combination with a window frame, sash, sash suspenders and pulleys, detachable hinge means whereby the sash may be swung inward, and a catch for a detached suspender consisting of a plate adjustably mounted above the pulleys and having a tongue projecting over the groove therein, said tongue being adapted to confine and hold between itself and a rim of the pulley of the suspender when laterally deflected.
12. In connection with a window having sashes adapted to slide in parallel paths, a hinge detachably engaging the inner sash with the frame, whereby said sash may be swung and displaced inwardly, a removable parting bead between the sashes, a plate having an upturned flange on the tod of the inner sash, and a hook on the outer sash adapted to engage said flange when said bead is removed, and normally held by said bead away from the flange.
13. The combination with the hinge member and socketed plate, of a resilient wear plate interposed between the platr. and the canice and forming a bearing for the end of th: hinge sum:jber

No. 101,552. Clipper. Cisailles.


Glles Bowler, Cavendisk, Joseph A. Walker and John Bigley, both of Peck, each an assignee of a third interest, all in Idaho, U.S.A., 16th October. 1906; 6 years. Filed 27th April, 1906. Receipt No. 135,318.
Claim.-1. A cutting implement consisting of shanks pivotally connected and provided with cutting jaws at their upper end portions, a lever arranged at the outer side of one shank, a means in which said lever is pivoted flxed to the other shank and projecting beyond said first shank, the upper end portion of said lever being formed with a cam engaging the adjacent shank, a pin on said last shank and a link pivoted to said lever below its fulcrum, said link being formed with a slot and having said pin arranged therein, for the purpose specified.
2. A cutting implement embodying shanks pivotally connected and provided with cutting jaws, a lever pivotally
supported on one shank, a pin on the other shank, means on said lever for closing said jaws and a link pivoted to said lever and formed with a slot in which said pin is arranged. for the gurpose specified.

\section*{No. 101,553. Car Door Bracket.}

Comsole powr porte de chars.


The Chicago Grain Door Company, Chicago, assignee of James L. Mallory, Evanston, Illinois, U.S.A., 16th October, 1906 ; 6 years. Filed 30 th May, 19:6. Receipt No. \(136,425\).
claim.-1. The combination with a car, of a one piece car door bracket, retaining members passing through said bracket on each side thereof and secured to said car, the heads of said members engaging said bracket and being protected by said bracket against operative access by a removing instrument.
2. The combination with a car, of a one piece car door bracket secured thereto by a plurality of attaching members adapted to be passed through said bracket and driven into the side of said car, the heads of said retaining members engaging said bracket and being protected thereby against operative access by a removing instrument.
3. The combination with a car, of a car door bracket and a plurality of attaching members passed through said bracket, said attaching members being pointed and provided with a plurality of annular barbs tapering toward the pointed end of said members, whereby said members are adapted to be driven into said car, the heads of said members engaging said bracket and being protected by said bracket against operative access by a removing tool.
4. The combination with a car, of a bracket, a plurality of attaching members adapted to be driven into said car, said attaching members being provided with circular heads and said bracket being provided with a plurality of circular sockets adapted and proportioned to said circular heads so as to receive the same and protect them against operative access by a removing tool.
5 . The combination with a car having a projecting post, of a car door bracket secured to the side of said car and adapted to engage said post whereby lateral movement of the bracket is prevented, and an attaching member adapted to secure said bracket in position, the head of said attaching member engaging said bracket and being protected thereby against operative access for the purpose of removal.
6. The combination with a car provided with a projecting post, of a car door bracket secured to the side of said car and adapted to engage said post so as to prevent lateral movement of said bracket, and an attaching member adapted to pass through said bracket at one side of said post and \(t_{1}\) ) be driven into said car, the head of said attaching member being protected by the bracket against operative accoss by any tool whereby said attaching member might otherwise be removed.
7. The combination with a car, of abracket, a plurality of attaching members, said attaching members being provided with circular heads and said bracket being provided with a plurality of circular sockets adapted and proportioned to said circular heads so as to receive the same and protect them against operative access by a removing tool.

8 . The combination with a car, of a one piece car door bracket and a plurality of attaching members passed through said bracket and embedded in the side of said car, said attaching members being tapered toward their inner ends and being barbed, whereby said members are adapted to be driven into said car, the heads of said members en-
saging said bracket and being protected by said bracket against operative access by a removing tool.
9. The combination with a car. of a one piece bracket, a piurality of retaining members passing through said bracket and secured to said car, said retaining members having :uch engagement with said bracket as to prevent the turning of the retaining members so as to detach the same from the car.
10. The combination with a car, of a one piece car door bracket, retaining members passing through said bracket on each side thereof and embedded in said car, said retaining members having such engagement with said bracket as to prevent the turning of said retaining members.
11. The combination with a car having a projecting post, of a car door bracket formed to fit over said post and to be secured to the side of said car and an attaching member adapted to secure said bracket in position, the head of said attaching member engaging said bracket and being protected thereby against operative access by a removing tool.
12. The combination with a car, of a car door bracket and a plurality of attaching members passing through said bracket, a portion of said attactring members being pro. vided with a plurality of annular barbs and being adapted to be driven into the side of said car, said attaching members being provided with circular heads and said bracket being provided with circular sockets adapted and proportioned to receive said circular heads so as to protect them against operative access by a removing tool.

No. 101,554. Antomatic Piano. Piano automatique.


The Reliable Self-Playing Piano Company, assignee of Frederick R. Goolman, both of Binghamptom, New York, U.S.A., 16 th October, 1906; 6 years. Filed 4th December, 1905. Receipt No. 130,667.
Claim.-1. In automatic pianos, a duct bridge having horizontal and vertical connecting ports, a series of pncumatics, a vacuum chest connected with the pneumatics, a pump connected with the vacuum chest, and flexible connections between the pneumatics and the various ports in the duct bridge, as described.
2. In an automatic piano, a swing duct bridge provided with horizontal and with vertical intersecting ports, a series of pneumatics, a vacuum chest in communication with the said pneumatics, trigger bars operated by the pneumatics and operating upon the keys of the instrument, a pump connected with the vacuum chest, means for driving the pump, a controlling device for the driving mechanism of the pump, and flexible connections between the pneumatics and the ports in the duct bridge, as set forth.
3. In automatic pianos, a double vacuum chest, a pump having a vacuum tube connected with the double chest, a double set of nneumatics, each set being in connection with a section of the vacuum chest, a duct bridge, and connections between the duct bridge and the pneumatics, as described.
4. In automatic pianos, a double row of pneumatics, a dual vacuum chest, connections between corresponding rows of pneumatics and corresponding sections of the vacuum chest. and a duct bridge common to all of the pneumatics and connected therewith, as described.
5. In automatic pianos, a double row of pneumatics alternately arranged one above the other, a vacuum sheet in two connected sections, connections between one row of pneumatics and one section of the vacuum chest, connec-
tions between the other section of the vacuum chest and the second row of pneumatics, a duct bridge, and connections between all of the pneumatics and the duct bridge. as described.
6. In automatic pianos, a double row of pneumatics alternately arranged one above the other, striking kess. track bars operated by the pneumatics and operating upon the keys, a vacuum chest in two connected sections, connections betweon each row of pneumatics and a section of the vacuum chest, a vacuum pump connected with the vacuum chest, common to both of its sections, 3 swinging duct bridge, and yielding connections between the duct bridge and the various pneumatics, as described.
7. In automatic pianos, a double set of pneumatics, the pneumatics in the sets being alternately arranged, a tracker bar for each pneumatic, keys upon which the said tracker bars have action, striking mechanisms for the keys, oper'ted thereby, a double vacuum chest, each section being in communication with a set of pneumatics, a duct bridge, and connections between all of the pneumatics and the duct bridge, as set forth.
8. A striking pneumatic for automatic instruments, comprising a body section having a vacuum chamber provided with an end outlet, a bellows below the body, a partition between the bellows and the body, being provided with a communicating opening and an opening to the atmosphere together with an end opening adapted for communication with the duct bridge of the instrument, an apertured cup over the communicating atmospheric opening, a valve held to play in the said cup to and from the opening in the (1) \(\because\) and the atmospheric opening, and means for operating the saic valve through the conditions of the air at the end opening in the partition, as described.
9. A striking pneumatic for automatic instruments, comprising a body portion having a vacuum chamber therein, provided with an end outlet adapted for communication with the vacuum chest of the instrument, and a bellows below the body section, the partition operating the two parts having a communicating opening, an opening to the atmosphere and an end opening in communication with the duct bridge of the instrument, a duct sieve in the said end opening, a valve controlling the opening to the atmosphere, and means for controlling the said valve from the end opening in the partition, as described.
10. In pneumatics for automatic instruments, a body portion having a vacuum chamber therein provided with an end cutlet adapted for communication with a vacuum chest, a bellows below the said chamber, provided with a finger, a tracker carried by said finger, the partition dividing the two sections of the striking pneumatic being provided with a communicating opening and an opening in communication with the atmosphere extending up through the top of the partition, the said partition being also provided with an cond opening adapted for communication with the duct bridge of the instrument, and a channel from the said opening leading into the vacuum chamber, a cup located over the communicating opening and the opening in communication with the atmosphere, which cup is provided with an opening communicating with the vacuum chamber, a valve having play. t", and from the opening in the cup and the opening in communication with the atmosphere, to alternately close one or the other of said openings, a diaphragm closing the upper jortion of the end opening in the partition of the said paeumatic, and means for controlling the sald valve from the said diaphragm, as described.
11. In striking pneumatics for automatic instruments, \({ }^{3}\) body portion having a vacuum chamber therein provided with an end outlet adapted for communication with a vacuum chest, a bellows below the sald chamber, provided With a finger, a tracker bar carried by the finger, the partition dividing the two sections of the striking pneumatic being provided with a communicating opening and an opening in communication with the atmosphere extending up througb the top of the partition, the said partition being also provided with an end opening adapted for communication with the duct bridge of the instrument and a channel from the seid opening leading into the vacuum chamber, a cup 10 cated over the communicating opening and the opening is communication with the atmosphere, which cup is provided with an opening communicating with the vacuum chamber. a valve having play to and from the opening in the cup and the opening in communication with the atmosphere to alternately close one or the other, a diaphragm closing the upper portion of the end opening in the partition of the said pneumatic, a dust sieve located at the outer end portion of the end opening in said partition, a spring serving normally to hold the said valve in an upper position, and a device for forcing the valve downward at the upward movement of the said diaphragm, as described.
12. In striking pneumaties for automatic instruments, \(3^{3}\) body portion provided with a vacuum chamber having an opening at one end adapted for communication with vacuum chest, a bellows located below the vacuum chamber,
having a finger adapted to support a tracker bar, a partition between the bellows and vacuum chamber, provided with a communicating opening and an opening in communication with the atmosphere leading out through the upper portion of the partition, and said partition being likewise provided with an end opening, an air duct connecting the said opening with the vacuum chamber, a diaphragm otherwise closing the said end opening with relation to the vacuum chamber, a projection from the diaphragm, a cup located on the partition, covering the communicating opening in communication with the atmosphere, which cup is provided with an opening communicating with the vacuum chamber, located over the opening in communication with the atmosphere, a spring controlled valve mounted within the cup, adapted to alternately close the opening in the cup, and the opening communicating with the atmosphere, and a rider having bearing on the said valve, pivoted on the partition between its ends, one end of which rider rests upon the projection from the said diaphragm, as described.
13. In striking pneumatics for automatic instruments, a body portion provided with a vacuum chamber having an opening at one end adapted for communication with \(a^{a}\) vacuum chest, a bellows located below the vacuum chamber, having a finger adapted to support a tracker bar, the partition between the bellows and vacuum chamber being provided with a communicating opening and an opening in communication with the atmosphere leading out through the upper portion of the partition, the said partition being likewise provided with an end opening, an air duct connecting the said opening with the vacuum chamber, a diaphragm otherwise closing the said end opening with relation to the vacuum chamber, a projection from the diaphragm, a cup located on the partition, covering the communicating opening and the opening in communication with the atmosphere, which cup is provided with an opening communicating with the vacuum chamber, located over the opening in communi cation with the atmosphere, a spring controlled valve mount ed within the cup, adapted to alternately close the opening in the cup and the opening communicating with the atmosphere, a rider having bearing on the said valve, pivoted on the partition between its ends, one end of which rider rests upon the projection from the said diaphragm, a dust sieve located at the end portion of the end opening in the partition, a duct bridge, and a communication between the end opening in the partition and the said duct bridge, for thr purposes set forth.
14. In striking pneumatics for automatic instruments, a duct bridge, a communication between the duct bridge and the striking pneumatic, and a dust sieve located in the striking pneumatic where the said communication is made as set forth
15. In pneumatic pianos, a swinging hammer rail, an expression bellows in connection with the swinging hammer rail, a valve box for the expression bellows in conenction therewith, an equalizing bellows in communication with the said valve box a duct bridge, a connection between the duct bridge and the said valve box, a vacuum pump, a vacuum chest, and a connection between the vacuum and the equalizing bellows, as set forth.
16. In an automatic piano, a sustaining pedal bellows, a duct bridge, a connection between said bellows and the duct bridge, a vacuum chest, means for producing a vacuum in the said chest and a communication between the vacuum chest and the said sustaining pedal bellows, as set forth.
17. In an automatic piano, a damper rod, a pedal lever, a connecting rod extending from the damper rod to the pedal lever, the said connecting rod having an eye formed thereon, a lever fulcrumed on a fixed support passed through the eye of the said connecting rod, a stop for the said lever, a duct bridge, a vacuum chest in two parallel compartments, one located above the other, the said compartments of the said vacuum chest being closed at their ends a pump for creating a vacuum in the said chest, a sustaining pedal bellows provided with a finger adapted to engage with the said lever, a communication between the said pedal sustaining lever and the vacuum chest and a second communication between the pedal sustaining lever and the duct bridge, all operating as described.
18. In an automatic piano the combination with the duct bride, an equalizing bellows and expression bellows, of a valve box for the expression bellows which valve box is provided with two chambers, one closed at both ends and the other closed at the lower end and open at the top, each chamber being provided with a transverse partition, the partition separating the two chambers being provided with an upper and a lower opening and with an intermediate opening, spring controlled valves normally closing the upper and the lower openings in the dividing partitions being located in that chamber which is open at the top, one above and the other below the transverse partitions therein, the other chamber being provided with recesses in the inner face of its outer wall, diaphragms closing the said recesses,

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valves carried by the said diaphragms having stems adapted for engagement with the spring controlled valves in the opposite chamber, the wall of the chamber in which the diaphragm valves are located being provided at its upper portion with a port in communication with the chamber and with an outlet leading from the said recess to the outside of the box, the lower portion of the same partition being provided with a second port communicating with the recess for the lower diaphragm valve, which lower port likewise extends out through the box, the said lower port being provided with a vent which extends from the said port into the said chamber in which the diaphragm valves are located, a tubular connection between the chamber for the diaphragm valves and expression bellows, a vacuum pump, a connection between the same chamber at its lower end and the said vacuum pump and a connection between the lower port in the valve box and the duct bridge and between the upper outlet port and the duct bridge, for the purpose set forth.
19. In automatic pianos a casing containing tone producing elements, a swinging duct bridge within the instrument, a drawer removable from the instrument and drums or reels carrying the controlling sheet for the instrument located within the said drawer, which drums or reels when the drawer is connected with the instrument are beneath the duct bridge and a controlling device for a controlling sheet when placed on the drums or reels, as described.
20. In automatic pianos a casing containing tone producing elements, a swinging duct bridge within the instrument, a drawer removable from the instrument, drums or reels for carrying the controlling sheet for the instrument and mounted to revolve within the drawer, which drums or reels when the drawer is in place are below the duct bridge and a guiding spider located between the drums or reels, as described.
21. In automatic instruments, drums or reels for the controlling sheet for the instrument, a spider located between the drums or reels having guiding influence upon the material passed over them, as described.
22. In automatic instruments, a receptacle bearings carried thereby, drums or reels mounted in said bearings and a fixed guide spider located between the drums or reels having guiding relation to the material passed over sald drums or reels, as described.
23. In automatic instruments, a receptacle, bearings carried thereby, drums or reels mounted in said bearings, a fixed guide spider located between the drums or reels having guiding relation to the material passed over said drums or reels and a cramp roller which has bearing against one of the drums or reels, for the purpose described.
24. In automatic instruments, a receptacle, bearings carried thereby, drums or reels mounted in said bearings. a fixed guide spider located between the drums or reels having guiding relation to the material passed over said drums or reels, a cramp roller which has bearing over one of the drums or reels, a spring controlling the said cramp roller, and means for limiting the movement of the cramp roller in connection with the drum or reel with which it is adapted to engage, as described.
25. In automatic instruments, a receptacle, bearings carried therebp, drums or reels mounted in said bearings, a fixed guide spider docater between the drums or reels having guiding relation to the material passed over said drum or reels, a cramp roller which has bearing over one of the drums or reels, a spring controlling the said clamp roller. means for limiting the movement of the cramp roller in connection with the drum or reel with which it is adapted to engage, and a shifting locking device arranged to hold the cramp roller in predetermined frictional relation to the drum or reel adjacent to which it is located, as set forth.
26. In automatic pianos and like instruments, drums or reels adapted to carry the controlling sheet for the instrument, a driven shaft in gear connection with one of the drums or reels which shaft is in telescopic sections, a lever for shifting one of the sections of the shaft, means whereby the two sections of the shaft turn together, a driving shaft, a disc on the driving shaft and a friction wheel on the sectional shaft in adjustment connection with the said disc, as described.
27. In automatic pianos and like instruments, drums or reels for carrying a controlling sheet for the instrument, a driven shaft in gear connection with one of the drums or reels constructed in telescopic sections arranged to turn one with the other, a shifting device for one section of said shaft, spring controlled hangers for the sectional shaft, a friction wheel at the outer end of the shifting section of the sectional shaft, a driving shaft and a disc carried thereby with which the friction wheel on the sectional shaft engages, as described.
28. In automatic pianos and similar instruments, a duct bridge, a swinging support for the duct bridge, the said duct bridge having end adjustment on its support and means for holding the duct bridge in end adjustment, as described,

No. 101,555. Pamp. Pompc.


The Steel Ball Company. assignce of Clothilde Barclay Hill, administratrix of the estate of Christian Charles Hill, deceased, both of Chicago, Illinois, U'S..S., 16th October, 1906; 6 years. Filed 11th June, 1906. Receipt No. 136,767
Claim.-1. A pumping apparatus comprising a pump casing having a piston chamber and suitable inlet and outlet passages, a piston in said chamber, and means for imparting reciprocation to said piston, the same comprising a spring and intermediate lever adapted to move said piston in one direction, a cam engaging said lever for moving said piston ir the other direction, and means for varying the position cf said lever with relation to the cam, substantially as set ferth.
2. A pumping apparatus comprising a pump casing having a piston chamber and suitable inlet and outlet passages, a piston in said chamber, and means for imparting reciprocalon to said piston, the same comprising a yoke on said piston, a lever engaging said yoke, an adjustable abutment at the upper end of said yoke, a spring for moving said lever in one direction, and a cam mechanism for moving said lever in the other direction, substantially as set forth.
3. A pumping apparatus comprising a base provided with a convave seat and suitable inlet and outlet passages, a iump casing adapted to oscillate on said seat and provided with a piston chamber, a piston moving in said chamber, and means for imparting reciprocation to said piston, the same comprising a spring for moving said piston in one direction, and a cam mechanism for moving said piston in the other direction and for imparting oscillation to thelump casing. substantially as set forth.
4. A pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a pump casing adapted to oscillate on said seat and provided With a piston chamber, a piston moving in said chamber, and meaus for imparting reciprocation to said piston, the same comprising a spring and intermediate lever for moving said piston in one direction and a cam mechanism for moving said piston in the other direction and for imparting oscillation to the pump casing, substantially as set forth.
5. A pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, ia. pump casing adapted to oscillate on said seat and provided with a piston chamber, a piston moving in said chamber. and means for imparting reciprocation to said piston, the same comprising a yoke on said piston, a lever engaging said yoke, an adjustable abutment at the upper end of said yoke, a spring for moving said lever in one direction, and a cam mechanism for moving said lever in the other direction, and for imparting oscillation to the pump casing, substantially as set forth.
6. A pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a pump casing adapted to oscillate on said seat and provided with a piston chamber, a piston moving in said chamber. means for imparting reciprocation to said piston, the same comprising a spring for moving said piston in one direction and a cam mechanism for moving said piston in the other direction and for imparting oscillation to the pump casing, and a casing attached to the base aforesaid and adapted to enclose the pump mechanism and form a containing chamber for the fluid to be pumped, substantially as set forth.
7. A pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, apump casing adapted to oscillate on sald seat and provided with a piston chamber, a piston moving in said chamber, means for imparting reciprocation to sald piston, and means for imparting intermittent oscillation to said pump casing. the same comprising a cam yoke on the pump casing and a the samengaging said yoke, substantially as set forth.
8. A pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a pump casing adapted to oscillate on said seat and provided with a piston chamber, a piston moving in said chamber. means for imparting reciprocation to sald piston, the same comprising a spring for moving said piston in the other drrection, and means for imparting intermittent oscillation to said pump casing, substantially as set forth
9. A pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages. a pump casing adapted to oscillate on said seat and provided with a piston chamber, a piston moving in said chamber, means for imparting reciprocation to said piston, the same comprising a spring and intermediate lever for moving said piston in one direction, and a cam mechanism for moring said piston in the other direction, and means for imparting intermitten oscillation to said pump casing, substantially as set forth.
10. A pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages a pump casing adapted to oscillate on said seat and provided with a piston chamber, a piston moving in said chamber, means for imparting intermittent oscillation to the pump casing the same comprising a cam yoke on the pump casing and an operating cam engaging said yoke, and means for imparting reciprocation to the piston, substantially as set forth.
11. A pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a pump casing adapted to oscillate on said seat and provided with a piston chamber, a piston moving in said chamber, means for imparting intermittent oscillation to the pump casing. the same comprising a cam yoke on the pump casing and an operating cam engaging said yoke, and means for imparting reciprocation to the plston, the same comprising a spring for moving said piston in one direction and a cam mechanism for moving the said piston in the other direction, substantially as set forth.
12. A pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages. a pump adapted to oscillate on said seat and provided with a piston chamber, a piston moving in said chamber, means for imparting intermittent oscillation to the pump casing the same comprising a cam yoke on the pump casing and an operating cam engaging said yoke, and means for imparting reciprocation to the piston, the same comprising a spring and intermediate lever for moving said piston in the other direction, substantially as set forth.
13. A puinping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages. a pump casing adapted to oscillate on said seat and provided with a piston chamber. a piston moving in said chamber, means for imparting intermittent oscillation to the pump casing the same comprising a cam yoke on the pump casing and an operating cam engaging said yoke, and means for imparting reciprocation to the piston, thi same comprising a yoke on said piston, a levor engaging said yoke, an adjustable abutment at the upper end of said yoke, a spring for moving said lever in one direction and a cam mechanism for moving said
direction, substantially as set forth.
14. A pumping apparatus comprising a base providel with a concave seat and suitable inlet and outlet passages. a pump casing adapted to oscillate on said seat and provided with a piston chamber, a piston moving in said chamber, means for yieldingly holding the pump casing to thr seat. means for imparting intermittent oscillation to the pump casing. the same comprising a cam yoke on the pump casing and a cam engaging sald yoke, and means for imparting reciprocation to the piston, substantially as set forth.
15. A pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages. a pump casing adapted to oscillate on said seat and provided with a piston chamber, a piston moving in said chamber, means for yieldingly holding the pump casing to the seat, means for imparting intermittent oscllation the pump casing, and means for imparting reciprocataid to the piston, the same comprising a spring for moving aing piston in one direction and a cam mechanism for mor set said piston in the other direction, substantially as sat forth.
16. A pumping apparatus comprising a base provided with a concave seat and sultable inlet and outlet passages, a pump casing adapted to oscillate on sald seat and pro vided with a piston chamber, a piston moving in salidg chamber, means for yieldingly holding the pump casiag to the seat. means for imparting intermittent oscillation to the pump casing. and means for imparting reciprocsmedto the piston, the same comprising a spring and intermed a iate lever for moving said piston in one direction, andeccam mechanism for moving said piston in the other direction, substantially as set forth.
17. A pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages. a pump casing adapted to oscillate on said seal and provided with a piston chamber, a piston moving in said chamber, means for yieldingly holding the pump casing to the scat, means for imparting intermittent oscillation to the pump casing, and means for imparting reciprocation to the piston, the same comprising a yoke on said piston. a lever engaging said yoke, an adjustable abutment at the upper end of said yoke, a spring for moving said lever in one direction and a cam mechanism for moving said levor in the other direction. substantially as set forth.
18. A multiple pumping apparatus comprising a single pump casing having a series of piston chambers and suitable inlet and outlet passages, individual gistons in said chambers, and means for imparting reciprocation to said pistons, the same comprising individual levers and springs for moving said pistons in one direction and a cam engaging said levers for moving sald pistons in the other direction, substantially as set forth.
19. A multiple pumping apparatus comprising a single pump casing having a series of piston chambers and suitable inlet and outlet pasages, individual pistons in said chambers, and means for imparting reciprocation to said pistons, the same comprising individual yokes on said pistons, levers engaging said yokes, adjustable abutments at the uyper ends of said yokes. springs for moving said levers in one direction, and a cam moving said levers in the other direction, substantially as set forth.
20. A multiple pumping apparatus comprising a single oscillating pump casing having a series of piston chambers and suitable inlet and outlet pasages, individual pistons is said chambers, means for imparting reciprocating to said pistons, the same comprising individual springs moving said pistons in the other direction, a supporting base for mechanism having a concave seat for the pump casing. and a casing attached to sald base and adapted to enclose the pump mechanism and to form a containing chamber for the fluid to be pumped. substantially as set forth.
21. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages. a single pump casing adapted to oscillate on said seat and having a series of piston chambers. individual pistons in said chambers and means for imparting reciprocation to said pistons, substantlally as set forth.
22. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on said seat and having a series of piston chambers, individual pistons in said chambers and means for imparting reciprocation to such pistons. the same comprising individual springs moving sald pistons in one drection and a cam mechanism moving said pistons in the other direction. substantially as set forth.
23. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on said seat and having a series of piston chambers, individual pistons in said chambers and means for imparting reciprocation to such pistons, the same comprising individual levers and springs for moving said plstons in one direction and a cam engaging said levers for moving said pistons in the other direction, substantlally as set forth.
24. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on asid seat and having a series of piston chambers, individual pistons in said chambers and means for imparting reciprocation to such pistons, the same comprising individual yokes on said pistons, levers engaging said yokes, adjustable abutments at the upper ends of said yokes, springs for moving said levers in one direction and a cam moving said levers in the other direction, substantially as set forth.
25. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a eingle pump casing adapted to oscillate on said seat and having a series of piston chambers, individual pistons in said chambers. means for imparting reciprocation to said pistons and a casing attached to the pump base and adapted to enclose the pump mechanism and form a containing chamber for the fluid to be pumped. substantially as set forth.
26. A multiple pumping apparatus comprising a base provided with a concare seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on said seat and having a series of piston chambers, individual pistons in said chambers, means for imparting intermittent oscillation to said pump casing and means for imparting reciprocation to said plstons, substantially as set forth.
27. A multiple pumping apparatus comprising a base proVided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on said seat
and having a series of piston chambers, Individual pistons in said chambers, means for imparting intermittent oscillation to said pump casing and means for imparting reciprocation to said pistons, the same comprising individual springs moving said pistons in one direction and a cam mechanism moving said pistons in the other direction, substantially as set forth.
28. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on said scat and having a series of piston chambers. individual pistons in said chambers. means for imparting intermittent oscillation to said pump casing and means for imparting reciprocation to said pistons, the same comprising individual levers and springs for moving said pistons in one direction and a cam engaging said levers for moving the pistons in the other direction, substantially as set forth.
29. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages. a single pump casing adapted to oscillate on said seal and having a series of piston chambers, individual plstons in said chambers, means for imparting intermittent oscillation to said pump casing and means for imparting reciprocation to said pistons, the same comprising individual yokes on said pistons, levers engaging said yokes, springs for moving said levers in one direction and a cam moving said levers in the other direction, substantially as set forth.
30. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscllate on said seat and having a series of piston chambers, individual pistons in said chambers, means for imparting intermittent oscillation to said pump casing and means for imparting reciprocation to said piston, and a casing attached to the pump base and adapted to enclose the pump mechanism and to form a containlng chamber for the fluid to be pumped. substantially as set forth.
31. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on said seat and having a series of piston chambers, individual pistons in said chambers. means for imparting intermittent oscillation to sald pump casing. the same comprising a cam yoke on said casing and an operating cam engaging eaid yoke and means for imparting reciprocation to sald pistons. substantially as set forth.
32. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casinp adapted to oscillate on eaid seat and having a series of piston chambers, individual pistons in said chambers. means for imparting intermittent oscillation to said pump casing. the same comprising a cam yoke on said casing and an operating cam engaging said yoke. and means for imparting reciprocation to sald pistons. the same comprising individual springs moving said pistons in one direction and a cam mechanism moving said pistons in the other direction, substantially as set forth.
83. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages. a single nump casing adaptod to oscillate on said seat and having a series of piston chambers. Individual pistons in said chambers. means for imparting intermittent oscillation to said pump casing the same romprising a cam yokel on said casing and an operating am engagiug sald: yoke, and means for imparting reciprocation to sald pistons, the same comprising individual levers and springs for mov: ing said pistons in one direction and a cam engaging sald levers for moving the pistons in the other direction, substantially as set forth.
34. A multip!e pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on sald geat and having a series of piston chambers. individual pistons ir: said chambers, means for imparting intermittent oscillation to said pump casing the same comprising a cam yoke cr said casing and an operating cam engaging said yoke. and means for imparting reciprocation to said pistons, the same momprising individual yokes on said pistons. levers engaging said yokes, adjustable abutments at the upper cads of said yokes. springs for moving said levers in one direction. substantially as set forth.
35. A multiple pumping apparatus comprising a base provided with a concave seat and sultable inlet and outlet passages, a single casing adapted to oscillate on said seat and liaving a serics of piston chambers, individual pistons in said chambers. means for imparting intermittent oscillation to said pump casing, the same comprising a cam yoke on said casing and an operating cam engaging said yoke, means for imparting reclprocation to said pistons, and a casing attached to the pump base and adapted to enclos: the punp nuechanism and form a containing chamber for the fluid to nupehanism and form a coutaining cha
be pumped. substantially as set forth.
36. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on said seat and having a piston chambers, individual pistons in said chambers, means for yieldingly holding the pump casing to the seat, and means for imparting intermittent oscillation to the pump casing, and means for imparting reciprocation to the pistons, substantially as set forth.
37. A mutiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on said seat and having a series of piston chambers, individual pistons in said chambers, means for yieldingly holding the wump casing to the seat, means for mparting intermittent ascillation to the pump casing the same comprising a cam yoke on the pump casing and an operating cam engaging said yoke, and means for imparting recinrocation to the piston. substantially as set forth
38. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on said seat and having a series of piston chambers, individual pis tons in said chambers. means for yieldingly holding the jump casing to the seat, means for imparting intermittent oscillation to the pump casing, and means for imparting reciprocation to the pistons, the same comprising individual springs moving said pistons in one direction and a cam mechanism moving said pistons in the other direction, substantially as set forth.
39. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on said seat and having a series of piston chambers, individual pistons in said chambers, means for yieldingly holding the pump casing to the seat, means for imparting intermittent oscillation to the pump casing, the same comprising a cam yoke on the pump casing and an operating cam engaging the same, and means for imparting reciprocation to the pistons. the same comprising individual springs moving said pistons is one direction and a cam mechanism moving said pistons in the other direction, substantially as set forth.
40. A multíple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on said geat and having a series of piston chambers, individual pistons in said chambers, means for yieldingly holding the pump casing to the seat, the same comprising a pair of pivoted end beams engaging said pump casing, a spring equalizer bar engaging the free ends of said beams and a central tension adjusting bolt engaging the equalizer hor means for imparting intermittent oscillations to the pump casing and means for imparting reciprocation to the pistons. substantially as set forth.
41. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passares, a single pump casing adapted to oscillate on said seat and having a series of piston chambers, individual pistons in said chambers, means for yieldingly holding the pump casing to the seat, the same comprising a pair of pivoted end beams engaging said pump casing, a spring equalizer bar engaging the free ends of said beams and a central tension adiusting bolt engaging the equalizer bar, means for imparting intermittent oscillation to the pump casing, the same comprising a cam yoke on the pump casing and an operating cam engaging said yoke, and means for imparting reciprocation to the pistons, substantially as set forth.
42. A multiple pumping apparatus comprising a base provided with a concave seat and suitable inlet and outlet passages, a single pump casing adapted to oscillate on said seat and having a series of piston chambers, individual pistons in said chambers, means for yieldingly holding the pump casing to the seat, the same comprising a pair of pivoted end beams engaging said pump casing, a spring equalizer bar engaging the free ends of said beams and a central tension adjusting bolt engaging the equalizer bar, means for imparting intermittent oscillation to the pump casing and means for imparting reciprocation to the pistons, the same comprising individual springs moving the pistons in one direction and a cam mechanism moving said pistons in the other direction, substantially as set forth.

\section*{No. 101,556. Pump. Pompe.}

The Steel Ball Company, assignee of Clothilde Barclay Hill, administratrix of the estate of Christian Charles Hill, deceased, both of Chicago. Illinois. U.S.A.. 16th October, 1906; 6 years. Filed 11th June, 1906. Receipt No. 136,768.
Claim.-1. A pumping apparatus comprising a stationary member carrying a circular cluster of bearing ings in bearing faces, a revoluble head having bearing at one end bearing faces, a revoluble beare being a pump cylinder carried
o said head and having an inlet-outlet passage adapted (a)
and with the outlet passages therein, means for revolving said head, a pump plunger in said cylinder, and means for reciprocating said plunger, substantially as set forth.
2. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member, there being a pump cylinder carried by said head and having an inlet-outlet passage adapted to serially register with the series of outlet pasages aforesaid, means for revolving said head, a pump plunger in said cylinder and means for reciprocating said plunger, the same comprising a circular series of cams equal in number to the series of outlet passages, means for effecting an individual adjustment of said cams, and an intermediate operative connection between the said cams and the pump plunger, substantially as set forth.
3. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member, there being a pump cylinder carried by said head having an inlet-outlet passage adapted to serially register with the series of outlet passages aforesaid, means for revolving said head, a pump plunger in said cylinder, and means for reciprocating said plunger, the same comprising a circular series of cams equal in number to the series of outlet passages, a series of individual screws for effecting independent adjustment of said cams, and an intermediate operative connection between said cams and the pump plunger, substantially as set forth.
4. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member. there being a pump cylinder carried by said head and having an inlet-outlet passage adanted to serially register with the series of outlet passages aforesaid, means for revolving said head, a pump plunger in said cylinder and means for reciprocating said plunger, the same comprising a circular series of cams equal in number to the series of outlet passages, a series of individual screws for effecting independent adjustment of said cams, a yoke piece provided with a series of resilient eyes having frictional en gagement with the shanks of said screws, and an inter mediate operative connection between said cams and the pump plunger, substantially as set forth.
5. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, revoluble head having bearing at one end on said member a stationary spider forming a bearing for the other end o the head, there being a pump cylinder carried by said had and having an inlet-outlet passage adapted to serially reg ister with the seriez of outlet passages aforesaid, means for revolving said head, a pump plunger in said cylinder and means for reciprocating said plunger, the same com prising a circular series of cams on said spider equal in number to the series of outlet passages, means for effecting an individual adjustment of said cams, and an int the mediate operative connection between st
pump plunger, substantially as set forth. 6. A pumping apparatus, comprising a stationary a revoluble with a circular at one end on said mem ber, a head having forming a bearing for the other end of the hald head and having an inlet outlet passage adaped to serial head and having an inlet outlet passage adaped ly register with the series of outlet passages aforesaid
cylinder and means for reciprocating said plunger, the same comprising a circular series of cams on said spider equal in number to the series of outlet passages, a series of individual screws for effecting individual adjustment of said cams, and an intermediate operative connection between said cams and the pump plunger, substantially as set forth.
7. A pumping apparatus, comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member, a stationary spider forming a bearing for the other end of the head, there being a pump cylinder carried by said head and having an inlet outlet passage adapted to serially register with the series of outlet passages aforesaid, means for revolving said head, a pump plunger in said cylinder and means for reciprocating said plunger, the same comprising a circular series of cams on said spider equal in number to the series of outlet passages, a series of individual screws for effecting individual adjustment of said cams, a yoke piece provided with resilient eyes for frictional engagement with the shanks of said screws, and an intermediate operative connection between said cams and the pump plunger, substantially as set forth.
8. A pumping apparatus comprising a stationary member carrying a circular cluster of bearing lugs in spaced relation and formed with outlet passages in their bearing spaces a revoluble head having bearing at one end of said bearing lugs, there being a pump cylinder arranged at one side of the axis of rotation of said head and having an inlet and outlet passage adapted to alternately register with the spaces between said lugs and with the outlet passages therein, means for revolving said head, a pump plunger in said cylinder and means for reciprocating said plunger, substantially as set forth.
9. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end in said member. there being a pump cylinder arranged at one side of the axis of rotation of said head and having an inlet-outlet passage adapted to serially register with the outlet passages aforesaid, means for revolving said head, a pump plunger in said cylinder and means for reciprocating said plunger, the same comprising a circular series of cams equal in number to the series of outlet passages, means for effecting an individual adjustment of said cams, and an intermediate operative connection betwren said cams and the pump plunger, substantially as set forth.
10. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages. a revoluble head having bearing at one end in said member, there being a pump cylinder arranged at one side of the ax's of rotation of sald head and having an inlet-outlet passage adapted to serially register with the outlet passages aforesaid. means for revolving said heart. a pump plunger in said cylinder and means for reciprocating said plunger, the same comprising a circular series of cams equal in number to the series of outlet passages, a series of individual screws for effecting independent adjustment of said cams and an intermediate operative connection between sald cams and the pump plunger, substantially as set forth.
11. A pumping apparatus. comprising a stationary member provided with a circular series of outlet passages. a revoluble head having bearing at one end in aid member, there being a pump cylinder arranged at one side of the axis of rotation of said head and having an inlet-outlet passage adapted to serially register with the outlet passages aforesaid, means for revolving said head. a pumpplunger in said cylinder, and means for reciprocating said plunger the same comprising a circular series equal in number to the series of outlet passages, a series of individual screws for effecting indenendent adjustment of said cams, a yoke piece provided with a series of resilient eyes having frictional engagement with the shanks of said screw, and an intermediate operative connection between said cams and the pump plunger. substantially as set forth. 12. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member, a stationary spider forming a bearing for we other end of the head, there being a pump cylinder arranged at one side of the axis of rotation of said head and having an inlet-outlet passage adapted to serially register with the series of outlet passages aforesaid, means for revolving said head, a pump plunger in said cylinder and means for reciprocating said plunger, the same comprising a circular series of cams on said spider equal in number to the series of outlet passages, means for effecting an individual adjustment of said cams, and an intermediate operative connection between said cams and the pump plunger, substantially as set forth. 13. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member, a stationary spider forming a bearing for the other end of the
head, there being a pump cylinder arranged at one side of the axis of rotation of said head and having an inlet-outlet passage adapted to serially register with the series of outlet passages aforesaid, means for revolving said head, a pump plunger in said cylinder and means for reciprocating said plunger, the same comprising a circular series of cams on said spider equal in number to the series of outlet passages, a series of individual screws for effecting independent adjustment of said cams, and an intermediate operative connection between said cams and the pump plunger, substantially as set forth.
14. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member, a stationary spider forming a bearing for the other end of the head, there being a pump cylinder arranged at one side of the axis of rotation of said head and having an inlet-outhet passage adapted to serially register with the series of outlet passages aforesaid, means for revolving said head, a pump plunger in said cylinder and means for reciprocating said plunger, the same comprising a circular series of cams on said spider equal in number to the series of outlet passages, a series of individual screws for effecting independent adjustment of said cams, a yoke piece provided with resilient eyes for frictional engagement with the shanks of said screws, and an intermediate operative connection between said cams and the pump plunger, substantially as set forth.
15. A pumping apparatus comprising a stationary member carrying a circular cluster of bearing lugs in spaced relation and formed with outlet passages in their bearing faces, a revoluble head having bearing at one end on said bearing lugs, there being a pump cylinder carried by said head and having an inlet-outlet passage adapted to altornately register with the spaces between said lugs and with the outlet passages therein, means for revolving said head, a pump plunger in said cylinder, a spring for moving said plunger in one direction and a cam mechanism for moving said plunger in the other direction, substantially as set forth.
16. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member. there being a pump cylinder carried by said head and hav ing an inlet-out passage adapted to serially register with the series of outlet passages aforesaid, means for revolving said head, a pump plunger in said cylinder, a spring for moving said plunger in one direction and a cam mechanism for moving said plunger in the other direction, the same comprising a circular series of cams equal in number to the series of outlet passages, means for effecting an individual adjustment of said cams, and an intermediate operative connection between said cams and the pump plunger, substantially as set forth.
17. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member, there being a pump cylinder carried by said head and having inlet-outlet passage adapted to serially register with the series of outlet passages aforesaid, means for revolving said head, a pump plunger in said cylinder, a spring for moving said plunger in one direction and a cam mechanism for moving said plunger in the other direction, the same comprising series of cams equal in number to the series of out let passages, a series of individual screws for effecting independent adjustment of said cams, and an intermediate operative connection between said cams and the pump plunger, substantially as set forth.
18. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member, a stationary spider forming a bearing for the other end of the head, there being a pump cylinder carried by said head and having an inlet outlet passage edapted to serially register with the series of outlet passages aforesaid, means for revolving said head, a pump plunger in said cylinder, a spring for moving said plunger in one direction, and a cam mechanism for moving said plunger in the other direction, the same comprising a circular series of cams equal in number to the series of outlet passages, means for effecting an individual adjustment of said cams, and an intermediate operative connection between said cams and the pump plunger, substantially as set forth.
19. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member, a stationary spider forming a bearing for the other end of the head. there being a pump cylinder carried by said head and having an inlet-outlet passage adapted to serially register with the series of outlet passages aforesaid, means for revolving said head, a nump plunger in said cylinder, a spriug for moving said plunger in one direction, and a cam mechanism for moving said plunger in the other direction, the same comprisifg a circular series of cams equal in number to the series of outlet passages, a series individual screws
for effecting said independent adjustment of said cams, and an intermediate operative connection between said cams and the pump plunger. substantially as set forth.
20. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end in said member, there being a pump cylinder arranged at one side of the axis of rotation of said head and having an inlet-outlet passage adapted to serially register with the outlet passages sforeonif. means for revolving said head, a spring for moving said plunger in one direction, and a cam mechanism for moving said plunger in the other direction, the same comprising a circular series of cams equal in number to the series of outlet passages, means for effecting an intermediate operative connection between said cams and the pump phunger. substantially as set forth.
21. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages. a revoluble head having bearing at one end in said member, there heing a pump cylinder arranged at one side of the axis of rotation of said head and having an inlet-outlet passage adapted to serially register with the outlet passages aforesaid, means for revolving said head, a spring for moving said plunger in one direction, and a cam mechanism for moving said plunger in the other direction, the same comprising a circular series of cams equal in number to the series of outlet passages. a series of individual screws for effecting independent adjustment of said cams, and an intermediate operative connection between said cams and the pump plunger, substantially as set forth.
22. A pumping apparatus comprising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member, a stationary spider forming a bearing for the other end of the head. there being a pump cylinder arranged at one side of the axis of rotation of said head and having an inlet-outlet passage adapted to serially register with the series of outlet passages aforesaid, means for revolving said head, a pump blunger in said cylinder, a spring for moving said plunger in one direction, and a cam mechanism for moving said plunger in the other direction, the same comprising a circular series of cams on said spider equal in number to the series of outIft passages, means for effecting an individual adjustment of said cams. and an intermediatr operative connection between said cams and the pump plunger. substantially as set forth.
23. A pumping apparatus comprising a stationary member frovided with a circular series of outlet passages. a revoluble head having bearing at one end on said member, a stationary spider forming a bearing for the other end of the head. there bring a pump cylinder arranged at one side of the axis of rotation of said head and having an inlet-outlet passagr adapted to serlally register with the series of outlet passages aforesaid. means for revolving said head. a pump plunger in said cylinder, a spring for moving said plunger in one direction. and a cam mechanism for moving said plunger in the other direction, the same comprising a circular erries of cams on said spider equal in number to the series of outlet passages, a series of individual screws for effecting independent adjustment of said cams, and an intermediate operative connection between said cams and the pump plunger. substantially as set forth.
24. A pumping apparatus comrrising a stationary member provided with a circular series of outlet passages, a revoluble head having bearing at one end on said member, a stationary spider forming a bearing for the other end of the head. there being a pump cylinder carried by said head and having an inlet-outlet passage adapted to serially register with the series of outlet passages aforesaid, means for revolving said head. a pump plunger in said cylinder and means for reciprocating said plunger, and a spring arranged between said spider and a collar on the revoluble head and adaoted to hold sald head to its bearing on the stationary member. substantially as set forth.

\section*{No. 101,557. Paper Making Machine. \\ Hachine a faire du papier.}

The Eichhorn-Campbell Company, assignee of Carl Eichhorn and Clarence W. Campbell, all of Dexter. New York, U.S.A. 16th October, 1906; 6 years. Filed 4th May. 1505. Receipt No. 124.857.
Claim.-1. In a device of the character described, a feed box. a means of carrying stock therefrom through a paper machine, a feed box pivotally mounted transverse the said means, condult means for supplying said feed, substantially a: described.
2. In a deviec of the character described, a feed box, and a ccreen adapted to rarry stock therefrom, through the paper making machinery. a plurality of independent feed boxes, pivotally mounted and extending substantially transverse the screen and means for applying pressure to the feed from said boxes, substantially as described.
3. In a device of the character described. a plurality of feed boxes located substantially transverse the screen, each

pivotally mounted and each provided with a close cover and each being adapted to receive atmospheric or other pressure therein to drive the contents thereof on to stock passing beneath the boxes, substantially as described.
4. In a paper making machine having as an element thereof means for carrying paper stock through the machine, a feed box mounted substantially transverse of the screen having its sides converging at the bottom into a longitudial opening, means for limiting the extent of said opening, and means for altering the direction of the fluid discharged therefrom. substantially as shown.
5. In a device of the character described, a transverse feed, conduits for supplying paper stock thereto, means for efecting the paper stock therefrom under pressure, means for governing the direction and extent of the discharge of stock therefrom and means in said box for agitating the contents thereof, substantially as shown.
6. In a device of the character described, a plurality of feeds located to discharge the contents thereof onto stock passing thereunder in the manufacture of the same, the said feeds being adjustably axially mounted thereor, mesns for discharging the contents of said feeds, means for limit ing the direction and force of said discharge, means for placing the contents thereof under pressure.
7. In a device of the character described, a feed box mounted substantially across the screen. and corstructed of compartments and being longitudinally extensible and having a shaft running therethrough with spoon members thereon. whereby different coloured material can be ejected therefrom to the stock passing thereunder, substantially as described.
8. In a device of the character described, a feed box mounted substantlally across the screen and constructed of compartments and being longitudinally extensible and having a shaft running therethrough with spoon members thereon, whereby different coloured material can be ejected therefrom to the stock passing thereunder, and mesns of placing the contents of said feeds under pressure, substantially as deseribed.
3. In a naper making machine, a plurallty of means for feeding stock, means for controlling the said feeds to regulate the pressure and volume and means for feeding regulate the pressure and volume, and meas
the same in currents of different directions.
10. In a paper making machine, a plurality of means for foeding stock, and means for feeding the stock in currents of different directions.
11. In a paper making machine having stock feeding means therewith. secondary feeds and means for regulating the volume, pressure and direction of the current from said feeds.
12. In a paper making machine, means for feeding ma terial thereto, the said means being adjustable to the widt of the fabric being manufactured in the machine.
13. In a paper making machine, means for feeding material to the stock being manufactured, the said means being adapted to be supported independent of the mathine 0 os to be supported thereon.
14. In a paper making machine. a plurality of secondary feeding means, each provided with means for regulation the output therefrom, and each being provided with means for ejecting the output under pressure.
15. In a paper making machine. means mounted thereon to feed separate material to the stock passing thereon and comprising means to regulate the amount and tistribution of said feed.

No. 101,558. Mixing Machine for Concrete, Etc. Vuchine à mélat!!rr.


Frederick C. Austin, assignee of Charles E. Bathrick, Chicago, Illinois, U.S.A., 16th October, 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,636,
Claim.-1. In a mixing machine, a rotary mixing receptacle, a tilting frame upon which the mixing receptacle is revolubly mounted, a mouth piece secured upon the tilting frame and arranged for directing materials into the mixing receptacle, a hopper, and a valve for opening and closing the hopper, said valve being arranged to direct material into the mouth piece when it is open, and being arranged to be swung back and closed by the mouth piece when the frame is tilted, and a guard \(r\) for the purpose set forth.
2. The combination with a stationary hopper and with a tilting receptacle provided at the rear with a spout adapted to be carried to and from the hopper by the tilting of the receptacle, of a chute pivoted to the hopper to close and seal the mouth thereof in one position and to swing into the said spout and act as a chute between the hopper and the spout when the receptacle is in the other position.
3. In a mixing machine, a rotary mixing receptacle provided with an annular gear, a tilting frame upon which the mixing receptacle is mounted to revolve, a rotary main driving shaft gear connected with the annular gear on the mixing receptacle as means for revolving the latter, a rotary counter shaft gear connerted with said main driving shaft, a clutch having one of its members provided with a worm, and adapted for connecting and disconnecting said member with and from the counter shaft, a rotary worm wheel engaged by sald worm. a crank rigid with the worm wheel and connected with one ram of a vibratory bell crank by a link or pitman. a link connecting the other arm of the bell crank with the mixing receptacle support as a means for tilting the latter, a cam disc 16 rigid with the worm wheel and having peripheral notshes 17 and 18 , a vibratory clutch shifter \(k\) pivoted to the shifting clutch member and weighted at one side of such clutch member, and a locking arm 19 pivoted to the cluteh shifter and having at one end an idfer roll adapted to engage in one and the other of notehes 17 and 18 of the disc 16 , and to ride upnn the periphery of said dise when not in engagement in the sald notches.
4. In a mixing machine, a rotary mixing receptacle. a tiltIng support upon which the mixing receptacle is mounted to revolve, a vibratory bell crank arranged below the mixing receptacle support, a link or pltman connecting one arm of the bell crank with one end portion of the tilting mixing receptacle support. a rotary crank, power transmitting connection between said crank and the remaining arm of the bell crank, and means for revolving the crank.
5. In a mixing machine, a rotary mixing receptacle. a tilting support for the rotary mixing receptacle, a shaft rotatable in one direction and means for rotating the receptacle therefrom, a toggle comprising a vibratory arm 26 and a link 27 connecting said arm with the tiling mixing receptacle support, and a rank operated from said shaft for vibrating the arm 26.
6. In a mixing machine, a rotary mixing receptacle, a tilting support for the rotary mixing receptacle. mechanism for tilting the support for the rotary mixing receptacle, a rotary cam device for automatically limiting the extent to which the mixing receptacle support cam be tilted in each direction. means for driving said cam device and means for shifting the connection between the rotary cam device and the tilting device and the driving means therefor.
7. In a mixing machine, a rotary mixing receptarle provided with a ring gear, a tilting; frame upon which the mix-
ing receptacle is supported to revolve, a power driven shaft gear connected with the ring gear on the mixing receptacle, a counter shaft gear connected with the said power driven shaft. a device for tilting the mixing receptacle support. a clutch for connecting the counter shaft with the device for tilting the mixing receptacle support, and a rotary cam deviee for automatically disconnecting the tilting device from the counter shaft and a member of the clutch device for engaging the high portion of the cam device and maintaining the clutch mombers in temporary relative engagement.

The combination with the tilting receptacle having a spout at the rear. of a stationary hopper with a neck at the bottom and a rombined tilting valve and chute having sides outside of said neck and pivoted to close against and seal the peck of the hopper when the receptacle is in one position, and adapted to enter the spout when the receptacle in brought to a position opposite the chute. with means for :winging the clute into the spout as the latter is brought opnosite the chute.
!. In a mixing machine, a rotary mixing receptacle, a tilting frame upon which the mixing receptacle is supported to revolve, a mouth piece supported upon the tilting frame and registoring with an opering in the mixing receptacle, a suitably supported hopper, a hinged gate \(n\) for opening and closing the lower end of the support, said gate being arranged to project within the said mouth piece when the mixing receptacle is in charging position, and a toggle device for locking the said gate in position to close the discharge orifice of the hopper.
10. In a mixing machine, a rotary mixing receptacle 1 rovided with a ring gear. a power driven shaft gear connectad with said ring gear. a tilting support upon which the mixing receptacle is arranged to revolve, idier rolls 5 engaging the glane back face of the ring gear. an uprights counter shaft gear conn-cted with sald driving shaft. a rotary gear wheel rigid with a cam device and means for connecting and disconnecting said gear wheel with and from the counter shaft. said rotary cam device being provided with a high and low portion, a vibratory clutch shifter for operating the clutch, an arin 19 engaging the cam. and a weight on the clutch shifter fo" causing said arm to angage in the low portions of the cam.
11. In a mixing machine, a rotary mixing recoptacle, a tilting support upon which the mixing recentacle is arranged to revolve, mechanism for tilting said mixing receptacle support and means for limiting the extent of movement on the part of sald tilting device and comprising a rotary cam having high and low portions.
12. In a mixing machine, a rotary mixing receptacle, a tilting support upon which the mixing receptacle is mounted, a rotary cam, means adapted for operating the rotary cam and comprising a cluteh. a clutch shifter for operating the clutch, a latch engaged by the cam, and a spring arranged to hold the latch in engagement with the cam with a yielding spring pressure.
13. In a mixing machine. a rotary mixing receptacle, a tilting support upon which the rotary mixing receptacle is mounted, a rotary power driven shaft, a rotary cam, means for connecting and disconnecting said cam with and from said shaft, a lever for shifting one of the clutch members, a latch l:ung to swing about the pivotal axis for the lever, and arranged to engage the cam, and means for tilting the mixing receptacle support connecting the latter with the rotary cam. 14. In a mixing machine. a rotary mixing receptacle, a tilting support upon which the rotary mixing receptacle is mounted, a rotary cam 16, a clutch shifting lever K, a lateh 19 engaging the cam, a spring between the latch and lever, a rod connecting the latch and lever and having a limited sliding connection with one of such members, means for operating the cam, and a clutch for controlling such operating means.
15. The combination with the rotatable receptacle and tilt ing support therefor. of a driving shaft and connections for rotating said receptacle, a rotatable cam and means for driving the same. devices operable from said cam for tilting the support, and means for automatically disconnecting the cam from its driving means when the receptacle is in its terminal positions.
16. The combination with the rotatable receptacle and tilting suport therefor, of a driving shaft and connections for rctating said receptacle, a rotatable cam and means for drivirg the same. devices operable from said cam for tilting the support, and means for automatically disconnecting the cam ficm its driving means when the receptacle is in its terminal positions, said means including yielding connections to perm!t the positive disconnection of the cam and driving means with the receptacle in any position.
17. In a machine for mixing concrete, and the like, a cubiform or substantially cubiform mixing receptacle mounted upon a tilting support and aranged to revolve about the axis of rotation, the breakers in conjunction with intersecting

Dlanes or sides of the receptacle forming a series of triangles.
18. In a machine for mixing concrete, and the like, a cubi furm or substantially cubiform mixing receptacle mounted mon a tilting support and arranged to revolve about a diagonal axis and having a discharge opening in alignment therewith, and breaker rods secured to the sides of the receptacle and arranged in annular series about the axis of rotation, these rods in conjunction with intersecting planes of said sides of the receptacle forming a series of triangles.

No. 101,559 . Heater for Oil Wells.

> Chauffeur pour puits à huile.


Edward Wenning, Cincinnati, assignee of Fred. B. Waring. Hartwell. both in Ohio, U.S.A., 16th October, 1906; 6 years. Filed fth September, 1906. Receipt No. 139,208.
Claim.-1. In a heater for oll wells the combination of a pump tubing having an intake portion at its lower end, a leater mounted above said intake upon the pump tubing so as to be adjustable thereon to a point adjacent to the prodwetive strata, and a means of pumping the fluid from the well through the pump tubing.
2. In a heater for wells the combination of an insulating casing surrounding the pump tubing, a series of heating coils surrounding the insulating casing, said coils being connected in parallel at their upper ends to a source of electrical energy and being connected at their lower ends to a return circuit.
3. In a heater for ofl wells the combination of a pump tubing having an intake portion at its lower end, a heater mounted upon the pump tubing so as to be adjustable thereon to a point adjacent to the productive strata, a means of pumping the fluid from the well through the pump tubing. and a damper located on the pump tubing above the heater and above the productive strata of the well.
4. A heater for oil wells consisting of an insulating casing adapted to surround the pump tubing, a series of coils surrounding the casing insulated at their upper ends from the tu:bing and connected in parallel, and at their lower ends in electrical communication with the pump tubing and likewise connected in parallel, a perforated casing surrounding the coils and adjusting clamps at the upper and lower ends of the perforated casing for adjusting it upon the pump tubing.

\section*{No. 101,560. Machine for Making Wire Chains.}

\section*{Machine à faire des chaines de fil de fer.}

Michael Bartholomew Ryan, Boston, Massachusetts, assignee of James Coulter, Bridgeport, Connecticut, U.S.A., 16th October, 1906: 6 years. Filed 12th July, 1906. Receipt No. 137,736.
Claim.-1. In a machine of the character described, independently reciprocating supports, link forming levers pivotguides for said levers, and a former, as and for the purpose specified.
2. In a machine of the character described, independently reciprocating supports, link forming levers operatively mounted thereon, guide rolls carried by said levers, guides with which said rolls engage, forming rolls on said levers, and a former, as and for the purpose specified.
3. In a machine of the character described, independently reciprocating supports, link forming levers operatively mounted thereon, guide rolls on said levers, guides engaged by said rolls, forming rolls on said levers, a vertically operating former or anvil, as and for the purpose specified.
4. In a machine of the character described, independently reciprocating supports, link forming levers operatively

mounted thereon, guide rolls and forming rolls on said levers, guides engaged by said guide rolls, a former or anvil about which the link is bent, means for operating said link forming lever supports so that both levers will be moved together to U up the blank, of which the link is formed, means for temporarily halting one lever, means for advancing the other lever to complete one side of the link, and means of \({ }^{\prime}\) said guides to force the guide rolls toward the former or anvil to give a final bend, means for retreating said link forming levers and advancing the other link forming lever to complete the opposite side of the link, as and for the purpose specified.
5. In a machine of the character described, link forming levers, guide and forming rolls mounted thereon, independently reciprocating supports on which said levers are operatively mounted, a former or anvil about which a link is formed, a track or guide engaged by the guide rolls to guide the link forming levers in the Iink bending operation, means whereby the final bends are given to a link by the alternate operation of the link forming levers, as and for the purpose specified.
6. In a machine of the character described, link forming levers, guide and forming rolls mounted thereon, independently reciprocating supports on which said levers are operatively mounted, a former or anvil about which a link is formed, a guide or track engaged by the guide rolls to guide the link forming levers in the link bending operation, wire feeding mechanism, means on one of said link forming levers for severing a blank from the wire while a link is being formed from the previous blank, as and for the purpose specified.
7. In a machine of the character described, a reciprocating support, combined wire guide and pinch fingers operatively mounted thereon, a former against which a link blank is held by said fingers, as and for the purpose specified.
8. In a machine of the character described, a reciprocatino support, pinch fingers operatively mounted thereon, \({ }^{2}\) former against which a link blank is held by said fingers, as and for the purpose specified.
9. In a machine of the character described, pinch fingers. a reciprocating support on which said fingers are operatively mounted, a movable former against which a link biank is held by said fingers, as and for the purpose specified.
10. In a machine of the character described, a former about which a link is formed, pinch fingers adapted to hold a link blank against said former, a reciprocating support on which said fingers are operatively mounted, means for imparting a lateral movement to said fingers, as and for the purpose specified.
11. In a machine of the character described, link forming levers, guide and forming rolls mounted thereon, independently reciprocating supports on which said levers are operatively mounted, a guide or track engaged by the guide rolls to guide the forming rolls in the link bending operation. means for imparting an outward lateral movement to the free ends of said link forming levers on their retreat, as and for the purpose specified.
12. In a machine of the character described, link forming levers, independently reciprocating supports on which said levers are operatively mounted, a former, a wire feeding mechanism, a swinging stop for the end of the wire adapted to be swung around out of the feeding line of the wire by one of said link forming levers during the operation of form ing a link, means to effect a return of said stop to its normal position, as and for the purpose specified.
13. In a machine of the character described, link forming levers, independently reciprocating supports on which said
lurers are operatively mounted, a movable former, wire freding mechanism, a swinging stop for the end of the wire, is and for the purpose specified.
14. In a machine of the character described, link forming levers, independently reciprocating supports on which said levers are operatively mounted, a guide or track for said levers, a movable former, wire feeding mechanism. a support for the wire, a cut-off bushing die mounted on one of the link forming lever supports so that the forward movement of said support will cut off a blank while a previous blank is being formed into a link, combined guide and pinch fingers, a reciprocating support therefor adapted to bring sald fingers in the feeding line of the wire to serve as a guide therefor, and when the wire is agalnst the movable stop to exert a further pressure against the wire, jaws adapted to grasp a completed link, a rotatable and longitudinally operating holder for said jaws, as and for the purpose specified.
15. In a machine of the character described, link forming levers, guide and forming rolls thereon, said forming rolls having grooved faces adapted to serve as wire guides, independently reciprocating supports on which sald levers are operatively mounted, a track for guiding the link forming levers during the link bending operation, a former or anvil, wire feeding mechanism, a swing stop for the wire, means for severing a link carried by one of the link forming lever supports, combined guide and pinch fingers, means for operating the same, link holding jaws, a rotatable and longitudinally operating holders for said jaws, as and for the burpose specified.
16. In a machine of the character described, link forming levers, independently reciprocating supports on which said lefers are operatively mounted, wire fecding mechanism, means carried by one of the link forming lever supports for severing a section from the wire while a link is being foriued from a previously serered section, as and for the purpose specified.

No. 101,561. Pump. Pompe.


Charles W. Schaus, assignee of Solomon S. Whipps, both of S.oux Falls, South Dakota, U.S.A., 16:h Oclober, iudu; 6 years. Filed 9th August, 1906 . Receipt No. 13s, 549.
Claim.-1. A pumping mechanism comprising a plurality of cylinders, pistons disposed within the cylinders, a shaft slidably engaged in the cylinders and connected with the pistons for reciprocation of the latter when the shaft is reciprocated, brackets in which the shaft is slidably engaged, collars carried by the shaft, a pitman extending parallel to the shaft, and having an eye in which the shaft is slldably engaged between the collars,, springs disposed between the eye and the collars an elongated yoke pivotally connected to the pitman at its end opposite to the eye, a plate extending longitudinally of the yoke centrally thereot, spaced rack pins carried by the plate, a power shaft disposed at one end within the enclosure of the yoke, a pinion carried by this power shaft and meshed with the rack pins, a plate carried by the yoke at its ends and having a slot therein extending transversciy ot we yoke, a pin carried by the pitman and engaged in the slot for movement longitudinally thereof, and laterally extending wings carried by the pitman and resting against the plate to prevent twisting of the pitman with respect to the Foke.
2. The combination with a pump. of means connected therewith for operation thereof, a said means comprising a slidably mounted rod, a pitman pivotally connected with the rod a yoke pivoted to the pitman, a plurality of rack pins carried by the yoke, a revolubly mounted power shaft, a pinion carried by the power shaft and meshing with the 10-22
pins. a plate having an arc-shaped slot carripd by the yoke, a pin carried by the pitman and engaged in the slot, and laterally extending wings carried by the pitman and lying against the slotted plate to prevent twisting of the pitman with respect to the yoke.

\section*{No. 101,562. Water Wheel. Roue hydraulique.}


Frederick Morgan Keller and William Smith Heiges, assignee of one-fourth of the interest, both of York, Pennsylvania, U.S.A., 16th October, 1906; 6 years. Fileu 24th August, 1906. Receipt No. 133.959.
Claim.-1. In combination with a water wheel having peripheral buckets, a shell or casing. open in its upper side, having a cylindrical chamber in which said wheel is concentrically mounted for revolution and further provided with a supply chamber on one side of the cylindrical chamber and opening into the bucket on one side of the wheel, and a discharge opening below and spaced from the said supply chamber and immediately below the wheel, that portion of the casing between the lower end of the supply chamber and the discharge opening being in close proximity to the periphery of the wheel to prevent the water other than that carried by the wheel from passing from the supply chamber to the discharge opening. substantially as described.
2. In combination with a water wheel having peripheral buckets, a shell or casing open at its upper side and having a cylindrical chamber in which the said wheel is concentrically motnted for revolution, said shell or casing being further provided with a supply chamber contracted downwardly, disposed on one side of the cylindrical casing. and opening into the bucket on one side \(u\) the wheel, and a discharge opening below, and spaced from said supply chamber and immediately below the wheel, that portion of the casing between the lower end of the supply chamber and the discharge opening being in close proximity to the periphery of the wheel to prevent the water, other than that carricd by the wheel, from passing from the supply chamber to the dischurge opening. substantially as described.
3. In combination with a water wheel having peripheral buckets, a shell or casing open in its upper side, having a cylindrical chamber in which said wheel is concentrically mounted for revolution, and further provided with a supply chamber at its upper end. disposed on one side of the cylindrical chamber, and opening into the buckets on one side of the wheel, and a discharge opening below and spaced from the said supply chamber and immediately below the wheel, that portion of the casing between the lower end of the supply chamber and the discharge opening being in close proximity to the periphery of the wheel, a flume discharging into the opening in the upper side of the casing, a frame in and removable from said opening and disposed above the wheel, and distributing wings in said frame to divide the head of water in the casing and flume into a plurality of streams and direct such streams against the respective buckets of the wheels on the upper and working si le thereos.
4. A water wheel of the class described comprising a cylindrical hub member, heads connected thereto and provided in their opposing sides with outwardly extending. inwardly contracted, wedge shaped grooves, open at their outer ends, and blades or buckets having their ends provided with wedge-shaped flanges seated in said grooves and adapting the buckets to be separately removed from the wheel by drawing them outwardly from the hub
5. In combination with an overshot wheel. a shell or casing in which the same is enclosed, and a distributing gate
comprising a frame in and removable from the shell or casing, and a plurality of wings mounted in said frame. to divide the head of water in the casing into a plurality of streams and direct such streams against the respective burkets of the wheel, on the upper and working side thereof.
if. In combination with an ovrrshot wheel, a shell or casing in which the wheel is enclosed, open on fts lower slde to discharge from the wheel, and a distributing gate in and removable from the shell or casing and comprising a frame and wings to divide the head of water in the casing into a plurality of streams and direct such streams against cerlaill of the buckets of the wheel.
i. A water wheel comprising a hub, heads having central openings to receive the hub and provided in their opposing sides with outwardly extending grooves, open at their outpr ends. and blades or buckets having their ends provided with flanges seated in said grooves and adapting the same to be separately removed from the wheel by draw ing outwardly from the hub.
8. A water wheel of the class described, comprising a cylindrical hub member, heads connected thereto and provided in their opposing sides with outwardly extending grooves, open at their outer ends, and blades or buckets having their ends provided with flanges seated in sald grooves and adapting the buckets to be separately removed from the wheel by drawing them outawrdly from the hub.

No. 101,563. Current Motor. Moteur à courant.


Havilah G. Brown, Webster Park, and David C. Edwards, St. Louis, both of Missouri. C.S.A.. 16th October, 1906; 6 years. Filed 4th July, 1906. Receipt No. 137,506.
daim.-1. In a current motor the combination of travelling water impact receiving members. means by which said members are carried, and means whereby said members and carrying means are ralsed. said raising means consisting of bed slabs by which said carrying means are supported, and means for lifting said slabs, substantially as sot forth.
2. In a current motor the combination of travelling water impact receiving members, means by which said members are carried, and means whereby said members and carrying means are raised, said raising means consisting of bed slabs by which said carrying means are supported. yokes connected to said slabs, and means for lifting said yokns. substantially as set forth.
3. In a current motor the combination of travelling water impact receiving members. means by which said members are carried, and means whereby said members and carrying means are raised. sald raising means consisting of bed slabs by which said carrying means are supported, yokes connected to said slabs. lift screws fitted to said yokes and means for operating said lift screws, substantially as set forth.
4. In a current motor the combination of a pair of vertical shaft. sleeves slidably fitted to said shafts, endiess blade carrying members operating on said sleeves, and means for lifting said sleeves and the pndless blade carriers operating thereon. substantially as set forth.
b. In a current motor the combination of endless chains. hades carried by sald chains, shafts to which said chains are geared, boxes in which the lower ends of said shafts are stepped, said shafts being provided at their lower ends within said boxes with spiral grooves, substantially as set forth.

No. 101,564. Pump. l'ompe.


Charles W. McGonigle and John Sawbridge, assignee of a hall interest, both of North Yokima, Washington, U.S.A., 16th October, 1906; 6 years. Filed 7th May, 1906. Receipt No. 135,641.
Claim.-1. In pumping mechanism, a pumping chamber, liquid inlet and discharge openings, means for admitting an explosive charge thereinto, a float controlled means for ig. niting the charge, and means for retarding the movement of the float.
2. In pumping mechanism, a pumping chamber having liquid inlet and discharge openings, means for admitting an explosive charge to the chamber, means for igniting the charge, and a float for controlling the operation of the explosive charge inlet and lgniting means.
3. In a pumping mechanism, a chamber having liquid inlet and discharge openings means for admitting an explosive charge to the chamber, means for igniting the charge. and a float for controlling the operation of the explosive charge inlet and igniting means.
4. In pumping mechanism, a pumping chamber having liquid itulet and discharge openings, a fluid fuel injector, a float for operating the same, a vapourizer into which the fuel is injected, means controlled by the float for admitting air into the chamber, and means controlled by the float for igniting the explosive charge.
5. In a pumping mechanism the combination with a chamber having inlet and discharge openings, of a float, means uormally restraining the float until the water has reached a predetermined level, a fluid fuel injector controlled by the flcat, a vapourizer for the fluid fuel, an inlet controlled by the float, and an igniting device also controlled by the fiost.
6. In a pumping mechanism the combination with a chamter having liquid inlet and discharge openings, of a normally restrained float, a fluid fuel inlet, an air inlet, and an igniting device, and means for connecting all of such mechanism to the float, whereby on upward movement of the latter the fuel will be injected, the air admitted, and the charge exploded in successive order.
\(\therefore\). In a pumping mechanism the combination with a chamber having liquid inlet and outlet openings, of a nozzle for injecting fluid fuel into the chamber, a supply tank connected to the nozzle. a spring closed valve for the nozzle, a plunger arranged in the rear portion of the nozzle, means for adjusting the position of the plunger, and a float arranged within the chamber and to which said plunger is connected.
8. In pumping mechanism the combination with a pumping chamber having liquid inlet and outlet openings, of an injecting nozzle having a spring closed valve, a tank to which said nozzle is conne.ted. a plunger arranged within the rear end of the nozale, a spring tending to restore the plunger to the normally open position and permit closing movement of the valve. and a float arranged within the chamber and to which said plunger is connected, whereby on upward movement the plunger and valve will be opened, and a predetermined quantity of fuel will be forced through the nozzle.
9. In a pumping mechanism the combination with a chamber having liquid inlet and discharge openings, of a fluld fuel injecting nozzle, a pipe connecting the same to a source of fuel supply, a spring closed valve in the nozzle, a plunger mounted on the rear portion of the nozzle, a threaded stell carried by the plunger. nuts adjustable on the stem. a float. and a lever mechanism connected to the float and adapied ti make contact with said nuts, and thereby force the plunger forward within the nozale to open the valve and dischars a prodetermined quantity of fuel from the nozzle.
10. In a pumping mechanism, the combination with a pumping chamber having liquid inlet and outlet openings, of a fluid fuel injector, a vapourizer disposed in alignment with the injector, and in the form of an inwardly projecting open ended cylinder, means for admitting air to the chamber to mingle with the vapour, means for igniting the explosive charge, and a float for controlling the operation of said mechanisms.
11. In a pumping mechanism, the combination with a chamber having liquid inlet and outlet openings, a fluid tuel injector, an air port, a pair of inclined arms adjacent thereto, a wedge shaped valve slidable between said arms. and the wall of the chamber and serving to close said port, a lug projecting from the valve, and a float operatively connected to said lug.
12. In a pumping mechanism, the combination with a pumping chamber, having liquid inlet and outlet openings. of means for admitting an explosive charge to the upper portion of the chamber, means for exploding the charge a normally locked valve for controlling the exhaust of a portion of the products of combustion, and a float for locking and unlocking said valve.
13. In a pumping mechanism, the combination with a pumping chamber having liquid inlet and outlet openings, of means for admitting an explosive charge to the upper portion of the chamber, an igniting means, an exhaust port for a portion of the products of combustion, a valve normally closing said port a locking rod for the valve, an inclined arm forming a cam for engagement with said rod, and a float having a recess or groove for engaging the end of the rod to effect locking and unlocking of sald valve.
14. In a pumping mechanism of the class described, the combination with a pumping chamber having fuid inlet and outlet openings, of a dash pot disposed within the chamber and having an opening at its lower end. a float arranged within the dash pot, a float restraining means, means for admiting en explosive charge to the upper portion of the chamber means for lgniting said charge, and means connecting the float to the explosive crarge inlet devices, the dash pot and restraining means serving to retard movement of the float in both directions.
15. In mechanism of the class deseribed. the combination with a pumping chamber having inlet and discharge openings, of a dash pot disposed within the chamber, a float within the dash pot. said float being provided with a groove or recess havng tapered walls, a fluid fuel injector, an air port. a valve controlling the same. means for connecting the thid fuel injector and valve to the float, a valve for controlling the exhaust of a portion of the products of combustion, a stem on said valve, a spring pressed locking rod for -ngaging the stem and provided with a pin or lug. and a rod arranged to engage the groove or recess and provided with a cam shaped portion to engage with said lug.

\section*{No. 101,565. Cut-Off for Pumps.}

Détente pour pompes.


Charles Tingley Carnahan, assignee of Jeremiah Murphy, both of Denver, Colorado, U.S.A., 16th October. 1906; 6 years. Flled 10th May, 1906. Receipt No. 135,781.
" \(/ 11 \mathrm{in}\).-1. An automatic cut-off for motive fluid. comprising means operated by a jar, of a pump or engine for throwing the eut-off into operation thereby closing the supply of motive Guid.
2. An automatic cut-off for motive fluids, comprising a vertically movable and gravity operable mechanism operated by a jar. of a pump or engine for throwing the cut-off into operation thereby closing the supply of motive fluld.
3. An automatic cut-off for motive fluid, comprising the combination with a motive fluid supply pipe, of a valve for opening and closing said pipe, and mechanism operated by a jar of a pump or engine and connected with said valve for automatically operating it, thereby closing the said pipe.
4. An automatic cut-off for motive fluid, comprising the combination of a supply pipe and a valve for opening and closing said pipe. of mechanism connected with said valve for closing it, and a gravity operable trip bar operated by a jar of a pump or engine and connected with said mechanism for operating it, thereby closing said valve.
5. An automatic cut-off for motive fluid, comprising the combination of a supply pipe and a valve for opening and closing said pipe, of a lever connected with said valve for closing it. a latch mechanism for retaining the lever in an elevated position. thereby retaining the valve oper and mechanism operated by a jar of a pump or engine and connected with said latch mechanism and adapted when operated to operate the latch mechanism, thereby permitting the lever to fall. thereby closing the valve.
6. An automatic cut-off comprising a support provided with a pair of indentations. a gravity operating bar having a pair of barbs adapted to be seated in said indentations and suspended by said support, said bar thrown off the support by a jar. a motive fluid supply pipe, a valve for opening and closing said plpe, a lever for retaining said valve in its open josition, a latch for supporting said lever, thereby retaining the valve open, and mechanism connected with the bar and with the latch and adapted when the bar is operated to shift the said latch, thereby permitting the lever to fall and the valve to close.
7. The combination with a pump and a motive fluid supply pipe therefor, of a valve for opening and closing said pipe, and means connected with the valve and operated when the pump jars for automatically closing said valve.
8. An automatic cut-off comprising a support provided with a pair of indentations. an automatically displaceable gravity operating bar having a pair of barbs adapted to be seated in said indentations and susponded by said support. a motive fluid supply pipe, a valye for opening and closing said pipe, a lever for retaining sail valve in its open position. a latch for supporting sald lever. thereby retnining the valve open, and merhanism connocted with the bal and with the latch and adapted when the bar is displaced to shift the latch. thereby permitting the lever to fall and the valve to close.
9. An automatic cut-off comnrising a support, a vertically movable and automatically displacrable gravity operating bar suspended by said support. a motive fuid supply pipe. a valve for operating and closing said pipe. a lever for retaining said valve in its open position, a lateh for supporting said lever. thereby retaining the valve open, and mechanism connected with the bar and with the latch and adapted when the bar is displaced to shift the latch, thereby permitting the lever to fall and the valse to close.
10. An automatic cut-off for motive fluids. comprising the combination of a supply pipe, and a valve for opening and closing said pipe. of a lever connected with said valve for closing it , a mechanism for retaining the lever in an elevated position, thereby retaining the valve open, and a vertically movable and automatically displaceable gravity operating bar connected with sald mechanism and adapted when displaced to operate the said mechanism, thereby permitting the lever to fall and the valve to close.
11. An automatic cut-off for motive fluids, comprising the combination of a supply pipe and a valve for opening and closing said biye, of a mechanism connected with said valve for closing \(i t\). and a vertically movable automatically displaceable gravity operable trip bar connected with said mechanism and adapted when displaced to operate the mechanism. thereby closing said valve.
12. The combination with a pump or engine and a mative fluid supply pipe therefor, of a valve for opening and closing said pipe. of a support, a gravity operable bar having a barb seated upon sald support, thereby suspending the bar. and means connected with the bar and with the valve and adapted when the bar is displaced off of said support in close the valve.

\section*{No. 101,566. Hydraulic Motor. Motcur hylranlique.}

William sambert Walter. Pontiac, Michigan. I.S.A., 16th October, 1906; 6 years. Flled 1st May, 1906. Receipt No. 135.413.
rlaim.-1. The combination with a hydraulic motor, of a pump for delivering water thereto, an intermediately plvotad operating lever, connected at one end to the pung, a bucket attached to the other end of the lever. a countorbalancing bucket also connected to said other end of the
lever, and means for alternately filling and emptying the buckets to reciprocatc the lever.

2. The combination with a hydraulic motor, of a pump for delivering water thereto, an operating lever for the pump, a bucket attached to one end of the lever. a counterbalancing bucket having a cable connection with the same end of the lever and operating in opposite direction to the first-mentioned bucket, and means for alternately filling and emptying the buckets to reciprocate the lever.
3. The comblnation with a hydraulic motor of a pump connected thereto, and means for operating the pump, said means including a bucket having openings in its opposite side walls, a bottom that inclines from substantially the central portion of the bucket downwardly in opposite directions toward sald side walls and below the openings thereof, and gates slidably mounted in said side walls anl movable across the openings.
4. The combination with a pump, of a lever connected thereto, a bucket surrounding the lever, and having a bottom provided with offset flanges that engage the opposite faces of the lever and are secured thereto, and means for supplying water to the bucket.
5. The combination of a pump, of a lever connected thereto, a bucket surrounding a portion of the lever and having side walls provided with openings, a bottom that inclins downwardly in opposite directions towards said side walls, the intermediate portion of said bottom having upturned flanges that embrace the lever and are secured thereto, and gates mounted on the side walls and movable across the openings.
6. The combination with an elevated raceway, of a hydraulic motor discharging into the raceway, a plurality of pumps connected with the motor, and means for actuating the pumps, said means comprising levers connected respectively to the pumps, a bucket fastened to the free end of each lever, and a counterbalancing bucket having a cable connection with the same end of each lever to which the bucket is fastened, said buckets being simultaneously movable in opposite directions and alternately receiving water from the raceway.
7. The combination with a raceway having a well thercin, a reservoir located beneath the raceway, a hydraulic motor arranged over the raceway and discharging thereinto, a plurality of pumps submerged in the reservoir and connected with the motor, levers connected with the pumps, and oppositely moving buckets connected with the same ends of the levers and rising and falling within the well, said buckets receiving water from the raceway.
8. The combination with a raceway having a well, of a pump, a lever connected to the pump and having one end projecting into line with the well, a bucket attached to said end and operating in the well, means for supplying water to the bucket from the raceway at one side of the well, another also operating in the well, and means for supplying water to the latter bucket from the side of the well opposite that supplying water to the first-mentioned bucket.
9. The combination with a raceway having a well provided with spaced inner side walls, of a pump, a lever pivotally supported between its ends and having one end connected to the pump, the other end projecting into line with the well, oppositely moving buckets connected to said latter end, and means for alternately supplying water thereto through opposite side walls of the well.
10. The combination with an elevated raceway, of a reservoir located beneath the same, a pier arranged in the reservoir, guides extending from the pier to the raceway, a pump, a lever pivotally supported between its ends and having a conncction at one end with the pump, a bucket con-
nected at one end to the lever and movable between the guides. said bucket being movable between the pler and raceway, and means for automatically supplying water from the bucket to the raceway.

No. 101,567. Rotary Pump. Pompe rotative.


Iiarry Retzer Comly, San Dlego, Californla, U.S.A., 16th October, 1906: 6 years. Filed 11th September, 1306. Receipt No. 139,434.
Claim.-1. In a rotary pump of the class indicated, the combination with the cylinder having opposite induction and eduction ports on one side, of a rotary piston mounted eccentrically threin, an abutment which is slidable radially between the sald ports and provided at its inner end with a groove and the oscillating device \(\mathrm{H}^{1}\), having a practically cylindrical body held but adapted to rotate in the sald groove of the abutment and provided with a removable wear piece which works in contact with the piston, substantially as described.
2 . In a rotary pump of the class indicated, the combination with the cylinder having induction and eduction ports, a rotary piston mounted eccentrically therein, a sliding abutment arranged between the ports and reciprocating in sultable guides. and a device working in rontact with the piston and pivotally attached to the abutment, the same comprising a sheet metal tube having a longitudinal slot and flanges or wings extending outwardly from the edges of the slot, and macking arranged in the tube and filling the spaces between the flanges, substantially as described.

No. 101,568. Pump. Pompe.


Gcorge J. Murdock, Newark, New Jerscy, U.S.A., 16th October, 1906; 6 years. Filed 27th April, 1906. Reccipt io. 135,345.
Claim.-1. In pumping apparatus such as described, an air chamber provided with an inlet and with an outlet for the fluid to be pumped, in combination with a source of supply of pulsations of fluid under pressure, and means connecting the same to the interior of said chamber at a point below the top thereof.
2. In pumping apparatus such as described, an air chamber provided with an inlet and with an outlet for the fluid to bo pumped, the chamber being contracted between said inlet and outlet. in combination with a source of supply of pulsations of fluid under pressure, and means connecting the ssmic to the interior of said chamber at a point below the \(t p^{\prime}\) thereof.
3. In pumping apparatus such as described, an alr chamber provided with an inlet and with an outlet for the fuid to be
pumped. and provided further with a passage adapted for ccnnection with a source of supply of fluid under pressure, said passage directed to deliver its contents past said inlet toward said outlet.
4. In pumping apparatus such as described, an air chamber provided with an inlet and with an outlet for the fluid to be pumped, the chamber being contracted between said inlet and outlet, and provided further with a passage adapted for cennection with a source of supply of fluid under pressure, said passage directed to deliver its contents through the contracted portion of said chamber past the said inlet to the sald outlet.
5. In pumping apparatus such as described, an air chamber provided with an inlet and with an outlet for the fluid to be pumped, and with a passage directed to deliver its contents past said inlet toward sald outlet, said inlet arranged obliquely with respect to such direction of delivery, there being a closed air space above such inlet and point of delivery.
6. In pumping apparatus such as described, an air chamber provided with an inlet and with an outlet for the fluid to be pumped, and with a passage directed to dellver its contents past said inlet toward said outlet, there being a closed air space above such inlet and point of delivery.
7. In pumping apparatus such as described, an air chamber provided with an outlet, with an internal passage adapted for connection to a source of supply of motive fluid, and with an inlet for fluid to be pumped. there belng a closed air space above the mouth of said internal passage.
8. In pumping apparatus such as described, an air chamber provided with an outlet, with an internal passage adapted for connection to a source of supply of motive fluid and arranged to direct its contents toward sald outlet and with anl inlet for fluld to be pumped, said chamber being tapered between said inlet and outlet, there being a closed air space above the inlet.
9. In pumping apparatus such as described, an air chamber provided at one end with an outlet and provided with an inicrnal passage projecting from the opposite end of said chamber toward said outlet and arranged to discharge its contents in the direction of such outlet, said chamber further provided at onc side with an inlet for fluid to be pumped, and having a closed annular air space above sald inlet and surrcunding said passage.
10. In pumping apparatus such as described, an air chambur provided at one end with an outlet and provided with an icternal passage projecting from the opposite end of said chamber and directed to discharge its contents in the direction of such outlet, sald chamber further provided at one side with an inlet for fluid to be pumped, and having a closed annular air space above said inlet and surrounding said pass. age, the chamber being tapered between said inlet and said butlet.
11. In pumping apparatus such as described, an air cham ber tapering from one end toward an outlet at the other end and provided with an internal passage projecting from such liarger end toward such outlet and directed to discharge its contents in the direction of such outlet, said chamber provided at one side with an inlet for fluid to be pumped, the at nular space above said inlet and surrounding said passage rristituting a closed air space.
12. In pumping apparatus such as deseribed, an air chamber provided with an inlet passage projecting from one end toward an outlet in the other end and directed to discharge its contents in the direction of such outlets, said chamber further provided at one side with an inlet for fluid to be pumped arranged obliquely with respect to the direction of discharge of contents of said passage, the annular space atove said inlet and surrounding said passage constituting a closed air spacc.
13. In pumping apparatus such as described, an air chamber provided with an outlet and with an internal passage adapted for connection to a source of supply of motive fluid, and directed to discharge its contents toward said outlet, an inlet for liquid to be pumped at the side of said chamber, and an inwardly opening check valve for said inlct.
14. In pumping apparatus such as described, an air chamter provided with an outlet and with an internal passage adapted for connection to a source of supply of motive fluid, and directed to discharge its contents toward said outlet, an inlet for liquid to be pumped at the side of said chamber, and an inwardly opening swinging check valve for said inlet, the clapper of said valve substantially horizontal in the closed pesition.
15. In a pumping apparatus such as described, and air chamber provided with an outlet and with an internal passage adapted for connection to a source of supply of motive luid and directed to discharge its contents towards said outlet, said chamber provided at one side with an inlet opening. arranged obliquely with respect to such direction of discharge, in combination with an inwardly opening swinging check valve for said inlet, the clapper of said valve being substantially horizontal in its closed position.
16. In pumping apparatus such as described, an air chamber provided with an inlet opening and with an outlet opening, and with an internal passage adapted for connection to a source of supply of motive fluid and directed to discharge its contenis toward said outlet and past said inlet, said passage cut away obliquely opposite said inlet.
17. In pumping apparatus such as described, an air chamber, having an inlet and an outlet, the portion of said chamber between said inlet and outlet tapered, said chamber further having an internal passage adapted for connection to a source of sudpply of motive fluid and projecting into the said contracted portion of said chamber, said passage cut away obliquely opposite said inlet opening.
18. An apparatus for pumping liquids, adapted to ho operated by pulsating fluid pressure, comprising a chamber having air and liquid spaces and separate inlet and discharge means including means for preventing or reducing back flow of liquid through the inlet, in combination with the pulsating pressure passage terminating within the portion of said chamber normally containing liquid, as and for the purpose set forth.
No. 101,569. Pump. Pompe.


George J. Murdock, Newark, New Jersey, U.S.A., 16th October, 1006; 6 years. Filed 7th May, 1906. Receipt No. 135,610.
Claim.-1. In pumping apparatus such as described, \(a\) chamber having a relatively free outlet and one or more relatively restricted inlets, and means for transmitting pulsating pressure from an engine exhaust or other source of pulsating fluid pressure to liquid within said chamber.
2. In pumping apparatus such as described, a chamber having a relatively free outlet and one or more relatively restricted inlets, the upper portion of said chamber closed and forming an air chamber, and means for transmitting pulsating pressure from an engine exhaust or other source of pulsating fluid pressure to liquid within said chamber.
3. In pumping apparatus such as described, a chamber having a relatively free outlet and one or more relatively restricted inlets, and a passage within said chamber adapted for connecting to an engine exhaust or other source of pulsating fluld pressure, and opening toward sald outlet.
4. In pumping apparatus such as described, a chamber other source of pulsating fluid pressure, and opening torestricted inlets, the upper portion of said chamber closed and forming an air chamber, and a passage within said chamber adapted for connection to an engine exhaust or other source of pulsating fluid pressure, and opening toward said outlet.
5. In pumping apparatus such as described, a chamber having an air space at one end and an outlet at the other, and a passage within said chamber udapted for connection to a source of supply of motive fluid and opening toward said outlet said chamber having a neck portion surrounding said passage and connecting said air space and outlet, and having one or more inlet openings in said neck portion.
6. In pumping apparatus such as described, a chamber having an air space at one end and an outlet at the other. a passage within said chamber adapted for connection to a source of supply of motive fluid, said chamber having a contracted portion between said outlet and the mouth of said passage, and having a neck portion connecting said contracted portion and air spacr, and having one or moro inlet openings in said neek portion.
7. In pumping apparatus such as described. a chamber forming at one end an air space and having an outlet at the other end and one or more inlet openings in its sides, said
chamber provided with a passage having a mouth directed toward said outlet, said passage adapted for connection to a source of supply of motive fluid.
s. In pumping apparatus such as described, a chamber comprising an air space and a liquid space and having an outlet, onr or more lateral inlets, and a passage adapted for connection to external operating means and having a mouth direted toward said outlet, in combination with a supply chamber surrounding said first chamber and communicating therewith through said inlets.
9. In pumping apparatus such as described, the combination oi a main chamber, a supply chamber surrounding the same, and an operating passage within said main chamber, said main chamber having an outlet and having also one or more inlet openings connecting it with said supply chamber.
10. In a liquid circulating system, the combination with a scurce of supply of liquid. a liquid conveying circuit comprising outgoing and return conduits. and pumping means in sueh circuit consisting of a chamber receiving liquid from the circuit and having an outlet connected to such circuit and a closed air space, said chamber having also a passage irojecting into the liquid space of said chamber toward said olitlet and ndapted for connection to an engine exhaust or the like.
11. In a liquid circulating system, the combination of a source of supply of liquid, a liquid conveying circult comprising outgoing and return conduits, and pumping means in such circuit consisting of a chamber receiving liquid from the circuit and having an outlet connected to such circuit and a closed air space. said chamber having also a passage projecting into the liquid space of said chamber toward said nitlet and adapted for connection to an engine exhaust or the like, and an automatic valve for said outlet.
12. In pumping apparatus such as described, a chamber having a relatively free outlet and one or more relatively restricted inlets, and means for transmitting pulstaing pressure from an engine exhaust or other source of plusating fleid pressure to liquid within said chamber, and an automatic valve for said outlet.
13. In pumping apparatus such as described, a chamber having a relatively free outlet and one or more relatively restricted inlots. and means for transmitting pulsating pressure from an engine exhaust or other source of pulsating Hitid pressure to liquid within said chamber. and an outwardly operning automatic check valve for said outlet.
14. In pumping apparatus such as deseribed, a chamber. having an air space at one end and an outlet at the other, and a passage within said chamber adapted for connection to source of supply of motive fluid and opening toward said nullo. said chamber having a neek portion surrounding said pessage and connecting said air space and outlet. and having one or more inlet openings in said nerk portion, and an outwardly opening automatic check valve for said outlet.

No. 101,570. Pump. Pompe.


John W. Park, Excelsior Springs, Missourl, U.S.A., 16th October. 1906; 6 years. Filed 26th March, 1906. Receipt No. 134.296.
f'lnill.-1. The combination with a cylinder of a check valve asing having a ring transversely arranged therein, a puppet valve therefor having depending spring arms adapted to extend through said ring. said arms having projecting portions at their lower ends whereby said puppet is heId normally in position, and a grappling device for said puppet and casing, co-acting for the purnose specified.
2 . In a pump the combination of a piston or plunger, a puppet valve for said plunger. a rod transversely arranged \(i_{1}\) said plunger, and a trip for said valve having upwardly projecting corrugated spring arms engaging said rod, for the purpose specified.

\section*{No. 101,571. Pump. Pompr.}

Hiram Torry. Hereford, Texas, U.S.A.. 16th October, 1906: i ypars. Filed 17th September, 1906. Receipt No. 139,561.
clrim.-1. In a pump the combination with a walking beam, of a submerged stationary cylinder, a vertically movable dis-
charge pipe having a flexible connection with the discharg. port of the cylinder. a plunger rod having a plunger workiog

in the cylinder, and operative connections between the plunger rod and one end of the walking beam and between the discharge pipe and the other cad of the walking beam for counterbalancing the plunger rod by the discharge pipe.
2. In a pump the combination with a walking beam and a stationary submerged cylinder. of a plunger rod connected 10 and actuated by one end of the walking beam, a plunger carried by the plunger rod and working in the cylinder, vertically movable discharge pipe connected to and actuated by the othre end of the walking beam. and a flexible connection between the discharge pipe and the discharge port of the cylinder. the plunger rod being weighted to counterbalarce the discharge pipe.
3. In a pump the combination of a stationary submerged ylinder, a walking beam. a plunger rod actuated by one ond oi the walking beam and provided with a plunger working in the cylinder, an endwise movable discharge pipe actuated by the other end of the walking beam, and a flexible pipe connecting the discharge pipe with the outlet port of the cylinder and exceeding in length the maximum space between the discharge pipe and the cylinder to permit of endwise movement of the discharge pipe.
4. In a pump the combination of a walking beam, a stationary submerged cylinder. a plunger rod actuated by one end of the walking beam and provided with a plunger working in the cylinder. an endwise movable discharge pipe actuated by the other end of the walking beam, and a flexible coiled pipe connecting the discharge of the cylinder with the discharge pipe, the length of the coil exceeding the maximum space between the cylinder and the discharge pipe.
5. In a pump the combination of a walking beam. a staitonary cylinder, a pair of levers fulcrumed independently of the walking beam, connections between the levers and the respective ends of the walking beam, a plunger rod bung from one of the levers and provided with a plunger working in the cylinder, a discharge pipe hung from the other lever, and a flexible connection between the cylinder and the discharge pipe, the plunger rod and the discharge ripe being counterbalanced.
16. In a pump the combination of a support. a walking beam fulcrumed thereon, a crosshead fixed to the support. levers intermediately fulcrumed upon opposite end portions of the crosshead, links connecting the levers with the walking beam, a plunger rod hung from one of the levers and provided with a plunger, a submerged stationary cylinder in which the plunger works, a discharge pipe hung from the other lever. and a flexible conneotion between the cylinder and the discharge pipe.
7. In a pump the combination of a walking beam, levers fulcrumed intermediate of their ends at opposite sides of the fulcrum of the walking beam and independently of the atter. links connecting the outer ends of the levers with he respective ends of the walking beam, a plunger rod hump from the innur end of nue of the levers and provided with a plunger, a stationary submerged cylinder in which the plunger works, a discharge pipe hung from the inner end ol the other lever, and a flexible connection between the dis-
charge pipe and the cylinder, the plunger rod and the discharge pipe being counterbalanced.
8. In a pump the combination with a walking beam, of a submerged cylinder. a vartically movable discharge pipe hung from the walking beam and connected to the cylinder. a plunger rod hung from the other end of the walkitig beam anil provided with a plunger working in the eylinder, the lischarge pipe and the plunger rod being counterbalanced, and a weight carried by the walking heam and supported vertically above the fulcrum thereof in the horizontal position of the beam.
9. In a pump the combination with a walking beau, of a submerged cylinder, a vertically movable discharge pipe hung from one end of the walking beam and connected with the cylinder, a plunger rod hung from the other end of the walking beam and provided with a plunger working in the rylinder, the discharge pipe and the plunger rod being counterbalanced and a vertically adjustable welght carried by the walking beam and located vertically above the fulcrum thereof in the horizontal position of the beam.
10. In a pump the combination with a walking beam, of a submerged cylinder, a discharge pipe hung from one end of the walking beam and connected to the cylinder, a plunger rod hung from the other end of the walking beam and provided with a plunger working in the cylinder, the discharge pipe and the plunger rod being counterbalanced. a weight disposed centrally above the walking beam and supporting arms connected to the weight and to the walking beam at opposite sides of its fulcrums.
11. In a pump the combination with a walking beam, of a submerged cylinder, a discharge pipe hung from one end of the walking beam and connected to the cylinder, a plunger rod hung from the other end of the walking beam and provided with a plunger working in the cylinder, the discharge pipe and the plunger rod being counterbalanced, a weight disposed centrally above the walking beam and weight supporting arms having their lower ends connected to the walking beam at opposite sides of its fulcrum and adjustable longitudinally thereon to raise and lower the weight.

No. 101,572. Pump Ior Oil. Pompe ì huile.


Emile Lacroix and Charles J. Creran, co-inventors, both of Holyoke, Massachusetts. I.S.A., 16th October. 1906; 6 years. Filed 29th May, 1306. Receipt No. 136,3ad.
Claim.-1. In an oil pumping apparatus, in combination. an oil supply tank, a cylinder below and pipe connected therewith, a piston in said cylinder. and means for imparting reciprocatory movement thereto, a distributing lank located above the cylinder and pipe connected therewith. and having one or more oil distributing conduits leading therefrom, and an overflow pipe leading from the distributing tank back back to the supply tank.
2. In an oil pumping apparatus, in combination, an oil supply tank, a cylinder below and pipe connected theriewith, a piston in said cylinder, and means for imparting reciproeatory movement thereto, a distributing tank located above the cylinder and pipe connected therewith, and having one or more oil distributing conduits leading therefrom, and an overfow pipe leading from the distributing tank back to the supply tank and a yielding valve therein.
3. In an oil pumping apparatus, in combination, an oil supply tank, a cylinder below and pipe connected therewith, a niston in said cylinder, and means for imparting reciprocatory movement thereto, a distributing tank located above the rylinder and pipe connected therewith, and having one or more oil distributing conduits leading therefrom. and an overflow pipe leading from the distributing tank back to the supply tank, a spring closed valve therein,
and means for adjusting the compression of the spring ior such valve.
4. In an oil pumping apparatus, in combination, an oil supply tank, a cylinder below and pipe connected therewith, a piston in said cyliuder, and means for imparting reciprocatory movement thereto. a distributing tank located above the cylinder and pipe connected therewith. and having one or more oil distributing conduits leading therefrom, and an overflow pipe leading from the top of the distributing tank bark to the supply tank, a check valve in said overflow pipe, a spring applied for a closing pressure to said valve, and a screw plug adjustably operable against the said spring.

No. 101,573. Current Motor. Moteur ì courant.


Charles E. Hultgreen and Harold L. Clements, co-inventors, both of Dawson, Yukon Territory, Canada. 16th October, 1906; 6 years. Filed fth September, 1906. Receipt No. 139,218.
Claim.-1. A current motor comprising in combination, a pair of scows and a connecting framework, a transverse shaft mounted on each scow, a sprocket wheel mounted on each shaft, double sprocket chains connecting said sprocket wheels, rods connecting the members of each chain, vane shafts connecting said sprocket chains, a vane mounted on each vane shaft, tracks mounted on the framework, and means mounted intermediate the ends of each vane shaft for travel upon said tracks.
2. A current motor comprising in combination a pair of scows and connecting framework, a transverse shaft mounted on each scow, a sprocket wheel mounted on each shaft, double sprocket chains connecting said sprocket wheels, rods connecting the members of each chain, vane shafts connecting said sprocket chains, a vane mounted on each vane shaft. tracks mounted on the framework, and a roller mounted intermediate the ends of each vane shaft for travel upon said tracks.
3. A current motor comprising in combination a pair of scows and connecting framework, a transverse shaft mounted on each scow, a sprocket wheel mounted on each shaft, double sprocket chains connecting said sprocket wheels. rods connecting the members of each chain, vane shafts connecting said sprocket chains, a vane mounted on each vane shaft. tracks mounted on the framework, and a roller mounted intermediate the ends of each vane shaft for travel unon said tracks. and horizontally arranged with rospect thereto.
4. A current motor comprising in combination a pair of scows and a connecting framework, a transverse shaft mounted on each scow, a sprocket wheel mounted on each shaft, double sprocket chains connecting said sprocket whwels, rods connecting the members of each chain, vane shafis connerting said sprocket chains. a vane mounted on each vane shaft, tracks mounted on the framework. means mounted woon the ends of each vant shaft. and means mounted intermediate the ends thereof for travel upon said tracks.
5. A current motor comprising in combination a pair of scows and a connecting framework, a transverse shaft mounted on each scow, a sprocket wheel mounted on each shaft, double sprocket chains connecting said sprocket wheels, rods connecting the members of each chain. vane shafts connecting said sprocket chains, a vane mounted on each vane shaft, tracks mounted on the framework, a roller mounted upon the ends of each vane shaft, and a roller mounted intermediate the ends thereof for travel upon said tracks.
6. A current motor comprising in combination a pair of scows and a connecting framework, a transverse shaft mount. ed on pach scow, a sprocket wheel mounted on each shaft,
double sprocket chains connecting said sprocket wheels, rods connecting the members of (arh chain, vane shafts connect ing sald sprocket chains, a vane mounted on each vane shaft. tracks mounted on the framework, a roller mounted lpon the ends of each vane shaft, and a roller horizontally mounted intermediate the ends thereof for travel upon said tracks.
7. A current motor comprising in combination a pair of scows and a connecting framework, a transverse shaft mount(cl on each scow, a sprocket wheel mounted on each shaft. sprocket chains connecting said sprocket wheels, vane shafts connecting said sprocket chains and extending therebeyond at each end, a grooved wheel mounted on each end of said vane shafts, a vane carried by each vane shaft, a grooved wheel horizontally mounted intermediate the ends of each vane shaft, and tracks mounted in said framework, and upon which said wheels travel.
8. A current motor comprising in combination a pair of scows and a connecting framework, a transverse shaft mounted on each scow, a sprocket wheel mounted on each shaft, sprocket chains connecting said sprocket wheels. vane shafts carried by said chains. vanes mounted on said vane shafts, tracks mounted in said framework, wheels mounted on said vane shafts, and adapted to travel on said tracks. and pairs of links connecting succeeding vane shafts and hinged together, the forward end of each front link being fcrmed with a slot to receive the end of the adjacent vane shaft.

No. 101,574. Weighing Device. Bascule.


Camille Gauvin and Henri Cartier, Brussels, Belgium, and Edouard Brunel, Paris, France, co-inventors, 16th October, 1906; 6 years. Filed 1st June, 1906. Recelpt No. 136,463 .
Claim.-1. The combination of an indicating mechanism, a potary shaft controlling said mechanism, means normally acting to rotate said shaft, a detent mechanism for said means, said mechanism being manually actuative to release said means but normally movable to restrain the same, means comprising a load actuated part directly controlling said detent mechanism, for hoding the latter out of restralning engagement with said first-named when manually retracted, means operatively connected with the load actuated fart, for balancing said load actuated part and thereby regloring said part to its position of inactivity with respect tn said detent mechanism and means, operative from said shaft, for causing said balancing means to assume the balancing relation, substantially as described.
2. The combination of an indicating mechanism, a rotary slaft controlling said mechanism, means normally aoting to rotate said shaft, a detent mechanism for said means, said micchanism being manually actuative to release said means but normally movable to restrain the same, means comprising a load actuated part directly controlling sald detent mechanism. for holding the latter out of restraining engagemont with said first-named means when manually retracted, a lever, operative connecting means between said lever and the load actuated part, a weight slidable on sald lever, and means for moving said weight operatively connected with said shaft. substantially as described.
3. The combination of an indicating mechanism, a rotary shaft controlling said mechanism, means normally acting to retate said shaft, a detent mechanism for said means, said mechanism belng manually actuative to release said means but normally movable to restrain the same, means comprising a load actuated lever directly controlling sald detent mechanism, for holding the latter out of restraining engagement with said first-named means when manually retracted. arother lever, operative connecting means between said
levers, a woight slidable on said last-named lever. and mans for moving said weight operatively connected wilh sain shaft, substantially as described.
4. The combination of an indicating mechanism, a rotary shaft controlling said mechanism, means normally acting to rotate said shaft, a detent mechanism for sald means. said mechanism being manually actuative to release said means but normally movable to restrain the same, means ccmprising a load actuated part directly controlling sald detont mechanism, for holding the latter out of restraining er.gagement with said first-named means when manually retracted, means operatively connected with the load actuated part and thereby restoring said part to its position of inactivity with respect to said detent mechanism, means operative from said shaft for causing said balancing means to assume the balancing relation, a crank, and means controlled by said crank, for resetting sald shaft and the indicatir:g mechanism, substantially as described.
5. The combination of an indicating mechanism, a rotary shaft controlling said mechanism, means normally acting to rotate said shaft, a detent mechanism for said means, said mechanism being manually actuative to release sald means but normally movable to restrain the same, means comprising a load actuated part directly controlling said detent niechanism, for holding the latter out of restraining engagement with said first-named means when manually retracted, means operatively connected with the load actuated part, for balancing said load actuated part and thereby restoring said part to its position of inactivity with respect to said detent mechanism, means operative from said shaft. for causing said balancing means to assume the balancing relation, a printing mechanism, a crank, and means controlled by the crank for resetting said shaft and the indicating mechanism and for actuating the printing mechanism, substantially as described.

No. 101,575. Mould. Moule.


George Leon Bartlett, Boston, Massachusetts, U.S.A., 16th October, 1906 ; 6 years. Filed 6th August, 1906. Receipt No. 138,447 .
Claim.-1. An angular mould member comprising a central portion and end portions projecting therefrom and integrall! and flexibly connected therewith
2. An angular mould member comprising a central por tion and end portions projecting therefrom and fexibly connected therewith, said portions having edge flanges corstituting narrow extensions of the moulding surfaces.
3. An anular mould member composed of a resilient strip having a central portion and end portions projecting therefrom, the said portions being flexibly connected.
4. An angular mould member composed of a resilient strip having a flanged central portion and flanged end portions projecting therefrom, and flexibly connected there with, the flanges of said portions having bevelled ends which meet when the end portions are in their operative positions 5. A mould comprising a series of angular mould members. each having a flanged central portion and flanged end por tions flexibly connected therewith, a series of flat mouli members adapted to be interposed between adjacent angll lar members, and a holder adapted to receive the two serles of members and provided with means for clamping the nuembers together.
6. A mould comprising alternating angular and flat mould members separable from each other, and means for detachabiy securing said members in their operative positions. 7. A mould comprising alternating angular and fat mould members separable from each other, and a frame formed to receive said members, and having means for pressing the members together.

Ne. 101,576. Combination Teol. Outil à mmbinaison.


Thomas H. Bradley, Watertown, New York, U.S.A., 16th October, 1906; 6 years. Filed 1st October, 1906. Recelpt No. 139,959.
Claim.-The within lever tool consisting of the bar cormed at one end with a plurality of shouldered sections increasing in length and diameter as they extend toward the central portion of said bar, substantially as shown and described.

No. 101,577. Carbureter. Carburateur.


William Brown, Vancouver, British Columbia, Canada, 16th October, 1906; 6 years. Filed 11th July, 1906. Receipt No. 137,710 .
Claim.-1. As a means for generating a hydro-carbon gas, a closed tank having a small cylindrical well in the bottom, a casing adapted to fit the cylindrical well which casing has a helical passage charged with fibrous material, means for delivering air to the lower end of the hellcal passage, and means for delivering the generated gas from the upper part of the tank.
2. As a means for generating a hydro-carbon gas, a closed tank having in its bottom a cylindrical well, a casing adapted to fit the cylindrical well, in the bottom of the tank, a helical passage in such casing charged with an absorbent materisl, an air pipe passing downward through the tank and delivering within the casing at the lower end of the helical passage, a gauze screen upwardly convex over the top of the well and its enclosed casing, and means for delivering the generated gas from the upper part of the oll tank.
3. As a means for generating hydro-carbon gas, a closed oil tank having a small cylindrical well in the bottom, a casing adapted to fit the cylindrical well, a thin flattened helix within the casing forming a helical passage from top to bottom of it, a gauze screen across the lower end of the helical passage, a central air pipe passing downward through the oil tank and delivering at the lower end of the helical passage in the casing, an upwardly convex gauze screen sectred to the air pipe and having its outside edge resting on the bottom of the tank outside of the well, a gas delivery
pipe from the upper part of the tank, an elongated vessel to the opposite ends of which the delivery pipe is connected, divisions across the pipe having fine apertures therethrough, a check valve to prevent backward movement of the gas towards the generator, and an air suction valve having means for regulating the pressure at which the valve opens.

No. 101,578. Turbine. Turbine.


Hiram Burrill, Grenville. Maine. U.S.A., 16th October, 1906; 6 years. Filed 14th September, 1906. Receipt No. 139,504.
Claim.-A turbine comprising a casing, a wheel mounted therein and formed with an annular cyma-recta flange and blades spaced apart on the outer surface of the flange, said flange and blades forming passages, each of which is of the same width throughout its length and of gradually increasing depth from the upper to the lower end.

Ko. 101,579. Measure, Record and Vending Device for Mauide.
Mesure record et appareil de vente pour liquides.


William Miller Davidson, Government Road, Port Pirle, South Australia, Australia. 16th October, 1906 ; 6 years. Filed 27 th March, 1906. Receipt No. \(134,344\).
Claim.-1. A liquid measuring and registering device comprising a hollow body provided with tubular inlet and outlet a measuring chamber with separate inlet and outlet openings contained within such hollow body, air holes adapted to coincide respectlvely with an air hole in the body, and a registering mechanism mounted within a cap or cover upon the end of such body and operated by a pawl carried by such measuring chamber, substantially as described.
2. In a liquid measuring and registering device a chamber constructed to contain a predetermined quantity of liquid prising a hollow body provided with tubular inlet and outlet, having (a) separate inlet and outlet openings adapted ta coincide with inlet and outlet openings respectively in the body of the device, (b) air holes adapted to coincide respectively with an air tube leading into the vessel and with an air hole in the body, and (c) a pawl engaging the teeth of a ratchet wheel attached to the unit wheel of a registering mechanism mounted within the cap of cover upon the body of the device. substantially as described.
3. In a liquid measuring and registering device a registering mechanism comprising a series of numbered dises

With a train of spur wheels and operating fingers mounted within a suitable portion of the casing, outside the chamber, the unit wheel of the series having a ratchet wheel operated by a pawl carried by the measuring chamber, substantially a: described.

\section*{No. 101,580 . Stopper for Tobacco Sacks.}

Fermeture de sac à tabac.


William L. Fross, Seattle, Washington, U.S.A., 16th October, 1906: 6 years. Filed 28th September, 1905. Receipt No. 128,800.
Claim.-1. A stopper attachment for tobacco sacks, consisting of a thimble having a peripheral groove adjacent one of its ends, and formed with a vertical notch in its outer edge, a stopper, and an elastic connection secured at one end to the stopper and at its opposite end passing over the inner end of the thimble and secured in the groove thereof at a point in alignment with sald notch.
2. A stopper attachment for tobacco sacks consisting of a thimble having a peripheral groove adjacent one of its ends, a stopper, and an elastic connection having one end passing over the inner end of the thimble and secured in said groove thereof, and its upper end secured to said stopper.
topper. thimble having its interior flared at the end portions thereof. a stopper, and an elastic convection having one end of. a stoped to said stopper and the opposite end engaging the inner wall of the thimble and rigidly fixed to said thimble.

\section*{No. 101,581. Refrigerating Box.}

Boite ì réfrigeration.


Byron Smith Fryer, Sumner, Washington. U.S.A., 16th October, 1906; 6 years. Filed 1st June, 1906 . Receipt No. 136.478.

Claime.-1. A refrigerator having an ice chamber provided with a door and an ice guide attached to the door and free to move over a portion of the floor of the ice chamber when the door is being closed, said guide adapted to project into the jce chamber an appreciable distance beyond the doorway when the door is open and guides the ice into
the ice chamber to a point inwardly beyond the doorwas. 2. A portable refrigerator box having an ice chamber, a door hinged at its lower edge at one end of said ice chamber, and an ice guide pivotally attached at its upper edge to the door at the upper edge of the latter and morable at its free edge on the bottom of the ice chamber.
3. A portable refrigerator box having an ice chamber, a door hinged at one end of said chamber, and an ice guide hinged at its upper edge to the inner face of the door, said ice guide comprising a metal plate movable on the bottom of the ice chamber and sides movable parallel with the sides of the ice chamber.
4. A portable refrigerator box provided in its upper portion with an ice chamber having a closed bottom, grooved horizontal bars disposed below the closed bottom of the ice chamber, uprights having grooves communicating with the grooves of the horizontal bars, and convex pieces over the horizontal bars and below the bottom of the ice chamber for directing water of condensation into the grooves of the horizontal bars.

No. 101,582. Drier. Séchoir.


Francis T. Johnson, Chicago, Illinois, U.S.A., 16th October, 1906; 6 years. Filed 30th March, 1906. Receipt No. 134,465.
Claim.-1. In a dryer, the combination of a drying chamber, with means for causing said chamber to be heated. an air intake in the upper part of the chamber, and means for preventing the escape of heated air through such inlake. such means comprising a relatively extended chamber open at the lower end to the atmosphere and communi cating near its upper end with the drying chamber.
2. In a dryer, the combination of a drying chamber, with means for causing said chamber to be heated,the wall of said chamber having a plurality of apertures, and a hood device extending over and below such apertures.
3. In a dryer, the combination of a drying chamber with muans for causing said chamber to be heated, an inlet into aid chamber and an inverted hood over such inlet.
4. In a dryer, the combination of a drying chamber with a heater connected so as to supply heat thereto, and a duct leading from the chamber into the heater, said duct movable so as to discharge at different places in the heater.
5. In a dryer, the combination of a drying chamber with a heater connected so as to supply heat thereto. and a sliding duct leading from the chamber into the heater. 6. In a clothes dryer, the combination of a drying chamber with a plurality of clothes racks in said drying chamber, an air intake at the upper part of the chamber. and means for admitting heat to the chamber at a point below said racks, and means for conducting the air out of said chamber from the bottom thereof.
7. In a clothes dryer, the combination of a drying chamber with a plurality of clothes racks in said chamber, a gas stove, a flue leading from the gas stove and discharging below the racks, means for admitting a ventilating drat into the chamber above the racks, and means for discharging the air out of said chamber from below the hot air flue.
8. In a clothes dryer the combination of a drylng chamber with a plurality of clothes racks in sald drying chamber, ad air intake at the upper part of said chamber, and means for admitting heat to the chamber below the racks.
9. In a clothes dryer the combination of a drying chamber. a plurality of clothes racks in said chamber, a heater out-
side of said drying chamber, a flue to conduct heat from the heater to the drying chamber below the racks, and means for admitting a ventilating draft into the chamber above the racks.
10. In a clothes dryer the combination of a drying cham ber, a plurality of clothes racks in said chamber. a heater nutside of said drying chamber, a flue to conduct heat from the heater to the drying chambeer below the racks, means for admitting a ventilating draft into the chamber above the racks, and a device for discharging the vapour laden air from the lower part of said chamber.
11. In a drying apparatus the combination of a casing forming a drying chamber, with means for supporting the articles to be dried in said chamber, means for introducing heat below said supporting means. means for introducing a volume of cold air directly to the upper part of the chamber, and means for discharging air from the lower part of said chamber.
12. In a drying apparatus the combination of a casing forming a drying chamber, means for supporting the articles to be dried in said chamber, means for introducing heat below said supporting means, means for introducing a volume of cold air into said chamber, said means comprising air passageways leading from outside the dryer directly into the upper part of said chamber, and means for discharging air form the lower part of said chamber.
13. In a drying apparatus the combination of a casing forming a drying chamber, means for supporting the articles to be dried in said chamber, means for introducing heat below said supporting means, means for introducing a volume of cold air into said chamber, said means comprising air passageways leading from outside the dryer directly into the upper part of said chamber, means for discharging air from the lower part of said chamber, and means assoclated with said air passageways for preventing the escape of hot air through the same.
14. In a drying apparatus the combination of a casing forming a drying chamber and having apertures in the upper part to admit a volume of cold air directly into the upper part of the drying chamber, with means for supporting the articles to be dried, means for introducing heat below said supporting means, hood devices on the outside of the casing extending over said apertures, and means for discharging air from the lower part of said chamber.
15. In a drying apparatus the combination of a casing forming a drying chamber, the lower part of said casing being closed and the upper part provided with air passageways to admit a volume of cold air directly to the upper part of said chamber, means for supporting the aritcles to be dried within the drying chamber, a heater outside of said casing and connected with the same so as to introduce heat into the drying chamber below the supporting means. and a flue leading from the bottom of the casing into the heater.
16. In a drying apparatus the combination of a casing forming a drying chamber, the lower part of said casing being closed and the upper part provided with air passageways to admit a volume of cold air directly to the upper part of sald chamber. means for supporting articles to be dried within the drying chamber, a heater outside of said casing, a flue leading from the heater and opening into the lrying chamber below said supporting means, and a flue leading from the bottom of the casing into the heater.
17. In a drying apparatus the combination of a casing forming a drying chamber the lower part of said casing being closed and the upper part provided with air passageways to admit a volume of cold air directly to the upper nart of said chamber. means for supporting the articles to be dried within the drying chamber, a heater outside of said casing and connected with the same so as to introduce heat into the drying chamber below the supporting means, a flue leading from the bottom of the casing into the heater and an outlet pipe extending upward from the lower part of the casing.
18. In a drying apparatus the combination of a casing forming a drying chamber, the lower part of said casing being closed and the upper part provided with air passageways to admit a volume of cold air directly to the upper part of said chamber, means for supporting the articles to be dried within the drying chamber, a heater outside of said casing and connected with the same so as to introduce heat into the drying chamber below the supporting means, a flue leading from the bottom of the casing into the heater and an outlet pipe extending from the lower part of the casing upward through the drying chamber.
19. In a drying apparatus the combination of a casing closed at the bottom and having apertures at the top, said casing forming a drying chamber, hood devices on the outside of the casing flaring at the bottom and extending closely over the apertures, means for supporting the articles to be dried in said drying chamber, means for introducing heat into the chamber below said supporting means and a discharge pipe leading upward from below the heat introducing means.

No. 101,583. Jewellers' Bench. Banc de bijouticrs.
MXI. 1.


James O. Kellum, Heron Lake, Minnesota, U.S.A., 16th October, 1906: 6 years. Filed 1st October, 1906. Receipt No. 139,938.
Claim.-The combination with a jewellers' bench having an opening in the front and adjacent to one end thereof, a lathe operating mechanism in said bench and in line with said opening, of a block adapted to take into sald opening, neans to removably secure sald block therein, a fiat base having a plurality of elongated slots therein mounted upon said block. bolts extending through said block and slots to adjustably secure the base on said block, an arm integral with the lower edge of the base and extending outwardly and downwardly therefrom, the lower end thereof being forked, a spindle rotatably carried by sald fork, a pulley on said sfindle, means disposed between said pulley and operating mechanism to rotate the spindle when the mechanism is operated.

No. 101,584. Printing Press. Presse \(d\) imprimer.


John Krehbiel, Detroit, Michigan, U.S.A., 16th October, 1906;
6 years. Filed 8th January, 1903. Receipt No. 102,036.
Claim.-1. In a printing press the combination with the frame thereof, of a curved platen carried by the frame and a reciprocating type bed, of means for reciprocating the type bed whereby a rolling contact between said type bed and platen is intermittently produced.
2. In a printing press the combination with the frame thereof and a reciprocating type bed having a plane surface, of a platen carried by the frame having a curved surface, and means for intermittently reciprocating the bed to produce a transverse line of rolling contact between said bed and platen.
3. In a printing press the combination with the frame thereof and a type bed having a :lane surface, of a platen secured to the frame and having a curved contact surface, and means for imparting a reciprocating and rocking motion to the type bed.
4. In a printing press the combination with the frame thereof, of a platen secured to said frame and having a curved contact surface, a type bed below said platen having a plane surface, crank shafts journalled in bearings on the frame, crank on said shafts, and pitmans connecting the cranks and bed. one of said cranks being set to move in advance of the other, whereiy a rocking motion is imparted to the bed.
5. In a printing press the combination with the frame thereof, of a reciprocating type bed, means for actuating said bed, a platen carried by the frame having a curved contact surface opposing said bed, and means for adjustably securing the platen to the frame and for yieldingly holding the same in its adjusted position.
6. In a printing press the combination with the supporting frame, of posts on the frame, a platen having eyes loosely ergaging the posts, a yielding member sleeved on each post above the platen, an adjusting wheel on each post engaging said ylelding member, a reciprocating type bed, and means for moving said bed.
7. In a printing press the combination with the supporting frame, of posts on said frame having screw-threaded upper ends, a platen having eyes engaging said posts, ylelding supports beneath the platen, an adjusting wheel on each post above the platen, a yielding member interposed between each wheel and the platen, a reciprocating type bed, and means for actuating the bed.
8. In a printing press the combination with the frame, of a platen having a curved contact surface, secured to the frame, a vertically reciprocating type bed beneath said platen, guides movable in ways on the frame and pivotally secured at their upper ends to the corners of the bed, crank shafts mounted in bearings on the frame, cranks on said shafts and pitmans secured at one end to said cranks and engaging sockets on the bed at their opposite ends, one of said cranks being set to operate in advance of the other to impart a rocking motion to the bed.
9. In a printing press the combination with the frame, a platen, and type bed, of a feed drum mounted upon the frame and adapted to intermittently draw a continuous web of paper across the platen, a series of ruling pens mounted uron the frame and means for moving said pens across the
10. In a printing press the combination with a frame, a platen, and a type bed, of a support on the frame at one side of the platen for a roll of continuous paper webbing, a feed drum at the opposite side of the platen to feed the web across the platen and a series of ruling pens supported adjacent to the roll of paper to rule longitudinal lines thereon.
11. In a printing press the combination of a shaft mounted in adjustable bearings on the frame and adapted to recelve and support a roll of paper, a disc loosely mounted on the shaft and adapted to be secured to the roll of paper to turn therewith, and a helical spring secured at one end to the shaft and at its opposite end to the disc to exert a force to turn the roll in a direction opposite to that in which said roll is turned when its web of paper is drawn therefrom and forming a connection between the shaft and roll to turn said shaft when the web is drawn from the roll.
12. In a printing press the combination with the frame thereof, of a platen secured to said frame, a type bed beneath the platen, crank shafts mounted on sald frame, cranks on said shafts, pitmans secured to said cranks and actuating and supporting the bed, a support at one side of the platen for a roll of paper web, an intermittently operated feed drum mounted on the frame at the opposite side of the platen and adapted to draw the web of paper across the face of the platen, a table support on the frame over which the web is adapted to pass from the drum, guides on said table, a bar on said guides, ruling pens carried by said bar, means a bar on said guving the bar, on its guides in timed relation to the movement of the type bed to rule transverse lines on the web and ruling pens supported adjacent to the roll of paper and adapted to rule longitudinal lines on the web.
13. In a printing press the combination with the frame thersof, of a platen secured to the frame, a type bed, means for intermittrintlv operating said bed, a shaft journalled in bearings on the frame at one side of the platen and adapted to support a roll of paper web, an intermittently operating feed drum supported on the frame at the opposite side of the platen, a transverse knife supported on the frame beneath which knife the web is adapted to pass from the feed rell, and means for intermittently operating said knife to sever the paper.
14. In a printing press the combination with an intermitsently operating leed drum and its supporting shaft, of a
ratchet wheel secured to said drum, a gear wheel loosely mounted on the shaft, a spring pressed pawl on the grar wheel in engagement with the teeth of the ratchet, a rack bar to engage the gear wheel, a way for the rack bar, a continuously rotating dise wheel having a radial undercut slot. a rod connected at one end by a bolt to the rack bar. and a bolt adjustably secured within said slot and adapted to secure the rod to the disc wheel.
15. In a printing press the combination with a feed drum and its actuating mechanism for imparting an intermittent movement thereto, of notches on the periphery of said drum. a dog to engage said notches, and means for throwing the dog into and out of engagement with the teeth in timed relation to the movement of the drum.
16. In a printing press the combination with a feed drum. a ratchet wheel on the drum, a gear wheel, a pawl on the gear wheel engaging the ratchet wheel, a rack bar engaging the gear, and means for moving the rack, of a head on the drum provided with peripheral teeth, a dog engaging the teeth and having an extended arm, a yoke on the rock bar, and pins on said yoke to engage the arms on said dog at each end of the movement with the rack bar and throw said dog into and out of engagement with the teeth.
17. In a printing press the combination with a feed dram for feeding a continuous web of paper and its operating mechanism, of radial clamping fingers at each end of the roll, and means for moving said fingers radially and laterally toward and from the paper.
18. In a printing press the combination with a shaft, a feed drum mounted on said shaft, and means for actuating said drum, of radial clamping fingers, and means mounted on said shaft within the drum for carrying said fingers and actuating the same to clamp and release the paper.
19. In a printing press the combination of a hollow feed drum provided with longitudinal slots, a spider within the drum and adapted to be moved longitudinally therein, means for actuating the drum independent of the spider, clamping fingers carried by said spider and extending outward through said slots, and means for actuating said fingers to clamp the paper.
20. In a printing press the combination of a shaft, hollow feed drum mounted on said shaft and provided with longitudinal slots in its frame, a series of radial clamping fingers extending outward through said slots, a spider mounted on the shaft, a spline to sccure the spider to the shaft with a free longitudinal movement thereon, and means engaging the fingers to operate the same, said clamping fingers and the means for operating the same being carried by said spider. whereby said fingers may be moved longiitudinally of the drum to bring the same adjacent to the edge of the paper.
21. In a printing press the combination of a shaft, a hollow feed drum mounted on said shaft and provided with longitudinal slots, means for actuating said drum independent of the shaft, a spider splined on said shaft and held from turning thereby, a series of clamping fingers supported nn said spider with their outer ends extending outward through the slots in the drum, a cam member secured to sald spider and adapted to be engaged by said fingers to cause the fingers to be moved radially and laterally by the movement of the drum.
22. In a printing press the combination of a fixed shaft, a hollow drum mounted to turn on sald shaft and provided with longitudinal slots, means for turning said drum on the shaft, spiders splined on the shaft within the drum and adapted to be moved longitudinally of the shaft, a series of radial clamping fingers supported by each of said spiders and extending outward through the slots in the drum. cams on the spiders for moving the fingers radially outward and springs for moving said finger radially inward.
23. In a printing press the combination of a fixed shaft, a drum mounted to turn on sald shaft and having longitudinal slots, means for turning sald drum on the shaft, spiders splined on the shaft, a series of radial clamping fingers outward through the slots in the said drum, heads on said fingers, springs to move said fingers radially inward to clamp the paper between the heads and drum cams onthe spiders for moving said fingers radially outward to release the paper and cams on the spiders to engage the inner ends of the fingers and rock the same to move the heads from over the paper.
24. In combination with a printing press, a fixed shaft, a drum mounted to turn on sald shaft and having longitudinal slots, spiders splined on the shaft, a ring loosely mounted on the hub of each of said spiders and having radial arms extending outward into the slots in the drum and adapte to be turned on said hub thereby, a series of radial clamping fingers supported and held between said arms and each of said spiders and adapted to move with said arms, and cams secured on the hubs of the spiders to engage the inner ends of the arms and move the same radially and laterally.
25. In combination with a printing press, a fixed shaft, a drum mounted to turn on said shaft and provided with longItudinal slots, spiders splined on the shaft, a ring loosely mounted on the hub of each of said spiders and provided with radial arms engaging said slots in the drum. lugs on said arms extending laterally toward the spiders, a radial clamping finger extending outward between the said lugs on each arm, a cam surface on the hub of each of the spiders engaged by the inner end of each finger to move the same radially outward, springs to hold said fingers with their inner ends in engagement with said cam surfaces, a cam surface on each spider to engage the side of each finger near its inner end and a rim having a high and low side on each of the spiders to engage said fingers near their outer ends.
26. In a printing press the combination with a vertically reciprocating type bed, of inking rolls, and means for moving said rolls across the type bed in one direction and beyond the same when said bed is approximately at the lower end of its movement and across and beyond said bed in the opposite direction when the bed next reaches approximately tts lowest position.
27. In a printing press the combination with a vertically reciprocating type bed, of inking rolls, Iracks to support said rolls at each end and extending beyond the type bed at each side thereof in the direction of the movement of the rolls, and means for moving said rolls along said tracks and over the face of the type bed when sald bed is approximately at the lower end of its stroke.
28. In a printing press the combination with a vertically reciprocating type bed, of tracks at each end of the type bed and extending beyond the same at each side thereof, irking rolls, carriages provided with open bearings for the ends of said rolls and adapted to be moved along said tracks. and means for moving said carriages and their rolls in timed relation to the movement of the bed.
29. In a printing press the combination with the frame thereof and a vertically reciprocating type bed guided on said frame, of tracks supported on said frame at each side of the type bed and extending beyond said frame, carriages novable on said tracks, inking rolls supported by the carriages, oscillating bars pivoted at one end on the frame at a point some distance from the tracks and midway between the ends of said tracks and extending upward to slidably engage the said carriages at their upper ends. and means for oscillating said bars in timed relation to the movement of said type bed.
30. In a printing press, the combination with the fram thereot and a vertically reciprocating type bed gulded on said frame, of tracks supported on the frame at carh side of the bed, inking rolls, carriages movable on said tracks and carrying said rolls, a shaft journalled on the frame beneath the type bed and in the vertical plane of the longithdinal center line of said bed, bars secured at one end 10 said shaft and forked at their opposite ends. studs on the carriages to engage the forked ends of said bars. and means for orcking said shaft in timed relation to the movement of the type bed to oscillate said bars and move the carriages along their tracks.
31. In a printing press the rombination with the frame. and a vertically reciprocating type bed guided on the frame ef tracks secured to said frame at each end of the type berd and extending beyond and inclined downward at each side of the frame carriage consisting of sections pivoted together and adapted to be moved along said tracks, bearings on said carriages, inking rolls journalled in said bearings, an oscillating bar pivoted to the frame below the trateks at each end of the type bed and having forked upper ends. a stud on each carriage to engage the forked upper ends of said bars, means for holding said carriages in contact with thelr tracks and means for oscillating said bars in timed relation to the movement of the type bed.
32. In a printing press the combination with the frame and a vertically reciprocating type bed, of tracks secured to said frame at each end of the type bed and extending beyond and inclined downward at each side of the frame, carriages consisting of sections pivoted together, rolls on said sections to engage sald tracks, bearings on said sections. iliking rolls journalled in said bearings, oscillating bars bivoted to the frame below the tracks, one at each side of carriage bed and having forked upper ends, a stud on each carriage to engage the forked end of each bar, springs attached at one end to the bars near their lower ends and th the end sections of the carriage at the other ends, and the tracks. 33. In a
ion In a printing press the combination with the base porfion of the frame, of upwardly extending side portions, a portions of the irame, type bed guided betwern said side the side portions frame, tracks secured to the upper ends of yond said sides and extending outward and downward beyond said sides. carriages morable on said tracks, inking rolls carried by sald carriages. a shaft journalled in berar-
ings in the base portion of the frame and extending beneath the type bed vertically below its longitudinal center line, bars secured to the ends of said shaft and having forked upper ends and adapted to be oscillated to extend beyond the side portions of the frame to said carriages across and beyond the type bed at each side thereof, studs on the carriages to engage the forked ends of the bars, a gear secured to each end of said shaft, rack bars engaging said gears, and means for moving said rack bars in timed relation to the movement of the type bed.
34. In a printing press the combination with the base porlion of the frame. of a transverse driving shaft mounted in bearings on the base portion, crank shafts mounted in bearings on said base at each side of the driving shaft. pinions on the drive shaft, gears on the crank shaft in mesh with said pinions, upwardly extending side portions on the base portion of the frame and provided with ways, a type bed, guides for said bed movable in the ways on the side portions of the frame. pitmans connected to the crank shafts and supporting and operating the bed, end portions extending upward from the base portion of the frame at a distance from the side portions, a platen supported on the upper ends of said end portions and also at a distance from the side portions, longitudinal supporting bars secured to the end portions above the platen and extending beyond the same. shafts journalled in bearings on the ends of said supporting bars. one of said shafts being adapted to support a roll of paper web and a peed drum loosely mounted on the other shaft, means for intermittently moving the feed drum to draw the web across the platen from the roll, a shaft journalled in bearings on the base of the frame and extending longitudinally thercof and beyond the same, a bevel gear o: one end of said shaft and a disc on the other end, a bevel giar on one end of one of the crank shafts in engagement with said bevel gear, a rod attached at one end to the said lisc and at its opposite end to the operating mechanism for the feed roll, tracks sccured to the upper end of the side portions of the frame and extending beyond the same at each side of the machine, carriages supported by said tracks, irking rolls on said carriages, a rock shaft journalled in harings on the base portion of the frame and extending beneath the type bed vortically below the longitudinal center line therrof, an oscillating bar secured to each end of said rock shaft and extending upward to engage one of the carriages on rach track and adapted to be oscillated within th: space between the side and end portions of the frame to nonve the carriages along their tracks. gears on the ends of said rock shaft, a shaft mounted in bearings on brackets on the basc and extending lougitudinally of the frame at one side thereof. dise wheels on the ends of said shafts, rack hars piroted at one end to said dise wheels and engaging the giars on the rock shaft, a bevel gear on one of the rrank shafis and a bewl gear on the longitudinal shaft in mush with sald gear.

No. 101.585. Water Wheel. Riout 小'ин.


Thomas Lambeth, Asheboro, North Carolina. U.S.A., 16th October. 1306; 6 years. Filed 30th May, 1906, Receipt No. 136,407.
'laill.-1. A water wheel comprising a casing having openings in its walls, plates mounted to slide in the rasing and having curved portions. the walls of sald openiugs With the rurved plates forming substantially oval tracks, a wheel mounted in the casing and having radial openings, blades movable in said openings. arms having swinging connection with the ends of the wheel and also having s:winging conncetion with the inner ends of the blades, rol-
lers on said arms for engaging the walls of said tracks, and at chute leading to the lower portion of the wheel. into the er wheel comprising a casing, a chute leading uasing, blades movable radially, a whecl mounted to the adjustable means for radially out of and into said wheel, movements, and portion of the casing directly under the gate in the lower 3. A water wheel
3. A water wheel comprising a casing, a chute communicating with the lower nortion thereof, a wheel arranged in the casing, radially movable blades carried by the wheel adustable means for causing inward and outward movements of the blades, a gate in the lower portion of the asing directly under the wheel and adjustable toward and rom the wheel, and a deflector plate mounted to swing in the chute and operating with said gate.
4. A water wheel comprising a casing, a chute communicating with the lower portion thereof, the said casing being provided with openings in its side walls, the upper ends of said openings being of oval form, plates mounted 10 slide on the outer sides of the casing, \(\mathbf{U}\)-shaped plates secured to the sliding plates within the openings, a wheel mounted in the casing and having radial openings, blades mounted to slide in and out of said openings, arms having swinging connection with the ends of the wheel and having pivotal connection with said blades, rollers carried by the arms for engaging in said openings in the end walls of the casing, and a gate in the lower portion of the casing adjustable toward and from said wheel.
5. A water wheel comprising a casing, a chute communicating with the lower portion thereof, said casing having an opening at the lower end, a gate adjustable in said opening directly under the wheel and having a concaved upper side, a wheel mounted in the casing, blades carried by the wheel and movable radially into and out of the same, and adjustable mechanism for causing said inward and outward movements.

No. 101,586. Manufacture of Tubes, Etc.
Fabrication ac tubes, etc.


Balfour Fraser McTear, Heyes Mounts, Rainhill, Lancaster, England, 16th October, 1906; 6 years. Filed 18th November, 1904. Receipt No. 120,076.
Olaim.-In machine, for reducing the diameter of tubes, a plurality of sets of grooved rollers, one behind the other, a stationary internal supporting mandril, adapted to stand and be held in the apertures formed by the grooves of the rollers, and short tubes 5 and 6 of practically the external liameter of the tube being rolled directly in front of and behind each set of rollers, and driven supporting rollers 20 in the lower part of said tubes, substantially as set forth.

No. 101,587. Lock for Bolts. Arrête-écrou.
Wallace Willard Parsons, Hamilton, Ontario, Canada, 16th October, \(1906 ; 6\) years. Filed 26th September, 1906. Receipt No. 139,801.
Claim.-1. In a device for locking bolts, a rail, plates on the sides of the rail. a threadless and parted bolt through the rail and plates and extending beyond a solid head on the the ran a threadless nut with tapered hole on the bolt and in contact with one said plate, a screw jack adapted to grip the head of the bolt, means on the jack for adjusting the same to the head, a screw through the opposite end of the jark. a block connected to the serew, a key in the hlock to enter the cads of the bolt and secure the same in the nut, and means to close the end of the bolt on the key to retain the same and the nut.
2. In a device for locking bolts, a threadless parted bolt with solld head, a threadless nut with tapered bole ou the

bolt, a screw jack adapted to adjustment to said head, a block on the screw of the jack, a key in the block to enter and spread the ends of the bolt in and beyond the nut, and means to close the ends of the bolt on the key to retain the same together with the nut.
3. In a device for locking bolts, a parted bolt, a screw jack adapted to hold on the head of the bolt, a threadless put with tapered hole on the bolt, means on the jack to adjust the same to position to the bolt, a slidable block in combination with the screw of the jack, a key in the block to enter the bolt and the nut and extend therefrom. and means in the screw to close the ends of the bolt on the key and retain the same
4. In a device for locking bolts, a pared and threadless bolt, a threadless nut with tapered hole on the bolt, a screw jack in contact with the head of the bolt, means on the jack to adjust and hold the same to the bolt, a block connected with the screw of the jack, a key in the block to spread the members of the bolt in the nut, shoulders on the key to contact with nut and independent means in the acrew to close the ends of the bolt on the key to retain the key.
5. In a device for locking bolts, a parted bolt, a threadless nut with tapered hole on the bolt, a screw jack to engage the head of the bolt. a hollow screw in the jack, a block with transverse slot in the face thereof and connected with the screw, a key in the slot, shoulders on the key, and adapted to spread the members of the bolt in the nut and contact with the side of the nut, and means in the hollow screw and in the block to closc the members of the bolt on the key.
6. In a device for locking bolts. a parted bolt, a threadless nut with tapered hole on the bolt, a screw jack adapted to engage the head of the bolt, a block connected with the screw of the jack. a key in the block adapted to spread the members of the bolt in the nut, shoulders on the key to contact with the side of the nut, and means in the screv and the block to close the members of the bolt on the key.

\section*{No. 101,588. Clamp and Support for Telegraph Cables.}

\section*{Crampon et support pour cables de télégraphe.}

Howard E. Sheeley. Michigan City. Indiana, U.S.A., 16th October, \(1906 ; 6\) years. Filed 15tb August, 1906. ReNo. 138,724.
Claint.-1. A cable clamp and support comprising sections having semi-circular grooves and at the centter of sald sections, means for securing said sections to a pole or other support, the upper surface of said sections being bevelled downwardly from said pole or other support, substantialls as shown and described.
2. A cable clamp and support comprising two sections each provided with a groove having its ends bevelled outwardly. and means for securing said sections together and to a pole or other support, the upper surface of said sections being bevelled downwardly from said pole or other support, substantially as shown and described.
3. A cable clamp and support comprising two sections each provided with a groove having its ends bevelled out wardly and with a conter hole therein and a bolt designed to pass through said hole and secure said sections to a pole or other support, the upper surface of said sections being bevelled downwardly from said pole or other support. substantially as shown and described.
4. A cable clamp and support comprising two sections each having a semi-circular groove in its inner face bevelled
outwardly at its opposite ends, screw bolts near each end of said sections for securing them, a hole in the center of

each casing and a screw bolt designed to pass through said hole and secure the section aforesaid to a pole or other support, the upper surface of said sections being bevelled downwardly from said pole or other support, substantially as shown and described.

No. 101,589. Machine for Cutting Tiles.
Machine pour couper les tuiles.


John A. Sloan, Trenton, New Jersey, U.S.A., 16th October, 1906; 6 years. Filed 17th September, 1906. Receipt No. 139,590.
Claim.-1. In a machine of the class described, a recipro cating knife, a stationary bed against which said knife acts, means for reciprocating said knife, means for shifting said knife transversely to the direction of its said reciprocating movement and feeding mechanism connected therewith comprising an intermittently acting feed roll for engaging and advancing the material to be operated upon by said knife, substantially as specified.
2. In a machine of the class described, a knife baving an irregular outline, means for reciprocating said knife and means for shifting it back and forth transversely to the direction of said reciprocating movement, and a statipnary bed for supporting material to be cut by said knife in combination with automatically operating feed rolls for advancing material to said knife, said bed supporting the material on both sides of aaid knife, substantially as specifled.
3. In a machine of the class described, a reciprocating ran, a shearing device having a transverse sliding connection with said ram, a revolving shaft, a cam on sald shafi for shifting said shearing device in alternation with the reciprocations of said ram, and a feed roll connected with and operated by said shaft, substantially as specified.
4. In a machine of the class described, a ram, a rotating shaft having means for reciprocating said ram, a knife of ir. rcgular outline having a sliding connection with said ram, a cam connected with said knife for shifting it in its said sliding connection, a rotating shaft connected with said cam and operated by said cam shaft, substantially as specifed.
5. In a machine of the class described, a reciprocating ram. a shearing device having a sliding connection with said ram, a crank shaft connected with said ram for reciprocating it, a cam shaft connected with said shearing device for shiftlation, means for connecting said shafts in co-operative relation, a feed roll, and mechanism operated by said cam shaft for intermittently operating said feed roll, substantiahy as specified.
6. In a machine of the class described, a vertically reciprocating guide, a slide reciprocating in said guide, a shearing device connected with said slide, a cam connected with said slide for shifting said shearing device, a rotating shaft connected with said cam, a second rotating shaft operated wheel connecting roting shaft, a feed roll, and a worm and wheel connecting said second shaft and roll, substantially as
specified. specified.
7. In a machine of the class described, a pair of feed rolls, a toothed wheel connected with one of said rolls, a plain and a helical thread revolved in alternating engagement with said wheel, a reciprocating knife, a bed for supporting material to be shorn by said knife on either side thereof, and mechanism for operating said knife and said threads in synchronous relation, substantially as specifled.
8. In a machine of the class described, a pair of feed rolls, a toothed wheel connected with one of said rolls, a straight and a helical thread alternately engaging the teeth of said wheel, a vertically reciprocating support, a knife having a horizontal sliding connection with said support, and mechanism connecting said threads with said support and sald kinfe whereby said feed rolls and said knife are operated in synchronous relation, substantially as specified.
9. In a machine of the class described, a pair of feed rolls, a toothed wheel connected with one of said rolls, a straight and a helical thread alternately engaging with the teeth of said wheel, a rotating shaft connected with and revolving said threads, a second rotating shaft connected with and operating said first shaft, a cam on said second shaft, a knife connected with and reciprocated by said cam, a guide in which said knife reciprocates, a ram for reciprocating said guide, a crank shaft connected to and reciprocating said ram, and mechanism connecting said crank shaft with said cam shaft, substantially as specifled.

No. 101,590. Milling Cutter and Head. Porte-lame.


Charles Borrome Tardif, Concord. New Hampshire, U.S.A. 16th October. 1906; 6 years. Filed 17th September, 1906 Receipt No. \(139,549\).
Claim.-1. In a device of the character described. a cylindrical cutter head provided with peripheral grooves, indrpendent gangs or rows of cutters, each gang being set in one of said grooves, cutter blocks set between the rutters in each row, means for locking said cutter blocks in position in the grooves, and mechanism adapted to be set against the outer ends of the different rows of cutters and blocks whereby the cutters and blocks in each row are held in position by friction. for the purpose set forth.
2. In a device of the character described, a cylindrical cutter head provided with a series of peripheral grooves, independent gangs or rows of cutters having substantially rectangular shanks, each gang being set in one of said grooves, and the individual cutters being disposed with their diagonally opposite corners next the opposite sides of the groove, cutter blocks set alternately with the cutters in each row, said blocks being of shape to fit the cutter heads between which they are placed, means for locking the blocks slidingly into engagement with the sides of the grooves, and set-up mechanism for bearing against the
outer ends of the different rows of cuttors and blocks, for the purpose set forth.
3. In a device of the character described, a cylindrical rutter head provided with a scries of substantially parallel peripheral grooves, independent gangs or rows of cutters, rach cutter consisting of a shank rectangular in cross section and an operating or cutting end extending from one side of said shank, earh gang being set in one of said krooves, and the individual cutters being disposed with their diagonal opposite corners next the opposite sides of the groove, pairs of cutter blocks bevelled to correspond in shape with the corners of the shanks of the cutters, one pair of blocks being set face to face in the groove between cach pair of cutters, cutter blocks provided with V-shaped gooves and extending across the grooves in the cutter head at the opposite ends of the rows of cutters and fitting against the outer cutter in each row, means for locking the blocks into engagement with the sides of the grooves, and set-up screws bearing against the outer ends of the rows of cutters and blocks, for the purpose set forth.

No. 101,591. Eiln for Drying Lumber. Four pour sécher le bois.



Charles F. Williams, Coldwater, Michigan, U.S.A., 16th October, 1906; 6 years. Filed 19th April, 1906. Receipt No. 135,067
Claim.-1. A kiln having a wet end and a dry end, and provided intermediate such ends with an air exit which acts as a division therefor, and a conduit leading from said exit to and communicating with the wet end of the kiln adjacent its entrance, and means for creating a draft therein.
2. A kiln provided with end air inlet chambers and intermediate air exit, a condult leading from the air exit means to the wet end of the kiln whereby to return the expelled air thereto, means for creating a draft in said air exit, and means for heating the air admitted to the kiln.
3. A kiln provided with end inlet ducts and intermediate air exit, connection between the air exit and the wet end of the kiln whereby to return the expelled air thereto, means for creating a draft in the air exit. means for controlling the return of the alr to the kiln, and means located in the ends of the kiln for heating the air.
4. A kiln provided with end air inlet ducts and an intermediate air exit duct the inlet openings to which latter are located in the opposite sides thereof and extend substantially the width of the building. in combination with means for creating an exhaust through the intermediate duct, and means for heating the air admitted.
5. A kiln having an air exit duct intermediate its ends and leading therefrom to one end of the kiln building, means for drawing the air from the kiln room through said exit and returning it to the room at the ond thereof. means for admitting air to the building, and means for heating the admitted air.
6. In a kiln, a heating system disposed at the entrance or wet end thereof and extending a distance therein, and an air inlet duct disposed under the heating system and transversely of the building and positioned a considerable dislance in advance of the eutrance to the kiln room whereby to form a dead air space at such end.
7. In a kiln, a plurality of steam pipes arranged longitudinally thereof at its entrance end to form a heater, an air inlet duct disposed under the plane of the heater transversely of the building and having a narrow discharge slit or opening extending substantially the width of the kiln room, said duct being disposed adjacent the forward end
of the heater whereby to form a dead air space at the entrance end of the room, and air exit means.
8. A kiln provided with end ducts for the inlet of air and intermediate air exit means, said end ducts extending Iransversely of the kiln room and having damper controlled inlets and elongated slits or openings for the discharge of air to the room, in combination with means located at the ends of the kiln for heating the air.
!. A kiln provided with end ducts for the admission of air and intermediate means for the expulsion of air, in combin. ation with steam heating means at the ends of the kiln, said means comprising spaced headers one of whlch has connection with a source of steam supply and the other with steam traps, and a plurality of superimposed parallel pipe sections each having direct connection to the headers and the steam traps.

No. 101,592. Kiln. Four.


Charles Arthur Matcham, Allentown, Pennsylvania, U.S.A.,
16th October, 1906 ; 6 years. Filed 1st September, 1906. Receipt No. 139,165 .
Claim.-1. The combination of a main kiln in which clinkfring is accomplished, and means for supplying fuel to sald kiln, a plurality of auxiliary kilns in communlcation with the main kiln, and means for directing material from the auxiliary kilns to the main kiln, substantially as described.
2. The combination of a maln kiln, a burner therefor, an auxiliary kiln. a casing connecting sald two kilns having openings for the admission of air, and means for delivering material from the auxiliary kiln to the main kiln. substantially as described.
3. The combination of a main kiln, a burner for supplying iuel thereto, a casing forming a chamber in communication with the end of the main kiln and a plurality of auxiliary kilns also connected to the casing and provided with means whereby material discharged from them is delivered to the main kiln, substantially as described.
4. The combination of a main kiln having means for supplying fuel to it, a plurality of auxillary kilns arranged to deliver into it, said auxiliary kilns belng of greater length than said main kiln, substantially as described
5. The combination of a main kiln having fuel supplying means and a plurality of auxiliary kilns with means for delivering material to said main kiln, said auxiliary kilns being of substantially double the length of the main kiln and of less diameter than the same, substantially as described.
6. The combination of a main kiln having fuel supply means, a plurality of auxiliary kilns of greater length and less diameter than said main kiln. a casing forming a chamber connecting the rear end of the main kiln with the front ends of the auxiliary kilns there belng openings for the admission of air into said chamber, substantially as described.

\section*{No. 101,598. Insuletion Buthing for Firectic WHea.} Dé ì isolation pour flls électriques.
John H. Goehst. Chicago, Illinois, U.S.A., 16th October, 1906:
18 years. Filed 10th August, 1906. Receipt No. 138,579.
Claim.-1. A bushing for protecting electric circuit wires made wholly of insulating material and comprising a hollow shank provided at one end with a hollow head and at iss other end with a screw thread and a thin sheet metal screw headed locking ring engaging said screw thread and provided with an integral resilient flange opposing said head of the bushing.
2. A bushing for protecting electric circuit wires made wholly of insulating material and comprising a hollow shank provided at one end with a hollow head and at its other and with a screw thread, a serew-threaded locking ring en-
aging said screw thread and provided with a flange oppos. ing said head and a concave spring washer made larger than



said locking ring and interposed between gaid flange and the part through which the bushing extends.
3. A bushing for the purpose set forth comprising a hollow shank provided at one end with a bollow head and at its other end with a screw thread and a thin sheet metal acrew-threaded ring engaging said screw thread of the shank and provided on its inner end with an integral, slitted concave flange opposing said head.

No. 101,594. Tube Cleaner. Neffoycur de tubes.


Thomas Andrews, Rockaway, New Jersey, U.S.A., 16th October, 1906; 6 years. Filed 2nd August, 1906. Receipt No. 138,375.
Claim.-1. A tube cleaner comprising a head having an annular chamber for receiving a motive agent, and also having a chamber at its inner end communicating with the firstnamed chamber through ports arranged at an angle transverse of the head axis, a tubular shaft extended through the head, a turbine mounted on said shaft, within the inucr chamber, a cylinder on the turbine, with which the tubular shaft communicates, a piston in the cylinder, tool carrying arms mounted to swing on the turbine, and link connections between said arms and said piston.
2. A tube cleaner comprising a head having an annular chamber for recelving motive agent, and also having a chamber at its inner end communicating with the first-named chamber through annularly disposed ports, a bushing extended centrally through the head. a tubular shaft arranged tc rotate in said bushing. a turbine attached to the tubular shaft within the inner tubular chamber, a cylinder on the turbine with which the tubular shaft communicates, a piston in the cylinder, arms mounted to swing on the turbine, tcols carrled by said arms and link connections between said alms and the pliston.
3. A tube cleaner comprising a head substantially in the icrm of a truncated cone, and having an annular chamber tor receiving motive agent, and also having a chamber at its inner end communicating through ports with said annular chamber, a turbine mounted to rotate in the inner chamber, blades on the periphery of said turbine having a spiral trend, a collar engaging around the blades, tool carrying arms mounted on the turbine, and a pressure actuated piston having connection with the arms.

No. 101,595. Steam Pipes for Boilery.
T'uyau à vapeur pour chaudičres.


0tto I. Hallbeck. West Salem, Illinois. U.S.A., 16th October, 1906; 6 years. Filed 14th June, 1906. Receipt No. 136,896.

Claim.-1. The combination of a stram boiler, a steam pipe arranged within said boiler and leading from the steam dome down into the body of the boller, along within said body, and then out. a passageway from the lowest part of said pipe to within the boiler whereby said plpe may be diained, and an automatically operating valve to said passageway, substantially as and for the purpose set forth.
2. The combination of a sloam boiler, a trapped steam pipe leading from the steam space, and having its lowest portion within the boiler, a passage from the lower portion of said pipe, and a check valve to said passage arranged to permit said pipe to be drained but preventing ingress of vater from the boiler therethrough into said pipe.
3. The combination of a steam boilers, a steam pipe arranged within said boiler and leading from within the steam dene down into the body of the boiler, along within said body and thence out, a passage from the lowest part of said pipe extending entirely below said lowest part and opening into the boiler, and an automatically operating valve wherety egress through said passageway is permitted but ingress therethrough is prevented.

No. 101,596. Water Tube Boiler.
Chaudière scctionnclir.


Alfred John Raynor, Toronto, Ontario, Canada, 16th October, 1906 ; 6 years. Filed 9th June, 1906. Receipt No. 136,746.
Clain.-1. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurallty of T-couplings superposed one upon the other, the couplings in the same plans being connected in pairs to one another by end pipes, which end pipes are connected together by cross pipes, as and for the purpose specified.
2. A water tube boller comprising a battery composed of a plurality of riser pipes each formed of a plurality of T-couplings superposed one upon the other, the couplings in the same plane connected in pairs to one another by end pipes, which end pipes are connected together by curved cross pipes, as and for the purpose specifled.
3. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes, which end pipes are connected together by \(S\) shaped cross pipes, as and for the purpose specified.
4. In a water tube boiler the combination with a battery composed of horizontal tubes connected together by way of riser tubes, of a firebox water chamber formed in the bridge, end and side walls of the firebox in free communication with each other and in communication with the riser plpes or tubes, as and for the purpose specified.
5. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(T\) couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes, which end pipes are connected together by cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings, ends and cross pipes have their cross pipes alternately arranged between the crass pipes of the first-named sections, and pipes connecting the adjacent risers of the two sections together at the top and bottom, as and for the purpose specified.
6. A water tube boller comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes, which end pipes are connected together by curved cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings, ends and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named seclion and pipes connecting the adjacent risers of the two sections together at the top and bottom, as and for the purpose specifled.
7. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by tnd pipes which end pipes are connected together by \(S\) shaped cross plpes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipe have their cross pipes alternately arranged between the cross pipes of the firstnamed sections, and pipes connecting the adjacent risers of the two sections together at the top and bottom, as and for the purpose specifled.
8. A water tube boiler comprising a battery composed of a. plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by cross pipes, a second battery section of similar construction to the first section the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named sections, and pipes connecting the adjacent risers of the two sections together at the top and bottom, and a steam drum or dome in communication with the riser at the top, as and for the purpose specified.
9. A water tube boller comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(T\) couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end plpes which end plpes are connected together by curved cross pipes, a second battery spetion of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged beween the cross pipes of the first-named section, and pipes connecting the adjacent risers of the two sections together at the top and bottom, and a steam drum or dome in communication with the risers at the top, as and for the purpose specified.
10. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(T\) couplings superposed one upon the other, the couplings in che same plane being connected in pairs to one another by end pipes which end pipes are connected together by \(S\) shaped cross pipes, a second battery section of similar construction to the first section the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section, pipes connecing the adjacent risers of the two sections together at the top and bottom, and a steam drum or dome in communication with the risers at the top, as and for the purpose specified.
11. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurallty of Tcouplings superposed one upon the other, the couplings in the same plane connected in pairs to one another by end pipes which end plpes are connected together by cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section, pipes connecting the adjacent risers of the two sections together a top and bottom, and a firebox having the side and bridge walls in the form of a water chamber in communication with the battery, as and for the purpose specified.
12. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurallity of \(T\) couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by and pipes which end pipes are connected together by curved pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section, pipes connecting the adjacent risers of the two sections together at the toD and bottom, and a flrebox having the side and bridge walls in the form of a water chamber in communication with the battery, as and for the purpose spectfied.
13. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by \(S\) shaped cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged betwen the cross pipes of the firstnamed section, pipes connecting the adjacent risers of the two sectlons together at the top and bottom, and a firebox having the side and bridge walls in the form of a water chamber in communication with the battery, as and for the purpose specified.
14. A water tube boller comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(T\)-couplings superposed one upon the other, the couplings in the same plane being in pairs to one another by end pipes which end pipes are connected together by cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section, pipes connecting the adjacent risers of the two sections together at the top and bottom, a steam drum or dome in communication with the risers at the top, and a firebox having the side and bridge walls in the form of a water chamber in communication with the battery, as and for the purpose specifled.
15. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(r\)-couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by curved cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the firstnamed section, pipes connecting the adjacent risers of the two sections together at the top and bottom, a steam drum or dome in communication with the risers at the top, and a frebox having the side and bridge walls in the form of a water chamber in communication with the battery, as and for the purpose specified.
16. A water tube boiler, comprising a battery composed of a plurality of riser pipes each formed of a plurality of T -couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by S-shaped cross pipes, a second battery section of a similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross piprs alternately arranged between the cross pipes of the firstnamed section, pipes connecting the adjacent risers of the two sections together at the top and bottom, a steam drum or dome in communication with the risers at the top, and a firebox having the side and bridge walls in the form of a water chamber in communication with the battery, as and for the purpose specified.
17. A water tube boiler, comprising a battery composed of a plurality of riser pipes each formed of a plurality of T-couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by cross pipes, a second battery section of similar construction
the component sections of which formed of the raiser coupl-
ings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section, and pipes connecting the adjacent risers of the two sections together at the top and bottom, the pipe piles at the ends of the battery formed by the risers. end pipes and connecting the top and bottom pipes being each in the form of a rhomboidal prism, as and for the purpose specified.
18. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of T-couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by curved cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the firstnamed section, and pipes connecting the adjacent risers of the two sections together at the top and bottom. the plpe pile at the end of the battery formed by the risers end pipes and connecting top and bottom pipes being each in the form of a rhomboidal prism, as and for the purpose specifled.
19. A water tube boiler, comprising a battery comoosed of a plurality of riser pipes each formed of a plurality of T-couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected tozether by S-shaped cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the firstnamed section, and pipes connecting the adjacent risers of the two sections together at the top and bottom. the pipe piles at the end of the battery formed by the risers. end pipes and connecting top and bottom pipes bring each in the form of a rhomboidal prism, as and for the purpose specifled.
20. A water tube boiler comnrising a hattery composed of a plurality of riser pipes each formed of a plurality of \(T\) couplings superposed one upon the other. the couplings in the same plane being connected in pairs to one another by end plpes which end pipes are ennnectel together by cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pines have their cross pines alternately arranged between the cross pipes of the first-named section, pipes connecting the atiacent risers of the two sections thgether at the ton and bottom. and a return circulating pipe or pipes forming a communication between the top and bottom portions of the boiler, as nad for the purpose specified. 21. A water tube boller. comprlsing a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other. the couplings in the same plane heing connected in pairs to one another by end pipes which end pipes are connected together by rurved cross pipes, a second battery section of similar construction the component sections of which formed of the riser counlings end and cross plpes have their cross pipes alternately arranged between the cross pipes of the firstnamed section. plpes connecting the adjacent risers of the two sections together at the top and bottom. and a return circulating pipe or pipes for forming a communication between the top and bottom portions of the boilers, as and for the purbose spicifled.
22. A watar tube boiler, comprising a hattery comnosed If a plurality of riser pipes each formed of a plurality of T-counlines sunerposed one upon the other, the counlina. in the same plane being connected in nairs to one another bv end pipes which end pipes are connected tongether by \(S\) shaned cross pipes. a second battery section of similar construction the component sections of which formed of the riser cuplings end and cross pipes have their cross nipes alternately arranged between the cross pines of the firstnamed section. nines connerting the alianont rianrs of the two sections together at the top and bottom. and a return circulating pine or pipes forming a communication between the top and bottom portions of the boiler, as and for the purpose specifled.
23. A water tube boiler comprising a battery composed of a plurality of riser plpes each formed of a plurality of \(T\) couplings superposed one upon the other, the couplings in the same plane belag connected in pairs to one another by end pipes which end pipes are connected together by cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross plpes have thelr cross pines alternately arranged between the cross pipes of the first-named section. pipes connecting the adjacent risers of the two sections together at the top and bottom. a steam drum or dome in communfeation with the riser at the top, and a return circulating pipe or pipes forming a communication between the top and bottom portions of the boller, as and for the purpose spectfied.
24. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane bcing connected in pairs to one another by end pipes which end pipes are connected together by curved cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section, pipes connecting the adjacent risers of the two sections together at the top and bottom, a steam drum or dome in communication with the risers at the top, and a return circuiating pipe or pipes forming a communication between the top and bottom portions of the boller, as and for the purpose specified.
25. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by cross pipes, a second battery section of simllar construction the component scctions of which formed of the riser couplings end and cross pipes of the first-named section, plpes connecting the adjacent risers of the two sections together at the top and bottom, a firebox having the side and bridge walls in the form of a water chamber in communication with the battery, and a return circulating pipe or pipes forming a communication between the top and bottom portions of the boiler, as and for the purpose specified.
26. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by curved cross pipes, a second battery section of similar construction the commonent sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section, pipes connecting the adjacent risers of the two sections together at the top and bottom, a firebox having the side and bridge walls in the form of a water chamber in communication with the batterv, and a return circulating pipe or plpes forming a communication between the top and bottom portions of the boller, as and for the purpose psecified.
27. A water tube boller comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(T\) couplings superposed one upon the other, the coulpings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by S-shaped cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section, pines connecting the adjacent risers of the two sections together at the top and bottom, a firebox having the side and bridge walls in the form of a water chamber in communication with the battery, and a return circulating pipe or pipes forming a communication between the top and bottom portions of the boller, as and for the purpose specified.
28. A water tube boller comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by cross pipes, a second battery section of a similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named sections, and pipes connecting the adjacent risers of the two sections tegether at the top and bottom, the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specified.
29. A water tube boller comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by curved cross pioes. a second battery section nf similar construction the component sections of whlch formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section, and pipes connecting the adjacent risers of the two sectiona together at top and bottom, the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specified.
30. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(T\) couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by S-shaped cross plpes, a second battery section of similar construction the component sections of which formed of the riser coup-
lings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named sections and pipes connecting the adjacent risers of the two sections together at the top and bottom, the riser couplines of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specifted.
31. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(T\) couplings superposed one upon the other, the couplings in the same plane being connected in pairs to ono another by erd pipes which end pipes are connewted tognther by cross pipes, a sccond battery section of similar construction to the first section the component sections of which formed of th riser couplings end and cross pipes have their cross pipes aliernately arranged between the cross pipes of the firstnamed section, and pipes connecting the adjacent risers of the two sections together at the top and bottom, and a steam drum or dome in communication with the riser at the ton, the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specifled.
32. A water tube boller comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(T\) ccuplings superposed one upon the other, the counlings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by curved cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section. ard pipes connecting the adjacent risers of the two sections tcgether at the top and bottom, and a steam drum or dome In communication with the risers at the top, the riser couplings of one set of sections being staggered to the riser couplirgs of the other set of sections, as and for the purpose srecified.
53. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by \(S\) shaped cross pipes. a second battery section of similar construction to the first section the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section, pipes connecting the adjacent risers of the two sections together at the top and bottom, and a steam drum or dome in communication with the risers at the top. the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections. as and for the purpose specified.
34. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by cross pipes, a second battey section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named soction, pipes connecting the adjacent risers of the two sections together at the top and bottom, and a firebox having the side and bridge walls in the form of a water chamber in communication with the battery. the riser couplings of one set of sections being staggered to the riser couplings of the other section. as and for the purpose specified.
35. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by curved cross pipes, a second battery section of a similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross plpes of the first-named section, pipes connecting the adjacent risers of the two sections together at the top and bottom, and a firebox having the side and bridge walls in the form of a water chamber in communication with the battery, the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections. as and for the purpose specified.
36. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(T\) couplings superposed one upon the other, the counlings in the same plane being connected in pairs to one another by end pines which end pipes are connected together by sshaped cross pipes. a second battery suction of similar construction the component sections of which formed of the riser couplings enl and rross pipes have their cress pipes alternately arranciel between the cross pipes of the firstnamed section. hipes connerting the adjacent risers of the
two sections together at the tod and bottom. a firebox hav-
ing the side and bridge wall in the form of a water chamber in communication with the battery, the riser couplings of one sut of sections being staggered to the riser couplings of thr other set of sections, as and for the purpose specified.
37. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being conencted in pairs to one another by rad pipes which end pipes are connected together by cross pipes, a second battery of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged betwern the cross pipes of the first-named section, pipes connecting the adjacent risers of the two sections together at the top and bottom, a steam drum or dome in communication with the risers at the top, and a frebox having the side and bridge walls in the form of a water chamber in communication with the battery, the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specified.
38. A water tube boiler comprising a battery composid of a plurallty of riser pipes each formed of a plurality of \(T\) couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by curved cross pipes. a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes aliernatelv arranged between the cross pipes of the first-named section pipes connecting the adjacent risers of the two sections together at the top and bottom, a steam drum or dome in communication with the risers at the top. and a fire box having the side and bridge walls in the form of a water chamber in communication with the battery, the riser couplings of one set of sections being staggered to the riser couplings of theoother set of sections, as and for the purpose specified.
39. A water tube boller comprising a battery composed of a plurality of riser plpes each formed of a plurality of \(T\) couplings superposed one upon the other. the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by \(S\) shaped cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the firsinamed section, pipes connecting the adjacent risers of the two sections together at the top and bottom, a steam drum or dome in communication with the risers at the top, and a fire box having the side and bridge walls in the form of a water chamber in communication with the battery. the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specified.
40. A water tube boller comprising a battery composed o? a plurality of riser pipes each formed of a plurality of \(T\) couplings superposed one upon the other, the couplings in the same plane being connected in palrs to one another bs end pipes which end pipes are connected together by crosa pipes, a second battery section of similar construction th. component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section. and pipes connecting the adjacent risers of the two sections together at the top and bottom, the pipe piles at the ends of the battery formed by the risers, end pipes and connecting the top and bottom pipes being each in the form of a rhomboldal prism, the riser couplings of one set of gections, being staggered to the riser couplings of the other sections, as and for the purpose specified.
41. A water tube boiler comprising a battery composel of a plurality of riser pipes each formed of a plurality of \(T\). couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by curved cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross plpes have their cross pipes alternately arranged between the cross plpes of the first-named scetion, and pipes connecting the adjacent risers of the two scetions together at the top and bottom, the pioc piles at the end of the battery formed by the risers end plpes and connecting ton and bottom plpes being each in the form of rhomboidal prosm, the risers couplings of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose spectfled.
42. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(T\). couplines superposed one upon the other, the couplings in the same blane being connected in pairs to one another by end pipes which end pipes are connected together to \(s\) shaped cross pipes, a second battery section of similar
construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the firstnamed section, and pipes connecting the adjacent risers of the two sections together at top and bottom, the pipe piles at the end of the battery formed by the risers. end pipes and connecting top and bottom pipes being in the form of a rhomboidal prism, the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specifled.
43. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(\boldsymbol{T}\), couplings superposed one upon the other. the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately ar ranged between the cross pipes of the first-named section, pipes connecting the adjacent risers of the two sections together at the ton and bottom, and a return circulating pipe or pipes forming a communication between the top and bottom portions of the boller, the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specified.
44. A water tube boiler. comorising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by curved crossed pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and crose nines have their ross pipes alternately arranged between the cross pipes of the first named section. pipes connecting the adiacent risers of the two sections together at the top and bottom, and a return circulating pipe or plpes forming a communication between the top and bottom portions of the boiler. the riser couplings of ene set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specified.
'5. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of T-couplings superposed one unon the other, the couplings in the same glane being connected in pairs to one another by end pipes which end pipes are connected together by Sshaped cross pipes, a second battery section of similar construction the comnonent sections of which formed of thr riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first named section. pipes connecting the adjaceut risers of the two sections together at the top and bottom. and a return circulating pipe or pipes forming a communication between the top and bottom portions of the boiler. the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specified.
46. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of T-couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end nipes are connected together by cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross plpes have their cross pipes alternately arranged between the cross pipes of the first named section, pipes connecting the adjacent risers of the two sections together at the tod and bottom, a steam drum or dome in comunication with the risers at the top and a return cir;ulating pipe or pipes forming a communication between the lop and bottom portion of the boiler, the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections. as and for the purpose specified.
47. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of Tcouplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by curved cross pipes. a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first-named section, dipes connecting the adjacent risers of the two sections together at the ton and bottom, a steam dram or dome in communication with the risers at the top, and a return circulating pipe or pipes forming a communication becreen the ton and bottom portions of the boiler, the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specified.
48. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of
\(T\)-couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by cross pipes, a second battery section of similar construction the comnonent sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the first named section, pipes connecting the adjacent risers of the two sections together at the top and bottom, a firebox having the side and bridge walls in the form of a water chamber in communication with the battery, an a return circulating pipe or pipes forming a communication between the top and bottom por tions of the boiler, the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specified.
49. A water tube boiler, comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(T\)-couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by curved cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alterna tely arranged between the cross pipes of the first-named section, pipes connecting the adjacent risers of the two sections together at the tod and bottom, a frebox having the side and bridge walls in the form of a water chamber in communication with the battery, and a return circulating pipe or pipes forming a communication between the top and bottom portions of the boiler, the riser couplings of one set of sections being staggered to the riser couplings of the other set o seections, as and for the purpose specifled.
50. A water tube boiler comprising a battery composed of a plurality of riser pipes each formed of a plurality of \(T\) couplings superposed one upon the other, the couplings in the same plane being connected in pairs to one another by end pipes which end pipes are connected together by Sshap d cross pipes, a second battery section of similar construction the component sections of which formed of the riser couplings end and cross pipes have their cross pipes alternately arranged between the cross pipes of the firstnamed section, pipes connecting the adjacent risers of the two sections together at the ton and bottom, a firebox having the side and bridge walls in the form of a water thamber in communication with the battery, and a return circulating pipe or pipes forming a communication between the top and bottom portions of the boiler, the riser couplings of one set of sections being staggered to the riser couplings of the other set of sections, as and for the purpose specified.
51. In a water tube boller the combination with a fire box water chamber and a steam drum having ingress and egress openings in the bottom thereof and passages from said ingress openings communicating with the extreme upper passages between tubes in the water tube battery, of a plurality of return tubes leading from said egress opening in the battom of the steam drum and extending beyond and without the heat zone of said firebox and emptying adjacent to the bottom of said firebox water chamber through a lower circulating pipe, as and for the purpose specified
52. In a device of the class described, in combination, a water tube battery of a plurality of sections, having one section formed of T-couplings, superposed one on the other and connected in pairs by end pipes, and cross pipes connecting said end pipes and a section similarly arranged having its cross pipes alternate with the cross pipes of the first section, and pipes connecting the adjacent risers respectively of the two sections at the top and bottom thereof, a steam drum surmounting said water tube battery having ingress and egress openings in the bottom thereof, a plurality of pipes secured to and communicating with the uppermost portion of said battery and leading to said ingress openings and leading support to said drum, a firebox having a hollow wall forming a water chamber, and return tubes leading from said egress opening in the steam drum and extending beyond and without the heat zone of the firebox and emptying to the bottom of the said firebox water chamber, as and for the purpose specified.
53. In a water tube boiler the combination with a hot air chamber entirely enclosing the battery of water and steam tubes, of a firebox the sides and bridge walls of which form a continuous connected water chamber which is in communlcation with the riser pipes of the battery and is connected by a perpendicular return pipe with the bottom of the steam drum, as and for the purpose specifled.
54. In a water tube boiler the combination with a hot air chamber entirely enclosing the battery of water and steam tubes, of a fire box the sides and bridge walls of which form a continuous connected water chamber which is in communication with the riser pipes of the battery and is connected by a perpendicular return pipe located oistside of the oattery casing forming the heating chamber with the bottom of the steam drum, as and for the purpose specified.
55. In a water tube boller the combination with a plurality of riser pipes, of a plurality of curved substantially Sshaped horizontal circulating pipes forming communication between the riser pipes, the curves ot the pipes being horizontal and all in the same plane and the ends of such \(S\) shaped pipes extending beyond the laops of the \(S\), and communicating with straight pipes, as and for the purpose specified.
56. In a water tube boiler the combination with a plurality of riser pipes, of a plurality of curved substantially \(S\) shaped horizontal circulating pipes forming communications between the riser pipes, and a casing enclosing the battery so formed in such a manner as to constitute a heating chamber, the curves of the pipes being horizontal and all in the same plane and the ends of such S -shaped pipes extending beyond the loops of the \(S\), and communicating with straight pipes, as and for the purpose specified.
57. In a water tube boiler the combination with a plurallty of riser pipes, of a plurality of curved horizontal circulating pipes superposed in series one upon the other and in free communication at one end with the riser or risers on one side of the battery so formed, and at the other end with the riser or risers on the opposite side, as and for the purpose specificd.
58. A circulating tube for water tube boilers of the shape of a cross elongated \(s\) the ends of which extend outward beyond the loops of the \(S\), and all the curves of which are in the same plane, as and for the purpose specified.

No. 101,597. Steam Boiler. Chaudive \(\dot{\boldsymbol{c}}\) zapeur.


Harry Del Mar, New York City, New York, U.S.A., 16th October, 1906; 6 years. Filed 9th April, 1906. Receipt No. 134,761 .
Claim.-1. A water tube boiler comprising inner and outer teaders arranged at one end of the boiler, water tubes arranged in couples with each couple connected to both series of headers, vertical mud drums at the sides of one series of headers, connections between the mud drums and the headers and the steam drum, and connections between a series of headers and the steam drums and connections between the steam drum and the mud drums.
2. In a water tube boiler the combination of the inner and outer headers forming one wall of the boiler, the inner beaders being in separate upper and lower series, and water tubes arranged in couples. each couple having one tube connected to an inner header and the other tube connected to the outer header.
3. In a water tube boiler the combination of the tube banks, and the stcam drum having indirect connection therewith, of the vertical mud drums at the sides of the tube banks, and water legs connecting the mud drums and steam drum.
4. In a water tube boiler, the headers forming one wall, one set of headers being placed inside the other, forming a double wall, and water tubes arranged in couples, one tube of each couple being connected to an inner header and the cther tube connected to the outer header, return bends on the other ends of the tubes and connecting the tubes of each couple, and a projectng nipple on each return bend and in li. with each tube, said nipple being constructed to receive an inner plug, and provided with an external screw-thread.
5. In a water tube boller the combination of the tube banks, an external header, a pair of headers arranged on the inner side of the external header and having no connection with one another, water tubes arranged in couples, each couple having one tube connected to an inner header and the other tube connected to the outer header, and return bends
on the ends of the tubes opposed to the headers the return bends having projections in line with the tubes, said projections being arranged to receive a plug or a cap.
6. In a water tube boiler the combination with the water tt:be arranged in couples, of the return bends connecting the couples, each bend having a projection in alignment with the ti:bes, the projection extending beyond the body of the return bend and having a plug in each projection ard an external screw thread on the projections for the affixing of a plugging tool.

\section*{No. 101,598. Steam Boiler. Chablijeg it voqur.}


Charles Andrew Sturm, Portland, Oregon, C.S.A., 16th October. 1906; 6 years. Filed 1st August, 1906. Recelpt No. 139,327.
Claim.-1. A stcam boiler comprising a bottom chamber having a cut-out portion for the firebox, a top chamber, an ir:termediate chamber extending from the front of the boiler t) within a distance of the rear of the boiler, pipes connecting the bottom chamber with the intermediate chamber, pipes connecting the intermediate chamber with the top chamber. pipes connecting the top chamber with the bottom chamber in the rear of the said intermediate chamber, and a horizontal partition between the top and intermediate chambers and extending from the rear forwardly to within a distance from the front of the boiler.
2. A steam boller comprising a bottom chamber having a cut-out portion for the firebox, a top chamber, an interreediate chamber extending from the front of the boiler to within a distance of the rear of the boiler, pipes connecting the bottom chamber with the intermediate chamber, pipes ccnnceting the intermediate chamber with the top chamber, pipes connecting the top chamber with the bottom chamber in the rear of the said intermediate chamber, and a horizontal partition between the top and intermediate chambers and extending from the rear forwardly to within a distance from the front of the boller, an outlet for the smoke and gases from the front of the boller at a point between the said top chamber and the said intermediate chamber.
3. A steam boller comprising a bottom chamber having a cut-out portion for the frebox, a top chamber, an intermediate chamber extending from the front of the boiler to within a distance of the rear of the boiler, pipes connecting the bottom chamber with the intermediate chamber, pipes connecting the top chamber with the bottom chamber in the rear of the said intermediate chamber, a horizontal partition between the top and intermediate chambers and extending from the rear forwardly to within a distance from the fron of the boiler, and a steam dome located above and connected w:th the said top chamber.
4. A steam bo!ler comprising a bottom chamber. a top chamber, an intermediate chamber, a steam dome carried by the top chamber, pipes connecting the bottom chamber with the Intermediate chamber, pipes connecting the intermediate chamber with the top chamber. pipes connecting the top chamber with the bottom chamber, and a horizontal partition between the top and intermediate chambers and extending from the rear forwardly and terminating short of the front of the boiler.
5. A steam boiler comprising a bottom chamber extending from the firebox to the rear of the boller, a top chamber extending from the front to the rear of the boiler, a steam come carried by the top chamber, an intermediate chamber extending rearward from the front of the boiler and spaced at its rear end from the rear of the boiler, pipes connecting the bottom chamber with the intermediate chamber, pipes connecting the intermediate chamber with the top chamber, pipes extending in the space at the rear of the intermediate chamber and connecting the top chamber with the boltom cbamber, a horizontal partition extending forward from the rear of the boiler, and located between the top and intermediate chambers, and an outlet for the smoke and gases leading from the front of the boiler immediately below the top chamber.

\section*{No. 101,599. Composition for Removing Scale from Steam Boilers.}

\section*{Composition pour enlever la rouille dans les chaudic̀res ì} vapestr.

Lancelet William Thompson, Hobart Mills. California, U.S.A., 16th October. 1906; 6 years. Filed 25th July, 1906 . Receipt No. 138,150.
Claim.-1. The herein described composition of matter consisting of potato, brown sugar and kerosene, substantially as described and for the purpose specified.
2. The herein described composition of matter for removing scales from steam boilers and for the prevention of the forration of scales in steam boilers, consisting in quantities to the gallon four and one-fourth pounds of potatoes, three fcunds of brown sugar and one quart of kerosene, substantially as described.

No. 101,600. Stay Bolt. Boulon deutreloise.


George Springer Thompson, Hockessin, Deleware, U.S.A., 16th October, 1906; 6 years. Filed 12th May, 1906 . Receipt No. 130,854.
Claim.-1. A two part stay bolt consisting of an eye head formed with a tapered body portion which is threaded, and an eyc bolt, the parts being coupled together by the interlocking of their eye loops, for the purpose described.
2. A two part stay bolt consisting of an eye head formed with a semi-circular seat in its eye and with an external surface concentric to said seat, and an eye bolt coupled to saill eye head and formed with bearing surfaces which engage with said concentric surface on the eye head, the bolt being recessed centrally between said bearing surfaces for the purpose set forth.
3. A two part stay bolt consisting of an eye head formed With a semi-circular seat in its eye with an extension of the eye of larger diameter than the said seat and with an external surface concentric to said seat, and an eye bolt coupled to said eye head and formed with bearing surfaces which engage with said concentric surface on the eye head, the bolt being recessed centrally between said bearing surfaces for the purpose set forth.
4. A two part stay bolt consisting of an eye head and an eye bolt coupled therewith, said eye bolt being formed of a central filler and of a strap welded thereto and extending the full length of the bolt on opposite sides of the filler, for the purpose set forth.
5. A two part stay bolt consisting of an eye head and a bolt coupled thereto, said eye bolt being formed of a cen(ral filler and of a strap looped into the eye in the said re head, and having its ends welded to the filler for the purpose described.
6. A two part stay bolt conslsting of an eye head and an cye bolt coupled therewith, said eye bolt being formed of a central filler an dof a strap welded thereto, the side members of the strap being flattened beyond the bend of the loop or eye, for the purpose set forth.
i. A two part stay bolt consisting of an eye head formed with a tapered body portion which is threaded, said threaded body having a central recess the side walls of which are adapted to engage with a driving implement, and a eye bolt, the parts being coupled together by the interlocking of their eye loops, for the purpose set forth.

No. 101,601. Stone Saw. Scie ì pierre.


Cortis K. George and John Burnett, co-inventors, both of
Milford, New Hampshire, U.S.A., 16th October, 1906;
6 years. Filed 6th September, 1906. Receipt No. 139,304.
Claim.-A stone saw having teeth of a common thickness throughout their height, arranged at a suitable distance apart, and intermediate portions of a less thickness than and corresponding in height to the teeth, arranged alternately at opposite sides of the saw and lying entirely in the vertically glane of the teeth, and having concave lower edges, the said comparatively thin intermediate portions affording interdental spaces extending throughout the heignt of the saw and adapted to permit the free passage of abrasive material to the bottom of a kerf in which the saw is disposed.

\section*{No. 101,602. Electric Mail Carriage.}

Porte-sacs postaux électriques.
Michael Danner, Panola, Illinois, U.S.A., 16th October, 1906;
6 years. Filed 17th September, 1906. Receipt No. 139,550.
Claim.-1. In a telpher system, line wires extending between stations and forming carrier suports, rigid bars connected to the wires and in alignment therewith, sald bars forming carrier supports at the stations, each bar having downwardly bent end portions forming guards or guides for directing the wheels of the carrier on to said bars.
2. In a telpher system, a carrier having a plurality of independent compartments each provided with a movable bottom portion. trip arms of different length carried by the car and connected to sald bottoms, and means for engaging said trip arms to effect the opening of the bottoms and the discharge of the contents of the receptacles.
3. In a telepher system, a carrier having a plurality of receptacles, tripping mechanism for controlling the dumpinp of said receptacles, said tripping mechanism extending respectively, different distances from the car, and means at the differcnt stations aranged to be engaged by said tripping mechanism to effect the discharge of the receptacles at the proper stations.
4. In a telpher system, a carrier having a plurality of independent receptacles, and a pivoted bottom for each re-

ceptacle, a latch for holding the bottom in closed position, a vertically disposed shaft connected to the latch, an adjustable arm extending from the shaft, and arm engaging members arranged along the line.
5. In a telpher system, a carrler having a plurality of independent receptacles, a pivoted bottom for cach receptacle, a latch holding the bottom in closed position, a vertically disposed shaft connected to the latch, an adjustable arm extending from the shaft, means arranged along the line for engaging the arms, and a spring acting on each shaft and tending to move the arm of said shaft into parallel relation with the carrier.
6. In a telpher system, a carrier having a plurality of independent receptacles, a pivotally mounted loop forming the bottom of each receptacle, a vertically disposed shaft having bearings in the frame of the carrier and provided with loop supporting arm, a holding spring engaging said arm and tending to maintain the same in loop engaging position, p trip arm carrled by the shaft and extending outward from the side of the carrier in position to be engaged by a tripping lever on the line, and a spring arranged on the shaft and tending normally to move the tripping arm into parallel relation with the carrier.
7. In a telpher system the combination with the line wires. of a carrier mounted thereon and provided with a collecting receptacle, article clamping jaws arranged at different points along the line and adjustable into the path of movement of the carrier, and a jaw spreading arm supported by the carrier and serving to open said jaws and effect the discharge of the articles into said receptacle.
8. In a telpher system the combination with the line wires. of a carrier having a collecting receptacle, article clamping jaws arranged at stations along the line, a swinging arm for the support of each pair of jaws, means for holding said arm with the jaws in the path of movement of the carrier. and a jaw spreading arm supported by said carricr and movable between the jaws to effect the discharge of the artickes carrled thereby.
9. In a telpher system the combination with the line wire, of a carrier having a collecting receptacle article clamping jaws arranged at different points along the line, a spring iending normally to hold the jaws together, an arm supporting the jaws. a support to which said arm is pivoted, a fair of guides for the arm, a spring tending normally to hold the arm in operative position, a locking device for holding the arm with the jaws in the path of the carrier, and a Jaw spreading arm supported by the collector and arranged to open the jaws and remove the erticles therefrom.
10. The rombination with a movable car or carrier having at article receptacle. of a pair of guard arms projecting from the carrier, a collecting arm arranged between the guard arms, and article supporting members arranged at different positions along the line and engageable by the collecting arm as the car passes the stations.
11. In a telpher system the combination with the liue wires, of a frame having a plurality of pairs of wheels runring on the wires, levers plvoted to the frame, and carrying one of the pairs of wheels, and springs engaging said levers and tending to fored said wher is into engagement with the wires.
13. In a telphor system, a line comprising three wires, two arranged in a herizontal plane, and the third in a plane above and between the other two, a carrier having a recresed cemtal portion to straddle the third wire. and supporting wheels arranged on the carrior and running on all of the wires.
13. In a tolpher systom, a maln linc, and a branch line, each comprising a plurality of parallel wires, a carrier hav-
ing wheels running on sald wires, a switching member in the form of a rail leading between the main and branch lines. and auxiliary wheels mounted on the carrier and arranged to engage and travel on said rall.
14. In a telpher system, a main line. and a branch line, each provided with a plurality of parallel wires, a switch rail extending over the wires, and forming a connecting ineans betwern the two lines, a carrier having wheels running on the line wires, auxiliary wheel supports on said carrier, wheels mounted thereon and adapted to travel on the switch rail, and means for automatically tripping said supcort and lowering the wheels to prevent the passage of the carrier to the branch line.

15 . In a telpher system, a main line, a branch line, each line including a series of parallel wires, a wheeled carrier arranged to travel on the wires, a switch rail extending over and connecting the two lines, pivotally mounted wheel carrying arms on the carrier, wheels arranged on said arms and adapted to travel on the switch rail, springs tending normally to lower said arms, and move the wheels to a position below the switch rail, locking devices for maintaining said arms in elevated position, adjustable trip arms connected to said locking device, and trip engaging devices arranged at different points along the line.
16. In a telpher system the combination with main and branch lines, each including a plurality or parallel wires, a switch rail extending over the two lines, said rail being of T-shape in cross section, a wheeled carrier arranged to travel on the wires, a pair of sets of pivoted arms mounted on the carrier, means for connecting the arms for mutual movement, wheels carried by said arms and adapted to travel on the horizontal web of the T-rall, springs tending to depress the arm, a locking bolt for holding said arms in upright position, a bell crank lever connected to the bolt, and an adjustable arm connected to the bell crank lever and arranged to be engaged by trips or stops at difierent points along the line.
17. In a telpher system, line wires, a support, and a track bar pivoted at a point intermediate of its length to sald support and free for swinging movement in a vertical planc and providel at its ends with means for engaging the wire.
18. In a telpher system, a pivotally mounted track bar forming a connection between the line wire and its support, said bar being free for swinging movement in vertical plane.

\section*{No. 101,603. Valve for Fire Extinguishors.}

Soupape pour extincteur.


Charles W. Kersteter, Chlcago, Illinois, U.S.A., 16th October,
1906 ; 6 years. Filed 6th August, 1906. Receipt No. 138,452
Claim.-1. In a device of the class described the combination with the alr valve and the water valve, of a pair of sibstantially vertical levers having arms disposed side by side and movable laterally with respect to the direction of the movement of the alr valve, means carried by the air valve and ungaging said arms for normally preventing their lateral mevoment, and means interposed between said levers and the water valve for holding the latter seated, substantially as described.
2. In a device of the class described, the combination with the air valve and the water valve, of mechanism for holding the water valve seated, said mechanism including a lever hi.ving an arm disposed in the general direction of the movement of the air valve and movable laterally with respect to said direction, a shoulder carried by the air valre and directly engaing said arm, laterally, for preventing its lateral movement. and a rigid stem interposed between the water valve and the lever, substantially as described.
3. In a device of the class described the combination with the air valve and the water valve, of mechanism for holding the water valve seated, said mechanism including a lever having an arm disposed in the general direction of move-
ment of the air valve and movable in a direction substantially perpendicular to the direction aforesaid, means carried by the air valve and engaging said arm for preventing its lateral movement, and a stem interposed between the water valve and the lever and engaging the latter at a point between its fulcrum and its contact with the air valve, substantially as described.
4. In a device of the class described the combination with the air valve and the water valve, of mechanism for holding the water valve seated, sald mechanism including a lever having an arm disposed in the general direction of the movement of the air valve and movable in a direction substantially perpendicular to the direction aforesaid, a shoulder on the air valve engaging said arm, the engaging faces of said shoulder and arm being cam-shaped, and means interposed between the lever and the water valve, substantially as described.
5. In a device of the class described the combination with the air valve and the water valve, of mechanism for holding the water valve seated, said mechanism including a plurality of levers having arms disposed in the general direction of the movement of the air valve and disposed at equal distances apart, sald arms being movable in directions substantially perpendicular to the direction of movement of the air valve, means carried by the air valve and engaging said arms for preventing their lateral movement, and means interposed between said levers and the water valve, substantially as described.
6. In a device of the class described the combination with the air valve and the water valve of mechanism for holding the water valve seated, sald mechanism including a pair or levers having arms movable laterally with respect to the direction of movement of the air valve, a circular shoulder carried by the air valve and engaging said arms for normally preventing their lateral movement and means interposed between said levers and the water valve for holding it seated, substantially as described.
7. In a device of the class described the combination with the air valve and the water valve of mechanism for holding the water valve seated, said mechanism including a pair of levers having arms arranged side by side and in the general direction of the movement of the air valve, said arms being movable laterally with respect to the direction of movement of the air valve, means carried by the air valve and engaging said arms for normally preventing their lateral movement and a stem or strut interposed between said levers and the water valve, substantially as described.
8. In a device of the class described the combination with the air valve and the water valve of mechanism for holding the water valve seated, said mechanism including a pair of levers having arms arranged side by side and in the general direction of the movement of the air valve, said arms being movable laterally with respect to the direction of movement of the air valve, means carried by the air valve and engaging sald arms for normally preventing their lateral movement and a stem or strut engaging said levers and the water valve, said stem or strut being adjustable in length, substantially as described.
9. In a device of the class described for combination with the air valve and the water valve of mechanism for holding the water valve seated, said mechanism including a pair of levers having arms arranged side by side and in the general direction of the movement of the air valve, said arms being movable laterally with respect to the direction of movement of the air valve, means carrled by the air valve and engaging said arms for normally preventing their lateral movement, means interposed between said levers and the water valve and stops for arresting the levers in positions to prevent the re-seating of the air valve, substantially as described.
10. In a device of the class described the combination with the air valve and the water valve of mechanism for holding the water valve seated, said mechanism including a composite stem or strut having two parts and means for moving them endwise relatively to each other, said means comprising two relatively movable parts having alternating cam surfaces and flat surfaces, substantially as described.
11. In a device of the class described the combination with the air valve and the water valve of mechanism for holding the water valve seated, said mechanism including a strut or stem, sald strut or stem comprising two parts, and straining mechanism for forcing them apart, sald straining mechanism having a collar on one of said parts and a second collar rotatively mounted on both of said parts, the engaging faces of said collars being complementary and having alternating cam surfaces and flat surfaces, substantially as described.
12. In a device of the class described the combination with the air valve and the water valve of mechanism for holding the water valve seated, said mechanism including a pair of levers having arms movable laterally with respect to the direction of movement of the air valve, means carried by the air valve and engaging said arms for normally preventing

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their lateral movement and a stem engaging the water valve and engaging the levers at points between their fulcrums and their points of engagement with the air valve, substantially as described.
13. In a device of the class described the combination with a casing having a chamber and having vertically aligned ports leading into and out of said chamber, of valves adapted to sald ports, a lever having a substantially vertical arm, the upper end of which is movable in a substantially horizontal movement of its upper end, and means interposed between sald lever and the lower valve for holding the latter seated, substantially as described.
14. In a device of the class described the combination with a casing having a chamber and having vertically aligned ports leading into and out of said chamber, of valves adapted to said ports respectively, a plurality of levers having substantially vertical arms, the upper ends of which are movable in substantially horizontal directions, means carried by the upper valve and engaging said arms for preventing the horizontal movement of their upper ends, and means interpcsed between the levers and the lower valve for holding the latter seated, substantially as described.
15. In a device of the class described the combination with a casing having a chamber and having vertically aligned ports leading into and out of said chamber, valves adanted to said ports respectively, a lever having a substantially vertical arm, the upper end of which is movable in a substantially horizontal direction, said arm having a shoulder, means carried by the upper valve and engaging said arm for preventing the horizontal movement of its upper end, and a strut interposed between sald shoulder and the lower valve, for holding the latter seated, substantially as described.
16. In a device of the class described the combination with a casing having a chamber and having vertically aligned ports leading into and out of said chamber, of valves adapted to said ports, a plurality of levers having arms occupying substantially vertical positions, means carried by the upper valve and engaging said arms for preventing the horizontal movement of their upper ends, and a vertical stem interposed between said levers and the lower valve, substantially as described.
17. In a device of the class described the combination with a casing having vertically allgned ports, of valves adadapted to said ports, a plurality of levers disposed at substantially equal angles to the central line common to the axis of said ports, and substantially parallel with said line, means on the upper valve engaging eaid arms for preventing their lateral movement and means interposed between the levers and the lower valve for holding the latter seated, substantially as described.

No. 101,604. Spark Arrester. Arrête-étincellcs.


Charles Robert Mayo, 9 Mostyn Avenue, Wembley, Middlesex, England, 16th October, 1906; 6 years. Flled 1st August, 1906. Receipt No. 138,323.
Claim.-1. A spark arrester comprising a divided cage, hinged screens to which the parts of the cage are connected, and means adapted to support the cage and screens in position for use within a smoke box, said cage and screens being adapted to be displaced from said position, as set torth.
2. A spark arrester comprising a cage divided into two parts articulated together, hinged screens to which the parts of the cage are respectively articulated and means adapted to support the cage and screens in position for use within a smoke box, as set forth.
3. In a spark arrester the combination in a smoke box of blast pipe, and a cage surrounding and extending above the upper part of the blast pipe, a transverse dead plate next the tube plate and a transverse screen, sald dead plate and screen together extending entirely across the smoke box except where the cage occurs, as set forth.
4. In a spark arrester the combination in a smoke box a blast pipe, and a cage surrounding and extending above the upper part of the blast pipe, one side of said cage being solid and the other being adapted to allow the passage of products of combustion but to arrest sparks, as set forth.
5. In a spark arrester the combination in a smoke box of a blast pipe, and a cage surrounding and extending above the upper part of the blast pipe, one side of said cage being solld and formed with wings or lateral extensions and the other being adapted to allow the passage of products of other being adapted to allow the sparks, as set forth.
6. In a spark arerster the combination in a smoke box of a blast pipe, a cage surrounding and extending above the upper part of the blast pipe, and tran:sverse screens extending across the smoke box and formed of metal plate having ing across the smoke box and ormich are upwardly flanged, therethrough
7. In a locomotive or like smoke box the combination with a blast pipe of a surrounding edge, a plurality of screens, and means for simultaneously displacing said cage and screens as set forth.
8. In a locomotive or the like smoke box the combination with a blast plpe and smoke chimney of a cage interposed between the blast pipe and smoke chimney, a plurality of screens attached to the cage and means for altering the position of said cage and screens relatively to each other and to the smoke box, as set forth.
9. In a locomotive or like smoke box the combination with a blast pipe and smoke chimney of a divisible hollow cage interposed between the blast pipe and smoke chimney, and a plurality of screens articulated to the cage and to the smoke box, as set forth.
10. In a locomotive or like smoke box the combination with a blast pipe and smoke chimney of a divisible hollow with a the parts of which are articulatod to each other, and a plurality of screens articulated to the cage and to the smoke box, as eet forth.
11. In a locomotive or like smoke box the combination with a blast plpe and smoke chimney of a divisible hollow cage, a plurality of screens articulated to each other and to the cage and a dead plate, said cage and screens being adapted to be supported in the operative position partly by the blast pipe and party by the dead plate and to be simultaneously elevated, as set forth.
12. In a locamotive or like smoke box the combination With a blast pipe and smoke chimney of a hollow cage divided vertically into two parts hinged together at their lower extremities, a pair of screens hinged to the respective cage parts adjacent to their upper and outer edges and to the emoke box, as set forth.
13. In a locomotive or like smoke box the combination with a blast plpe and smoke chimney of a hollow cage divided vertically into two parts hinged together at their adjacent lower extremities, the pair of screens partially surrounding the said cage adjacent to its upper edge and hinged thereto and to the smoke box, as set forth.
14. In a locomotive or like smoke box the combination with a blast pipe and smoke chimney, of a hollow cage divided vertically in a plane perpendicular to that of the boiler tube plate and hinged along the lower divided edge, a dead plate secured in the smoke box next the boiler tube plate and partially surounding and supporting the parts of the cage, a pair of screens surrounding the parts of the cage not surrouded by said dead plate and overlapping the latter, and hinges connecting the screens with the divided parts of the cage and with the smoke box, as set forth.
15. In a locomotive or like smoke box the combination With a blast pipe and smoke chimney of a bollow cage divided in a plane perpendicular to that of the boiler tube plate, each half being perforated at the side remotr from said boller tube plate but having a solid portion adjacent thereto. hinges connecting the parts of the cage at the lower edge, as set forth.
16. In a locomotive or like smoke box the combination with a blast pipe and smoke chlmney of a hollow cage divided in a plane perpendicular to that of the boller plate, each half being perforated at the side remote from said boiler tube plate, but having adjacent thereto a solid portion provided with wings as set forth.
17. In a locomotive or like smoke box the combination with a blast pipe and smoke chimney, of a hollow cage divided vertically in a plane perpendicular to that of the boiler tube plate, each half being perforated at the side remote from said boiler tube plate, but having a solid portion adjacent thereto. wings extending from said solid portions, hinges connecting the parts of the cage at the lower edge, a dead plate secured in the smoke box next the boller tube plate and partially surrounding and supporting the parts of said cage, a nalr of sereens surrounding the parts of the cage not surrounded by said dead plate and overlapping the latter, binges connecting the screens with the divided parts of the cage, and hinges connecting the screens at one
side to the dead plate and at the other side to brackets fixed to the smoke box, as set forth.
18. In a locomotive or like smoke box the combination with a blast plpe and smoke chimney, of a hollow cage divided vertically in a plane perpendicular to that of the boiler tube plate, each half being perforated at the side remote from said boiler tube plate but having a solid portion adjacent thereto, wings extending from said solid portions. hinges connecting the parts of the cage at the lower edge. a dead plate secured in the smoke box next the boller tube plate and partially surtounding the parts of said cage, a pair of screens surrounding the parts of the cage not surrounded by said dead slate and overlapping the latter. wings depending from such screens co-acting with the wings upon the cage, hinges connecting the screens with the divided parts of the cage and hinges connecting the screens at one side to the dead plate and at the other side to brackets fixed to the smoke box, as set forth.
19. In a locomotive or like smoke box the combination with a blast plpe and smoke chimney of a cage comprising two half cones each perforated at the side remote from said boiler tube plate but having a solid portion adjacent thereto wings extending from said solid portions, hinges connecting the parts of the cage at the lower edge, a dead plate sccured in the smoke box next the boller tube plate and partially surrounding and supporting the parts of said cage, a pair of screens surrounding the parts of the cage not surrounded by said dead plate and overlapping the latter. wings depending from such screens co-acting with the wings upon the cage, hinges connecting the screens with the divided parts of the cage and hinges connecting the screens at one slde to the dead plate and at the other side to brackets fixed to the smoke box, as set forth.

\section*{No. 101,605. Machine for Making Gas.} Machine à faire lc gaz.


James Tallisford Paris, Chicago, Illinois, U.S.A., 16th October, 1906; 6 years. Filed 9th April, 1906. Receipt No. 134,768.
Cluim.-1. In apparatus for the manufacture of gas, a carbureter having an interior space divided into alternate layers of multicellular charibers and absorbent material. the cells of each chamber being connected in series with each other and with the colk of the other chambers to form a continuous pas:age for als through the carbureter.
2. In apparatus for the msnufacture of gas, a carbureter having an interior spac divilid into alternate superposed layers of multicellular chambers and absorbent material. the cells of cach \(\cdot h \cdot \ln _{1}, \ldots\) be ne connected in series with each other and with the cells of the other chambers to form a continuous passage fo-: : \(h\) ough the carbureter, the walls of said cells comprising absorbent material entirely surrounding the air pa:ag..
3. In apparatus for the manufacture of gas, a carbureter having an interior space divided into alternate layers of multicellular chambers and absorbent material, said chambers and absorbent material belng arranged horizontally in parallel relation, each of the cells having a covering of absorbent material entirely surrounding the walls thereof and adapted to be caturated with hydro-carbon held by sald absorbent layers, and the calls of each chamber being connected in series with each other and with the cells of the other chambers to form a continuous passage for air.
4. In apparatus for the manufacture of gas. a carbureter having an interior space divided into alternate superposed layers of multicellular chambers and absorbent material. each of the cells being composed of a reticulated wire body
covered with cloth adapted to be saturated with hydrocarbon held by said absorbent laycrs, the cells of each chamber being connected in series with each other and with the cells of the other chambers to form a continuous passage for air from the bottom to the top of the carbureter.
5. In an aerometer for regulating the flow of air into a carbureter, the combination with an aerometer bell, of a liquid containing tank in which said bell is sealed, an inlet plpe opening beneath said bell, a valve controlling the opening in said plpe, a lever carrying said valve. said lever being pivoted intermediate its ends and normally operated by gravity to hold said valve open, and a member conner.....g said lever and said bell, whereby the lever is operated by the aerometer bell to close said valve when the pressure reaches a predetermined amount.
6. In an aerometer for regulating the flow of air into a carbureter, the combination with an aerometer bell, of a liquid containing tank in which said bell is sealed, an inlet plpe and an outlet pipe each opening beneath said bell, a valve controlling the opening in the inlet pipe, a pair of oppositely mounted levers carrying said valve upon their inner ends, said levers being pivoted intermediate their ends and normally operated by gravity to hold said valve open, and members connecting the free nnds of said levers with said bell, whereby said levers are operated by the aerometer bell to close said valve when the pressure reaches a predetermined amount.
7. In apparatus for the manufacture of gas, the combination with a carbureting chamber having an air outlet, of an air supply chamber having an inlet and an outlet port. said latter chamber comprising an aerometer bell and a liquid containing tank. in which said bell is sealed, a pipe connecting the outlet of the air supply chamber with the falet of the carbureting chamber. a valve controlling the inlet port of the air supply chamber, and a lever normally operated by gravitt to hold sald valve open and adapted to ive operated by the aerometer bell to close sald valvo when the pressure reaches a predetermined amount.
8. In apparatus for the manufacture of gas the combination with a carbureting chamber, having an inlet and a vapour discharge port, of an aerometer for controlling the admission o: air through the inlet port. a pump for supplying air to the carbureting chamber and automatic means for noperating said Fump, said means heing operative when a supply of gas is withdrawn through said vapour discharge port and inoperative when the flow through said discharge port is stopped.
9. The combination with a carbureter, of a pump for supplying air thereto. said pump comprising a drum, a plurality of inverted cups mounted on sald drum and having valves opening inwardiv into the same, a llquid containing chamber ir which said drum is mounted to rotate, said drum being partially submergęd in said liquid, and automatic means for rctating said drum.
10. The combination with a carbureter, of an aerometer for controlling the admission of air thereto, a pump for supplying air to the carbureter, sald pump comprising a drum, a plurality of inverted cups mounted on said drum and having valves opening inwardly into the same, a liquid containing chamber in which said drum is mounted to rotate, said drum being partiallv submerged in sald liquid, and automatic means for rotating said drum, the operation of said means being dependent upon the pressure within the drum, whereby the pump automatically operates when the air is admitted to the carbureter and is inoperative when the supply of air is cut off therefrom.

No. 101,606. Animal Trap. Picge.
Walter W. Williams, Littlefork, Minnesota, U.S.A., 16th October, 1906; 6 years. Filed 11th August. 1906. Receipt No. 138,588.
Claim.-1. In a choker trap the combination with a frame \(0^{\prime}\) oppositely acting springs secured to said frame, looped chokers each having both ends secured to one of the springs and each constituting an endless loop and adapted to operate in opposite directions when released, and a pan or trigger for releasably locking the chokers in set or retracted position.
2. In a choker trap the combination with, a frame, of oppositely acting springs secured to sa!d frame, looped chokers secured to the respective springs and adapted to operate in opposite directions when released, said chokers having notches, and a pan or trigger for releasably engaging the notches aforesald to lock the chokers in set or retracted position.
3. In a choker trap the combination with a frame, of oppositely acting springs secured to said frame, looped chokers secured to the respective springs and adapted to operate in opposite directions when released, a ring loosely encircling crossed portions of sald chokers, and a pan or trigger for releasably locking the chokers in set or retracted position.
4. In a choker trap the combination with a frame, having slots in its side, of oppositely acting springs secured to said
frame, independent looped wire chokers secured to the respective springs and passing loosely through the respective


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slots aforesaid and adapted to operate in opposite directions when released, and a pan or trigger for releasably locking the chokers in set retracted position.
5 . In a trap the combination with a frame having upright portions, of trapping mechanism carried by said frame, and swivelled eyes on the upright portions of said frame adapted io receive stakes for fastening the frame in upright position. 6. In a trap, the combination with a frame having a base or horizontal member, of trapping mechanism carried by said frame, and swivelled eyes extending horizontally from the base or horizontal member aforesaid whose openings extend vertically and are adapted to receive upright stakes for fastening the frame in upright position.

No. 101,607. Fishing Tackle. Attirail de pêche.


Martin Zimmerman, Rochester, New York, U.S.A., 16th October, 1906; 6 years. Filed 8th August, 1906. Receipt No. 138,494.
Claim.-1. In a fishing tackle, a suitable support and a hook secured thereto by a flexible and elastic connection whereby such hook, when inserted within a bait and extended outwardly through an opening therein, may be yieldably held against the body of such bait by such elastic connection.
2. In a fishing tackle, a suitable support and two hooks each independently secured thereto by a flexible and elastic connection whereby such hooks when inserted within the mouth and outwardly through and behind the gills of a fish innpaled thereon may be yieldably held in such position.
3. In a fishing tackle, a supporting wire adapted to be inserted through the bait and carrying a permanently closed loop and a hook removably secured in such loop, the whole device adapted to be drawn forwards within the bait to expose such hook adjacent thereto and such bait, when thus in
position thereon, operating to prevent the removal of such hook from such loop.
4. In a fishing tackle, a supporting wire adapted to be inserted through the bait and carrying a permanently closed loop and a twin hook removably secured in such loop, the while device adapted to be drawn forwards within the bait to expose each member of such twin hook on the sides thereof and such bait, when thus in position thereon operating to prevent the removal of the twin hook from such loop.
5. In a fishing tackle, a supporting wire, a hook connected thereto and adapted to be inserted within and extend outwardly through a bait impaled thereon, such wire carrying ar extension below such hook and adapted to be inserted tbrough the balt and carrying a loop and a hook removably secured in such loop, the whole device adapted to be drawn fcrwards within the bait when in position to prevent the removal of such last hook and to expose the same adjacent to such bait.
6. In a fishing tackle, a supporting wire, a hook connected thereto by a flexible and elastic connection and adapted to be inserted within and extend outwardly through a bait impaled thereon, such wire carrying an extension below such hook and adapted to be inserted through the bait and carrying a loop and a hook removably secured in such loop, the whole device adapted to be drawn forwards within the bait when in position to prevent the removal of such last hook therefrom and to expose the same adjacent to such bait.
7. In a fishing tackle, a supporting wire, two hooks each secured thereto by a fiexible and elastic connection whereby such hooks may be inserted within the mouth and extended outwardly through and behind the gills of a fish impaled thercon, such wire carrying an extension below such hooks and adanted to be inserted through the fish and carrying a loop and a twin hook removably secured in such loop, the whole device adapted to be drawn forwards within the flsh when in position to prevent the removal of the twin hook therefrom and adanted to prnose each member of such twin hook on the sides of the fish.
8. In a fishing tackle, a supporting wire, two hooks connected thereto and adapted to be inserted within the mouth and extended outwardly through and behind the gills of a fish impaled thereon. such wire carrying an extension below such hooks and adapted to be inserted through the fish and carrying a lonp and a twin hook removably secured in such loop, the whole device adanted to be drawn forwards within the fish when in position to prevent the removal of the twin hook therefrom and adapted to expose each member of such twin hook on the sides of the fish.
9. In a fishing tackle, a twirler or sooon comprising a blank struck nut from a sheet of metal having lings or ears bent in parallel nlanes and at practically right angles to the plane of the blank such lugs or cars having holes therethrough and comprising bearings spaced anart for revolubly supporting such twirler unon a suitable wire and such twirler having wings formed into blades extending outward from a line connecting such holes.
10. In a fishing tackle, a twirler or spoon comprising a blank struck out from a sheet of metal having lugs or ears heen in parallel planes and at practically right angles to the plane of the blant but on opposite sides thereof. such lugs or ears having holes therethrough and comprising brarings spaced apart for revolubly supporting such twirler upon a suitable wire, an opening through such twirler to receive such wire and such twirler having wings formed into curved blades extending obliquely outward from a line connecting such holes.
No. 101,608. Fishing Tackle. Attirail de peche.


Benjamin Franklin Flegel, Racine, Wisconsin U.S.A., 16th October, 1906; 6 years. Filed 4th August, 1906 . Receipt No. 138,409.
Claim.-A senarable fishing rod handle composed of two sections one of which is a grip section a tenon end, the
other section being provided with a socket in which the tenon has engagement, a band on the grip section encircling the rear portion of the tenon and provided with a wedging segmental offset for the engagement of one end of a line reel base, and a spring latch in connection with said tenon for engagement with an aperture with which the tenon socket is provided.
2. A separable fishing rod handle composed of two sections one of which is a grip section having a tenon end, the other section being provided with a socket in which the tenon has engagement. means locking said tenon against rotary movement in the socket, and a band on the grip section encircling the rear portion of the aforesaid tenon and provided with a wedging segmental offset for the engagement of one end of a line reel base.
3. A separable fishing rod handle composed of two nections one of which is a grip section having a longitudinally ribbed tenon end, the other section being provided with a longtudinally grooved socket in which the ribbed tenon has engagement, a band on the grip section encircling the rear portion of the tenon and provided with a segmental wedging offset for the engagement of one end of a line reel base, and a spring latch in connection with one handle section to have engagement with the other handle section.

No. 101,609. Fish Hook. Hamegon.


John Edward Buckingham, Jr., Washington, District of (nlumbia, U.S.A., 16th October, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,836.
Claim.-1. A fish hook, a line, a wrapping for securing said hook and line together, and a close fitting sleeve entirely surrounding said wrapping for protecting the same.
2. A fish hook, a line, a wrapping for securing said hook and line together, and a close fitting sleeve entirely surrounding said wrapping and cement thereto.
3. A fish hook, a line, and wrapping for securing sald hook and line together, and a close fitting sleeve eatureig surrounding said wrapping, said sleeve covering on. ihat portion of the hook and line embraced by the wrapping.

\section*{No. 101,610. Animal Trap. Piege danimal.}

Preston Armstrong, Shelton, Washington, U.S.A., 16th October, 1906; 6 years. Filed 10th August, 1906. Receipt No. 138,564.
Claim.-1. In an animal trap the combination of a bed plate having an upturned edge, a pair of springs oppositely secured to said bed plate, and a flexible loop secured to and extending between the free ends of said springs and engaging said bed plate at points intermediate caid springs and adjacent to the upturned edge of the bed plate whereby when said loop is pulled taut it acts in conjunction with said edge to kill the animal therebetween.
2. In an animal trap the combination of a bed plate, a spring pivotally secured thereto, a head plate pivotally sccured to said spring, and a loop engaging sald head plate and adapted to be pulled thereby.
3. In an animal trap the combination of a bed plate, a pair of springs pivotally secured to the ends of said bed

plate, a pair of springs pivotally secured to the ends of eaid bed plate, head plates secured to the ends of said eprings. and a loop extending between said head plates and adapted to be pulled thereby.
4. In an animal trap the combination of a bet plate, opposite springs secured to the ends thereof, a flexible loop joining eaid springs and adapted to be pulled thereby, a pan plvoted to eald plate and holding down one of said springs, and independent means for holding down the other epring and adapted to be removed by said pan after said first spring has been released.

No. 101,611. Animal Trap. Piège danimal.


Robert John Scott, Adelaide, South Australia, Australia, 16th October, 1906; 6 years. Filed 11th August, 1906. Recelpt No. 138,614.
Olaim.-1. An anlmal trap comprising a receptacle, a door embodying hinged door pivoted eections, means for counterbalancing the weight of said sections and restoring the same to normal position, and an automatically projected detent, said detent being provided with a stop portion adapted to be engaged by one of the door sections, and a retracting portion adapted to be engaged by the other door section, whereby when the latter-named section is depressed the detent will be retracted.
2. An animal trap comprising a receptacle, a door embodying two hinged or pivoted sections, means for counterbalancing the weight of sadd sections and restoring the same to normal position, and an automatically projected detent, said detent being provided with a stop shoulder adapted to be engaged by one of said sections, and a bevelled retracting portion adapted to be engaged by the other section, whereby when the latter-named section is depressed the detent will be retracted.
3. A trap comprising a receptacle, a door embodying two hinged or pivoted sections, means for counterbalancing the welght of sald sections and restoring the same to normal position, and a spring projected detent provided with a stop
shoulder adapted to be engaged by one of said sections, and a retracting portion adapted to be engaged by the other section whereby when the latter-named section is depressed the detent will be retracted.
4. A trap comprising a receptacle, a door composed of a main section pivoted to the receptacle and an operating section pivoted to said main section, means for counterbalancing the weight of the door and restoring the same to normal position, and an automatically projected detent having a stop shoulder adapted to be engaged by the main section and a bevelled retracted portion adapted to be engaged by the operating section, whereby when the latter-named section is depressed the detent will be retracted to release the door.

No. 101,612. Euperheater for Traction Engines. Surchauffeur pour machines d traction.


Tomey D. Ulrich and Frank A. Huber and John A Schroeter executors of the Estate of Edward Huber, deceased, all of Marion, Ohio, U.S.A., 16th October, \(1906 ; 6\) years. Filed 26th December, 1905. Receipt No. 131,326.
Claim.-1. The combination with a horizontally disposed steam boller and a vertically disposed steam superheater, of an engine disposed horizontally upon said boller and connected to one end of said superheater, and an engine disposed ventically upon said boller and connected to the opposite end of said superheater, substantially as described.
2. In a traction engine the combination with a horicontally disposed steam boiler having a vertically disposed steam superheater mounted therein, of an engine mounted horizontally upon the upper portion of said boller, and an engine mounted vertically upon the lower portion of said boiler, a steam connection between hteu pper end of said superheater and said upper horizontal ev sinc. and a steam connection between the lower end of said superheater and said lower vertical engine, substantially as described.
3. In a traction engine the combination with a boller having a steam space and a fire space, of a steam superheater comprising outer and inner tubes extending through said steam space and into said fire space of said boiler, sald outer tube having its ends closed and said inner tube having one of its ends opening adjacent to one of the closed ends of said outer tutie, and its other end projecting through the other closed end of said outer tube, a steam connection between the projecting end of said inner tube and the steam space of said boller, an engine mounted upon the upper portion of sald boiler and connected to the upper end of said superheater, and an engine mounted upon the lower portion of said boiler and connected to the lower end of said superheater, substantially as described.
4. In a traction engine the combination with a boiler having a steam space and a fire space, of a steam superheater comprising outer and inner tubes extending through said steam space and into said fire space of said boiler, sald outer tube having its ends. closed and said inner tube having one of its ends opening adjacent to oae of the closed ends of staid outer tube, and its other end projecting through the other closed end of said outer tube, a steam connection between the projecting end of said inner tube and the steam space of said boller, a throttle valve in' said steam connection, a governor valve in said steam connection, a horizontally disposed engine mounted upon the upper portion of sald boller and connected to the upper portion of said superheater, a vertically disposed engine mounted upon the lower portion of said boller and connected to the lower end of sald superheater, a shaft mounted upon sald boiler having a crank or wrist pin, and connections between said engines and said crank or wrist pin, substantially as described.

No. 101,613. Superheater for Steam Boilers.
Surchauffeur pour chaudières à vapcur.


The American Locomotive Company, assignce of Francis J. Cole, all of New York City, New York, U.S.A., 16th October, 1906 ; 6 years. Filed 3rd July, 1906. Receipt No. 137,477.
Claim.-1. The combination with a tubular steam boiler, of a superheating tube, a pair of supcrheater pipes extending longitudinally therein and connected at their rear ends, a vertical casing or header comprising a receiving and a delivery compartment having substantially separated walls, the forward ends of the superheater phees communicating with said compartments, a steam supply connection opening into the recelving compartment, and a steam delivery connection leading out of the delivery compartment.
2. The combination with a tubular steam boiler, of a superlieating tube, a pair of superheater pipes extending longitudinally therein and connected at their rear ends, a vertical casing or header comprising a receiving and a delivery compartment having substantially separated walls, the forward ends of the superheater pipes communicating with said compartments, a main \(T\) head communicating with the receiving compartment of the header, and a delivery compartment \(T\) head communicating with the delivery compartment of the header.
3. The combination with a tubular steam boiler, of a superheating tube, a pair of superheater pipes extending longitudinally therein and connected to their rear ends, a vertical casing or header comprising a receiving and a delivery compartment having substantially separated walls, the forward ends of the superheater pipes communicating with said compartments, a main \(T\) hear communicating with the receiving compartment of the header, and a delivery compartment \(T\) head having its wall which is adjacent to the main \(T\) head separated therefrom by an open space, and communicating with the delivery compartment of the header.
4. The combination with a tubular steam boiler, of a vertical row of superheating tubes, pairs of superheater pipes extending longitudinally therein, fittings connecting the ends of the pipes of each pair nearer the firebox. a main steam stipply pipe, a steam delivery pipe, and a vertical casing or he ader comprising a compartment which communicates with the steam supply pipe and with the receiving ends of the steam channels formed by the vertical row of pairs of superheater pipes, and a compartment having its walls substantially separated from those of the compartment first stated and communlcating with the delivery ends of said channels ard with the steam delivery pipe.
5. The combination with a tubular steam boiler, of a vertica! row of superheating tubes, pairs of superheater pipes extending longitudinally therein, fittings connecting the ends of the pipes of each pair nearer the firebox, a main steam supply pipe, a steam delivery plpe, a vertical casing or header comprising a recelving and a delivery compartment having substantially separated walls, sald compartments communicating respectively with the receiving and the delivery ends of the steam channels formed by the vertical rows of patrs of superheater pipes, a maln \(T\) head communicating with the steam supply pipe and with one of the header ecmpartments, and a delivery compartment \(T\) head communicating with the other header compartment and with the steam delivery pipe.
6. A header for steam boller superheaters comprising a recelving and a delivery compartment, having their enclos-

Ing walls out of contact one with the other, and abutting through metal projecting from their adjoining ends.
7. A header for steam boller superheaters comprising a receiving and a delivery compartment, set one in advance of the other so as to prevent contact of their adjacent enclosing walls, and abutting through metal projecting from their adjoining ends.
8. A header for steam boller superheaters comprising a receiving and a delivery compartment, having their enclosing walls out of contact one with the other, and their rear walls progressivety downwardly and forwardly stepped, sald compartments abutting through metal projecting from their adjoining ends.
-9. A header for steam boller superheaters comprising a receiving and a delivery compartment, set one in advance of the other so as to prevent contact of their adjacent enclosing walls, and having their rear walls progressively downwardly and-forwardly stepped, said compartments abutting through metal projecting from their adjoining ends.
10. A header for steam boiler superheaters comprising a rcceiving and a delivery compartment, set one in advance of the other so as to prevent contact of their adjacent enclosing walls and having steam supply and delivery ports at their upper ends. said compartments abutting through metal projecting from their adjoining ends.
11. In a steam boiler superheater the combination of a superheating tube, a pair of superheater plpes extending longitudinally therein and constituting a steam channel, a T head structure comprising a main section compartment communicating with a steam supply pipe, and a dellvery compartment section communicating with a steam delivery nipe, and having its wall which is adjacent to the main \(T\) head section separated therefrom by an open space, and connections from the opposite ends of the superheater plpes steam channel to the main section and the delivery section compartments respectively.
12. In a steam boiler superheater the comblination of a \(T\) head structure comprising a main section compartment communicating with a steam supply pipe and a delivery comrartment section communicating with a steam delivery pipe and having its wall which is adjacent to the main T head scction separated therefrom by an open space, headers, each divided into two compartments which communicate respectively with the main and the delivery compartment sections of the \(T\) head structure, and superheater pipes forming steam channels. the opposite ends of which communicate with the compartments of the headers.

No. 101,614. Superheater Steam Bollera.
Surchauffeur pour chaudièrcs d vapcur.


The American Locomotive Company, assignee of Francis J. Cole, all of New York City, New York, U.S.A.. 16th OCtober, 1906; 6 years. Filed 3rd July, 1906. Receipt No. 137,478.
Claim.-1. The combination with a tubular steam boiler, of a superheating tube, a pair of superheater pipes cxtending longitudinally therein and connected at their rear conds, a vertical saturated steam beader located in front of the superheating tube and connected to the forward end of one of the pair of superheater pipes, a similarly locatel vertical superheated steam header having its walls entirely vertical superheated steam header having its wals enam and
separated from those of the saturated steam beader and
connected to the forward end of the other superheated pipe, a steam supply connection opening into the saturated steam header, and a steam delivery connection leading out of the superheated steam header.
2. The combination with a tubular steam boiler, of a superheating tube, a pair of supêrheater pipes, extending longitudinally therein and connected at their rear ends, a vertical saturated steam header located in front of the superheating tube and connected to the forward end of one of the nair of sunerheater pipes, a similarly located vertical sunerheater steam head"r having its walls entirely separated from thosc of the saturated steam header and connected to the forward end of the other superheater pipe, and a \(T\) head comprising a supply compartment communicating with the saturated steam header and a delivery compartment communicating with the superheated steam header.
3. The combination with a tubular steam boiler, of a superheating tube, a pair of superheater pipes extending longitudinally therein and connected at their rear ends, a vertical saturated steam header located in front of the superheating tube and connected to the forward end of the pair of superheater pipes, a similarly located vertical superheated steam header having its walls entirely separated from those of the saturated stcam header and connected to the forwrad end of the other superheater pipe, and a \(T\) head comprising a supply compartment communicating with the saturated steam header and a delivery compartment having its wall which is adjacent to that of the supply compartment separted therefrom by an open space, and communicating with the gugerheated steam header.
4. The combination with a tubular steam boiler, of a vertical row of superheating tubes, pairs of superheater pipes extending longitudinally therein, fittings connecting the ends of the pipes of each pair nearer the fire box, a main steam supply pipe, a steam delivery pipe, a vertical saturated steam header located in front of the row of superheating tubes and communicating with the steam supply pipe and with the receiving ends of the steam channels formed by the vertical row of pairs of superheater pipes, and a similarly located vertical superheated steam header having its walls entirely separated from those of the saturated steam header and communicating with the delivery euds of said steam channels and with the steam delivery pipe.
5. The combination with a tubular steam boiler, of a vertical row of superheating tubes, pairs of superheater pipes extending longitudinally therein, fittings connecting the ends of the pipes of each pair nearer the firebox, a main steam supply pipe, a steam delivery pipe, a vertical saturated steam header and a vertical superheated steam header located in front of the row of superheated tubres, having entirely separated walls, and communicating respectively with the recelving and the delivery ends of the steam channels formed by the vertical row of pairs of superheated pipes, and a \(T\) head comprising a supply compartment communicating with the steam supply pipe and with the saturated steam beader and a delivery compartment communicating with the superheated steam header and with the steam delivery pipe.
6. In a steam boiler superheater, the combination of superheating tubes, pairs of superheater pipes extending longitudinally therein and constituting steam channels, a T head structure comprising a supply compartment communicating with a steam supply pipe and a delivery compartment communicating with a steam delivery pipe and having its wall which is adjacent to that of the supply compartment separated thereirom by an open space, a plurality of vertical saturated steam headers extending downwardly from the \(T\) head supply compartment and connected on their rear sides to the receiving ends of the steam channels, a plurality of vertical superheated steam headers extending downwardly from the T head delivery compartment and having their walls entirely separated from those of the saturated steam headers, said superheated steam headers being connected on their rear sides to the delivery ends of the steam channels, and removable plugs closing openings in the front sides of the headers opposite the ends of the superheater pipes.
7. In a steam boiler superheater. the combination of a T head structure comprising a supply compartment communicating with a steam supply pipe and a delivery compartment located in front of the supply compartment and communicating with a steam delivery pipe, a pluraity of saturated steam headers extending downwardly from the supply compartment, a plurality of superheated steam headers extending downwardly from the delivery compartment, and a plurality of superheater pipes forming steam channels, the opposite ends of which are connected to the rear sides of the saturated and the superheated stean headers respectively.

No. 101,615. Superheater for Steam Boilers. Surchauffeur pour chaudières à vapeur.


The American Locomotive Company, assignee of Francis J. Cole, all of New York City, and Carl J. Mellin, Schenecctady. New York, U.S.A., 16th October, 1906; 6 years. Filed 3rd July, 1906. Receipt No. 137,479.
Claim.-1. In a steam boiler sperheater, a segmental reIurn bend connection for the rear ends of superheater pipes which is upwardly and rearwardly tapered or inclined on its lower side, so as to present thereon a substantially semiconical or half funnel face to products of combustion passing around it.
2. In a steam boiler superheater, a return bend connection for the rear ends of superheater pipes, which is of transversely curved or segmental form, provided with longitudinal nozzles on its front for the attachment of superheater pipes, and upwardly and rearwardly tapered or inclined on its lower side, so as to present thereon a substantially semi-conical or half funnel surface.
3. In a steam boiler superheater, a return bend connection for the rear ends of superheater pipes, which is of transvirsely curved or segmental form, provided with longltudinal nozzles on its front for the attachment of superheater pipos, upwardly and rearwardly tapered or inclined on its lower side, and grovided with lateral feet or projections curved to abut against a superheating tube.
4. In a steam boiler superheater, the combination of a superheating tube, two superheater pipes extending longitudinally therein, and a transversely curved or segmental return bend attached to the rear ends of the superheater pipes and having its lower side upwardly and rearwardly tapered or inclined so as to present thereon a substantially semi-conical or half funnel face to products of combustion passing through the superheating tube.
5. In a steam boiler superheater, the combination of a superheating tube, two superheater pipes extending longitudinally therein, and a transversely curved or segmental return bend attached to the rear ends of the superheater pipes and having its lower side upwardly and rearwardly tapered or inclined and provided with lateral feet or projections abutting against the inner surface of the supcrheating tube.

No. 101,616. Steam Boiler. Chaudière de vapeur.
Francis J. Hickey and James M. Dunnigan, assignee of a half interest, both of Sacramento, California, U.S.A., 16th October, 1906; 6 years. Filed 9th May, 1906. Receipt No. 135,708.
Claim.-A steam boiler having in combination a main boiler shell, a rearward extending shel of smaller diameter, an exterior shell having a diameter substantially equal to the diameter of the rear end of the main shell and secured thereto and extending over and beyond the smaller rearward extending shell, flues extending through the main and supplemental shells, and a shell within the firebox and enclosing the lower rear portion of the supplemental shell, said firebox shell having a lining of non-conducting material.
2. A steam boiler having two diameters forming main and supplemental shells, an exterior shell having a diameter substantially equal to that of the main shell and greater than that of the supplemental shell, said exterior shell extending rearward over and beyond the supplemental shell, flues extending through the main and supplemental shells, and a frebox of non-conducting material within the ex-
terior shell and enclosing the lower rear portion of the supplemental shell.

3. In a boiler, a main boiler shell, an extension riveted into the main boiler shell, and having a head at its rear end, flues connecting said rear head of the extension and the front head of the main boiler shell, an exterior shell having the upper segmental portion riveted to the rear of the main boiler shell and extending behind the extension of said shell to form an inclosure therefor, segmental plates riveted to the interior of said shell and to the top of the extension, and a heat resisting furnace located interior to the said shell.
4. In a boiler, a main shell, an extension rearwardly thereto of smaller diameter, an exterior shell having its front end secured to the rear end of the main shell and extending rearwardy over and beyond the rear end of the supplemental shell, flues extending through the rear and front heads of the main and supplemental shells respectively, a furnace enclosed by the exterior shell, said furnace consisting of a shell inclosing and surrounding a lower portion of the boiler extension, said shell having a heat resisting lining, and means for locking said lining to the shell.
5. In a boiler, a main shell, a supplemental shell of smaller diameter extending rearwardly therefrom, an exterior shell secured to the main shell and extending over and beyond the rear end of the supplemental shell, flues connecting the rear and front heads of the two main and supplemental shells, a furnace within the exterior shell consisting of a metal shell inclosing the lower part of the boiler extension, a non-conducting lining for said metal shell and holders fixed to the shell having flanges orojecting and interlocking with the lining substance.
6. In a boiler, a main shell, an extension rearwardly of smaller diameter, flues connecting the rear head of the extension with the front head of the boiler, a furnace consisting of a metal shell inclosing the lower portion of the boller extension and having a heat resisting lining as shown, an exterior shell extending from the rear of the main boiler shell, inclosing the upper part of the cylinder extension and the exterior of the furnace, and brackets connecting said shell with the upper part of the extension.
7. Devices for securing a refractory lining within a boller furnace, said devices comprising clamps or holders removably secured to the interior of the furnace wall and formed to grip and hold the lining bricks.

\section*{No. 101,617. Telephone System. Système de téléphonc.}

Robert Bines, assignee of David Henry Wilson, both of Chicago, Illinods, U.S.A., 16th October, 1906; 6 years. Filed 1st September, 1906. Receipt No. 139,143.
Claim.-1. A telephone system comprising a primary and a secandary circuit wound upon a core, a receiver circuit electrically independent of the primary and secondary circuits and wound about a core located in proximity to said first-mentioned core so as to be influenced thereby.
2. A telephone system comprising a transmitter circuit and a line circuit, a portion of each of said circuits being wound about a core, a receiver circuit, a core therefor about which a portion of said circuit is wound, said latter core in proximity to the core about which a portion of the transmitter and line circuits are wound but magnetically insulated therefrom.
3. A telephone system comprising a transmitter circuit containing a transmitter and a source of current supply, a line ofrcuit leading to the distant station, two iron cores about which a portion of each of said circuits is wound, an intermediate iron cone, a receiver circuit electrically independent of the other two circuits and having a pontion wound about said intermediate core.
4. A telephone system comprising a transmitter circuit containing a transmitter and a source of current supply, a line circuit leading to the distant station, two inon cares
about which a portion of each of said ctrcuits is wound, an intermediate iron core, a receiver circuit electrically in-

dependent of the other two circuits and having a portion wound about said intermediate core, sald several cores being magnetically insulated from each other.
5. A telephone system comprising a transmitter circuit containing a transmitter and a source of current supply, a line circuit leading to the distant station, two iron cores about which a portion of each of said circuits is wound, the windings of the transmitter circuit on the two cores being connected in multiple and the windings of the main line circuit being connected in series, an intermediate iron core, a receiver circuit electrically independent of the other two circuits and having a portion wound about said intermediate core.

No. 101,618. Telephone Apparatus.
Appareil de téléphone.


Robert Bines, assignee of David Henry Wilson, Chicago, illinois, U.S.A., 16 th October, 1906; 6 years. Filed 1st September, 1906. Receipt No. 139,144.
Claim.-1. A telephone apparatus comprising a transmitter circult, two separated iron cores about which a portion of said transmitter circuit is wound, a main line circult having a portion also wound about said cores, two separated iron cores interposed between said first-mentioned cores oach provided with a coil, and a receiver connected in circuit with both of said coils.
2. A telephone apparatus comprising a transmitter circuit, two separated iron cores about which a portion of said transmitter circuit is wound, a main line circuit having a portion also wound about said cores, the windings being such that the opposed poles of said cores are unlike, two separated iron cores interposed between said first-mentioned cores, each provided with a coll, and a receiver connected in circuit with both of said coils.
3. A telephone apparatus comprising a transmitter circuit, two separated Iron cores about which a portion of said transmitter circuit is wound, a main line circuit having a portion aiso wound about said cores, the windings being such that the opposed poles of said cores are unlike, two separated iron cores interposed between said first-mentioned cores, each provided with a coil, and a receiver connected in circuit with both of said colls, the several cores magnetically insulated from each other.

No. 101,619. Feed Water Heater.
Chauffeur d'eau d'alimentation.


The Eclipse Feed Water Heater and Purifier Company, Osh kosh, assignee of Conrad Kieren, Appleton, Wisconsin, U.S.A., 16th October, 1906; 6 years. Filed 15th May, 1906. Receipt No. 135,939 .
Claim.-1. In a water heater, a casing, a pair of telescoping tubes forming a sinuous passage for the water, and a heating chamber projecting partway within the inner tube and reducing the area of the passage therethrough at such part thereof, whereby a comparatively slight preliminary heating of the water will be produced during the comparatively slow travel of the water through the unreduced portion of the inner tube and subsequently a greater heating of the water will be produced during the faster travel thereof through the reduced portion of the inner tube around the heating chamber.
2. In a water heater, a casing, a tube therein closed at one end, a second tube closed at one end and telescoping with its other end the open end of the first-named tube, and a heating chamber projecting part way within the open end of the first-named tube and reducing the area of the passage therethrough, whereby a comparatively slight preliminary heating of the water will be produced during the comparatively slow travel of the water through the unreduced portion of the inner tube and subsequently a greater heating of the water will be produced during the faster travel thereof through the reduced portion of the inner tube around the heating ckamber.
3. In a device of the character described, a casing, a standing tube therein, and a second tube surrounding the upper end of the first-named tube and having its lower end closed to constitute a settling chamber.
4. In a device of the character described, a casing, a standing tube therein, a second tube surrounding the upper end of the first-named tube and having its lower end closed to constitute a settling chamber, and a valved draw-off pipe through which the sediment in the settling chamber may be removed.
- . In a device of the character described, a casing, a standing tube therein, a second tube surrounding the upper end of the first-named tube, and a shouldered flange on the firstnamed tube fitting and closing the lower end of the second tube to form a settling chamber thereof.
6. In a device of the character described, a casing, a tube therein closed at one end, a second tube closed at one end end telescoping with its other end the open end of the frst-named tube, a shouldered flange at the intermediate portion of the second tube, and a third tube fitting with and closed by said shouldered flange and extending above the upper end of the second tube to constitute a settling chamber.
7. In a device of the character described, a casing, a tube therein, a second tube closed at one end and telescoping with its other end the open end of the first-named tube, a heating chamber within the first-named tube, heating pipes leading to and from the casing, and a heating pipe connected with the heating chamber.
8. In a device of the character described, a casing, heads closing the ends of the casing, a pair of partitions within said casing, a tube passing through an opening in the upper partition and extending to near the lower partition, a cap closing the lower end of said tube, a heating chamber in the lower end of said tube, a second tube mounted on the cap of the first-named tube and surrounding said first-named
tube, said second tube terminating below the upper partition, a shouldered flange around the intermediate portion of the second tube, a third tube fitting upon and closed by the shouldered flange and also fitting within the opening of the upper partition and communicating with the space above the upper partition, a series of pipes connecting the space above the upper partition with the space below the lower partition, an outlet pipe leading from the space below the lower partition, and means for conveying heat to the interfor of the casing and the heating chamber, substantially as described.
9. In a device of the character described, a casing, heads closing the ends of the casing, a pair of partitions within sald casing, a tube passing through an opening in the upper partition and extending to near the lower partition, a cap closing the lower end of said tube, a heating chamber into the lower end of said tube, a second tube mounted on the cap of the first-named tube and surrounding said first-named tube, said second tube terminating below the upper partition, a shouldered flange around the intermediate portion of the second tube, a third tube fitting upon and closed by the shouldered flange and also fitting within the opening of the upper partition and communicating with the space above said upper partition, a series of pipes connecting the space above the upper partition with the space below the lower partition, a baffle plate secured beneath the lower partition and guiding the water issuing from the said pipes to the bottom of the space beneath the lower partition, an outlet pipe extending from said space below the lower partition through said partition and through the heating space between the two partitions, draw-off pipes for the third tube and the space beneath the lower partition, and means for admitting heat to the interior of the casing and the heating chamber.
10. In a device of the character described, a casing, heads closing the ends of the casing, a pair of partitions within said casing, a tube passing through an opening in the upper partition, a cap closing the lower end of said tube, a heating chamber located within said tube, a second tube mounted on the cap on the first-named tube and surrounding sald first-named tube, said second tube terminating below the upper partition, a shouldered flange around the intermediat portion of the second tube, a third tube fitting upon and closed by the shouldered flange and also fitting within the opening of the upper partition and provided with an out wardly extending flange engaging sald upper partition and detachably secured thereto, a series of plpes connecting the srace above the upper partition with the space below the lower partition, an outlet pipe extending from said space below the lower partition, a cylindrical head on the upper end of the first-named tube forming an elbow connection therefor, a detachable water supply pipe connecting with the cylindrical head, a steam supply pipe connecting with the heating chamber and passing through the water supply pipe and the cylindrical head, a removable screw cap for the cylindrical head, and means for conducting steam to and fiom the casing between the upper and lower partitions.

\section*{No. 101,620. Dynamo-Electric Machime.} Machine dynamo-électrique.


The Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada, assignee of Ferdinand Steber, Charlottenburg, Germany, 16th October, 1906 ; 6 years. FHled 2nd October, 1906. Receipt No. 139,987.
Claim.-1. In a dynamo-electric machine the combination with an armature, of a fleld magnet frame provided with main polar projections and with auxiliary polar projections of smaller cross section that are located between the main polar projections and are provided with colls that are concentrated in close proximity to the armature.
2. In a dynamo-electric machine the combination with an armature, of a fleld magnet frame provided with main polar
projections and with auxillary polar projections of smaller cross section that are lacated intermediate the main polar projections and are provided with coils that are concentrat. ed in close proximity to the armature and are connected in series with the armature winding.
3. In a dynamo-electric machine the combination with an armature, of a field magnet frame that is provided with sets of alternately disposed polar projections having windings that are connected respectively in series and in shunt relation to the armature winding, the coils of the series connected winding being concentrated near the armature.
4. In a dynamo-electric machine the combination with an armature, of a field magnet frame provided with sets of alternately disposed polar projections of respectively different cross sectional area and windings therefor that are connected respectively in series and in shunt relation to the armature winding, the coils of the series connected winding being concentrated near the armature.

5 . In a dynamo-electric machine the combination with an armature, and a field magnet frame having a set of main pole pieces, and a set of auxiliary pole pleces that alternate in position with the main pole pieces, of a set of colls for the auxiliary pole pleces that are concentrated adjacent to the armature and constitute a compensating and regulating winding.
6. In a dynamo-electric machine the combination with an armature, of a field magnet having a set of main coils and a set of auxiliary colls that alternate in position with the main coils and are concentrated adjacent to the armature to constitute a compensating and regulating winding.
40. 101,621. Carbureter. Carburateur.


The Peoples Individual Gas Company, assignee of Verne \(C\). Severance, Chicago, Illinols, U.S.A., 16th October, 1906 ; 6 years. Filed 26th June, 1905. Receipt No. 126,401.
Claim.-1. In a device of the class described the combination with a passage adapted to hold a suitable hydro-carbon, of a wick on each side of said passage carried toward the center of the same at intervals in diagonal lines, whereby the unobstructed portions of the passage takes a zigzag form.
2. In a device of the class described the combination with the walls of a carbureter, of vertical partitions dividing the same into longitudinal passages, cross pieces on the partitions and wicks stretched over the cross pieces and secured to the partitions between the cross pieces.
3. In a device of the class described the combination with the walls of a carbureter, of a partition within the walls, cross pieces on the partition, a wick stretched over the cross pleces and secured to the partition midway between the cross pieces, and pins on the partitions and cross pieces passed through the wicks to hold the same in place.

\section*{No. 101,622. Briquette Press. lresse d briquettes.}

Patrick Reynolds, Farnham, and Joseph A. R. Bédard, Quebec, both in Quebec, Canada, 16th October, 1906; 6 years. Filed 1st June, 1904. Receipt No. 115,831.
Claim.-1. In a press the combination of a partly rotatable plunger, and means for producing partial rotation and reciprocation of the same.
2. In a press the combination of a cyllnder with a reduced bore at its discharge portion, a partially rotatable plunger reciprocating therein, and means for producing partial rotation of the plunger a plurality of times during reciprocation thereof.
3. In a press the combination of a partially rotatable plunger, means for reciprocating the same, and means for im-

parting a plurality of partial rotary movements to the plunger during each compression stroke thereof.
4. In a press the combination of a cylinder constructed partially rotatable plunger, a rocking lever, and means for with a split and reduced discharge end, clamps thereon, a actuating the lever to cause partial rotation a plurality of times during each complete stroke of the plunger.
5. In a press the combination of a compression chamber a reciprocatory plunger operable therein, means for actuating the plunger, and means for causing a number of par. tial rotations of said plunger during each full stroke thereof.
6. In a press the combination comprising a compression chamber, a steam jacket surrounding its upper portion, said chamber being split for a portion of its lower end, clamps thereon, a reciprocatory plunger operable in said chamber, means for reciprocating said plunger, and means for causing partial rotation of said plunger while descending.
7. In a press the combination of a support, a compression chamber mounted on the support, a slidable block mounted in sald block, means for reciprocating the plunger and means for causing partial rotation of the plunger during its reciprocation.
8. In a press the combination comprising a compression chamber, a plunger, a rocking beam pivotally connected therewith, an actuating rod therefor, a crank shaft, a gear rotatable therewith, a pinion of less diameter in mesh with the gear, an eccentric actuated by said pinion and a rocking lever extending laterally from the plunger, which lever is actuated by said eccentric.
9. In a press the combination of a compression chamber, a plunger, a slide plate, a slidable member guided thereby. a plunger mounted in said slidable member, a compression chamber in allgnment with the plunger, and means for causing partial rotation of sald plunger while being actuated.
10. In a press the combination of a compression chamber. a plunger, means for reciprocating said plunger, and means for causing a plurality of partial rotary movements of the plunger during each full single thrust thereof.
11. In a press the combination of a compression chamber, a olunger, means for reciprocating the plunger, a collar attached intermediate of the ends of the plunger, a lever extending therefrom, a rocker arm connected with the lever, and an eccentric adapted to actuate the rocker arm.
12. In a press the combination of a compression chamber having a reduced bore at its discharge portion, a reciprocstory plunger operable in said chamber, means for reciprocating the plunger, and means for causing partial rotation of the plunger a plurality of times during each reciprocation thereof.
13. In a press the combination of a compression chamber having a reduced bore, a plunger operable therein, means for reciprocating the plunger, a rocking lever connected therewith and extending laterally therefrom, and means for actuating sald rocking lever to cause partial rotation of said plunger.
14. In a press the combination of a compression chamber. a steam jacket surrounding a portion thereof, the other portion of said chamber being of reduced bore, a hopper plate serving as a closure for said steam jacket, a plunger. means for reciprocating the plunger, and means for causing partial rotation of said plunger more frequently than it is reciprocated.

No. 101,623. Dinner Pail. Potager.


Lee C. Harding and Anna J. Harding, assignce of a half interest, both of Mannington, West Virginia, U.S.A., 23rd October, 1906; 6 years. Filed 21st September, 1906. Receipt No. 139,687.
Claim.-1. In a device of the character described, the combination of a pail, a cover for the pail, an annular flange profecting outwardly from the top of the cover, a lamp fitting removably within the annular flange and being held in position thereby, a second annular flange concentric with the first-mentioned annular flange and projecting from the top of the pail, a receptacle fitting removably over the second-mentioned annular flange and forming a cover for the lamp when the latter is not in use, and a supporting frame resting upon the lamp and also projected by the receptacle, the said supporting frame being adapted to hold the receptacle spaced from the lamp and the second-mentioned annular flange when the receptacle is being heated, thereby preventing the second-mentioned annular flange from being blackened by the flame of the lamp and imparting an undesirable taste to the contents of the receptacle.
2. In a device of the character described, the combination of a pail, a cover for the pail, a pair of concentric annular flanges having approximately the same height and projecting outwardly from the top of the cover, a lamp fitting removably within the inner annular flange and being held in position thereby, a receptacle fitting removably over the outer annular flange and having a depth somewhat greater than the height of the flanges. and a supporting frame resting upon the lamp and adapted to hold the receptacle in a spaced position with relation to the lamp and the outer annular flange when being heatcd. thereby preventing the outer annular flange from being blackencd by the flame of the lamp and imparting an undesirable taste to the contents of the recentacle, the said receptacle forming a cover for the lamp and supporting frame when the latter are not in use.

\section*{No. 101,624. Metallic Coupling for Conveying Fluid Between Vehicles.}

Joint métallique pour le transport des liquides entre les voitures.


Henry James Stuart Martin, F. T. Enright , and W. J. Henderson, each an assignee of a third of the interest, all of Montreal, Quebec, Canada, 23rd October, 1906; 6 years. Filed 21st September, 1906. Recelpt No. 139,665.
Claim.-1. A metallic coupling for the conveyance of fluids between vehicles comprising lengths of pipe extending from
ripes supported by the vehicles and angularly arranged and telescopically joined in the center thereof, and a plurality of ring and socket joints interposed in said lengths of pipes, as and for the purpose specifled.
2. In a metallic coupling for the conveyance of fluid between vehicles the combination with pipes suitably supported by said vehicles, of lengths of pipe extending from each ot the aforesaid pipes in substantially right angular bends to a telescopically arranged foint in the middle thereof, and joints interposed in said lengths of pipe having a rotary motion, as and for the purpose specified.
3. In a device of the class described in combination, a fluid pipe supported by a vehicle, a fluid pipe supported by a rehicle following the aforesaid vehicle, a pair of joint members secured to the open ends of each of the aforesald pipes respectively. a pair of pipes having joint members inscrted in the aforesaid joint member respectively and suitably secured therein, said pipes extending from the vehicle fipes and at right angles thereto and extending in a further length at right angles to the length directly connected to the vehicle pipes and forming U-shaped bends and terminating in pipes telescopically arranged, and at right angles to said U-shaped bend, and a pair of joints interposed in each of the second lengths of pipe, said joints having a rotary inotion, as and for the purpose specified.
4. In a device of the class described in combination, a fluid pipe supported by a vehicle, a fluid pipe supported by a vehicle following the aforesaid vehicle, a pair of joint members having a flanged upper end and annular recesses in said flange and a lateral projecting sleeve secured to the open ends of the aforesaid pipes respectively, a pipe extending from each of said joint members and a ring secured on the one end thereof and inserted in sald annular recess and suitably secured therein, pipes extending from the aforesaid pipes and meeting telescopically, a joint interposed intermediately in said second lengths of pipe having a rotary motion, as and for the purpose specified.
5. In a device of the class described in combination, pipes supported by adjoining vehicles, a pair of joint members secured to the ends of said pipes and containing a chamber having a drain opening at the bottom thereof, a pair of screw plugs closing said drain openings, a pair of pipes and a ring secured on the ends respectively co-acting with the aforesaid joint member, pipes extending in bends from the said pipes having the rings thereon and telescopically meeting the ring and socket joints interposed intermediately in the latter pipes, as and for the purpose specified.
6. In a device of the class described in combination, pipes supported by adjoining vehicles, a pair of joint members having lateral extending sleeves forming the entrance to the chamber contained within each of said members and secured to the ends of the aforesald pipes and flanged upper open ends forming annular recesses, a pair of pipes and a ring sccured on each of their inner ends, said rings being inserted in said annular recesses and forming bearings on Which said joint members are journalled, a sleeve encircling said ringed pipes and having lateral flanges secured to the aforesaid flanges and an enlarged outer end surrounding said pipe and forming a gland box, a packing ring in sald gland box, a gland member encircling each of said pipes and extending into said gland box and secured to said sleeve, pipes extending from said ringed pipes in suitable bends and meeting telescopically and a ring and socket joints interposed intermediately in the latter pipes, as and for the purpose specified.
7. In a device of the class described, plpes supported by adjoining vehicles, a pair of joint members having lateral sleeves extending therefrom and forming the opening thereto and secured to the ends of sald pipes, flanges at the top and open end thereof forming annular recesses and a drain opening at the bottom thereof suitably plugged, a pipe and a ring at the inner end thereof inserted in each of sald annular recesses, a pair of sleeves having lateral flanges at each end thereof and secured to the aforesaid flanges of the joint members and encircling each of said ringed pipes respectively and having an enlarged outer portion surrounding said plpes forming a gland box, a pair of gland members encircling sald pipe and having lateral flanges and secured to the outer flanges of said sleeves, a packing ring in each of said gland boxes, pipes extending from sald ringed pipes in suitable bends and meeting telescopically, a pair of rings and socket joints of similar formation to the aforesaid joint and interposed in each of the first lengths of plpe extending from the aforesaid ringed pipes and a suitable gland in said telescopic foint, as and for the purpose specified.
8. In a device of the class described in combination, a purality of ring and socket joints having the ring portion thereof secured on the end of a plpe and the socket portion thereof formed as an annular recess in a lateral extending flange from the joint member and a sleeve encircling said ringed pipe having lateral extending flanges at each end thereof, the inner flange thereof being secured to the afore-
said flange on the foint member and enclosing said ring, said sleeve having an enlarged outer portion surrounding the ringed pipe forming a gland box, a packing ring in said gland box and a gland member extending into the top of said gland boxes and securing said packing ring and having lateral extending flanges secured to the outer flanges of the sleeve, pipes secured to pipes on the vehicles and arranged in right angular bends and meeting in the center telescopically and a gland formed in said telescopic arrangment, as and for the purpose specifled.

No. 101,625. Railway Crossing.
Traverse de chemin de fer.


The Pennsylvannia Steel Company, Philadelphia, assignee of Charles Ames Alden, Steelton, both of Pennsylvania, U.S.A., 23rd October, 1906; 6 years. Filed 24th September, 1906. Receint No. 139,741.
Claim.-1. In a crossing the combination of the main rails, the guard rails. the bent out bearing ralls, the hard metal wear plates having a portion extending across the full width of the heads of the main rails and into the bent out portion of the bearing rails, the crossing rails abutting against said guard rails, and bearing ralls respectively, together with means for securing said several parts together, substantially as set forth.
2. In a crossing, the combination of the main rails, the guard rails bent out and recessed, the bearing rails bent out and recessed, the hard metal wearing plates having a portion extending into the recess of the guard rails, and having also a portion extending across the full width of the heads of the main rails and into the recessed portion of the bearing rails, the crossing rails abutting against said guard rails, and bearing rails respectively, together with means for securing said several parts together, substantially as set forth.

\section*{No. 101,626. Horseshoe Caulk.} Crampon de fer a cheval.
The Trojan Toe-Caulk Company, Troy, New York, assignee of Michael R. Murray, Cambridge, New York, U.S.A., 23rd October, 1906; 6 years. Filed 27th September 1906. Receipt No. 139,823.
olaim.-1. In combination a horseshoe having a caulk engaging hole, a wedge inserted in said hole, having wings on its lower end to prevent its being driven upward through the hole, and provided with ears on its upper end to prevent its removal from the holes, with a caulk having a shank provided with a slot, and adapted to enter the hole, engage the wedge, and be spread thereby so as to retain it in the hole, substantially as described.
2. In combination a horseshoe having a caulk engaging hole, a wedge adapted to be inserted in sald hole, and extending longitudinally and transversely thereof, and provided with wings on its lower end to prevent it passing upwardly through the hole, and with channels in its inclined faces, with a caulk having a shank adapted to enter the hole, said shank having an elongated \(V\)-slot adapted to engage the wedge, whereby when the wedge is driven home it is expanded and bound in the hole.
3. In combination a horseshoe having a caulk engaging hole, a wedge adapted to be inserted in said hole provided with wings on its lower end to prevent it passing upwardly through the hole, and with lungs on its upper side adapted to be turned down upon the upper edge of the shoe to prevent the wedge being withdrawn, with a caulk having
a shank adapted to enter the hole, said shank having an elongated \(V\)-slot adapted to engage the wedge, whereby

when the shank is driven home it is expanded and bound in the hole.
4. In combination a horseshoe having a caulk engaging hole, a wedge inserted in said hole, having wings on its lower end to prevent its being driven upward through the hole, and ears on its upper ends to prevent its dropping from the hole, and fins to prevent its turning in the hole, with a caulk having a shank provided with a slot, and adapted to enter the hole, engage the wedge, and be spread thereby so as to retain it in the kole, substantially as described.
5. The herein described horseshoe caulk comprising a wedge adapted to be inserted in a hole in a horseshoe and having wings on its lower end adapted to engage the under side of the shoe, and lugs on its upper end adapted to be turned down unon the upper side of the shoe to hold the wedge in place, and with channels in its inclined faces, with a caulk having a shank provided with an elongated V-slot adapted to engage the wedge when in the hole and also liaving an elongated head having bearing shoulders at opposite sides of the wedge wings, substantially as described.

No. 101,627. Railway Tie. Dormant de chemin de fer.


Michaeel C. Broderick and Bernhart Frederick Siber, coinventors, both of Massillon, Ohio, U.S.A., 23rd October. 1906; 6 years. Filed 21st September, 1906. Receipt No. 139,690.
Claim.-1. A metal railway tie comprising spaced vertical sides and connected by horizontal webs extending longitudinally thereof and spaced apart at the inner ends, and transverse vertical webs connecting said webs and spaced from the inner ends of the horizontal webs.
2. A metal rallway tie comprising spaced vertical sides and connected by horizontal webs spaced apart at the inner ends and with the lower surfaces coucaved, and transverse vertical webs connecting sald sides and spaced from the horizontal webs.
3. A metal rallway tie comprising vertical sides having recesses in their upper edges for receiving the ralls, said recesses having overhanging terminals bearing over the tie flanges of the rails, a horizontal web integral with the sides connecting said spaced sides opposite said recesses and with their upper surfaces flush with the bottoms of the recesses, and means for clamping said rails to said tie structure.
4. A metal railway tie comprising spaced vertical sides having recesses in their upper edges for receiving the rails, said recesses having overhanging terminals bearing over said vertical sides, transverse vertical webs connecting said spaced sides integral therewith and with the upper surfaces flush with the bottoms of the recesses for bearing beneath a rail, and means for clamping said rails to sald tie structure with the tie fianges beneath said overhanging portions.
5. A metal rallway tie comprising spaced vertical sides having recesses in their upper edges for receiving the ralls, said recesses having overhanging terminals bearing at one side over said vertical sides, webs connecting said spaced sides and integral therewith and with the upper surfaces flush with the bottoms of the recesses for bearing beneath rails, clamp members for bearing over the tie flanges of the rails at the opposite sides, and means for adjustably connecting said clamp members to the webs.
6. A metal railway tie comprising spaced vertical sides having recesses in their upper edges for receiving the rails, said recesses having overhanging terminals bearing at one side over the spaced sides, webs connecting said sides for bearing beneath the rails, clamp members for bearing against the ralls at the opposite sides, and camp bolts extending through said webs anid webs and clamp members.
7. A metal railway tie comprising spaced vertical sides having recesses in thelr upper faces for recciving the ralls, said recesses having overhanging terminals bearing at one side over sald vertical sides, webs connecting said spaced sides and integral therewith and with the upper surfaces flush with the bottoms of the recesses for bearing beneath rails, clamp members for bearing over the tle flanges of the rails at the opposite sides and provided with stop shculders, and clamping bolts passing through said clamp members and webs and with heads at one end bearing against said shoulders.
8. A metal railway tie comprising spaced vertical sides having recesses in their upper edges for receiving the rails, said recesses baving overhanging terminals for bearing over one side of the tie flanges of the rails, webs connecting said sides for bearing beneath the ralls, clamp members for bearing against the rails at the opposite sides and provided with inclined lips overhanging the tle flanges and provided with spaced teeth in the inclined faces of the clamp members and bearing upon the upper faces of the tie flanges, and clamp bolts connecting the clamp members to the webs.

No. 101,628. Kettle. Marmite.


Henry Appleby, London, England, 23rd October, 1906; 6 years. Filed 28th September, 1906. Receipt No. 139,874.
Claim.-1. A tubular kettle having an approximately horicontal partition dividing it into a lower or water compartment and an upper or air heating chanmer, the water chamber being provided with a fill opening and a spout and traversed by air heating tubes communicating with the air heating chamber, and the air heating chamber having one or more outlets for the hot air or gases of combustion, substantially as described.
2. The herein described tubular kettle composed of an approximately cylindrical or conlcal main body traversed by a
circular row of heating tubes, and surrounded with an axial tube serving as fill opening, and an annular hot air chamber surrounding said axial tube and communicating with the heating tubes.

No. 101,629. Crushing Roll. Machine à broyer.


Walter G. Bryant, Carterville, Missouri, U.S.A., 23rd October, 1906; 6 years. Filed 24th September, 1906. Receipt No. 139.730.

Claim.-1. In a crushing mill, a frame including a pair of longlitudinal sills, a rigid pillow box bases carried thereby, a roll journalled in said pillow box bases, recessed upper face, wear strips seated in the recesses, slidable plllow box bases mounted on said guide bars and having inturned flange portions enbracing the same, said slidable pillow box bases being also recessed, wear strips arranged in the recesses of the slldable plllow box bases and bearing against the corresponding strips of the guide bars, a roller fournalled in the slidable pillow hox bases, and springs engaging said slidable pillow box bases and tending to force the rolls into engagement.
2. In a crushing mill, a frame including a pair of parallel sill members, plllow box bases rigidly secured thereto, a roll journalled in said pillow box cases. flanged guide bars carriet by the sills and provided with recesses in their upper faces, reversible wear strips disposed in said recesses, slidable pillow box bases mounted in the guide bars and having recesses in their lower faces, reversible wear strips seated in the recesses of the slidable pillow box bases and bearing against the corresponding wear strips of the gulde bars, a second roller journalled in the slidable pillow box bases, and springs acting on said slidable pillow box bases and tending to force the rolls into engagement.
3. In a crushing mill, a frame including a pair of longitudinal sills, each of which is provided with a vertically projecting rib, guide bars recessed for the reception of sald ribs and provided with laterally extended flanges, means for securing the gulde bars to the sills, slidable pillow box bases having inturned flange portions embracing the flanges of the guide bars, a roll fournalled in said slidable pillow box bases, and a relatively stationary roll having bearings in a fixed portion of the frame.

\section*{No. 101,630. Milking Machine.}

Machine à traire les vaches.
Mark Carmickle, Hendrum, Minnesota, U.S.A., 23rd October, 1906; 6 years. Filed 27th September, 1906. Recelpt No. 139,815.
Claim.-1. A milking machine comprising a frame having uprights, one of sald uprights being slidably mounted thereon, upper and lower shafts journalled in said uprights, sprocket wheels carried by said shafts, chains connecting said sprocket wheels, milking rollers carried by the chains, gears carried by the said lower shafts at one end thereof bearings associated with the said frame, a shaft rotatably mounted in said bearings, gears on said last-named shaft, one of said gear being adjustable longitudinally of the sald shafi. and means for rotating said shaft.
2. A milking machine comprising a frame having uprights arranged in pairs, onn of said uprights being slidably mounted on said frame, means for adjusting the said upright, upper and lower shafts fournalled in said uprights, sprocket wheels carried by said shaft, chains connecting sald sprocket wheel. milking rollers carried by the chains, gears carried by the said shaft at one end thereof, bearings associated with the said frame, a shaft rotatably mounted in said bearing, gears on said last-named shaft, one of sald gears belng ad-
justable longitudinally of the said shaft, and means for rotating said shaft.

3. A milking machine comprising a frame, uprights arranged in pairs thereon, a guide carried by one of said upranged it pairs thereon, a guide carried by oned with the sides of said frame and including a crosspiece having openings thercin. pins engaged in said openings, a bar connected to said pins. springs engaged on said pins between said crosspiece and said bar. set screws associated with the frame for engagement with the said bar, bearings on said frame, a shaft rotatably mounted in said bearings. gears on satid shaft, one of said gears being adj:stable longitudinally of the said shaft, and means for rotating said shaft.

No. 101,631. Colter. Coutrc.


Jesse Fielder Cone, Ashby. Texas, U.S.A., 231d October, 1906;
6 years. Filed 4th September, 1906. Receipt No. 139,255.
Claim.-1. The combination with a plough, of a frame carried by the beam, a pair of rotary colters mounted in sald frame, a vertically adjustable frame extending rearwardly from the first-mentioned frame, and the rotary colter mounted in the adjustable frame.
2. The combination with a plough, of a frame carried by the beam. a pair of rotary colters mounted in said frame, vertically adjustable frame extending rearwardly from the flrstmentioned frame, a rotary colter mounted in the adjustable frame, and fenders extending along the sides of the lastmentioned colter.

\section*{No. 101,632. Grain Pickling and Cleaning Machine. Machine à trier et nettoyer les grains.}

John Alexander Cowan, Winnipeg, Manitoba, Canada, 23rd October, 1906; 6 years. Filed 24th September, 1906. Receipt No. 139.734.
Claim.-1. A device of the class described, comprising a feed hopper, an endless conveyer adapted to have the upper portion carry the graln upwardly, and a cross partition located in proximity to and beneath the upper portion, as and cated the purpose specified.
2. A device of the class described, comprising a feed hopper, an endless conveyer adapted to have the upper por-

tion carry the grain upwardly, a cross partition located in proximity to and beneath the upper portion, and a series of screcned openings extending across the cross partition, and towards its lower end, as and for the purpose specifed.
3. A device of the class described, comprising a feed hopper, an endless conveyer adapted to have the upper portion carry the grain upwardly, a cross partition located in proximity to and beneath the upper portion, and openings cxtending transversely across the partition, and towards its lowor end, and screens covering the openings, and secured to the lower face of the partition, as and fo." the purpose specified.
4. In a device of the class described, the combination comprising a tank, a hopper adapted to feed grain into the tank, an endless conveyer composed of chains hoving cross blades secured to opposing sets of links and to their upper faces, a cross partition mmediately below the upper asrending chains, a series of openings extending across the partition. and toward its lower end. and means located on the nartition below the lowest of the said openings, whereby the openings below the blades and between the chains arc closed in the movement of the carriers, as and for the burpose speciffed.
5. I device of the class described, comprising a tank, a feed hopper, an endless chain conveyer adapted to have the upper nortion carry the grain upwardly, a cross partition in proximity to and beneath the upper portion, and a series of bars extending transversely between the chains. and secured to the upper face of the lower end of the partition, as and for the purpose specifled.
6. In a device of the class described, the combination comprising a tank, a hopper adapted to feed grain into the tank, parallel oblique extensions extending forwardly from the tank and secured thereto. chain wheels secured in opposing sets toward the upper and lower ends of the extensions, endless link chains passing over the wheels, suitably disposed blades secured to opposing links in the chains, and to their upper faces, the said blades extending completely across between the oblique extensions, a cross partition immediately below the upper ascending chains, end a series of bars extending transversely between chains, and secured to the upper face toward the lower end of the partition, as and for the purpose specifled.
7. In a device of the class described, the combination comprising a tank, a hopper adapted to feed grain into the tank, narallel oblique extenslons extending forwardly from the tank, and secured thereto, chain wheels secured in opposing sets toward the upper and lower ends of the extensions. endless link chains passing over the wheels, suitably disposed blades secured to opposing links in the chsins. and to their upper faces, the said blades extending completely across between the oblique extensions, a cross partition immediately below the upper ascending chains, a series of bars extending transversely between chains, and secured to the unger face, toward the lower end of the partition, transverse screened openings in the partition ahead of the upper angle bar, and means for operating the chains, as and for the purpose specified.
8 . In a device of the class described. the combinatisp comprising a tank having a sloping bottom, a hopper adapted to feed the grain into the tank. parallel oblique extensions extending forwardly from the tank. sets of gear wheels revolvably mounted at cither end of the extensions, endless gear chains passing over and around the wheels. a cross partition extending longitudinally between the extensions, and immediately below the upper ascending chains. a series of screens passing over transverse openings within
the lower end of the cross partition, transverse plates secured to the partition below the lowest of the openings in the partition and extending between the chains, blades secured to the upper face of opposing links in the chain, the said blades being so designed that their lower face spans from tip to tip of two of the successive plates, and means for operating the chains, as and for the purpose specifled.
9. A device of the class described, in combination a tank containing a liquid for receiving the grain, means for elevatng the grain from the tank. a hood at the end of the conveyer to recelve the elevated grain, and a gate to regulate the flow of the grain from the hood, as and for the purpose specified.
10. In a device of the class described, the combination comprising a tank, means for conveying the grain from the tank, and a combined draining and drying board adapted to receive the grain from the tank, as and for the purpose specifled.
11. In a device of the class described, the combination comprising a tank, means for elevating the grain from the tank, a hood at the end of the conveyer to recelve the elevated grain, a gate to the hood, and a combined draining and drying board adapted to receive the grain from the hood, as and for the purpose specified.
12. In a device of the class described the combination comprising a tank, means for elevating the grain from the tank, a hood at the end of the conveyer to receive the elevated grain, a gate to the hood, and a flooring combined draining and drying board adapted to receive the grain from the hood, as and for the purpose specified.
13. In a device of the class described the combination comprising a tank containing a liquid for receiving the grain, means for elevating the grain from the tank, a hood at the end of the conveyer to/receive the elevated grain, a gate to the hood, and a combined draining and drying board adapted to receive the grain from the hood, consisting of an obtuse angled channel-way increasing in cross section from the top downward, a series of cross strips extending completely across the channel, flaps passing obliquely between the inner face of the channel and the outer edge of the cross strips, and a number of openings passing rearwardly through the body of the channel-way and behind the flaps, as and for the purpose specifled.
14. In a device of the class described the combination with the tank, the conveyer, and the hood of a combined draining and drying board consisting of a central body portion, side portions secured to the body portion, and at an obtuse angle thereto, said side portions being flared towards the bottom, vertical outboards secured to the side portions, cross strips secured to the body and side portions. flaps hinged to the body portion and extending obliquely towards the outer edge ot the cross strips, and exits from behind the flaps to the rear of the body, as and for the purpose specified.
15. In a device of the class described, a combined draining and drying board consisting of means for receiving the grain and spreading it as it falls, and means for draining the accumulated liquid from the grain, as and for the purpose specifled.
16. In a device of the class deseribed the combination with the tank for receiving the grain, and the conveyer for raising spreading it grefrom, of means for receiving the grain and lated liguid as it falls, and means for draining the accumu 17. In a from the grain, as and for the purpose specified. the tank device of the class described the combination with grain therefrom and the grain, the conveyer for ralsing the grain therefrom, a hood at the upper end of the conveyer, hood, of means for governing the flow of the grain from the falls, and means for receiving the grain and spreading it as it the grain, as and for draining the accumulated liquid from 18. In a device of the purpose specifled.
the tank for recelving the grain the combination with grain therefrom, and the grain, the conveyer for raising the veyer, having a and the hood at the upper end of the conthe hood, of means for governing the flow of the grain from as it palls, means for receiving the grain and spreading it the grain. and means for return the accumuated liquid from and for the purpose specifed 19. In a purpose specifled.
prising a tavice of the class described the combination comhopper adapted for feeding a llquid to receive the grain, a veyer for elevating the grain the grain into the tank, a conlow transversely within and out of the tank, a board extendedge of therion of the conveyer across the tank and above the
20. In a devoss board, as and for the purpoed to the upper prising a device of the class descrithe purpose specificd. hopper a tank containing a described the combination com for elevatingted to feed the grain for receiving the grain, a fransversely the grain out grain into the tank, a conveyer hinged to the upper the tank and above the converextending edge of the cross board, and a screen
extending rearwardly obliquely between the cross board and the tank, as and for the purpose specified.
21. In a device of the class described the combination adapted to be inserted within the tank comprising a cross board, a flap hinged to the upper edge of the cross board, a sieve extending obliquely and rearwardly from the cross board, a flap extending normally between the lower edge of the screen and the rear face of the tank, and a button adapted to retain the flap in a plane with the screen, as and for the purpose specified.
22. In a device of the class deseribed the combination comprising a tank containing a liquid for receiving the grain, said tank having a sloping bottom, a hopper for feeding the grain into the tank. a set of parallel oblique extensions extending forwardly from the tank and secured to the sides, a conveyer for elevating the grain from the tank, dependent from and between the extensions. a cross board within the lank bearing upon the upper edges of the extensions, and substantially vertical thereto. a flap hinged to the upper edge of the partition and of equal length, a sieve extending obliquely and rearwardly from the cross board and a flap extending normally between the lower edge of the screen and the rear inner face of the tank, and a button adapted to retain the flap in a plane with the screen, as and for the purpose specified.

\section*{No. 101,633. Tip for Gloves and Mittens.}

Renfort pour gants et mitaines.


John G. Davy, Dekalb, IlHnois, U.S.A., 23rd October, 1906; 6 years. Filed 12th September, 1906. Recelpt No. 139,450. claim.-The combination with the outside seam of the glove or mitten, of a protecting strip secured by passing the thread of the seam through one side only thereof so the other side may be doubled over upon the thread.

No. 101,634. Rail Joint. Joint dc rails.


Anton Ettlin, Noble. Oregon, U.S.A., 23rd October, 1906; 6
years. Filed 21st September, 1906. Receipt No. 139,695.
Claim.-1. In a rall joint the combination of meeting ends or rails, extensions projecting therefrom, the ralls being provided at one side thereof with sockets to receive the extensions aforesald, and means co-acting with the extensions aforesaid to prevent longitudinal separation of the rails.
2. In a rail joint the combination of meeting ends of rails, extensions projecting therefrom, the rails being provided at one side thereof with sockets to receive the extensions aforesaid, said sockets extending below the top portions of the basal flanges of the rails, and projections carried by the extensions of the sockets to prevent longitudinal separating movement of the rails.
3. In a rall joint the combination of meeting ends of rails, extensions projecting from said ends longitudinally thereof and connected with the rails at sides of the same, the opposite sides of the rails having sockets therein, the socket of one rail receiving the end portion of the extension of the other rail, the sockets of the rails exending at their lower portions beneath the surface or top of the basal portions of the rails, and projections integral with the outer ends of the extensions and adapted to enter the lowermost portions of the sockets to prevent longitudinal separating movement of the rails, the top partions of the extensions being cut away toward their outer ends to admit of engagement of the projections in the sockets as above mentioned.
4. In a rail joint the combination of meeting ends of ralls, a socket plate attached to an end of each rail at one side thereof, an extension plate attached to such end at the opposite side, the said extension plates being provided with projections which enter the sockets and form an interlocking connection therewith to prevent any relative movement of the rail ends.
5. In a rail joint the combination of meeting ends of cails, a socket plate attached to an end of each rail at one slde thereof, an extension plate attached to such end at the opposite side, the socket plate embodying a body attached to the web portion of the rall, and a longitudinal basal extension secured to the base portion of the raill, and the extension plate embodying a hook portion to engage in the socket of the socket plate, as specifled.
No. 101,635. Derrick. Grue.

3. In a travelling derrick the combination of track ralls, a derrick frame provided with traction wheels to travel on the track rails, said rails and frame being relatively arranged to form a wide and deep stacking space between the rails, derrick mechanism carried by said frame, a drive shaft for oper. ating said mechanism, derrick controlling mechanism actuated by said shaft, counter shafts arranged above and below the supporting frame, a driving connection between the driving shaft and upper counter shaft, drive gearing between sald upper and lower counter shafts, said gearing including connecting elements operating in an opening in the platform, a ated by the lowion gearing, and propelfor mechanism acto with certain of said traction wheels.

No. 101,636. Nut Lock. Arrête-écrou.


Charles Crawford Garrison, Boca, California, U.S.A., 23rd October, 1906; 6 years. Filed 4th September, 1906. Receipt No. 139,254.
Claim.-1. In a nut lock the combination with a threaded bolt provided with a pair of longitudinally disposed locking grooves extending the entire length of the threaded portion of the bolt, of a nut having communicating seating grooves formed in the central portions of its adjacent faces, one of which gradually decreases in depth from the point of intersection of sald grooves to the edge of the nut and the adjacent groove having its end wall curved and extending from one corner of the nut toward the center of the bolt, there being a pawl receiving opening formed in the rear wall of the lastnamed seating groove communicating with the bolt and forming a continuation of sald groove, a bell crank pawl pivoted at the intersection of the seating grooves and having one end thereof bowed laterally and its terminal portion curved inwardly through the pawl receiving opening and disposed substantially parallel with the curved end wall of said opening for engagement with the locking grooves of the bolt, the opposite end of the pawl being reduced to form a bowed spring an intermediate portion of which is normally projected beyond the general plane of the contiguous alde of the nut while its free end is slidable upon the inclined wall of the adjacent seating groove, a perforate enlargement formed at the juncture of the spring pawl, and a pintle passing through the perforation in said enlargement and engaging the nut at the iatersection of the seating grooves.

\section*{No. 101,637. Heating System.for Houses.} Système de chauffage pour maisons.
Emory J. Greene, Peoria, Illinois, U.S.A., 23rd October, 1906; 6 years. Filed 27 th September, 1906. Recelpt No. 139,817. Claim.-1. The combination with a wall having a projection along the line usually occupied by the upper side of a baseboard, of heating pipes located near said wall below said projection, and a plate secured in front of sald pipes below said projection and adapted to permit air to pass to and from the pipes near the lower and upper sides of the recess in which they lie.
2. The combination with a wall having a projection along the line usually occupied by the upper side of a baseboard. of heating pipes located near said wall below said projection, and a plate fixed below said projection at a short distance in front of sald pipes and adapted to allow air to pass to and front of sald pipes and adapted to allow air to pass
from the pipes near the lower and upper sides of the recess in which they lie.
3. The combination with a wall having a projection along the line usually occupied by the upper side of a baseboard. of heating pipes located near the wall below said projection.
and a removable plate located below said projection a little in front of the pipes, having its upper portion bent inward,

and adapted to permit air to pass to and from the pipes near the lower and upper sides of the recess in which they lie, and a series of plate supports located in said recess.
4. In heating devices the combination with a wall having a recess in the plate of the usual basebnard of a non-conducting lining for the top, bottom and rear walls of the recess, a metal lining protecting the non-conducting lining, a moulding extending along the wall just above the recess, heating pipes supported in the recess out of contact with its walls and with each other, metal plate forming the front wall of the recess, having its upper edge bent rearward below said moulding. and closing the recess except near its top and bottom, and screws detachably fixing the plate in position.
5. In apparatus for heating a room, the combination with side walls having along the floor a recess having the height of an ordinary baseboard and extending inward to the studding of the wall, of a thin lining for the recess, a thein vertical plate lying in the plane usually occupied by the face of the baseboard and arranged for the entrance of air below and its exit above, and a series of heating pipes in the same vertical plane, of a diameter less than the distauce between the plate and lining, and fixed midway between said plate and lining.

No. 101,638. Air Brake. Frein dair.


Edwin T. Hughes, Gladstone, Colorado, U.S.A., 23th October, 1906; 6 years. Filed 27th September, 1906. Recelpt No. 139,829.
Claim.-1. The combination with a triple valve of the Westinghouse air brake, a train pipe connected therewith through which air is supplied to the triple valve and in which the pressure is at times reduced and which is the sole means for establishing and cuting off communication between the auxiliary reservoir and the brake cylinder, an exhaust passage leading from the said triple valve, a valve casing applled thereto, a valve for opening and closing said exhaust passage without in any way affecting the passage between the auxiliary reservoir and brake cylinder, and electro-magnetlc devices for operating said exhaust valve.

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No. 101,639. Mail Bag Delivering Device.
Appareil d livrer les sacs postauc.


William Irion, Morrison, Illinois, U.S.A., 23rd October, 1906; 6 years. Filed 24th September, 1906. Recelpt No. 139,732.
Claim.-1. A device for dellvering mail bags from a train, comprising a receptacle fixed to the station platform, and provided with a pair of swinging doors in the end thereof, a swinging buffer, transversely of said receptacle, a track supported above said receptacle, centrally and longitudinally thereof, a frame supported from the side of the car, and adapted to be swung at right angles thereto, and a hook pivoted at the outer end of said frame, and provided with a cam adapted to engage said track to suitably upset such hook substantially as shown and set forth.
2. In a device of the class named, the combination of the vertical shaft 12 , supported against the side of the car, the frame 13, secured to such shaft, a hook 15 , pivoted to the outer end of the frame 13, and provided with the cam 14, means for swinging the frame 13 at right angles to the side of the car simultancously with the outward movement of the catcher hook for gathering the mail, the receptacle 17 provided with a pair of doors 18 in that end which is towards the approaching car, means for holding such doors normally closed, the swinging buffer 20 supported transversely of the receptacle 17, and the track 22 supported above the receptacle 17 in position to engage the cam 14, and upset the hook 15 , substantially as shown and for the purpose mentioned.
3. In a device of the class named, the combination of the frame 13. swingingly supported to the side of the car, a pair of hooks, 15 pivoted to the outer end of said frame, means for swinging the frame 13 outwardly at right angles to the car, simultaneously with the operation of the catcher arm for gathering the mail, the receptacle 17, fixed to the station platform, and provided at each end with a pair of inwardly swinging doors 18 , normally held in closed position, the swinging buffer 20 supported transversely of the receptacle 17 , and the track 22 supported above the receptacle 17. in position to engage the cam 14, and upset the hooks 15 when the mail bag comes in contact with either pair of doors 18 , substantially as shown and described.
4. In a device of the class named, the combination of the receptacle 17 , having a bottom of spaced apart strips 27 , the pair of doors 18 at each end of the receptacle 17, means for holding said doors normaliy closed, and the swinging buffer 20. supported transversely of sald receptacle, substantially as shown and set forth.
5. In a device of the class named, the combination of the frame 13 swingingly supported to the side of the car, a pair of oppositely disposed hooks 15 pivoted to the outer end of the frame 13 the cam 14 integral with the hooks 15 , means for swinging the frame 13 outwardly at right angles to the side of the car. simultaneously with the operation of the catcher arm for gathering the mail, and means for engaging the cam 14 to suitably upset the hooks 15 , substantially as set forth and for the purpose named.
No. 101,640. Clothes Line and Case. Corde à linge.
Julie Lemon, Mono Mills, Ontario, Canada, 23rd October, 1906; 6 years. Filed 22ad September, 1906. Recelpt No. 139,712.
Claim.-1. A clothes line and casing therefor comprising a casing suitably secured to a wall or post and having an
open front and a door closing said front opening, a spring actuated roller journalled in suitable bearings supported

by said casing and a clothes line wound on said roller and adapted to be withdrawn against the spring pull of said roller, as and for the purpose specified.
2. A clothes line and casing therefor, comprising a castug sultably secured to a wall or post and having an open front and a door closing said front opening, a spring actuated roller journalled in suitable bearings supported by said casing, means for securing said roller in a fixed position. and a clothes line wound on said roller and adapted to be withdrawn against the spring pull of sald roller. as and lor the purpose specifled.
3. A clothes line and casing therefor, comprising a casing suitably secured to a wall or post and having an open front and a door closing said front opening, a spring actuated roller journalled in suitable bearings supported by said casing and a clothes line wound on said roller and adapted to be withdrawn against the spring pull of said roller, and means attached to said clothes line for securing it in its extended position, as and for the purpose specitied.
4. A clothes line aud casing therefor, comprising a casing suitably secured to a wall or post and having an open front and a door closing said front opening, a spring actuated roller journalled in suitable bearings supported by said casing, means for securing said roller in a fixed position, a line secured to said roller and a bar secured to the outer ends of said clothes line having screw eyes secured thereto for securing the line in an extended position, as and for the vurpose speciffed.
5. A clothes line and casing therefor comprising a casing suitably secured to a wall or post and having an open front and a door closing said front opening, a spring actuated roller journalled in suitable bearings supported by said casing, and having flanges at the ends thereof and a ring of holes in one of said flanges, a spring held pin attached to said casing and fitting into one of said holes, and a clothes line wound on said roller and adapted to be withdrawn against the spring pull of said roller, as and for the purpose specified.
6. A clothes line and casing therefor comprising a casing suitably secured to a wall or post and having an open front and a door closing said front opening. a spring actuated roller journalled in suitable bearings supported by said casing and having flanges at the ends thereof and a ring of holes in ove of sald flanges, a flat spring secured to said casing havIng a pin extending therefrom to fit within the holes in the flange of said roller, means for holding said pin out of engagement with the said flange and a clothes line wound on said roller and adapted to be withdrawn against the spring pull of sald roller, as and for the purpose specified.
7. A clothes line and casing therefor comprising a casing suitably secured to a wall or post and having an open front and a door closing said front opening, a spring actuated roller journalled in suitable bearings supported by said casing and a clothes line wound on sald roller and adapted to be withdrawn against the spring pull of sald roller, a spring actuated roller journalled in suitable bearings supported by sald casing above the aforesaid roller. a line having the ends thereof secured to said roller and adapted to be withdrawn against the spring pull thereof and a plurality of clothes pins having eye screws in the heads thereof surrounding said lirie, as and for the purpose specifled.
8. A clothes line and casing therefor comprising a casing stitably secured to a wall or post and havng an open front and a door closing said front opening, a ap-ing actuated roller jcurnalled in suitable bearings supported by said casing. langes at the ends of sald roller, a flat spring securid to said casing having a pin extending thercfrom to engage an oriflce in one of said flanges, means for holding said pin out of engagement with said flanges, a clothes ling wound on said
roller and adapted to be withdrawn against the spring pull o: sald roller, a second spring actuated roller journalled in suitable bearings supported by said casing above the aforesaid roller and having enlarged outer ends, flanges extending from the sides of the said enlarged ends, a flat spring sccured to sad casing having a pin extending therefrom to crgage an orifice in one of the said flanges, a line having its ends secured to the enlarged portions of said roller, guides secured to sald casing through which the line passes and a piurality of clothes pins having eye screws in the heads thereof surrounding said line, as and for the purpose spectfied.
9. A clothes line and casing therefor comprising a casing suitably secured to a wall or post and having an open front and doors closing said front opening, a spring actuated roller jcurnalled in suitable bearings supported by said casing. flanges at the ends of said roller, a flat spring secured to said casing having a pin extending therefrom to engage an orifice in one of said flanges, a slotted guide bar secured to said casing parallel with and in proximity to said roller, a clothes line wound on said roller and adapted to pass through the said slots in said guide bar and be withdrawn against the spring pull of said roller, a spanner secured to the outer -nd of said clothes line, means secured to said spanner for sceuring said line in an extended position, a second spring actuated roller journalled in suitable bearings supported by said casing above the aforesald roller and having enlarged outer ends, flanges extending from the sides of the said enlarged ends. a flat spring secured to said casing having a pin extending therefrom to engage an orifice in one of the said flanges, a line having its ends secured to the enlarged portions of said roller, guides secured to said casing through which said line passes and a plurallty of clothes pins having cye screws in the heads thereof surrounding said line and sidably arranged on second line, as and for the purpose specifled.

No. 101,641. Sad Iron. Fer d repasser.


Alexander Luethi, Lake Mills, Wisconsin, U.S.A., 23rd October, 1906; 6 years. Filed 1st October, 1906. Recelpt No. 139,929.
Claim.-1. In a sad iron the combination of a base portion provided on its top surface with upstanding converging lugs, an upper removable portion comprising a base, a handle above the basc, and connecting means between the handle and the base, the sald base having converging slde edges adapted to be brought Into engagement and registration with the inner faces of the converging lugs, and said base also provided longitudinally with a slot, said slot merging at its forward end into a recess formed in the under side of the base, a transverse pin having its ends supported in the side walls of the recess, and a locking device having a shank portion disposed in the recess and plvoted at its forward end on the transverse pin, and having its rear portion extending upwardly through the slot and provided with an engaging device adapted when the rear end of the locking device is pushed downwardly. to engage in advance of the forward chds of the upstanding lugs. and adapted to be disengaged from said front ends of the lugs, when the locking device is pulled upwardly.
2. In a said iron the combination of a base portion provided on its top surface with short converging upstanding lugs, an uper removable porton comprising a base, a handie above the base, and a connecting means between the handle and the base, the said base having its opposite side edges converged for short distances, sald converging surfaces adapted
to be brought into engagement and registration with the inner faces of the short converging lugs, and said base further provided longitudinally with a slot, the said slot merging at its forward end into a recess formed in the under side of the base, a transverse pin having its ends supported in the side walls of the recess, and a locking device having a shank portion disposed in the recess and pivoted at its forward end on the transverse pin, and having its rear portion extending upwardly through the slot and provided with an engaging device adapted. when the rear end of the locking device is pushed downwardly, to engage in advance of the forward ends of the upstanding lugs, and to be disengaged from said forward ends of the upstanding lugs. when the rear end of the locking device is pulled upwardly.
3. In a ead tron the combination of a base portion provided on its top surface with upstanding converging lugs, an upper removable portion comprising a base, a handle above the base, and connecting means between the handie and the base, the said base having converging side edges adapted to be brought into engagement and registration with the inner faces of the converging lugs, and said base further provided longitudinally with a slot, sald slot merging at jts forward end into a recess formed in the under side of the base, a transverse pin having its ends supported in the side walls of the recess, and a locking device having a shank portion disposed in the recess and pivoted at its forward end on the transverse pin, and having its rear portion extend ng upwardly through the slot and formed into a transverse head. said head having depending locking fingers at opposite ends thereof adapted when the rear end of the locking device is pushed downwardly to engage in advance of the forward ends of the upstanding lugs. and to be disengaged from said forward ends of the lugs when the rear end of the locking device is pulled upwardly.
4. In a said fron the combination of a base portion provided on its top surface with upstanding converging lugs. an upper removable portion comprising a base, a handle above the base, and connecting means between the handle ant the base. the said base having converging side edges adanted to be brought into engagement and registration with the inner faces of the converging lugs, and sald base further provided longitudinally with a slot, said slot merging at its forward end into a recess formed in the under s'de of the base, a transverse pin having its ends supported in the side walls of said racess, and a locking devief having a shank partion disposed in the recess and pivoted at its forward ond on the transverse pin, and having its rear portion extending upwandy through the slot and formed into a transverse head. sald head having a rearwardly extending prolection, and also having depending locking fing \({ }^{\circ}\) rs at opposite ends thereof, said fingers adapted when the rear end of the locking device is pushed downwardly to engage in advance of the forward ends of the upstanding lugs and to be disengaged from said lugs when the rear pnd of the locking device is pulled upwardly, and a knob or handle connected to and extendng upwardly from the rearwardly extending projection of the head.
5. In a sad iron the combination of a base portion provided on its top surface with upstanding converging lugs, said lugs having their front ends bevelled downwardly forwardly, an upper removable portion comprising a base, a handle above the base, and connecting means between the handle and the base, the said base having converging side edges adapted to be brought into engagement and registration with the inner faces of the converging lugs, and said base further provided longitudinally with a slot, said slot merging at its forward end into a recess. formed in the underside of the case, a transverse pin having its ends supported in the sidde walls of said recess, and a locking device having a shank portion disposed in the recess and pivoted at its forward end on the transverse pin. and having its rear portion extending upwardly through the slot and provided with an engaging device adapted, when the rear end of the locking device is pushed downwardiy. to engage in advance of the bevelled forward ends of the upstanding lugs, and to be disengaged from said lugs when the rear end of the locking device is pulled upwardly.
6. In a sad iron the combination of a base portion provided on its top surface with upstanding converging lugs. said lugs having dove-tail inner faces, an upper removable portion comprising a base, a handle above the base and connecting means between the handle and the base, the said base having converging and downwardly outwardly pevelled side edges adapted to be brought into engagement and registration with the inner faces of the converging lugs, and said base further provided longitudinally with a slot. said slot merging at its forward end into a recess formed in the under side of the base, a transverse pin having its ends supported in the side walls of the recess. and a locking device having a shank portion disposed in the recess and pivoted at its forward end on the transverse pin, and having its rear portion extending upwardly through the slot
and provided with an engaging device adapted when the rear end of the locking device is pushed downwardly to engage in advance of the forward ends of the upstanding lugs, and to be disengaged from sald lugs, when the rear end of the locking device is pulled upwardly.
7. In a sad iron the combination with a body portion, of an upper portion comprising a base, a handle above the base, and a connecting means between the handle and the base, the said base provided on its under side with a longitudinal open ended recess, and means for removably connecting the base to the top surface of the body.
S. In a sad iron the combination with a body portion of an upper portion comprising a longitudinally slotted base, a handle above the base, and a connecting means between the handle and the bese, the sad base provided on its under side with a longitudinal open-ended recess, and means for removably connecting the base to the top surface of the body.

No. 101,642. Cover for Churns. Couvercle de barattes.


Adah Delphene Matterson, Fremont, Michigan, U.S.A., 23rd October, 1906; 6 years. Filed 21st September, 1906. Receipt No. 139,697.
Claim.-The combination of a churn body, a dasher, a dasher rod, a cover for the churn provided with an opening through which the dasher rod passes, an inverted cupshaped member formed of sheet material fitting upon the cover and provided with an opening which is in alignment with the opening in the cover and through which the dasher rod passes, the said cup-shaped member forming a chamber around the dasher rod which is adapted to receive any splashings, and having its upper portion pressed outwardly to form an annular shoulder, and an annular flange projetcing outwardly from the upper portion of the cup-shaped member and secured to the before-mentioned annular shoulder, the said flange forming a trough around the dasher rod which is provided with means for delivering any liquid which may accumulate therein into the before-mentioned chamber.

No. 101,643. Awl. Aline.


George Allen Peacock, Hanford, California, U.S.A., 23rd October, 1906: 6 years. Filed 24th September, 1906. Receipt No. 139,764.
Claim.-1. A karness awl involving a tubular shank with head, a ferrule movably applied to the shank, a needle
secured to the shank and projectible through the ferrule and thread carrying means held in the head and provided with mechanism for controlling the feed of the same.
2. A harness awl involving a shank having a head and means for holding a needle, a ferrule movably supported by the shank, a needle projectable through the ferrule, a thread carrying bobbin removably disposed in the head. and means for engaging a portion of the bobbin to prevent the latter from turning.
3. In a harness awl, the combination of a tubular shank having a head and also provided with means for holding a needle, a movable member engaging the shank, a needle held by the shank and projectible through the said member, means for automatically restoring the movable member to normal position, and thread carrying and feeding means, the thread being drawn taut by the operation of the awl.
4. In a harness awl, the combination of a shank having a head, a ferrule having a telescopic organization with respect to the shank, a needle held by the terminal of the shank and projectible through the ferrule, and means enclosed within the head for carrying and feeding thread to the needle.
5. In a harness awl. the combination of a tubular shank having a head, a needle secured to the shank, a ferrule having a telescopic organization with respect to the shank and through which the needle is projectible, a thread carrying bobbin removably mounted in the head. a catch device for co-operating with a part of the bobbin to limit the movement thereof, and means for disengaging the catch device.
6. In a harness awl, the combination of a tubular shank having a head, needle secured to the shank, a spring actuated ferrule telescopically engaging the shank, the needle being projectible through the ferrule, and thread carrying and feeding spans disposed in the sald head, the thread beIng fed through the shank and ferrule to the needle.
7. A harness awl involving a shank and head, a needle secured to the shank, a spring actuated ferrule telescopically engaging the shank and normally enclosing the needle, the needle being projectible through one terminal of the ferrule and the latter acting as a stay and reinforce for said needle and means for feeding thread to the needle.

No. 101,644. Dumping Car. Char d bascule.


Francis Peteler, Minneapolis, Minnesota, U.S.A., 23rd October, 1906; 6 years. Filed 29th September, 1906. Receipt No. 139.902.
Claim.-1. A dumping car having central and eccentrically disposed pivot bearings located beneath the car body and on which the body successively turns in dumping the load, said bearings comprising a member having centrally and eccentrically disposed pivots and another member having centrally and end disposed sockets formed with side walls to receive the correspondingly disposed pivots and provided with plvots located between the central and end disposed sockets to bear against the first-mentioned member between its pivots, substantially as described.
2. A dumping car having central and eccentric pivot bearings, comprising a fixed and a movable plate formed with corresponding rocking pivots and sockets, the outer sockets on the movable plate having their outer end walls overhanging the pivots fitting in said sockets so as to bear in locking engagement with the outer face of sald pivots, substantially as described.
3. A dumping car provided with central and eccentrically arranged plvot bearings on which the car body successively turns in dumping the load. said bearings and body being so disposed in relation to each other that when the body is tilt-
ed the preponderance of weight thereof to one side of the bearing will cause the body to automatically return to its normal position after dumping.
4. A dumping car having a central pivot bearing located beneath the car body whereon the car body is normally supported, and an eccentric pivot bearing upon which the car body is supported and turned during the intermediate and latter part of its tilting movement, said central and eccentrically disposed bearings being so located in relation to each other that the centrally disposed bearing supports the body until the body bears upon the eccentrically disposed bearings, and said eccentric bearing having a double or reverse curve to lock the body thereon, substantially as described.
5. A dumping car provided with centrally and eccentr!cally arranged pivot bearings on which the car body successively turns in dumping the load. said bearing being so disposed with relation to the body that when the body is tilted the preponderance of weight thereof to one side of the bearing will cause the body to automatically return to its normal position after dumping, and said central pivot bearing belng bencath and close to the bottom of the load whereby tho initial tilting movement of the car body will be made easler. substantlally as described.
6. A dumping car having a central pivot bearing located beneath the car body and whereon the car body is normally supported in a horizontal position, an eccentrically arranged pivot bearing whereon the car body is automatically supported during the intermediate and latter part of its tiling movement, and said car body having doors normally carried by said car body, and means for temporarily supporting the door on the side toward which the car body is tilted to discharge its load, and the preponderance of weight of the car body on the other side aided by the door on that side being above said eccentric pivot when the car body is in its tilted position, whereby it will automatically return to its normal position when the dumping operation is completed, substantially as described.
7. The combination with a truck frame, of standards centrally mounted thereon and provided with centrally arranged pivots and with cccentrically arranged sockets and pivots upon each side of said central pliot and below the level of the same, a car body, plates secured transversely to the under side thereof and having centrally arranged sockets to recelve said central pivots and normally supporting the car body in a horizontal position, and said plates being also provided at each end with pivots and sockets to co-operate with the sockets and pivots on said standards and whereon the car body is supported and turned during the intermediate and latter part of its tilting movement, and said central sockets passing out of contact with thelr pivots during the latter part of the tilting movement of said car body, and sald eccentric sockets and pivots having double or reverse curves whereby their bearing area will be increased and the parts will be locked together during the tilting movement, substantially as described.
8. A dumping car comprising a frame, a car body having central and eccentric pivots thercon and capable of dumpins toward either side, doors for said car body, barz pivoted on said frame and engasing said doors to lift them vertically one at a time according to the direction in which the car body is tilted, and means connecting sald bars with said cal body whereby the tilting of the body toward one side will oscillate the bars on that side to lift the door, substantially as described.
9. A dumping car comprising a frame, a car body having central and eccentric pivot bearings thereon and adapted to dump upon either side, doors for said car body, bars pivotally supported intermediate to their ends on said frame at each end of the car having slotted outer ends, sald doors having gudgeons slidable within said slots, sald gudgeons normally resting on the sides of the car and the weight of th: door on the uppres side of the car belng utllized to ald in returning it to its horizontal position after dumping, and means connecting th. inner ends of said bars with the car body at one side of the center, whereby when the car is tilted toward one side, the door on that side will be lifted a sufficent distance above the bottom and sides of the car to allow the load to dump without obstruction, substantially as des. cribed.
10. In a dumping car the combination with a frame, of standards mounted on each end thereof, a car body pivotally sumportid between said standards and adapted to dump on rither sido. doors for sald car body. bars pivoted at pointa intermediate to their ends on said standards and having slotted outer ends wherein sald doors are mounted. said slots allowing the doors to bear on the sides of the car body except when raised in dumping, means connecting the inner ends of said bars with the car body at one side of its senter, whereby the weight of both doors will be utilized to return the car body to its horizontal position after dumplag. substantlally as deseribed.
11. A dumping car comprising a frame, a car body havins central and eccentric plvots thereon, doors for sald car hav-
ing gudgeons at each end adapted to rest upon the ends of the car body, bars pivotally supported upon said frame and having bearings at their outer ends at points intermediate to their ends for said gudgeons. and means at one side of its center whereby it is tilted. in either direction. the door on the dumping side will be lifted automatically above the bottom and sides of the car and the outer door will be raised, resting upon the upper side of the car and the weight of both doors will be utilized to return the car body to its horizontal position after dumping, substantially as described.
12. A dumping car comprising a frame, a car body pivoted thereon and capable of dumping toward either side, doors for said car body, bars pivoted at points intermediate to their ends on said frame above the level of said car body pivots and said bars engaging said doors to lift them vertically one at a time according to the direction in which the car body is tilted, and means connecting said bars with said bar body whereby the tilting of the body toward either side will oscillate the bars on the dumping side to lift the door on that side, substantially as described.
13. A dumping car comprising a frame, a car body pivoted thereon and capable of dumping toward either side, doors for said car body, bars plvoted at points intermediate to their ends and engaging said doors, and means connecting said bars with said car body. whereby the tilting of the body toward one side will oscillate the bars on that side to lift the door a sufficlent distance above the bottom and sides of the car to allow the load to dump without obstruction.
14. A dumping car comprising a frame, a car body having central and eccentric pivots thereon and capable of dumping toward either side, doors for said car body, bars pivotally supported on said frame at points intermediate to their ends above the level of said car body pivots, said bars having short and long arms, said long arms engaging said doors, and flexible means connecting said short arms with the car body at one side of the center thereof, whereby the tiling of said car body will lift the door on the dumping side, and stops for limiting the oscillating movement of said bars in one direction, substantially as described.

\section*{No. 101,645. Tank for Soaking Bottles. Refervoir pour tremper les boutorlles.}


Roland Schwarzenbach, Hornell, New York, U.S.A., 23rd October, 1906; 6 years. Filed 1st October, 1906. Receipt No. 139,939.
Claim.-1. A bottle soaking and cleansing apparatus comprising a tank or vat provided with a series of longitudinal stationary guides by which the bottles may be directed endwise through the said tank or vat, said guides being incllned downward at the entering or feeding end of the said tank or vat and being inclined upward at the discharging end of the said tank or vat, so that the bottles will readily fil with water as they are cotered into the sald tank or vat and will be drained or emptied as they are forced towards the discharging end thereof.
2. A bottle soaking and cleansing apparatus comprising a tank or vat having therein an openwork rack-above the bottom of the said tank or vat and constructed to provide a series of stationary longitudinal guides extending through the sald tank or vat, sald guides being inclined downward at the entering or feeding end of the sald tank or vat and being inclined upward at the discharging end of the said tank or vat, so that the bottles will readily fill with water as they are entered into the said tank or vat and will be drained or emptied as they are forced towards the discharging end thereof.
3. A bottle soaking and cleansing apparatus comprising a tank or vat provided with a series of longitudinal stationary guides by which the bottles may be directed endwise through the said tank or vat, said guides being in-
clined downward at the entering or feeding end of the said tank or vat and being inclined upward at the discharging end of the said tank or vat, so that the bottles will readily fill with water as they are entered into the said tank or vat and will be drained or emptied as they are forced towards the discharging end thereof, the downwardly inclined entering parts of said guides being partly composed of an overlying upwardly yielding frame or apron having guiding parts, as \(g\), to cause the empty bottles to be submerged.
4. A bottle soaking and cleansing apparatus comprising a tank or vat having therein an openwork rack above the bottom of the said tank or vat and constructed to provide a series of stationary longitudinal guides entering through said tank or vat, said guides being inclined downward at the entering or feeding end of the said tank or vat and being inclined upward at the discharging end of the said lank or vat, so that the bottles will readily fill with water as they are entered into the said tank or vat and will be drained or emptied as they are forced towards the discharging end thereof, the downwardly inclined entering parts of said guides being partly composed of an overlying upwardly yielding frame or apron having guiding parts. as 0 , to cause the emyty bottles to be submerged.
No. 101,646. Force Feed Seeder. Semotr.


Jacob H. Ullrick, Nashville, Tennessee, U.S.A., 23rd October, 1906; 6 years. Filed 27th September, 1906. Receipt No. 139,838.
Claim.-1. In a seeder of the class described the combination of a hopper provided with a seed opening, a grooved feed roll, a cut-off located at the seed opening and a rotary device mounted directly on the cut-off and provided with an opening recelving and conforming to the configuration of the feed roll, said rotary device being carried by the cut-off to vary the length of the exposed portion of the feed roll.
2. In a seeder of the class described, the combination of a hopper, a feed rolf, a cut-off provided with a depending supporting portion, a vertically disposed rotary device having an opening receiving the feed roll, said rotary device being mounted on the supporting portion of the cut-off and carried by the latter to vary the length of the exposed portion of the feed roll.
3. In a seeder of the class described the combination of a hopper having a sced opening, a casing, a grooved feed roll, a horizontal cut-off located at the seed opening and provided with a depending collar encircling the feed roll, and a rotary device having an opening to receive the feed roll, and mountcd on and carried by the collar of the cut-off to vary the length of the exposed portion of the feed roll.
4. In a seeder of the class described the combination of a hopper having a seed opening, a grooved feed roll, a cut-off located at the seed opening and having a depending collar encircling the feed roll, a rotary device mounted on the collar and having an opening receiving and conforming to the configuration of the feed roll, and an operating rod connected to the cut-off for operating the same and for adjusting the rotary device to vary the length of the exposed portion of the feed roll.
5. In a seeder of the class described the combination of a hopper, a grooved feed roll held against slidable movement, a rotary device consisting of a disc having an opening to receive the feed roll and provided with profecting portions extending into the groove of the same, and a cut-off having opposite lugs loosely embracing the disc.
6. In a seeder of the class described the combination of a hopper having a seed opening, a feed roll, a cut-off located at the seed opening, operating mechanism connected to the cut-off and means mounted directly on and carried by the cut-off for varying the length of the exposed portion of the feed roll.
7. In a seeder of the class described the combination of a hopper provided at the bottom with seed openings, casings depending from the bottom of the hopper and having discharge openings and provided with slots, grooved feed rolls operating within the casings, a shaft connecting the feed rolls, cut-offs for controlling the seed openings of the hopper. said cut-offs being extended through the slots of the casing and having means mounted directly upon the cut-offs for varying the length of the exposed portions of the rolls. operailing mechanism located exteriorly of the casings connected with the extended portions of the cut-offs, and means for rotating the said shaft.
8 . In a sceder of the class described the combination of a hrpper provided at the bottom with seed openings, casings deprnding from the hopper and having laterally extending portions forming horizontal guides, feed rolls operating within the rasings, a shaft connecting the feed rolls, cut-offs having horizontal portions to operate in the guides and providod with denending vertical portions located within the said casings, means mounted directly on the vertical portions of the cut-offs for exposing more or less of the feed rolls, means for operating the cut-offs, and gearing for rotating the said shaft.

No. 101,647. Grain Drill. Semoir en ligne.


Jacob H. Ullrick, Nashville. Tennessee, U.S.A., 23rd October, 1906: 6 years. Filed 27th September, 1906. Receipt No. 139.847.

Claim.-1. In a machine of the class described the combination of a main frame, hoppers arranged at an angle. feed mechanism, flexible spouts or tubes, drag bars or beams having drilling devices and connected with the s!outs or tubes, and means for moving the drag bars or beams backward and forward for arranging them either in a straight line or in angular relation.
2. In a machine of the class described the combination of opposite hoppers having feed mechanism provided with slides, operating rods connected with the slides, and means for connecting the operating rods for simultaneously actuating the same.
3. In a machine of the class described the combination of opposite hoppers having feed mechanism provided with slides. operating rods connected with the slides, and an adjusting screw having right and left hand threaded portions connected with the oprating rods for simultancously moving the same in opposite directions.
4. In a machine of the class described the combination with a hopper. and a movable furrow opener, of a flexible snout o: tube composed of a plurality of short telescopic sections having a limited longitudnal movement. and means rigid with the sections for limiting the longitudinal movement to pre\(v \in n t\) the sections from becoming disconnected.

5 . In a machine of the class described the combination with a hopper, and a movable furrow opener, of a flexible spout or tube composed of a plurality of telescople sertions having a limited longitudinal movement. and rigid connecting means for the sections to prevent their senaration, sald connecting means being arranged in spaced relation to permit a limited rotary movement of the sections.
6. In a machine of the class described the combination with a hopper, and a movable furrow opening. of a fiextble fipout or tube composed of a plurality of trlescopic sections having an annular series of exterior connecting devices spaced apart to permit the sections to have a limited rotary movement.
7. In a machine of the class described the combination of a hopper, a movable furrow opener, a flexible spout or tubs composed of a plurallty of sections capable of a limited
rotary and longitudinal movement on each other, and means for positively fimiting the rotary and langitudinal movemonts of the sections.
8. In a machine of the class described the combination of a hopper, a movable furrow opener, a flexible spout or tube composed of a plurality of sections capable of a limited and Icngitudinal movement on each other, eaid sections also having a rocking movement, and means rigid with the sections for llmiting the said movements.
9. In a machine of the class described the combination of a hopper, a movable furrow opener, and a flexible spout or tube composed of a pluraity of tapering telescopic sections circular in cross section, and separate means rigid with the upper ends of the sections and overlapping the contiguous sections. and engaging the same for positively limiting the movement of the sections on each other.
10. In a machine of the class described the combination of a hopper, a movable furrow opener, and a flexlble spout or tube composed of a plurality of telescopic sections, each provided with a projecting flange and having substantiall:y hook-shaped tongues engaging the flange of the adjacent section.
11. In a machine of the class described the combination of a hoppor, a movable furrow opener, and a flexible spout or tube composed of a plurality of telescoplc sections. each provided with a projecting ftange and having substantlally hook-shaped tongues engaging the flange of the adjacent section and having a limited lateral movement between the tongues thereof.
12. In a machine of the class described the combination with a hopper, and a furrow opener, of a flexible spout or tube composed of tapering telescopic sections circular in cross section, each section being provided at the top with an annular flange and having depending substantially hookshaped tongues arranged at intervals, the tongues of one section receiving the flange of the adjacent section and having a limited rotary movement between the tongues thereof. 13. In a machine of the class described the combination of opposite hoppers arranged at an angle, feed mechanism having shafts arranged at an angle and provided with spaced gears, an intermediate gear meshing with the said gears, and gearing for communicating motion from the intermediate gear.
14. In a machine of the class described the combination of a wheeded frame having a rotary axle. a plurality of hoppens arranged at an angle and provided with feed shafts arranged at an angle, spaced gears mounted on the feed shafts, intermediate gears meshing with the saif gears. lower transverse shafts and gearing for connecting the lower transverse shafts with the intermediate gears and with the axle.
15. In a machine of the class described the combination of a wheeled frame having a rotary element. a plurality of hoppers. feet meohanism heving feed shafts, spaced gears mounted on the feed shafts. Intermediate gears meshing with the said gears. lower transverse shafts. separate gearing connecting the transverse shafts with the intermediate gears, and other gearing for connecting the transverse shafts with the axle.
16. In a machine of the class described the combination of front. rear and intermediate hoppers having cups, the cups of the front hoppers being provifed at the front with discharge openings, and the cups of the other hoopers having discharge openings at the back. feed mechanism provided with feed shafts, lower front. intermediate and rear transverse shafts, gearing connecting the transverse shafts with the feed shafts. sprocket gears mounted on the axle and on the intermediate and rear transverse shafts. a sprocket chain arranged on the said sprocket gears, and spur gearing comnecting the front and intermediate transverse shafts.
17. In a machine of the class described the combination of front, rear and intermediate hoppers having cups, the cups of the front hoppers being provided at the front with discharge openings. and the cups of the other hoppers having discharge openings at the back. feed mechanism provided with feed shafts, lower front. Intermediate and rear transverse shafts, gearing connecting the transverse shafts with the feed shafts. sprocket wheels having gears of Hirect diameters and arranged on the axle and on the intermediate and rear transverse shafts. and a sprocket chain arraneed on the sprocket wher's and adapted to be changed from one set of gears to another, and spur gearing connecting the front and intenmediate transverse shafts.

\section*{No. 101,648. Boz. Boite.}

Thomas Wertz, Saint Louis, Missouri, U.S.A., 23rd October. 1!106; 6 years. Filed 1st October. 1906. Recelpt No. 134,922.
(laim.-1. A knockdown box comprising side. lop, bottom and end picers, bracing bars arranged on said pieces, guide plates secured to sald bars and adapted to engage the meet-
ing edges of each adjacent piece and means whereby said pieces of the box may be locked in a closed and set up position, substantially as described.

2. A knockdown box comprising side, top bottom and end pleces, each of which is provided around its outer side with a continuous rabbet, transversely disposed brace bars secured to the outer sides of said side pieces, guide and brace plates formed on the outer ends of said brace bars the side rabbets of said top and bottom pieces, brace bars secured to the opposite ends of said top and bottom pieces, guide and brace plates formed on said bars to engage the upper and lower rabbets of said end pleces, brace bars secured to the side edges of said end pleces, guide plates formed on said brace bars to engage the end rabbets of said side pieces, and means to lock said pieces of the box together in a set uj and closed position.
3. A knockdown box comprising side, top, bottom and end pleces, each of which is provided around its outer side with a continuous rabbet, transie.sely disposed brace bars secured to the outer sides of said side pieces, guide and brace plates formed on the outer ends of said brace bars to engage the side rabbets of said top and bottom pleces, brace bars secured to the opposite ends of said top and bottom piece, guide and brace plates formed on said bars to engage the upper and lower rabbets of sald end pieces, brake bars secured to the side edges of said end pieces, guide plates formed on said brace bars to engage the end rabbets of said side pieces, a locking bar adapted to be connected with the meeting ends of the top and one end piece of the boss, a keeper on said locking bar and lock arranged on said cover piece, the bolt of which is adapted to be engaged with said keeper to lock said cover in a closed position and thereby hold the parts of the box in a set up or operative position, substantially as described.
4. A knockdown box comprising side, top, bottom and end pieces. each of which is provided around its outer side with a continuous rabbet, transversely disposed brace bars secured to the outer sides of said side pieces, guide and brace plates formed on the outer ends of said brace bars to engage the side rabbets of said top and bottom pieces, brace bars secured to the opposite ends of said top and bottom pieces, guide and brace plates formed on said bars to engage the upper and lower rabbets of said end pieces, brace bars secured to the side edges of said end pieces, guide plates formed on said brace bars to engage the end rabbets of said side pleces, brace bars arranged on the inner side of said side pieces of the box, catches formed on the upper ends of said brace bars, similar bars arranged on the inner sides of the top and bottom pieces of said box, lugs on the ends of said latter bars to engage the ratches on the ends of said side brace bars, a locking bar secured to the forward end of the top piece and adapted to engage the upper edge of the forward end piece, removable fastening devices to secure said locking bar on the end of said top piece, a keeper formed on sald locking plate, and a lock arranged on said top piece, the bolt of which is adapted to be turned into engagement with said keeper, substantially as described.
5. A knockdown box comprising side, top, bottom and end pleces, each of which is provided around its outer side with
a continuous rabbet, transversely disposed brace bars secured to the outer sides of said side pleces, guide and brace plates formed on the outer ends of said brace bars to engage the side rabbets of said top and bottom pleces, brace bars secured to the opposite ends of said top and bottom piece, gulde and brace plates formed on said bars to engage the upper and lower rabbets of said end pieces, brace bars secured to the side edges of said end pieces, guide plates formed on said brace bars to engage the end rabbets of said side pieces, catch lugs arranged on the forward end of said top piece, a locking plate adapted to be engaged with said catch lugs, right angularly projecting top and end engaging plates formed on said locking bar, a metallic bar arranged between said locking bar and the end of said top piece and secured to the latter, removable fastening devices to detachably secure said locking plate on the ends of said top piece, a keeper formed on said locking bar, and a lock arranged on said top piece, the bolt of said lock being adapted to be turned into engagement with said keeper, thereby locking said top piece in closed position and holding the parts of the box in a set up or operative position, substantially as described.

\section*{No. 101,649. Straw Stacker.}

Appareil d ameulonner la paille.


Jack Wolf. Princeton, Minnesota, U.S.A., 23rd October, 1906; 6 years. Filed 21st August, 1906. Receipt No. 138,883.
Claim.-A device of the kind described comprising the casing open at its forward end, hinged doors arranged in the sides of the casing, a hopper adapted to form the lower portion and bottom of the casing, the rear wall of said hopper comprising an outwardly curved plate, a fan casing, an upwardly and rearwardly inclined chute leading from the fan casing and having an opening in its upper wall communicating with the hopper in advance of the said curved plate, feeding mechanism arranged in the recess formed by said curved plate, a fan in the fan casing, and means for driving the fan in the feeding mechanism.

\section*{No. 101,650. Electro-Magnet. Electro-aimant.}

John William Holman, assignee of Ernset Holman Miller, both of Lancaster, Pennsylvania, U.S.A., 23rd October, 1906; 6 years. Filed 26th February, 1906. Receipt No. 133,349.
Claim.-1. A solenoid for power purposes, comprising a tubular spool of non-magnetic material, a magnetic plug midway of said spool, a plurality of coil sections wound on said spool and connected in series, and movable cores entering said spool, said plug and cores having co-operating projections and recesses.
2. An electro-motive power device, comprising two solenoids side by side, each having a plurality of coil sections connected in series, and adjacent ends of the windings on said solenoids being connected, movable cores entering the ópposite ends of said solenoids, and yokes connecting adjacent cores.
3. An electro-motive power device, comprising two solenolds side by side, each having a plurality of coil sections connected in series, and adjacent ends of the windings on
sald solenolds, being connected, magnetic plugs midway of said solenoids, movable cores entering the opposite ends

of sald solenoids, and yokes rigidly connecting adjacent cores.
4. The combination with two solenoids arranged side by side, of a bridge of magnetic material arranged midway thereof and movable cores yoked together entering the opposite ends thereof.
5. The combination with two solenoids arranged side by side and each composed of a plurality of coll sections connected in series, of a magnetic bridge interposed between the middle sections, and movable cores yoked together entering the opposite ends of said solenoids.
6. The combination with two solenoids arranged side by side and each composed of a plurality of coll sections connected in series, the windings on the two solenoids being also connected in series, of a magnetic bridge interposed between the middle coil sections, and movable cores entering the ends of said solenoids and connected by rigid yokes, said bridge and cores having co-operating projections and recesses.
7. The combination with two solenoids arranged side by side and connected in series, of movable cores entering the opposite ends thereof, a yoke at each end of the solenoids to which said cores are connected, and a guide for each yoke.
8. The combination with two solenoids arranged side by side and connected in serles, of movable cores entering the ends thereof, a yoke at each end to which said cores are connected, a bifurcated slotted bar fastened to each yoke, and a stud engaging with said slot.
9. The combination with two solenoids arranged side by side, of a magnetic bridge arranged intermediate the ends of each solenoid, and connected movable cores entering opposite ends of said solenoids.
10. The combination with two solenoids arranged side by side, each composed of a plurallty of coil sections connected in series, of a magnetic bridge interposed between the middle coil sections, and connected movable cores entering opposite ends of said solenoids.
11. The combination of two solenolds arranged side by side, each comprising a tubular spool of non-magnetic material, a plurality of removable coil sections wound thereon side by side and connected in series, and movable cores entering the opposite ends of said spools.

No. 101,651. Briquetting Press. Presse d briquctte. Howard Ellsworth Marsh, Palms, and Frederick Dalton Parker, assignee of a half interest, Los Angeles, California, U.S.A., 23rd October, 1906; 6 years. Filed 4th April, 1906. Receipt No. 134,593.
Caim.-1. A briquet press provided with a series of disconnected moulding boxes, an endless guide for sald boxes, reciprocating compressing means for said boxes, and means constructed to operate said reciprocating compressing means and their boxes through their orbit.
2. A frame provided with an endless guide, a series of moulds to move along said guide, compressing means for moving said moulds along said guide and for compressing material in said moulds, and means for discharging material therefrom.
3. A frame provided with an endess guide extending in a vertal plane, a series of contracting moulds adapted to move along sald gulde. and compressing means engaging the ascending moulds to move the same forward.
4. A frame provided with an endless guide, a series of disconnected monlls adapted to move along said guide. a compressing drum closing the mouths of said moulds during a fortion of their travel, means for moving sald moulds and f.r compressing material against said drum in said moulds. and means for emptying said moulds.
5. A irame provided with an endless guide, a serfes of disconnected contacting moulds adapted to slide in said gukde.

compressing means for moving eald moulds and for compressing material thereinto, and means for emptying aald moulds.
6. A compressing drum, a moulding box, means for guiding the moulding box with its open mouth on the compressing drum, a plunger in said box, means for engaging the plunger and forcing it inward and at the same time onward, to move the box along its orbit.
7. A drum, a moulding box, means for guiding the moulding box with its opon mouth agalnst the drum, a plunger in the box, and rotary means for engaging the plunger to move it inward and onward.
S. A drum, a moulding box, means for guiding the moulding box with its open mouth against the drum, a plunger in said box, a gear having a face to engage eald plunger and move it inward and onward.
9. A moulding box, means for closing the mouth of the box, means for guiding the box in a path, a plunger in the box, rotary means for engaging the plunger to force it inward as the box moves onward in its path.
10. A frame, moulding means, means for guiding sald moulding means in a path in said frame, and rotary means sieldingly mounted on the frame and arranged to simultaueously advance and operate said moulding means.
11. In a press, a frame, a series of disconnected moulds arranged to move in a determined path in sald frame, a rock bar mounted on said frame, a rotary compressing means mounted on said rock bar and constructed to operate said moulds, and tension means for bolding toward the moulds said rotary compressing meuns.
12. In a press, a frame, moulding means arranged to move in a determined path in sald frame, a rock bar mounted on said frame, a notary compressing means mounted on said rock bar and constructed to operate said moulding means, and tension means for holding toward the moulding means said rotary compressing means, the center of gravity of the rock bar and its attachments being rearyard of the vertical drawn from the shaft of the rock bar to cauee gravity of the compressing means to hold the tension means normally at a constant tension.
13. A briquetting press provided with a series of disconnected moulds, notary means for operating said moulds. rocking means carrying sald rotary means, llnk moans for connccting the rocking means with the frame of the nress, and yleiding tension means for holding said rotary meane toward the moulds.
14. A frame, moulding means moving in an orbit therein, a moulding drum closing the mouths of the moulding means at a portion of said orbit, rocking means, a shaft fournalled therein, a compressing gear carried by sald sbalt, a driving shaft, balance wheels fixed on the driving shaft, a compressing gear fixed on the shaft and constructed to operate and advance the moulding means successively.
15. Disconnected mouiding boxes moving in an orbit. plungers in said boxes respectively having projeoting stems. and a rotary ejector gear arranged to engage said stems to depress the same.
16. In combination with means for moulding briquettes and carrying the briquettes through part of the orbit of the moulding means, a delivery device comprising a serfes of
hinged leaves, a shaft for supporting and rotating the hinged leaves, and means ior matntaining the leaves in a horizontal plane through a portion of their rotation and allowing the leaves to successively swing down at a definite point of their rotation.
17. In combination with means for moulding briquettes and carrying the briquettes through part of the orbit of the moulding means, a delivery device comprising a series of hinged leaves, a shaft for supporting and rotating the hinged leaves, and a segmental ring for maintaining the leaves in a hosizantal plane through a portion of their rotation and allowing the leaves to successively swing down at a definite point of their rotation.
18. A frame, moulding means, means for guiding said moulding means in a path in said frame, and rotary means ylaldingly mounted on the irame and arranged to simultaneously advance and operate said moulding means, and rotating lifting gears engaging with the moulding means for lifting the same thnough part of their orbit.
19. Disconinecting moulding boxes moving in an orblt, plungers in said boxes having stems, and a rotary ejector gear operating by friction to engage said steins and depress the eame.
20. Disconnected moulding boxes moving in an arbit. plungers in sadd boxes having stems, and a rotary ejector gear having a flat face operating by friction to engage said stems and depress the same.
21. In a briquetting press, a mould box having a compressing chamber of even diameter throughout. a plunger in the chamber a stem projecting through the wall of the box, the wall having an opening adjacent the stem for the escape of material which may wark past the plunger.
22. In a briquetting press, a frame, a moulding drum against which briquettes are pressed, and a scraping trough bearing against the drum for scraping the drum clean.
23. In a briquetting press, a frame, a moulding trum against which briquettes are pressed, and a scraping trough bearing against the drum for scraping the drum clean. the lower end of the trough being extended through the side of the frame.
24. In a briquetting press, a frame, a series of mould blocks movable abong said irame, and a cleaning ucraper across which the mould blocks travel for diverting inaterial on the mould blocks into the compressing chambers therein.
25. In a briquetting press, a frame, a series of mould blocks movable along sald irame, and a cleaning scraper, having a V-shaped notch across which the mould blocks travel for diverting material on the mould blocks into the compreestrg chambers therein.

No. 101,65\%. Can. Bidon.


The Canada Paint Company, Montreal, Quebec, Canada, assignee of John Forster Ross, Toronto, Ontario, Canada, 23rd October, 1906; 6 years. Filed 19th September, 1906. Receipt No. 139,616.
Claim.-1. As a new article of manufacture, an improved can, comprising a can body or wall, a can bottom or par-10-28
tition dividing same into two compartments, and means for closing said compartments.
2. As a new article of manufacture, an improved can for shipping aluminum paint, comprising a can body or wall, a can bottom or partition dividing same into two compartments, in one of which is the liquid vehicle, and in the other of which is the power designed to be mixed therewith, and means for closing said compartments.
3. As a new article of manufacture, an improved can for shipping aluminum paint, comprising a can body or wall, a can bottom or partition dividing same into two compartments, in one of which is the liquid vehicle, and in the other of which is the powder designed to be mixed therewith, and lids or covers for closing said compartments constructed so as to be readily pried open.
4. As a new article of manufacture, an improved can, comprising a can body or wall, a can bottom or partition dividing same into two compartments, a receptacle held in one of sald compartments, and means for closing said compartments.
5. As a new article of manufacture, an improved can, comprising a can body or wall, a can bottom or partition dividing same into two compartments, a receptacle held in one of said compartments, and lids or covers for closing said compartments constructed so as to be readily pried open.
6. As a new article of manufacture, an improved can for shipping aluminum paint, comprising a can body or wall, a can bottom or partition dividing same into two compartments \(n\) one of which is the liquid vehicle, a receptacle held within the other compartment and designed to contain the powder to be mixed with the liquid vehicle, and means for closing the ends of said compartments.
7. As a new article of manufacture, an improved can for shipping aluminum paint, comprising a can body or wall, a can bottom or partition dividing same into two compartments \(n\) one of which is the liquid vehicle, a receptacle held within the other compartment and designed to contain the powder to be mixed with the liquid vehicie, and lids or covers for closing said compartments constructed so as to be readily pried open.
8. As a new article of manufacture, a can comprising a can body or wall divided or separated into two compartments by a partition or can bottom common thereto, a suitable lid or cover for the top of said can, and a supportIng lid or cover closing the bottom of said can.
9. As a new article of manufacture, an improved can, comprising a can body or wall, a dish-shaped or cup-sthaped can bottom or partition placed within said can body and having its wall abutting portion of the inner side of said can body or wall, and having its end secured to the end of sald can body or wall, a lid for the top of sald can, and a lid for the bottom of said can.
10. As a new article of manufacture, an improved can, comprising a can body or wall, a dish-shaped or cup-shaped can bottom or partition placed within said can body and having its wall abutting portion of the inner side of said can body or wall, and having its end secured to the end of said can body or wall, a lid for the top of sald can, a lid for the bottom of said can, and a receptacle held within said can body between said can bottom or partition and said second-mentioned lid.
11. As a new article of manufacture, an improved can for shipping aluminum or similar paints, comprising a can body or wall, a can bottom or partition dividing same into two compartments, in one of which is the liquid vehicle, and in the other of which is the powder designed to be mixed therewith, and means for closing said compartments.
12. As a new article of manufacture, an improved can for shipping aluminum or similar paints, comprising a can body or wall, a can bottom or partition dividing same into two compartments in one of which is the liquid vehicle, a receptacle held within the other compartment and designed to contain the powder to be mixed with the liquid vehicle, and means for closing the ends of said compartments.

\section*{No. 101,653. Mould. Moule.}

Herman Besser, Alpena, Michigan, U.S.A., 23rd October, 1906; 6 years. Filed 30th August, 1906. Receipt No. 139,113.
Claim.-1. In a device of the class described, an expansible mould comprising a substantially rectangular frame, side and end walls hinged to the frame, means connected with the end walls for moving the same, and means connected with the side walls and engaging said moving means whereby to move the side walls in unison with the end walls.
2. In a device of the character described, an expansible mould comprising a substantially rectangular irame, side and end walle depeuding from the frame, handles movably connected with the end walls for 8 winging the same, and means connected with the side walls and engaging said
handles whereby to move the side walls in unison with the end walls.

3. A moulding device comprising movable mould walls, a plate on one wall, and a movable latch on another wall for locking said plate, said plate having a bend for engaging the edge of the other wall and limiting the motion of both walls.
4. A moulding device comprising movable mould walls. a plate on one wall, and a movable latch on another wall for locking said plate, said plate having a bend for engaging the edge of the other wall and limiting the motion of both walls, said latch having a projection on the outside of said plate for engaging the latter and forcing it inwardly.
5. A moulding device comprising movable mould walls, a plate on one wall having inwardly projecting ends beyond the ends of sald wall. a movable latch on another wall adapted to engage said plate and lock the two adjacent walls tognih.r. the second wall being adapted to engage the projection co. said plate for forcing the first wall outwardly, and means on the latch for engaging the outer edge of said plate.
6. A moulding device comprising movable mould walls, a plate on one wall having inwardly projecting ends beyond the ends of sald wall, a movable lateh on another wall adapted to engage said plate and lock the two alljacent walls together, the second wall being adapted to engage the projection on said plate for forcing the first wall outwardly, means on the latch for engaging the outer edge of said plate. and means for swingingly mounting said walls, said means comprising hinge pieces extending from each wall across the mould to the opposite side thereof. the outer ends of said hinge pleces being pivotally mounted.
7. In a moulding device the combination of a frame comprising a plurality of adjustably mounted rods, hinge pieces pivotally mounted on each rod and extending across the device, mould walls mounted on the hinge pieces. means on the mould walls for simultaneously and automatically swinging each wall outwardly when the device is lifted, and set collars secured to the rods against the hinge pieces.
8. In a moulding device the combination of a frame. bearings thereon, a pair of rods mounted in parallel position in said bearings, blocks mounted adjustably on said rods, a second pair of rods adjustably mounted on said blocks and located at an angle to the first-named rods, a series of hinge pieces pivoted to each of said rods, mould walls suspended from said hinge pieces. handles connected with sundry of said mould walls. and means whereby said handles may simultaneously swing all of said walls outwardly.
9. In a moulding device the combination of a frame having bearings, a pair of rods mounted thercon, a pair of blocks adjustably mounted on each rod, a second pair of rods ad. justably supported by said blocks, hinge pieces pivotally connected with each rod, inclined walls constituting a hopper mounted on said hinge pieces, and mould walls mounted on said hinge pleces.

\section*{No. 101,654. Plough, Seeder and Harvester. Charrus, somotr et moissonneuse.}

\section*{James Birrell, Winnipeg, Manitoba, Canada, 23rd October, 1906; 6 years. Filed 21st February, 1906. Receipt No.} 133,127.
Claim.-1. In a device of the class described in combination a wheeled frame, a dependent adjustable drag bar between the forward and rear sets of wheels, a series of adjustable ploughs dependent from the drag bar, and a motor supported above the frame, and designed to rotate the gear wheels, as and for the purpose specifled.
2 . In a device of the class described the combination comprising a whecled rectangular frame, a dependent vertically slidable drag bar. extending obliquely across and below the frame. a series of adjustable ploughs dependent from the drag bar, and a motor supported above the frame, and de-
signed to rotate the rear wheels, as and for the purpose specified.

3. In a device of the class described the combination with the forward carriage and the rearward traction wheels of a frame supported from the said wheels, a set of vertical guideways dependent from the frame below and on either side thereof, a drag bar extending obliquely across the frame, and designed to slide within the guideways, a set of adjustable swivel wheels secured to the ends of the drag bar, a series of ploughs adjustably supported from the drag bar, and means for rotating the traction wheels, as and for the purpose specified.
4. In a motor plough the combination with the carriage and traction wheels of a frame, and a series of adjustable ploughs slidably supported on the frame, forward of the traction wheels, as and for the purpose specified.
5. In a motor plough the combination with the forward carriage and rear traction wheels of a frame, a drag bar extending obliquely across the frame and forward of the traction wheels, means for ret rining the drag bar to withstand lateral pressure, and to allow motion in an upward and downward direction, adjustable means supporting the drag bar at its ends, a series of ploughs connected to the drag bar by nieans of equal length shanks, free to move in a vertical plane, and means for adjusting the plough, as and for the purpose specified.
6. In a device of the class described the combination with the main frame, having a set of carriage wheels forwardly disposed, and a set of traction wheels rearwardly disposed, of a motor secured above the frame, means connecting the motor to the traction, wheels to revolve the same, sets of arms forming guides secured below the frame and forward of the traction wheels, a drag bar extending obliquely across the frame, and beyond, and designed to slide within the guides, swivel wheels adjustably connected to and supporting the drag bar, a series of equal length arms extending successively from the drag bar, said arms being irce to move in a vertical plane, a series of ploughs connected to the arms, a set of levers actuating the arms, and a steering gear to centrol the carriage wheels from the rear, as and for the purpose specified.
7. In a motor plough the combination with the frame having forwardly disposed carriage wheels and rearwardly dispesed traction wheels, and a seres of adjustable ploughs slidably supported from the frame, of a set of brackets extending rearwardly behind the frame, as and for the purpose specified.
s . In a device of the class described, a seeder, and a set of arms extending rearwardly from the plough frame, and designed to receive and withhold the seeder thereon, and means for driving the seder from the traction wheels of the plough. a:: and for the purpose specified.
9. In a device of the class described, a seeder and a set of arms extending rearwardly from the plough frame, and designed to receive and withhold the seeder thereon, a chain gear operating the seeder from the traction wheels of the llough, as and for the purpose specified.
10. In a device of the class described the combination with the rectangular frame having a set of forwardly disposed carriage wheels, and a set of rearwardly disposed traction
wheels, of a gasoline motor supported above the frame, a crank shaft extending across the frame and bearing thereon, means connecting the crank shaft to the piston, a counter shaft bearing on the frame and parallel with the body of the crank shaft, gear wheels in proximity to the ends of the counter shaft, and pinions at the extremities of the crank shaft, meshing with the counter shaft gears, chain gears at the extremities of the counter shaft, chain gears on the inner face of the traction wheel, chains connecting the said chain gears, a drag bar extending obliquely across and under the frame, guldes extending downwardly below the frame, and in which the drag bar is vertically slidable, means for supporting the drag bar at its ends, a series of ploughs connected to the drag bar by means of equal length shanks, an angle bar extending across the irame, and parallel with the oblique bar, a series of hand operating levers connecting the levers over the angle bar to the rear of the plough shanks, and a steering gear, as and for the purpose specified.

No. 101,655. Corn Planter. Semoir à blé-d'inde.


James Oscar Brown, Sr., Kansas City, Missouri, U.S.A., 23rd October, 1906; 6 years. Filed 25th September, 1906. Receipt No. 139,771.
Claim.-1. In a corn planter a supporting frame, seed dropping devices on said frame and ground wheels, an independently mounted rotary shaft on said frame, power transmitting devices connected with the ground wheel and said independent shaft. a cam carrying wheel loosely mounted on said independent shaft, cams on said wheel actuating the seed dropping devices and means for engaging with and disengaging at will said cam carrying wheel from said independent shaft.
2. In a corn planter a supporting frame, seed dropping devices on sald frame and ground wheels, an independently mounted rotary shaft on said frame, power transmitting devices connected with the ground wheel and said independent shaft, a cam carrying wheel loosely mounted on said independent shaft carrying independently adjustable cams for actuating the seed dropping devices and means for engaging with and disengaging at will said cam carrying wheel from said independent shaft.
3. In a corn planter the combination with the supporting frame, the seed dropping devices and the ground wheels of a pivoted forked lever actuating the seed dropping devices, a rotary shaft independently mounted upon said frame, means for transmitting motion from the ground wheel to said independent shaft, a cam carrying wheel loosely mounted upon said shaft and cams thereon adapted to engage alternately with the forked ends of said lever and a clutch for connecting said cam wheel with said independent rotary shaft.
4. In a corn planter the combination with the supporting frame, the seed dropping devices and the ground wheels journalled on the sides of said frame, a disk on one of said ground wheels and cogs on said disk, a marker, a pivoted forked lever actuating the seed dropping devices, a rotary shaft independently mounted upon said frame, a cog wheel on said shaft meshing with the cogs on the disk on the ground wheel, a cam supporting wheel loosely mounted on said shaft, cams upon sald wheel adapted to engage alternately with sald forked ends of sald lever, a clutch connectfrg sald cam carrying wheel with the shaft, means for elevating one side of the frame of the planter and its ground wheel and a clutch operating lever.

No. 101,656. Insulator. Isolateur.
Gaetan Michel Corell, New York City, New York, U.S.A., 23rd October, 1906; 6 years. Filed 7th March, 1906. Receipt No. 133,621.
Claim.-1. In a device of the class described in combination, an insuiating body of substantially cylindrical form,
removable plugs seated in the extremities of said hody, plungers slidably mounted in sald plugs, said body having a

longitudinally disposed duct formed in the wall thereof and a conductor disposed in said duct and having laterally disposed legs passing into said plugs, contact plates carried by said plungers and engaging said legs, sperings pressing said plungers and line wires attached to said contact plates.
2. In a device of the class described in combination, an insulating body, a conductor having legs with breaks therein and mounted within said body, movable plungers mounted within sald body, contact plates carrled thereby which may bridge said breaks, springs constraining said plungers in the direction of said legs, and ather conitact "latica carried by plungers and engaging said conductor at other points.
3. In a device of the class described in combination, an insulating body, a conductor disposed longitudinally in sald body and having its extremities disposed in the extremities of said body, sald conductor having laterally disposed legs at substantially the middle portion of said body, said iegs having breaks, movable plungers mounted in sald body. springs constraining said plungers in the direction of said legs. contact plates carried by said plungers and which may bridge said breaks, and other contact plates carried at the opposite extremities of said plungers and engaging the extremities of said conductor.

No. 101,657. Rock Drill. Forêt d roche


Evan William Evans, Marysville, British Columbia, Canada, 23rd October, 1906; 6 years. Filed 1st September, 1906. Receipt No. 139,185.
Claim.-1. A rock drill, comprising a hammer having a pivot, a slotted support to which the said pivot is attached, a crossbar arranged to assume an angular position on the said support, and means for clamping the said crossbar to a supporting arm.
2. A rock drill comprising a hammer having a pivot on which the hammer is mounted to swing. a soltted support on which the pirot is removably secured, a soltted cross bar having wedge-shaped ends and adapted to siide lengthwise and transverse on the said support, and means for securing the said slotted support and the said crossbar in position.
3. A rock drill comprising a hammer having a pivot on which the hammer is mounted to swing, a slotted support on which the pivot is removably secured, a slotted crossbar having wedge-shaped ends and adapted to slide lengthwise and transverse on the said support. a washer, a supporting arm, and an eye bolt for connecting the supporting bar, the crossbar and washer in position relative to sald supporting arm.
4. A rock drill comprising a bammer having a pivot on which the hammer is mounted to swing, a slotted sunoort on which the pivot is removably eecured by a clamping bolt, a slotted crossbar having wedge-shaped ends and adapted to slide lengthwise and transverse on the sald support. and means for securing the said slotted support and the said crossbar in position.
5. A rock drill comprising a hammer having a pivot on which the hammer is mounted to swing. a slotted support on which the pivot is removably secured, a slotted crossbar having wedge-shaped ends and adapted to slide lengthwise and transverse on the said support, a supporting bar made croes shape in cross section, an eve bolt siidingly engaging the said supporting arm, a washer having recesses for engagement by the depending member of the sald cross-shaned supporting bar. a slotted crossbar fitting the underside of the said washer and through which and the said washer extends the said eye bolt, the sald crossbar having wedgeshaped ends. A slotted supporting har engaged by the safid crossbar and the nut of the eye bolt to fasten the parts together, a plvot set in a recess on the said supporting bar, a clamping bolt on the supporting bar for holding the pivot in place, and a hammer hung on the said pivot.

No. 101,658. Fire Extinguisher.
Extincteur d'incendic.


Wilhelm Graaff, Berlin, Germany, 23rd October. 1906; 6 years. Filed 11th August, 1906. Receipt No. 138,596.
Claim.-Chemical fire extinguisher with expansion device. mounted on the discharge pipe, and characterized by the fact, that the discharge pipe \(b\) is provided with a lateral expansion chamber \(c\) at the level of the liquid or above the same, holes in the wall of the pipe allowing the entrance of the liquid, while the ejecting force in the discharge passage is not interfered with.

\section*{No. 101,659. Reverse Relay Device.}

Ralph D. Mershon, New York City, New York, U.S.A., 23rd October, 1906; 6 years. FHled 23rd February, 1906. Receipt No. 133,245.
claim.-1. The combination with a source of current connected with one or more other sources of current, of a circuit controlling device actuated by force proportional to the vectorial product of components dependent upon current and electro-motive force respectively, and adapted with reference to the phase relation of the said components to produce higher torque under conditions accompanied by low power factor than when accompanied by high power factor, as set forth.
2. The combination with a source of current connected with one or more other sources of current, of a circuit controlling device actuated by force proportional to the vectorial product of components dependent upon current and electromotive force respectively, and means for adjusting the magnitude and phase relation of the said components, as set forth.
3. The combination with a source of current connected with one or more other sources of current, of a circuit controlling device actuated by force proportional to the vec-
torial product of components dependent upon current and
electro-motive force respectively, and means (
the magnitude of one or more of the said components, as set forth.
4. The combination with a source of current connected with one or more other sources of current, of a circuit controlling device actated by force proportional to the vectorial product of components dependent upon current and electro-motive force respectively and automatic means for adjusting the magnitude and phase velation of the said components, as set forth.
5. The combination with a source of currents connected with one or more other sources of curnent, of a circuit controlling device actuated by force proportional to the vectorial product of components dependent upon current and electro-motive force nespectively, and automatic means for adjusting the magnitude of one or more of the said components, as set forth.
6. The combination with a source of current connected with one or more other sources of current, of a circuit controlling device actuated by force proportional to the vectorial product of components dependent on current and electro-motive force respectively, and automatic means for adjusting the magnitude and phase reletion of the said components, dependent tude and phase relation of the sald components,
for operation upon decrease of voltage, as set forth.
7. The combination with a source of current connected with one or more other sources of current, of a circuit controlling device actuated by force proportional to the vectorial product of components dependent upon current and electro-motive force respectively, and automatic means for adjusting the magnitude of one or more of the said components, dependent for operation on decrease of voltage, as set forth.
8. The combination with a source of current connected with one or more other sources of current, of a circuit controlling device connected with the first-mentioned source, a local circuit, a movable contact therein, a circuit closing device actuated by the circuit controlling device, and means for moving the contact toward the circuit closing device, the operation of said means being dependent upon, and proportional in extent to, abnormal conditions in the ex cuit of the circuit controlling device, as set forth.
9. The combination with a source of current connected with one or more other sources of current, of a circult costrolling device connected with the first-mentioned source, a local circuit, a movable contact therein, a circuit closing delocal circuit, a movable contact therein, a circuit and means for carrying the movable contact toward the circuit closing device, the operation of the said means being dependent upon.
and proportional in extent to, decrease of voltage in the external circuit of the circuit controlling device, as set forth
10. The combination with a source of curnent connected with one or more other sources of current, of a circuit controlling device connected with the first-mentioned source and actuated by force pnoportional to the vectorial product of components dependent upon current and electro-motive force, a local circuit, a movable contact therein, a circuit closing device actuated by the circuit controlling device, means for moving the contact toward the circuit closing device, means for adjusting the magnitude and phase relation of the said components, and mechanism for actuating both said means, dependent for operation upan abnormal conditions in the external circuit of the circuit controlling device, as set forth
11. The combination with a source of current connected with one or more other sources of current, of a circuit controlling device connected with the first-mentioned source and actuated by force proportional to the vectorial product of components dependent upon current and electro-motive force, a local circuit, a movable contact therein, a circuit closing. device actuated by the circuit controlling device, means for moving the contact toward the circuit closing device, means for adjusting the magnitude of one or more of the said components, and mechanism for actuating both said means, dependent for operation upon abnormal conditions in the external circuit of the circuit controlling device, as set forth.
12. The combination with a source of current connected with one or more other sources of current, of a circuit controlling device connected with the first-mentioned source and actuated by force proportional to the vectorial product of components dependent upon current and electro-motive force, a local circuit, a movable contact therein, a circuit closing device actuated by the circuit controlling device, means for moving the contact toward the circult closing device, means for adjusting the magnitude and phase relation of the sald components, and mechanism for actuating both said means, the operation of said mechanism being dependent upon, and proportional in extent to, decrease of voltage in the external circuit of the circuit controlling device, as set forth,
13. The combination with a source of current connected with one or more other sources of current, of a circuit controlling device connected with the first-mentioned source and actuated by force proportional to the vectorial product of components dependent upon current and electro-motive force a local circuit, a movable contact therein, a circuit closing device actuated by the circuit controlling device, means for moving the contact toward the circuit closing device means for adjusting the magnitude of one or more of the said components, and mechanism for actuating both said means, the operation of said mechanism being dependent upon, and proportional in extent to, decrease of voltage in the external circuit of the controlling device. as set forth.

No. 101,660. Hat Pin. Epingle d chapeau.


Herbert Frank Boyce, South Qu'Appelle, Saskatchewan, Canada, 23rd October, 1906; 6 years. Filed 2nd June, 1906. Receipt No. 136,498 .

Claim.-1. A hat pin comprising a body having a spiral spring at one end, which spiral spring is provided with an extension having an upwardly extending portion terminating in a hook having a point.
2. A hat pin comprising a body portion having an integral spring at one end, said spring having an extension terminating in a hook having a point adapted to lie against the body of the pin.

No. 101,661. Proceas of Mahimg Multiple Photo-
Procédé pour faire des photographies multiples.
Procédé pour faire des photographies multíples.


Hiram C. J. Deeks, Paterson, New Jersey, U.S.A., 23rd October, 1906; 6 years. Filed 4th June, 1906. Receipt No. 136,529.
Claim.-1. The process of printing photographs, which consists in exposing through a negative corrugated paper to the light so that the view will be printed in sections only on the sides of said corrugations facing in one direction and next exposing the same paper through a second negative so that the second view will be printed in sections only on the opposite sides of said corrugations.
2. The process of printing photographs, which consists first in forming parallel corrugations upon a printed surface; second, exposing through a negative the sides of the corrugations facing in one direction so that the view will be printed thereon in sections, and third, exposing through another negative the opposite sides of the corrugations so that the second view will be printed thereon in sections.

No. 101,662. Measure and Distributor for Liquid Disimfectants.
Mesure et distributeur de liquides désinfectants.


Charles Arthur Jarvis, London, England, 23rd October, 1906; 6 years. Flled 9th June, 1906. Receipt No. 136.731.
Claim.-In apparatus for automatically delivering liquid disinfectant to flushing cisterns and having a liquid disinfectant containing reservoir and a measuring vessel depending therefrom, the employment of a leaden weight whose lower end enters and normally closes the aperture leading from the reservoir to the measuring vessel, said weight being guided to move vertically by a spadle wheh is formed with a groove or is sufficiently cut away at that part where it normally passes through the cap of the measuring vessel, that disinfectant can flow from the measuring vessel when the inlet aperture \(b\) is closed, the lower end of said spindle fitting so as to completely close sald aperture in the cap when the weight is raised to a sufficient extent, all substantially as set forth.

No. 101,663. Match Box. Boite d allumettes.


Henry M. Kabele, Westford, Massachusetts, U.S.A., 23rd October, 1906; 6 years. Filed 11th June, 1906. Receipt No. 136,779.
Claim.-1. A match box comprising a body portion having a match discharge opening, a inger arranged for engagement of matches with the body portion and for movement to discharge matches through the opening, means for holding the finger in match engaging position, an agitator within the body portion. and means connected with the finger for moving the agitator when the finger is moved.
2. A match box comprising a body portion having a chamber therewithin provided with a trap at its bottom and havIng a match discharge opening communicating with the trap, a slide, a finger carried by the slide and lying in position for exgagement by a match within the trap to move sald trap outwardly through the opening when the slide is moved, an agitator located within the chamber for movement into and out of position to cover the trap, and means connected with the sllde and arranged to hold the agitator normally in position to cover the trap and arranged for movement to permit of movement of the agitator out of such position when the slide is moved, said means being arranged to hold the agitator in normal positon when the slide is in match projecting position.
3. A match box comprising a body portion having a chamber therewithin and having a match discharge opening, a slide having a finger movable into the body portion for engagement of matches therewithin successively to project them through the discharge opening, means for holding the slide with the finger yieldably in match engaging position, an agitator within the chamber and having a lip provided with a recess in its free edge, and a projection carried by the slide and engaging the free edge of the lip, to hold the agitator against movement, sald projection being movable with the slide into position to enter the recess to permit of movement of the agitator.
4. A match box comprising a body portion having a chamber therewithin provided wth a trap at its bottom and having a match discharge opening at one end of the trap, said trap having a recess in its end wall opposite to the discharge opening, and having a longitudinal slot at its lower portion, sald body portion having a horizontal slot above the trap, a rod mounted horizontally exteriorly of the body portion, a slide mounted upon the rod and having a finger extending through the slot of the trap and in position to enter the recess, a spring engaged with the rod and arranged to hold the slide with its finger normally in the recess, an agitator pivoted to the wall of the body portion above the horizontal slot, for movement into and out of position to cover the trap, said agitator having a lap extending outwardly through the slot and having a cut-away portion in its outer edge between its ends, a projection carried by the lip from the slot, and a projection carried by the slide and engaging the outcr edge of the lip, sald projection being arranged to hold the agitator in position to permit of movement of the agltator out of trap-covering position when between the onds of the lip and in the cut-away portion.

No. 101,664. Vnlcanization of Rubber.
Vulcanisution du caoutchouc.


Ernest Hopkinson, New York City, and Thomas Midgley. Hartford, Connecticut, U.S.A., 23rd October, 1906; 6 years. Filed 12th June, 1906. Receipt No. 136,826.
Claim.-1. The method of vulcanizing or curing the outer shoes or casings for pneumstic tires for vehicles which consists in supporting and securing the shoe or casing in form, applying a porous cover to the exposed surface of the shoc or casing, and subjecting the shoe or casing so supported and covered to the action of vulcanizing heat.
2. The method of vulcanizing or curing the outer sheaths or casings for pneumatic tires for vehicles which consists in supporting the shoe or casing upon a core, clamping the shoe or casing in position by the core with the tread portion exfosed, placing a porous covering over the exposed surface of the tire shoe or casing and an contact therewith. and subjecting the shoe or casing so supported, clamped and covered to the action of vulcanizing heat.
3. The method of vulcanizing or curing outer shoes or casings for pneumatic tires for vehicles which consists in sup. porting the shoe or casing upon a core, placing an abutment member between the margins of the shoe or casing, clamping the shoe or casing firmly upon the core and against the atutment member, but leaving the tread portion of the shoe ol casng exposed, placing a covering of textile fabric over the exposed tread portion of the shoe or casing and in contact therewith, and in subjecting the shoe or casing so supported and covered to the action of vulcanizing heat.
4. The method of curing or vulcanizing outer shoes or casitugs for pneumailc tires for vehcles which consists in supporting and securing the shoe or casing so as to hold it in the form which it is intended to retain, and leaving the tread portion of the shoe or casing exposed, placing a covering of porous material over the exposed portion of the shoe or casing and in contact therewith, subjecting the covering to tension to create pressure on the shoe or casing, and ex posing the shoe or casing so covered and supported to the action of live steam.
5. The combination in apparatus of the character specified, of a core adapsed for insertion within a tire shoe or casing, means for clamping the margins of the casing in proper relation to the core while ieaving the treed of the shoe or casing exposed, and a wrapping or covering for the tire shoe or casing of textile fabric.
6. The combination in apparatus of the character epecified, of a core adapted for insertion within a tire shor or casing, means for clamping the margins of the casing in proper relation to the core while leaving the tread of the shoe or casing exposed, and a wrapping or covering extending over the exposed portion of the tire shoe or cading and the clamping devices.
7. The combination in apparatus of the character specifled, of a core adapted for insertion within a tire shoe or casing, means for clamping the margins of the casing in proper relation to the core while leaving the tread of the shoe or casing exposed, a wrapping or cover for the tire shoe or casing of textile fabric, and means for subjecting the cover of textile fabric to tension.
8. The combination in apparatus of the character speclfied, of a core adapted for insertion within a tire shoe or casing, clamping members for engagement with the margins of the casing and having their exponed lateral surfaces tangent to the surface of the casing, a porous wrapping or cover for the tire shoe or casing, and means for securing the wrapping or cover in position.
9. The combination in apparatus of the character specified, of a structure adapted to support and hold a tire shoe or casing and leave the tread surface exposed, said holding structure presenting lateral channels, a porous wrapping or cover for the shoe or casing and the holding and supporting structure, and means for forcing said cover or wrapping into said channels to place the said wrapping or covering under tension.
10. The combination in apparatus of the character specifled, of devices for securely hoiding and supporting a tire shoe or casing in the form to be permanently held thereby, sald devices leaving the tread portion of said shoe or casing laxposed, a cover of porous material adapted to fit snugly on the exposed portion of the shoe or casing, and means for securing the cover in position.
11. The combination in apparatus of the character specifled, of a core adapted for introduction within a tire shoe or casing and clamping members adapted to secure the shoe or casing in position upon the core and leave the tread portion thereof exposed. said core and said clamping members co-operating to mould the margins of the shoe or casing to proper form.

No. 101,665. Magneto-Electric Dumb Bell.
Haltères magneto-électrique.


James Moores, St. Lesmo, Hastings Avenue, Chlorton-cumHardy, Manchester, England, 23rd Octoher, 1906; 6 years. Filed 14th June, 1906. Receipt No. 136.910.
Claim.-1. The combination in a dumb beil of a magnetelectricity generator and clockwork for driving the armature of the magneto, substantially as hereinbefore described.
2. The combination in a dumb bell of a magneto-electricity generator, alockwork for driving the magneto armature, and a speed retarding device, substantially as hereinbefore described.
3. The combination in a dumb bell of a magneto-electricity generator, clockwork for driving the armature, and a starting and stopping device operable by the user, substantially as herein before described.
4. The combination with a pair of dumb bells of a mag-neto-electricity generator, clockwork for driving the armature of the same, a conductor from one pole of the armature to one bell, and a conductor leading from the other pole to the other bell, substantially as hereinbefore described.
5. The combination with a pair of dumb bells of a mag-neto-electricity generator, clockwork for driving the armature of the same, a starting and stopping device operable by the user, a conductor from one pole of the armature to one bell and a conductor leading from the other pole to the other bell, substantially as hereinbefore described.

No. 101,666. Apparatus for Extracting Turpentine, Ftc.

\section*{Appareil pour extraire de la térébentinc.}


Malcolm McKenzle, Plainfleld, New Jersey, U.S.A., 23rd October, 1906; 6 years. Filed th June, 1906. Recelpt No. 136,527.
Claim.-1. The method of treating wood which consists in subjecting the wood to the aotion of a bath in a suitable vessel, removing the bath to a separate vessel and agitating and cooling the same, then re-heating the bath to its former temperature and returning same to the vessel containing the wood.
2. The herein described method of treating wood which consists in subjecting the wood to the action of a suitable bath, removing portions of the bath. reducing the temperature of suoh memoved portion, and then returning same to the bath.
3. The method of treating wood which consists in subjecting the wood to the action of a bath, continuously removing a portion of the bath, agitating and cooling such removed portion and then returning said portion to the original bath.
4. The method of treating wood which consists in subjecting the wood to the action of the bath, continuously removing a portion of the bath, agitating and cooling such removed portion by steam, then re-heating such removed portion of the bath to its original temperature and returning same to the bath, substantially as described.
5. An apparatus for the extraction of turpentine, etc., from wood, comprising a vessel for the reception of the bath with which the wood has been treated, means for circulating the bath between the two vessels, means for cooling the portion of the bath contained in the second-named vessel, means for condensing the vapours from the secondnamed vessel, and means for re-heating the bath prior to its return to the first-named vessel.
6. An apparatus for the extraction of turpentine, etc., from wood, comprising a vessel for the reception of the wrod to be treated, a vessel for the reception of the bath with which the wood has been treated, means for circulating the bath between the two vessels, means for introducing steam into the bath in the second-named vessel, means for condensing the vapours from the second-named vessel, and means for re-beating the bath on its return fnom the secondnamed vessel to the first-named vessel.

\section*{No. 101,667. Inhaler for Anaesthetics. Inhalateur pour anesthésiques.}

William Webster, Winnipeg, Manitoba, Canada, 23rd October, 1906; 6 years. Filed 1st June, 1906. Receipt No. 136.462. Claim.-1. In a device of the character described the combination comprising a casing open at one end, a pad secured to the open end of the casing, inlet and outlet openings in the opposite end of the casing, spring actuated valves adapted to close sald openings, and means for admitting an anaesthetic to the casing.
2. In a device of the character described the combination comprising a casing open at one end, a pneumatic pad secured to the open end of the casing, inlet and outlet openings provided in the casing, valves normally closing the openings, means for admitting an anaesthetic to the casing, and means for maintaining a body of absorbent material in the casing.
3. In a device of the character described the combination comprising a casing open at one end, a body carried by the open end of the casing, means permitting the ingress and egress of gas from the casing, means for admitting a liquid anaesthetic to the casing, a vertical partition carried by the casing, a spring carried by the vertical partition, a corresponding spring carried by the casing, a perforated plate supported by the springs, and flanges carrled adjacent the perforated plate.
4. In a device of the character described the combination comprising a casing open at one end, a pad on the casing, means for maintaining a body of absorbent material in the casing, a fllling tube disposed through the wall of the casing and provided with perforations, means for admitting gas to the casing, and means permitting the escape of gas from the casing.
5. In a device of the character described the combination comprising a containing casing having an open end, a pad

secured to the casing at its open end, means for maintaining a body of absorbent material in the casing, means for admitting a liquid anaesthetic to the casing, a hood secured to the casing adjacent an opening provided therein, a cap disposed over the hood and provided with an opening, an annular casing disposed around the opening provided in the wall of the containing casing, a web disposed across the annular casing, a standard carried by the web, a spring disposed around the standard, a valve carried on the spring, \(a\) cap carried by the annular casing, and means adapted to permit the escape of gas from the casing.
6. In a device of the character described the combination comprising an open ended containing casing provided with inlet and outlet openings, a pad secured to the containing casing adjacent its open end, means for retaining a body of absorbent material in the casing, means for admitting a liquid anaesthetic to the casing. means for admitting a gas through the inlet opening in the casing, and an annular casing disposed around the outlet opening in the containing casing, a web dispos?d acros3 the annular casing, a standard carried by the web, a spring disposed around the standard, a valve disposed around the standard, and a perforated cap on the annular casing.

\section*{No. 101,668. Winding Machine. Machine d bobinage.}


The Northern Electric and Manufacturing Company, Montreal, Quebec, Canada, assignee of Edwin H. Smythe, Chicago, Illinois, U.S.A., 23rd October. 1906; 6 years. Filed 12th July, 1906. Receipt No. 137,735.
Claim.-1. In a winding machine the combination with a positively driven spool ring adapted to surround the core to be wound, of a guide adapted to convey the wire from tho spool to the core, said guide being mounted to slide around the circumference of the spool ring while being driven frictionally thereby.
2. In a winding machine the combination with a rotatable spool ring adapted to surround a core to be wound, and means ior positively driving said spool ring, of a gulde adapted to convey the wire from caid spool to said core, sald guide being firictionally driven by said spool ring but having a slip relative thereto according to the pull of the wire passing over said guide.
3. In a winding machin
driven spool ring adapted the combination with a positively driven spool ring adapted to be interlinked with a closed core, of a guide for directing the wire from the spool to the core, said guide being mounted upon the ring to be rotated thereby but having a relative movement of rotation thereon as the wire is unwound from the spool, and spring means for maintaining the guide advanced upon the spool to the bight of the loop of wire which passes over said guide between the spool and core, whereby said wire is held taunt.
4. In a machine for winding closed doors the combination with a spool ring adapted to be interlinked with the core, of means for positively driving said spool ring, a guide adapted to direct the wire from the spool over the side thereof and toward the core to be wound, said guide being mounted to move backward around the spool ring as the wire is unwound therefrom, a drag also mounted to move around the ring but having firictional engagement therewith and a spring connection between said drag and said guide whereby the guide is driven in the rotation of the spool ring and the wire being wound is held taunt.
5. In a winding machine the combination with a rotating ring. of a drag rotated frictionally by said ring and having a slip relative thereto, and a gulde connected to said drag by an extensible spring, substantially as set forth.
6. In a winding machine the combination with a spool ring. of means for positively driving the same, and a guide slidably mounted on said spool ring.
7. In a winding machine the combination with a positively Uriven spool ring having an endless way thereon, of a guide mounted to move on said way.
8. In a winding machine the combination with a positively driven spool ring having an endless way thereon, of a frictional drag and a wire guide mounted to move on sald way and a resilient connection between said drag and said guide.
9. In a winding machine the combination with a positively driven spool ring, of an endless way on said spool ring, a frictional drag and wire guide mounted to move on said way. a helical spring connecting said drag with said guide and a supporting block for said spring adapted to slide along said way.
10. In a winding machine the combination with the driving mechanism, of a spool ring adapted to be rotated at an approximately constant speed, and a frictionally driven wire guide adapted to be rotated at a variable speed concentrically with said spool ring.
11. In a winding machine the oambination with the driving mechanism, of a spool ring adapted to surround the core to be wound and to be notated at an approximately coastan speed, a frictionally driven guide rotating concentrically with said spool ring and adapted to convey wire from said spool ring to the core, and means adapted to vary the opeed of rotation of said guide, whereby the rate of transfer of wire from said spool ring is regulated and the accumulation of slack prevented.
12. In a winding machine for winding closed cores, the combination with the driving mechanism, of a spool ring intenlinked with the core to be wound and adapted to be rotated at an approximately constant speed, said spool ring having wire wound thereon, a frictionally driven guide rotating concentrically with sald spool ring, the wire passing from said spool ring to the core to be wound by way of sald guide, the pull on said wire being adapted to vary the speed of rotation of said guide, whereby the rate of transfer of wire from said spool ring is automatically regulated and the accumulation of slack prevented.

\section*{No. 101,669. Match Making Machine. Machine d faire des allumettes.}

The Sarnia Match Company, Sarnia, Ontario, Canada, assig. nee of William F. Hutchinson Nlack, New York, US.A. 23rd October, 1906; 6 years. Filed 21st August, 1906. Beceipt No. 138,899 .
Claim.-1. A match machine comprising a recelprocating buide bar heving transverse stock recelving recesses there in, means for cutting off the stock in the recess when the guide bar is moved in either drection, and means for ejecting the splinits thus formed from the said recesses.
2. A match machine comprising a reciprocating guide bar having transverse stock receiving recesses therein. oppo sitely arranged knives held opposite the gulde bar and adapted to cut-off the stock when the guide bar is moved in either direotion, and means for ejecting splints from the recesses in the guide bar.
3. A match machine comprising a movable guide havink transverse stock receiving recesses on opposite sides there-
of, means for cutting off the stock in the aforesaid recess, and means for ejecting splints from the said recesses.

4. A match machine comprising a reciprocating guide bar having transverse stock receiving recesses therein means for cutting off the stock while it is held in the said recesses by the movement of the guide bar in either direction, and means for ejecting the splints endwise from the said recesses.
5. A match machine comprising a reciprocating guide bar having transverse stock receiving recesses therein, cutting mechanism to sever the stock while it is heid in the recesses, means for operating the cutting mechanism bv the movement of the guide in either direction, and plungers moving endwise through the recesses to eject the splints therefrom.
6. A match machine comprising a reciprocating guide bar having transverse stock recelving recesses therein, means for feeding stock into the recesses, means for cutting off the stock in the recesses by the movement of the guide har in either direction, and means for ejecting the splints endwise from the recesses.
7. A match machine comprising a reciprocating guide bar having transvense stock receiving recesses extending across its entire width, means for feeding stock into the recesses, knives held opposite the guide bar to sever the stock. and means for ejecting splints endwise from the sail recesses.
8. A match machine comprising a reciprocating guide bar having transverse stock receiving recesses therein. knives held flatwise against the guide bar to sever the stock by the movement of the guide bar, and yielding guides behind the knives, the said guides being arranged opposite the recesses of the guide bar.
9. A match machine comprising a reciprocatino guide bar having transverse stock recelving recesses therein. means for cutting off the stock while it is held in the guide bar. and ejecting plungers movable in the recesses of the guide bar, the said plungers being arranged to side with the guide bar and to also move lengthwise through the recesses of the guide bar.
10. In a match machine, a reciprocating guide bar having transverse stock receiving recesses therein, oppositely arranged stationary knives held parallel with and close against the side bar, and a guide casing extending from knife to knife opposite the guide bar.
11. A match machine comprising a reciprocating guide bar having transverse stock receiving recesses therein, oppositely arranged knives held parallel with and close against the guide bar, a yielding guide or casing extending from knife to knife and arranged opposite the guide bar, and ejecting means for forcing splints lengthwise from the recesses in the guide bar.
12. A match machine comprising a reciprocating guide bar having transverse stock receiving recesses on opposite sides thereof, opposed pairs of knives arranged on opposite sides of the gulde bar, parallel therewith, each knife having its edges in opposite directions, guide extending between the knives of each bar, and plungers movable through the recesses of the guide bar.
13. In a match machine the combination with the reciprocating aud recessed guide bar having means for cutting splints in the recesses, of the piungers arranged to enter the recesses of the guide bar, the said plungers moving with the guide bar and also through the recesses thereof and being arranged in series one series moving through the aforesaid recesses while the other series is stationary.
14. In a match machine, the combination with the recessed stock receiving guide bar, of the independent heads arranged above the guide bar and moving in unison therewith the said heads being vertically movable in relation to each other, and plungers on the heads, which plungers enter and move through the recesses of the guide bar.
15. In a match machine, the combination with the splint discharging mechanism and the splint carrying frames, of means for feeding the frames opposite the splint discharging mechanism, and means for giving the frames an extra movement as their ends come opposite the splint discharging mechanism.
16. In a match machine, the combination with the splint discharging mechanism and the carrying frames movable opposite the splint discharging mechanism, of a series of ratchet wheels and pawls operatively connected with the splint carrying frames to feed them one of the ratchet wheels and pawls having an extra throw timed to give an added movement to the frames as their ends come opposite the splint discharging mechanism.
17. In a match machine, the combination with the stock feed, of a supplemental feed normally out of use but adapted to carry stock to the regular feed, and means for throwing the supplemental feed into operation by the exhaustion of stock from the regular feed.
18. In a match machine, the combination with the regular stock feed, of a supplemental feed normally out of action but adapted to carry stock to the regular feed, and means for throwing the supplemental feed into action by a break in or exhaustion of the regular stock.
19. In a match machine, the combination with the regular stock feed, of a supplemental feed normally out of action but adapted to carry stock to the regular feed, electrically operated means for throwing the supplemental feed into action, and means for starting the electrically operated mechanism by a break in the stock.
20. In a match machine, the combination with the regular stock feed, of a supplemental feed normally out of action out adapted to carry stock to the regular feed a circuit closer operatde by a break in the stock, and means actuated by the closing of the circuit to throw the supplemental feed into action.
21. In a match machine, the combination with the regular stock feed, of a supplemental feed normally out of action but adanted to carry stock to the regular feed, a magnet operated latch arranged to hold the supplemental teed out of action, and means operated by a break in the siok to energize the magnet and release the latch and throw the supplemental feed into action.
22. In a match machine, the combination with the regular stock feed, of a supplemental feed normally out of acfion but adapted when in use to advance stock to the regular feed, a circuit closer normally held open by the passage of the stock through it, electro-magnets in circuit with the circuit closer, and a latch operated by the energizing of Te magnets to release the supplemental feed and permit it to go into oneration.
23. In a match machine, the guide bar transversely recessed to receive stock, the said recesses being arranged on opposite sides of the guide bar and each recess having an abrupt wall on one side and an inclined wall on the opposite side.
24. In a match machine, the combination with the recesscd stock receiving guide bar, the said recesses being each provided with an abrupt and an inclined wall, and a suitable cut-off knife, of spring actuated means for pressing the stock against the abrupt wall of the said recesses.
25. A match machine, comprising a movable guide having transverse stock receiving recesses on opposite sides thereof, means for feeding stock into the said recesses, means for cutting the stock off in the said recesses, and means for ejecting the splints from the recesses.
26. A match machine, comprising a movable guide having transverse stock receiving recesses o nopposite sides thereof, means for feeding stock in opposite directions towards said guide, means for cutting off the stock in the recesses, and means for ejecting splints from the recesses.

\section*{No. 101,670. Loom. Métier.}

William F. Clayton and Cliffton P. Bentley, co-inventors, both of Atlanta, Georgia, U.S.A., 23rd October, 1906; 6 years. Filed 31st August, 1906. Receipt No. 139,123.
Claim.-1. The combination with a beam of a loom, of an arm pivotally connected to the beam, a resilient finger depending therefrom and normally held by gravity upon fabric woven in the loom, and means actuated by the arm for stopping the mechanism of the loom.
2. The combnation with a beam of a loom, of a rod rotat. ably mounted upon the beam, an arm extending therefrom, a spring controlled finger depending from the arm and normally contacting by gravity with fabric woven by the loom, and means actuated by the arm for stopping the mechanism of the loom.
3. A detector rod mounted with its point upon the cloth and having an extension, a knock-off lever and weft hammer, a latch bar connecting with the knock-off lever and supported by said extension to engage the weft hammer when the point enters the cloth.
4. A pivotally mounted detector rod having a cloth engagir:g point and an extension, a weft hammer and a latch bar

supported by said extension above said hammer and means t.) utilize the movement of the latch bar when the latter is siruck by the weft hammer incident to the point entering the cloth.
\(\therefore\). The combination with the knock-off lever, of a detector rod having an arm, a latch bar supported by the arm and a woft hammer designed to cause the latch bar to operate the knock-off lever.
6. The combination with the knock-off lever, of a pivoted detector rod, an arm upon the rod, a latch bar supported by the arm and connecting with the knock-off lever and a weft hommer designcd to engage the lateh bar and operate the knock-off lever.
7. The combination with the knock-off lever and weft hammer, of a detector rod, a latch bar connecting with the knock-off lever and means upon the detector rod for normally supporting the lateh bar out of engagement with the weft hammer.
h. The combination with the knock-off lever, weft hammer and hammer hook, of a detector rod, a latch bar connecting with the knock-off lever and having a projection designed to be engaged by the hammer hook, an arm upon the detector rod adapted to normally support the latch bar out of engagement with the hammer hook.
9. The combination with the knock-off lever and weft hammer, of a pivoted detector rod, a finger upon the rod to rast upon the cloth, an arm upon the rod, a lateh bar supported by the arm out of the path of the woft hammer when the li:ger is resting on the cloth whereby the lateh bar will move irto engagement with the weft hammer when the finger passes through the cloth.
10. In a mechanism of the class described the combination with the knock-off lever, hammer and weft hammer hook, of a pivoted detector rod, a latch bar pivoted to the knock-off lever provided with a projection in the line of travel of the hammer hook, and means upon the detector rod for normally supporting the latch bar out of engagement with said hook.
11. In a mechanism of the class described, the combination with the knock-off lever, hammer and weft hammer hook, of a pivoted detector rod. a latch bar pivoted to the knock-off lever provided with a projection in the line of travel of the hammer travel of the hammer hook, and means upon the detector rod for normally supporting the latch bar out of engagement with said hook.
12. In a mechanism of the class described the combination with the knock-off lever, weft hammer, and hammer hook, of a pivoted detector rod, a latch bar pivoted to the knockoff lever having a projection adapted to engage the hammer hook, and an arm upon the detector rod for normally keeping the latch bar out of engagement with the hammer hook.
13. In a mechanism of the class described the combination with the knock-off lever, weft hammer, and hammer hook. of a pivoted detector rod, a finger upon the rod adapted to rest upon the rod, an arm upon the rod, a latch bar provided with a projection supported by the arm above the hammer hook, when the finger is resting upon the cloth, and permitting the projection to engage the hammer hook when the finger descends, and pivoted connections between the knock-off lever and latch bar.

\section*{No. 101,671. Stop Motion for Looms.}

\section*{Mouvement l'arrêt pour métiers.}

Sydney Turner, Toronto. Ontario, Canada, 23rd October, 1906 ; 6 years. Fjled 7 th June, 1906. Receipt No. 136,645.

Claim.-1. A stop motion comprising a rocker arm, a detent bar to hold the rocker arm in an operative position, a
pair of friction rolls, and a trip bar actuated by the friction rolls to release the engagement of the detent bar with the rocker arm.

2. A stop motion comprising a spring actuated rocker arm, a detent bar to hold the rocker arm in an operative position, a pair of friction rolls and a trip bar actuated by the friction rolls to release the detent bar from engagement with the rocker arm.
3. A stop motion comprising a rocker arm, a detent bar to hold the rocker arm in an operative position, a pair of frictional rolls, a trip bar actuated by the friction rolls to relcase the engagement of the detent bar with the rocker arm, and means to restore the trip bar to its initial position when the rocker arm has been released by the detent bar.
4. A stop motion comprising a rocker arm, a detent bar to hold the rocker arm in an operative position, a pair of friction rolls, a trip bar actuated by the friction rolls to release the engagement of the detent bar with the rocker arm, means to restore the trin bar to its initial position when the rocker arm has been released by the detent bar and a stop connected to the rocker arm to fix the initial position of the trip bar.
5 . A stop motion comprising a rocker arm having a trip bar support, a detent bar to engage and hold the rocker arm in an operative position, a pair of friction rolls arrang. rd one above and the other below the trip bar support, \({ }^{2}\) trip bar slidable longitudinally on the trip bar support and actuated by the friction rolls to release the engagement of the detent bar with the rocker arm.
6. A stop motion comprising a rocker arm having a trip bar support, a detent bar to engage and hold the rocker arm in an operative position, a pair of friction rolls arranged one above and the other below the trip bar support, a trip bar slidable longitudinally on the trip bar support and actuated by the firiction rolls to release the engagement of the detent bar with the rocker arm, and means to restore the trip bar to its initial position when the detent bar has been released from engagement with the rocker arm.
7. A stop motion comprising a rocker arm having a trip bar support, a detent bar to engage and hold the rocker arm in an operative position, a pair of friction rolls arranged one above and the other below the trip bar support, a trip bar slidable longitudinally on the trip bar support and actuated by the priction rolls to release the engagement of the detent bar with the rocker arm, means to restore the trip bar to its initial position when the detent bar has been released from engagement with the rocker arm, and a stock connected to the rocker arm to fix the initial position of the trip bar.
8. A stop motion comprising a machine frame, a rocker arm rockably connected with the machine frame, a trip bar support carried by the rocker arm, a detent bar piroted to the machine frame, a latch connected to the detent bar to engage the rocker arm and hold it in an operative position, a friction roll revolubly connected to the rocker arm above the trip bar support, a second friction rol located below the trip bar support, adjustable bearings for the second-mentioned friction roll, means to cause the united revolution of the friction rolls, means for imparting motion to the pint=- wieels and friction rolls, and a trip bar slidab: = songitudinally upon the trip bar support and actuated in a forward direction by the friction rolls to re-
lease the latch of the detent bar from engagement with the rocker arm.
9. A stoD motion comprising a machine frame, a rocker arm rockably connected with the machine frame, a trip bar support carried by the rocker arm, a detent bar pivoted 10 the machine frame, a latch connected to the detent bar to engage the rocker arm and hold it in an operative position, a friction roll revolubly connected to the rocker arm above the trip bar support, a second firiction roll located below the trip bar support, adjustable bearings for the second-mentioned friction roll. means to cause the united revolution of the friction rolls, means for imparting motion to the pinion wheels and friction rolls, a trip bar slidable longitudinally upon the trip bar support and actuated in a forward direction by the friction rolls to release the latch of the detent bar from engagement with the rocker arm and a cushion yieldingly supporting the bearings of the second-mentioned thiction roll.
10. A stop motion comprising a machine frame, a rocker arm rockably connected with the machine frame, a trip bar support carried by the rocker arm, a detent bar pivoted to the machine irame, a latch connected to the detent bar to engage the rocker arm and hold it in an operative position, a friction roll revolubly connected to the rocker arm above the trip bar support. a second friction roll located below the trip bar support. adjustable bearings for the second-mentioned friction roll. means to cause the united revolution of the friction rolls, means for imparting motion to the pinion wheels and eriction rolls. a trip bar slidable longitudinally upon the trip bar support and actuated in a forward direction by the friction rolls to release the latch of the detent bar from engagement with the rocker arm, a cushion yleldingly supporting the bearings of the second-mentioned frletion roll, and means for adfusting the cushion to regulate the frictional contact of the friction rolls unon the trip bar.
11. A stop motion comprising a marhine frame, a rocker arm rockably connected with the machine frame. a trip bar support carried by the rocker arm. s detent bar pivoted to the maching frame, a lateh connereted with the detent bar to engage the rocker arm and hold it in an operative position, a friction roll revolubly connocted with the rocker arm above the trip bar support. a second friction roll lorated below the trip bar support, adjustable bearings for the second-mentioned priction roll, means to cause the united revolution of the friction rolls. means for imparting motion to the pinion wheels and friction rolls, and a trip bar slidable longitudinally upon the trip bar support and artuated in a forward dircction by the friction rolls to release the latch of the detent bar from engagement with the rocker arm, and means for restoring the trip bar to its initial position when the rocker arm is relcased from engagement with the detent bar.
12. A stop motion romprising a machine frame. a rocker arm rockably connectod with the machinc frame. a trip bar support carried by the rocker arm. a detent bar pivoted to the machine frame, a lateh connected to the detent bar to engage the rocker arm and and hold it in an operative position. a friction roll revolubly connected to the rocker arm above the trip bar support, a second friction roll lorated below the trip bar support. adjustable bearings for the second-mentioned friction roll, means to cause the united revolution of the friction rolls, means for imparting motion to the pinion wherls and friction rolls, and a trip har slidable longitudinally upon the trip bar support and actuated in a forward direction by the friction rolls to reluase the latch of the detent bar from engagement with th. rockor arm. means for restoring the trip bar to its inlial nosition when the rocker arm is released from ent gazement with the detent bar, and a cushion yieldingly sumporting the bearings of the second-mentioned friction roll.
13. A ston motion comprising a machine frame, a rocker arm rockably connected with the machinc frame, a trip bar support carried by the rocker arm. a detent bar pivoted to the machine frame, a latch connected to the detent bar to engage the rocker arm and hold it in an operative position, a friction roll revolubly connected to the rocker arm above the trip bar support, a scoond friction roll located below the trip bar support, adjustable bearings for the second mentioned friction roll, means to cause the united revolution of the friction rolls. means for imparting motion to the pinion wherls and friction rolls, a trip bar slldable longitudinally upon the trip bar support and actuated in a forward direction by the friction rolls to release the latch of the detent hartfrom engagement with the rocker arm, moans for restoring the trip bar to its inltial position When the rocker arm is released from engagement with the Artent bar, a cushion yleldingly supporting the bearings of the second-mentioned friction roll, and means for adjusting the cushion to regulate the frictional contact of the friction rolls upon the trid bar.
14. A stop motion comprising a machine frame, a rocker arm rockably connected with the machine frame, a trip bar support carried by the rocker arm, a detent bar pivoted to the machine frame, a lateh connected to the detent bar to engage the rocker arm and hold it in an operative losition, a friction roll revolubly connected to the rocker arm above the trip bar support, a second friction roll located below the trip bar support, adjustable bearings for the second-mentioned friction roll, means to cause the tillited revolution of the friction rolls, means for imparting motion to the pinion wheels and friction rolls, a trip bar sidable longitudinally upon the trip bar support and artuated in a forward direction by the friction rolls to release the latch of the detent bar from engagement with iher rocker arm, and an adjustable stop connected to the rockir arm 10 fix the initial position of the trip bar.
15. A stoll motion comprising a machine frame, a rocker arm rockably connected with the machine frame, a trip bar support carried by the rocker arm, a detent bar pivoted to the machine frame, a lateh connected to the detent bar to rngage the rocker arm and hold it in an operative position. a friction roll revolubly connected to the rocker arm above the triy bar support, a serond friction roll located brlow the trip bar support, adjustable bearings for the second-mentioned friction roll. means to cause the united revolution of the friction rolls, means for imparting motion to the ninion wheels and friction rolls, a trip bar slidabl. longitudinally unon the trip bar support andactuated in a forward direction by the friction rolls to release the latch of the detent bar from engagement with the rocker arm, a cushion yieldingly supporting the bearings of the second-mentioned friction roll, and an adjustable stop connected to the rocker arm to fix the initial position of the trip bar.
16. A ston motion comprising a machine frame, a rocker arm rockably connected with the machine frame, a trip bar support carried by the rocker arm, a detent bar plvoted to the machine frame, a latch connected to the detent bar to engage the rocker arm and hold it in an operative position. a friction roll revolubly connected to the rocker arm above the trip bar support, a second friction roll located below the trip bar support, adjustable bearings for the second-mentioned friction roll. means to cause the united revolution of the friction rolls, means for imparting motion to the pinion whecls and friction rolls, a trip bar sildable lngitudinally upon the trin bar support and actwated in a forward direction by the friction rolls to release the latch of the detent bar from engagement with the rocker arm. means for adjusting the cushion to regulate the frictional contact of the friction rolls upon the trip bar. and an adjustable ston connoctod to the rocker arm to fix the Initial position of the trip bar.
17. A ston motion comprising a machine frame, a rocker arm rockably connected with the machine frame, a trip bar support carried by the rocker arm. a detent bar pivoted to the machine frame, a latch connected to the detent bar to engage the rocker arm and hold it in an operative josition, a friction roll revolubly connected to the rocker arm above the trin bar support, a second friction roll located below the trip bar support, adjustable bearings for the second-mentioned friction roll. means to cause the united revolution of the friction rolls, means for imparting motion to the pinion wheels and friction rolls, a trip bar slidable longitudinally upon the trip bar support and actuated in a forward direction by the friction rolls to release the latch of the detent bar from engagement with the rocker arm, a friction clutch, a shifting lever to move the riction clutch into an active position, a link rigidly connecting the shifting lever with the rocker arm to cause their united movement, a spring to actuate the rocker arm and shifting lever co-incident with the release of the rocker arm by the detent bar, and means for moving the rocker arm and shifting lever into their active position.
18. A stop motion comprising a machinc frame, a rocker arm rockably connected with the machine farme, a trip bar support carried by the rocker arm, a detent bar pivoted to the machine frame, a latch connected to the detent bar to engage the rocker arm and hold it in an operative position, a friction roll revolubly connected to the rncker arm above the trip bar support, a second friction roll located below the trip bar support, adjustable bearings for the second-mentioned friction roll, means to cause the united revolution of the friction rolls. means for imparting motion to the pinion wheels and Priction rolls, a trip bar slidable longitudinally upon the trip bar support and actuated in a forward direction by the friction rolls to release the lateh of the detent bar from engagement with the rocker arm, a friction clutch, a shifting lever to move the friction clutch into active position, a link rigidly connecting the shifting lever with the rocker arm to cause their united movement, a spring to actuate the rocker arm and shifting lever coincident with the release of the rocker arm by the detent bar, means for moving the rocker
arm and shifting lever into their active position, comprising a treadle lever and a link connecting the treadle lever with the shifting lever.
19. A stop motion comprising a machine frame, a rocker arm rockably connected with the machine frame, a trip bar support carried by the rocker arm, a detent bar pivoted to the machine frame, a latch connected to the detent bar to engage the rocker arm and hold it in an operative position, a friction roll revolubly connected to the rocker arm above the rtip bar support, a second friction roll located below the trip bar support, adjustable bearings for the second-mentioned friction roll. means to cause the united revolution of the friction rolls, means for \(1 m-\) parting motion to the pinion wheels and friction rolls, a trip bar slidable longitudinally upon the trip bar support and actuated in a forward direction by the friction rolls to release the latch of the detent bar from engagement with the rocker arm, a cushion yieldingly supporting the bearings of the second-mentioned friction roll, a friction clutch, a shifting lever to move the friction clutch into an active position, a link rigidly connecting the shifting lever with the rocker arm to cause their united movement, a spring to actuate the rocker arm and shifting lever coincident with the release of the rocker arm by the detent bar, and means for moving the rocker arm and shifting lever into their active gosition.
20. A stop motion comprising a machine frame, a rocker arm rotatably connected with the machine frame, a trip bar support carried by the rocker arm, a detent bar pivoted to the machine frame, a latch connected to the detent bar to engage the rocker arm and hold it in an operative position, a friction roll revolubly connected to the rocker arm above the trip bar support, a second friction roll located below the trip bar support, adjustable bearings for the second-mentioned friction roll, means to cause the united revolution of the friction rolls, means for imparting motion to the pinion wheels and friction rolls, a trip bar slidable longitudinally upon the trip bar support and actuated in a forward direction by the friction rolls to release the latch of the detent bar from engagement with the rocker arm, a cushion yieldingly supporting the bearings of the second-mentioned friction roll, and means for moving the rocker arm and shifting lever into their active position, comprising a treadle lever and a link connecting the treade lever with the shifting lever.
21. A stop motion comprising a machine frame, a rocker arm connected with the machine frame, a trip bar support carried by the rocker arm, a detent bar pivoted to the machine frame, a latch connected to the detent bar to engage the rocker arm and hold it in an operative position, a friction roll revolubly connected to the rocker arm above the trip bar support, a second friction roll located below the trip bar support. adjustable bearings for the secondmentioned friction roll, means to cause the united revolution of the friction rolls. means for imparting motion to the pinion wheels and friction rolls, a trip bar slidable longitudinally upon the trip bar support and actuated in a forward direction by the friction rolls to release the latch of the detent bar from engagement with the rocker arm, a friction clutch, a shifting lever to move the friction clutch into an active position, a link rigidly connecting the shifting lever with the rocker arm to cause their united movement, a spring to actuate the rocker arm and shifting lever coincident with the release of the rocker arm by the detent bar, means for moving the rocker arm and shifting lever into their active position, and a spring to hold the latch member of the detent bar in engagement with the rocker arm.

No. 101,672. Warp Stop Motion Looms. Mouvement d'arrêt de fl pour métiers.


Friedrich Plck, Vienna, Austria, 23rd October, 1906 ; 6 years. Filed 21st'July, 1905. Receipt No. 127,059.
Claim.-Healds for electrical and mechanical warp stop motions for looms for weaving, made of twisted thread and their lower ends furnished with eyes which loosely surround the lower heald rail, substantially as and for the purpose specifled

\section*{No. 101,673. Cutter-Fead. Porte-lame.}


Arthur Wilson Nelson, Chicago, Illinois, U.S.A., 23rd October, 1906 ; 6 years. Filed 1st August, 1906. Receipt No. No. 138,343.
Claim.-A cutter-head comprising a head stock, knives radia!ly disposed thereon, guldeways in the head stock perpendictelar to the knives, and clamps having sliding engagement with the guideways, bearing against the knives.

No. 101,674. Wood Working Machine.
Machine à travailler le bois.


Frank Diehl, Sheboygan Falls, Wisconsin, U.S.A., 23 rd Octo. ber, 1906 ; 6 years. Filed 2nd August, 1906. Repeipt No. 138,365
Claim.-1.A wood working machine comprising a suitable frame provided with parallel slde bars having upper outcr
being provided at its smaller and outer end with two points being provided at its of the tapered edges and a point dis-
forming a continuation of

posed between and extending beyond said two points and located coincident with the axil center of the shaft.

No. 101,677. Teeter Apparatus.
Appared d'amusement.


Frank H. Dickson, Oswego, New York, U.S.A., 23rd October, 1906 ; 6 years. Filed ist September, 1906. Receipt No. 139,155.
Claim.-1. The combination with the supporting frame and the upright spindle secured to said frame and formed with a convexpd top, of a rocker plate provided in its central portion with a longitudinal slot receiving through it the sald spindle and with an inverted V-shaped brace extending upward from the end portions of the plate and lengthwise ver the slot and mounted at its center on the top of the spindle, and the tecth beam composed of parallel menbers mounted on the plate at opposite sides of the slot thereof and recciving between them the aforesald brace, as set forth.
2. The combination of the teeter beam composed of two members disposed side by side with a space between them and provided with a plurality of transverse perforations in their end portions, spacing blocks Interposed between the beam members, tie bolts passing through said parts, seats mounted on the ends of the beam members, tenons depending from the seats and inserted between the beam members, pins inserted removably in the perforations of the beam members and tenons. and posts attached to the tenons, substantially as set forth.
3. An amusement apparatus comprising a suitable support, a teetcr beam pivotally mounted upon said support and composed of two parallel members disposed side by side with a space between them. seats disposed on the ends of the beam and provided with tenons interposed between the beam members, said tenons and beam members being provided with coinciding apertures, and pins inserted removably through said apertures and sustaining the seats adjustably toward and from the center of the beam, as set forth.
 lative to the cutting wheels, means for ylurning wheels re-

ing such depressable wheels in their uppermost position, and guards for receiving the log upon undue depression of said \(\log\) turning wheels. substantially as described.
4. In a rossing machine the combination of cutting wheels itrices extonding from the peripheries of said wheels. co operating sets of log turning wheels and feed wheels, means for vieldingly maintaining said log turning wheels in their uppermost position, and guards carried by said cutting wheels for receiving a log upon undue depression of said log turning wheels, substantially as described.
5. In a rossing machine the combination of cutting wheels. knives extrinding from the peripheries of said wheels, of ofrrating sits of log turning wheels and feed wheels, means for vieldingly maintaining said log turning wheels in their uppermost position, and an annular guard flange carried b. the peripheries of soid cutting wheels for receiving a log upon undue depression of said \(\log\) turning wheels, substantally as deseribod.
6. In an apparatus of the character deseribed the rombination of a series of swivel heads, a feed whee! journalled on each head and provided with a gear, a drive shatt, scries of drive gears carried by said shaft, intermediste gears carricd by each swivel head in mesh with the gear of the corrosponding feed wheel and with one of said drive and means for arially shifting the drive shaft and and simultaneously swinging sald
wherls. subsiantialiv as described.
i. In an apparatus of the character described the combination of a swivel head, a feed wheel journalled thereon, gear carried by said feed wheel, a stub shaft carried by aid swivel head, a sleeve journalled on sald stub shaft, an axially adiustable shaft, a drive sear seced thereto, in tormediate gears carried by said sleeve in mesh with said drive gear and with the gear carried by the feed whee. ibls mons ennneting said stub shaft to sald axially adjustable shaft. substantially as described.
8. In an apparatus of the character described the combiration of cutting wheels, co-operating sets of \(\log\) turnidg wheels and ford wheels means for depressing certain of said if turning wherls relative to the cutting wheels, and means o.g, turning wheels relative to the cutting wheels, a in their for yieldingly maintaining such depressable wheels cutting unpermost position. and a hood disposed over the cuth wheels, substantially as described.
9. In an apparatus of the character described the combination of cutting wheels, co-operatiog sets of log turnint wheels and ford wheels, means for depressing certain of sal lof turning wheels relative to the cutting whecls, means for violdingly maintaining such depressable whecls in :hot unpormost position and a hood removably disposed ofer th ci:tting wheels, substantlally as described.
10. In an apparatus of the character deseribed the combination of a series of swivel heads. a ferd wheel fournalied on each head and provided with a gear, a drive shaft, a series oi drive gears carried by said shaft. intermediate gears car-
ried by each swirel head in mesh with the gear of the corlesponding feed wheel and with one of said drive gears, a sleeve on the drive wheel, a rod connected to the sleeve. and a plvoted lever secured to the rod.
11. In an apparatus of the character desiribed the combl. nation of cutting wheels, a main shaft disposed through the cutting wheels, loose and fixed driving wheels on the shaft arranged outside of the apparatus, co-operating sets of log turning wheels and feed wheels. means for depressing cortain of said log turning wheels relative to the cutting wheels and means for yieldingly maintaining such depressable wheels in thelr uppermost position, substantially as des. cribed.

No. 101,680. Metallic Studding. Montant mitallique.


William James McMartin, Winnipeg, Manitoba, Canada, 23rd October, 1906 ; 6 years. Filed 12th September, 1906. Recelpt No. 139,447 .
Claim.-1. A metallic studding consisting of a single metallic sheet of a substantially \(Z\)-shaped cross sectional form, and having lips extending outwardly from the inner and outer faces of the opposing sides, as and for the purpose specified.
2. A metallic studding formed from a single piece of sheet metal, having a central body portion, side portions turned substantially right and luft at right arghes from the body portion, and end portions turned inwardly from the side portions, and substantially parallel with the body portion, and lips extending upwardly ami outwardly from the faces of the side portions, as and for the purpose specitied.

\section*{No. 101,681, Apparatus for Cutting and Sluicing. Appareil à couper et canueler.}

Samuel H. Richardson, Seattle, Washington, U.S.A., 23rd October, \(1906 ; 6\) years. Filed lith July, 1906 . Receipt No. 137,923.
Claim.-1. In an apparatus of the nature indicated, a cutter provided with peripheral teeth and pockets between said leeth, in combination with means for directing a fluid into said pockets, whereby the cutter is operated.
2. In an apparatus of the nature indicated, a cuiter provided with impact surfaces, and a means for discharging a fluid against said impact surfaces for operating the cutter.
3. In a combined cutting and sluicing apparatus, a cutter, means for directing a fluid to sald critter for operating the same, and mians whereby the fluid after operating the cutter will be dis: ha:ged the:efrom to sluice the material excarated.
4. In a combined cutting and sluicing apparatus, a rotary cutter, means for conveying a fluid to a point adjacent the cutter, and means acted upon by the fluid thus conveyed for operating said cutter.
5. In a combined cutting and sluicing apparatus, a cutter. means for directing a fluid to a point adjacent the cutter for sluicing, and means acted upon by the water for operating said cutter.
6. In a combined cutting and sluicing apparatus, a plurality of cutters, a fluid supply means, and means acted upon by the water from said means for operating said cutters.
7. In an apparatus of the nature indicated, a plurality of cutters, one of said cutters being provided with impact surfaces, and a nozzle arranged by juxtaposition to said impact surfaces.
8. In an apparatus of the nature indicated, a plurality of spaced apart cutters arranged side by side and provided with teeth, the teeth of certain of said cutters belng disposed out alignment with each other, and means for operating said cutters.
9. In an apparatus of the nature indicated, a cutter pron. In an apparatus of the nature cutter movable with the

first-named cutter, and means for directing an operating means ior the cutters against said impact surfaces.
10. In an apparatus of the nature indicatted, a hollow handle, a yair of arms secured thereto, a cutter mounted for rotation between said arms and being provided with pockets atod a nozzle secured to the inner end of said handle and being in alignment with said pockets.
11. In an apparatus of the nature indicated, a handle, a rotary cutter mimber supported from said handle, cutters disposed on opposite sides of said cutter member, and means for operating all of said cutters simultaneously, the axis of rotation of said cutters being at substantially right angles io said handle.

1․ In an apparatus of the nature indicated, a handle, a pair of arms secured thereto. a shaft journalled in said arms and projucting on opposite sides thereof, cutters mounted on said shatt, one of said cutters being disposed between said arms, and means whereby said cutters are operated simultancously.

1:. In an apparatus of the nature indicated, a hollow handle, a nozale secured thereto at one end and a rotary cutter dsposid in advance of the nozzle and being supported from said handle
14. In an apparatus of the nature indicated, a hollow handle. a valve therein, a rotary cutter in advance of the handle and being supported thereby, and means whereby the cutter is operated by a fluid passing through the handle.
15. In an apparatus of the nature indicated, a hollow handle, a flexible tube in communication with one end thereot, a nozzle on the other end of said handle, a valve in sald handle and a rutter disposed in juxtaposition to the nozzle and beins formed with impact surfaces movable past said nozzle.
16. In an apparatus of the nature indicated, a hollow handle. a flexibli tube in communication with one end thereof, a nozzle on the other end of said handle, a rotary cutter supported from said handle and lying in advance of said nozzle. said cutter being formed with impact surfaces disposed in alignment with said nozzle.
17. In an apparatus of the nature indicated, a hollow handle, a flexible tube connected to one end thereof, a pair of arms secured to the other end thereof, a shaft journalled in said arms, a plurality of cutters fixed to sald shaft, one of said cutters being formed with impact surfaces, and mean: for directing fluid from said handle against sald impact surfaces so as to rotate the cutters.
18. In an apparatus of the nature indicated, a hollow handle, a valve therein, a flexible tube connected to one end of the handle, a nozzle secured to the other end of the handle, a pair of arms formed integral with the handle, a shaft journalled in the arms and projecting on opposite sides thereof, a cutter fixed on each end of the shaft. a cutter fixed on the shaft at a point between the arms. said last-named cutter being formed with impact surfaces disposed in alignment with the nozzle.
19. In an apparatus of the nature indicated, a cutter having peripheral staggered teeth, alternately projecting on opposite sides thereof and teeth on one of its sides, said lastnamed teeth also being staggered relatively to each other.

\section*{Nio. 101,682. Bale Tie Machine.}

Machine pour liens de ballote.


Gordon A. Rumbel, Kokomo, Indiana, U.S.A., 23 rd October, 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,639.
Claim.-1. A bale tie machine comprising mechanism adapted to convey wire stock within the machinc, means for severing the wire stock into wire blanks in combination with a revoluble detaining head, a series of radially disposed slots therein, a wire twister, a wire loop former adapted to receive, convey and confine an end of wire blank within said slots, said wire twister being adapted to twist said end of wire blank while thus confined within one of said slots.
2. A bale tie machine comprising mechanism adapted to convey wire stock within the machine a predetermined distance, means for severing the wire stock into wire blanks in combination with a revoluble detaining head, a series of radially disposed slots therein, a wire twister, a wire loop former adapted to receive, convey and confline an end of wire blank within said slots, said wire twisters being adapted to twist said end of wire blank while thus confined within one of said slots.
3. A hale tie machine comprising mechanism adapted to convey wire stock within the machine a predetermined distance, means for severing the wire stock into wire blanks of varying lengths by means of adjustment gears of varying diameters in combination with a revoluble detaining head, a serles of radially disposed slots therein, a wire twister, a wire loop formed adapted to receive, convey and confine an end of wire blank within said slots, said wire twisters being adapted to twist said end of wire blank while contined within one of said slots.
4. A bale tle machine comprising a feed wheel adapted to rotate upon a fixed axial plane, a second feed wheel adapted to make intermittent peripheral contact therewith, means for lateral conveyance of wire within the machine a predetermined distance, means for cutting the wire stock into blanks of predetermined varying lengths in combination with a series of slots upon a revoluble detaining bead, a loop former adapted to contact consecutively with said slots, and means for twisting one end of a wire bank while confined within the slot.
5. A bale tle machine comprising wire cutting means consisting of a stationary member and a cam actuated member, means for causing wire to be drawn within the machine a predetermined distance before being cut, a loop former allapted to form a loop upon the end of a wire, a revolving : wister adapted to twist a wire loop, a revolving detaining head, and a series of rotating receptacles adapted to contain the wire and after the wire is cut into lengths, said loop former bi ing atapted to make contact with the wire loop apon the detainlng head, at which time the twister rotates to form the 1 wisted loop.
6. A bale tie machine comprising wire cutting means concicting uf a stationary member and a cam actuated member. means for causing wire to be drawn within the machine a
predetermined distance before being cut, a loop former adapted to have an intermittent rotary movement to twist a wire loop, a rotating detaining head, and a serles of rotating receptacles adapted to contain wire before and after the wire has been cut, said loop former being adapted to make contact with the wire loop upon the detaining head at which time the twister rotates to form the twisted loop.
7. A bale tie machine comprising means for twisting a wire loop consisting of an angularly formed arm adapted to have periodical rotation, means for forming a wire loop consisting of an angularly formed arm adapted to have reciprocated rotation, means for cutting wire into lengths consisting of a stationary member and a cam actuated member. the angular arm for said twisting means being adapted to detain the wire length while the angular arm for said loop forming means performs its rotary movement.
s. A bale tie machine comprising means for twisting a wire loop consisting of an angularly formed arm adapted to have periodical rotation, means for forming a wire loop consisting of an angularly formed arm adapted to have reciprocated rotation, means for cutting wire into lengths consisting of a stationary member and a cam actuated member, the augular arm for said twisting means being adapted to detain the wire length whlle the angular arm for said loop ficrming means performed its rotary movement in combination with a shaft, and a series of receptacles longitudinally and radially disposed thereon.
9. A bale tle machine comprising means for twisting a wire loop consisting of an angularly formed arm adapted to have periodical rotation, means for forming a wire loop consisting of an angularly formed arm adapted to have reciprocated rotation, means for cutting wire into lengths consisting of a stationary member and a cam actuated member in combination with a shaft, a detaining head thereon, a series of receptacles longitudinally and radially disposed thereon, the angular arm for said twisting means being adapted to retain the wire length while the angular arm for said loop forming means performs its rotary movement, suid shaft being adapted to rotate in one direction causing rotation of said detaining head and series of receptacles, and said angular arm or loop forming means being adapted to make contact with the detaining head at the time the angular arm for the twisting means performs its rotation.
10. A bale tie machine comprising a twister having an angularly formed arm adapted to have a periodical rotation, a wire loop former having an angularly formed arm adapted to have reciprocated rotation, means for cutting wire into lengths consisting of a stationary member and a camactuated member in combination with wire wire feeding mechanism, wire straightening mechanism, a serles of recuptacles adapted to contain wire before and after it has been cut into lengths, a wire detaining head and a revoluble shait, said detaining head and series of receptacles to be disposed upon said shaft and to recelve rotation thereby, the angular arm of the twister being adapted to detain the wire length while the angular arm of the loop former performs its rotation, the angular arm of the loop former being adapted to make contact with the detaining head while the angular arm of the twister is performing its rotation.
11. The combination of a rotating twister having a shank portion, and transverscly positioned thereon a wire contacting portion, a rotating lood former having a shank portion and transversely seated thereon a wire receiving iortlon, a revoluble detaining head and radially disposed slots thereon, a wire feeding mechanism and wire cutting mechanism. said loup former being adapted to make contact upon the slots of the detaining head at which time the twister rotates to form the twisted loop.
12. The combination of a rotating twister having a shank portion and transversely positioned thereon a wire contacting portion and mechanism for delivering the wire upon the wire contacting portion, a rotating loop former having a shank portion, and transversely seated thereon a wire receiving portion, a revolving detaining head, and radially disposed slots thereon. wire fecding mechanism and wire cutting mechanism, said loop former being adapted to make contact upon the slots of the detaining head at which time the tuister rotates to form the twisted loon.
13. Thi combination of a rotating twister having a shank portion and transversely positioned thereon a wire contacting portion, and mechanism for delivering the wire upon the wire contacting portion, a rotating loop former having a shank portion and transversely seated thercon a wire roceiving portion. mechanism for rotating the twister. a revoluble detaining head and radially disposed slots thereon. wire freding mechanism and wire cutting mechanism. said loop former being adapted to make contact upon the slots of the detaining heal at which time the twister rotates to form the twisted loop.
14. The combination of a rotating twister having a shank portion, and transversely positioned thereon a wire con-
tacting partion, and mechanism for delivering the wire upon the wire contacting portion, a rotating loop former having a shank" portion, and transversely seated thereon a wire recelving portion, mechanism for rotating the twister and loop former, a revoluble detaining head and radially disposed slots thereon, wire feeding mechanlsm, wire cutling mechanism, and wire straightening mechanism, said loop former belng adapted to make contact upon the slots of the detaining head at which time the twister rotates to form the twisted loop.
15. The combination of a rotating twister having a shank portion, and transversely positioned thereon a wire contacting portion, a rotating loop former having a shank portion and transversely seated thereon a wire receiving portion, a revoluble detaining head and radially disposed slots thereon, wire feeding mechanism, wire cutting mechanism and wire straightening mechanism, said loop former being adapted to make contact upon the slots of the detaining head at which time the twister rotates to form the twisted loop, a shaft, and revoluble thereon a series of radially disposed wire receiving receptacles, said receptacles being adapted to receive wire before and after being cut.
16. The combination of a rotating twister having a shank portion, and transversely positioned thereon a wire contacting portion, a rotating loop former having a shank portion, and transversely seated thereon a wire receiving portion, a revoluble detaining head, and radially disposed slots thereon, wire feeding, wire cutting and wire straightening mechanism, sald loop former being adapted to make contact within the slots of the detaining head at the time the twister rotates to form a twisted wire loop, a shaft, and revoluble thereon a series of radially disposed wire receiving receptacles, a double and similarly toothed conveying wheel mounted upon said shaft, said receptacles being adapted to contaln wire before being cut and after the wire loop has been twisted, said receptacles, conveying wheel and detaining head being adapted to convey wire during their radial movement upon said shaft.
17. The combination of a rotating twister having a shank portion, and transversely positioned thereon a wire contacting portion, a rotating loop former having a shank portion, and transversely seated thereon a wire receiving portion, a revoluble detaining head, and radially disposed slots thereon, wire straightening, wire feeding and wire cutting mechanism, sald loop former being adapted to make contact with the slots of the detaining head at the time the twister rotates to form a twisted wire loop, a shaft, and revoluble thereon, a series of radially disposed wire receiving tube receptacles, a series of radially disposed longitudinally bisected tubes and a double similarly toothed conveying wheel mounted upon said shaft, the overlapping guards 54, said tube receptacles and series of bisected tubes being adapted to contain wire before the wire has been cut and after the wire loop has been twisted, said receptacles, bisected tubes, conveying wheel and detaining head being adapted to convey wire during their radial movement upon said shaft.
18. The combination of a rotating twister having a shank portion 123, and a wire contacting portion 124 , a rotating loop former having a shank portion and transversely seated wire receiving portions 106 and 105 thereon, the revoluble detaining head 47, the separating head 48 and the finger 150, the slots 91 within the detaining head, the feed wheels 18 and 19 with the actuating spring 30 upon the lever 29 , the straightening wheels 35 , the discs 75 and 75 , the dog levers 80 and 81 , the cutting shears 65 and 66 , the spring actuating rod 84 , the lugs 67 and 77 upon the said discs, said loop former being adapted to make contact with the slots of the detaining head at the time the twister rotacc to form a twisted wire loop, the shaft 52 and the series o: tubes 53, the bisected tubes 83 , the conveying wheel 49, detaining head 47 and separating head 48 mounted revolubly upon the shaft, the curved arms 55 radially disposed about and disposed to rotate by operation of sald shaft, the overlapping guards 54 upon said arms, computing devices consisting of the lever 129, the plunger 131, the wheel 135 having a blank periphery and a partially mutilated periphery, the shaft 61 with its radially extending arm 140 , the lever 137 adapted to make contact with periphery of wheel 135 and with arm 140, the arms 62 upon shaft 61 , the guide chamber 64 containing the slot 88 , the blocks 92 upon the detaining head, the depressing arm 111, the crank 90 and the arm 89 rigidly disposed thereon, said crank being adapted to rotate and make contact with the depressing arm 111, said depressing arm being adapted to move within the slot 88, said series of tubes and bisected tubes being adapted to contain wire before said wire has been cut and after the loop has been twisted, said receptacles, bisected tubes, conveying wheel and detaining head being adapted to convey wire during the radial movement of the shaft upon which they are mounted.
\(10-30\)

No. 101,683. Tie for Buildinge.
Lien pour batisses.


Henry Christian Seipp, Pittsburg. Pennsylvania, U.S.A., 23rd October, 1906 ; 6 years. Filed 13th September, 1906. Receipt No. 139,486.
Claim.-1. As a new article of manufacture, a tie or hanger having a body portion and an anchoring portion bent out at right angles from said body portion at one or both ends to form a U-shaped gutter supporting portion which is open at its side or top and ends.
2. A supporting device for walls, joists, etc., formed of a bent U-shaped body portion and an anchoring portion bent out at right angles from each end of said body portion to form a \(U\)-shaped gutter supporting portion which is open at its side or top and ends.

No. 101,684. Miter Clamp. Assemblage d onglet.


Charles Vallet, Amherst, Nova Scotia, Canada, 23rd October 1906; 6 years. Filed 11th August, 1906. Recelpt No. 138,591.
Claim.-1. A mitre clamp comprising a plurality of angularly recessed members, rollers on said members, an angularly recessed member having a roller thereon, a flexible member secured to said last-named angularly recessed member and disposed around said rollers, a lever pivoted to the last-named recessed member and provided with teeth and having the flexible member secured thereto and a pawl adapted to engage the lever.
2. A mitre clamp comprising a plurality of angularly recessed members, each provided with a guard lug, rollers on said members, an angularly recessed member having a roller
disposed thereon, a flexible member having one end secured to the latter recessed member and disposed around said rollers, a lever pivoted to the last-named recessed member and provided with teeth, said flexible member being adjustably secured thereto and a pawl adapted to engage sald teeth.
3. A mitre clamp comprising a plurality of angularly recessed members, rollers on said members, an angularly recessed member having a roller thereon, a fixible member disposed on said rollers, a lever plvotally secured to one of sald members, means for adjustably securing said flexible member to the lever, and means adapted to engage the lever to limit its movement.
4. A mitre clamp comprising a plurality of angularly. recessed members, rollers disposed on said members, a flexible member secured to one of said members and disposed around said rollers, a lever pivotally disposed on one of said members and provided with a lug having a hole therein througb which the flexible member is disposed, means for clamping the flexible member, and means for limiting the movement of the lever.
5. A mitre clamp comprising a plurality of angularly recessed members, rollers disposed on said members, a flexible member secured to one of said members and disposed around said rollers, a lever pivotally disposed on one of said members and provided with a lug having a hole therein through which the flexible member is disposed and having a screwthreaded lug thereon, a wing nut on the screw-threaded lug. and means for limiting the movement of the lever.

\section*{No. 101,685. Thin Leaves for Fabrics. Feuilles minces out tissu.}

Walter Arthur Ker, assignee of Henry Rochester Gregory, both of New York City, New York, U.S.A., L3rd October, 1906; 6 years. Filed 4th July, 1906 . Receipt No. 136,521.
Claim.-1. The method of forming a thin leaf or fabric comprising the following steps combining a volatile solvent, a fibre which acts as a binder and a colouring matter and pouring the same onto a liquid heavier than the volatile golvent.
2. The method of forming a thin leaf or fabric comprising the following steps : combining a volatile oil, a fibre which acts as a binder and a colouring matter and pouring the same onto a liquid heavier than the oil.
3. The method of forming a thin leaf or fabric comprising the following steps: combining a volatile solvent, soluble cotton and a colouring matter and pouring the same onto a liquid heavier than the volatile solvent.
4. The method of forming a thin leaf or fabric comprising the following steps : dissolving soluble cotton in a volatile oil, adding a colouring matter thereto and pouring the same onto a liquid heavier than the oll.
5. The method of forming a thin leaf or fabric comprising the following steps : dissolving soluble cotton in amyl oil, adding a colouring matter thercto and pouring the same onto a liquid heavier than the oil.
6. The method of forming a thin leaf or fabric comprising the following steps : dissolving soluble cotton in amyl oll, adding bronze thereto and pouring the same onto a liquid heavier than the oll.
7. The method of forming a thin leaf or fabric comprising the following steps : dissolving soluble cotton in amyl oll, in substantially the following proportions, one quarter pound of soluble cotton to one gallon of amyl oll combining therewith a colouring matter in the proportions of one part of colouring matter to four parts of the solution and pouring the same onto a liquid heavier than the oll.

\section*{No. 101,686. Machine for Gimlet Pointing Lag Screws.}

\section*{Machine pour pointer la eis a bois en forme de vrille.}

The St. Louis Screw Company, assignee of Edward Joseph Miller. St. Louls, Missouri, U.S.A., 23rd October, 1906; 6 years. Filed 26th March, 1906. Receipt No. 134,261.
Claim.-1. In a machine of the type described the combination of a spindle for rotating the blank, a slide moving at an angle thereto, a lead screw in connection with said spindle, a rod advanced by said lead serew, a roller borne by said rod, an incline upon sald slide upon which sald roller acts.
2. In a machine of the type set forth the combination of a spindle for rotating the blank, a slide movable at an angle thereto, a rod actuated lengthwise by the spindle for actuating sald slide, and means to permit the speed of travel of the slide with relation to the blank to be varied.
3. In a machine of the type set forth the combination with a spindle for rotating the blank. of a slide carrying cutters movable at an ancle thereto. means actuated by said spindle for operating said slide, means for automatically stopping the travel of said slidn at a predetermined point. and a spring connected to said slide for restoring said slide and the actuating means thereof to initial position.
4. In a machine of the type set forth the combination of \(n\) spindle for rotating the blank, a slide movable at an angle

thereto, means operated by said spindle for actuating sald slide, and adjustable means carried by the slide for engagement with said actuating means thereof.
5. In a machine of the type set forth the combination of a spindle for rotating the blank, a slide movable at an angle thereto, means operated by said spindle for actuating the slide, and an adjustable plate carried by the slide for engagement with said actuating means thereof to permit the speed of travel of the slide with relation to the blank to be varied.
6. In a machine of the type set forth the combination with means for rotating the blank, of a slide movable at an angle thereto, means for operating the slide, and a spring connected to the slide for returning said slide and the operating means thereof to initial position after actuation.
7. In a machine of the type described the combination of rotatable means for holding the blank, cutters movable with respect to said means, auxiliary means for holding said blanis in contact with said cutters, and means for actuating said cutters past the blank to permit the blank to drop by gravity from said holding means after the operation of said cutters thereon.
8. In a machine of the type described the combination of means for rotating the blank, a slide movable at an angle thereto, and having an inclined part, a rod carrying a projection on its end to engage said inclined part and operate the slide, and means for advancing the rod.
9. In combination with a spindle for rotating the blank, and a lead screw in connection with said spindle, a slide, a slidable frame carrying a lever formed with a toothed part to engage said lead screw, a trigger for retaining said lever in engagoment with the lead screw, means operated by the frame for actuating the slide, and means for operating said trigger to release the lever from engagement with sald lead screw at a predetermined point.
10. In a machine of the type set forth the combination of a spindle for rotating the blank, a lead screw in connection with said spindle, a slide movable at an angle to said blank. a slidable frame, a lever having a threaded part to engage the lead screw carried by said frame, a trigger for retaining said lever in engagement with said lead screw. a rod actuated by said trame for operating the slide, and means for operating said trigger to release the lever from engagement with the lead screw at a predetermined point
11. In a machine of the type set forth the combination of a spindle for rotating the blank, a lead screw in connection with said spindle, a slide movable at an angle to sald spindle. a rod advanced by said lead screw for operating said slide, a lever having connection with said rod, and having a threaded part to engage the lead screw, a trigger for retaining said lever in engagement with sald lead screw, and means for actuating the trigger to release the lever from engagement with the lead screw at a predetermined point.
12. In combination with means for holding the blank, a longitudinally movable element having a projection on one end, and a slide having an Inclined portion normally disposed across the path of movement of said element for engagement with said projection to be propelled in advance of and by said element.
13. The combination of a spindle for rotating the blank. a slide having movement across the end of the blank, the edge of a component part of said slide being disposed at an incline. and slidable means actuated by the spindle for riding on and traversing said inclined edge to actuate the slide.
14. In combination with means for actuating the blank, a slide having cutters mounted thereon with their cutting edges
presented at an angle to sald blank, and means for actuating the slide to cause said cutters to traverse the free end of the blank to cone point and gimlet point said blank in one continuous operation.
15. The combination with means for rotating the blank, of a slide carrying a cone pointing and gimlet polnting cutter, said cutters being angularly disposed with relation to said blank, the angle of disposition of the cutters being equal to the angle of the gimlet point to be imparted to the blank, and means for actuating the slide to traverse the free end of the blank
16. In combination with means for rotating the llank, a cutter carrier, cutters stationarily mounted on sald carrier for successively cone pointing and gimlet pointing the blank, and means for operating the carrier past the blank, to enable the blank to be cone pointed and gimlet pointed in one continuous operation.
17. In a machine of the type set forth the combination of means for rotating the blank, a slide movable at an angle thereto, a rod carrying a projection on its end to operate the slide, means for advancing the rod, and an element carried by the slide and having an edge thereof presented at an aingle to the path of movement of the rod, said edge being engaged by said projection.
18. In combination with means for rotating the blank, a longitudinally movable element having a projection on one end, a slide having the edge of a component part thereof presented at an angle to said element and being engaged by said projection, means for operating the element, and means connected to the slide for restoring the same to initial position, said slide restoring said element to initial position during ite return movement.
19. In combination with means for rotating the blank, a longitudinally movable element carrying a projection, a slide having an inclined portion engaged by said projection, means to operate the element, and a spring connected to the slide for returning the same to normal position, said slide during its return movement restoring said element to its normal position.
20. In combination with means for holding the blank, a rod having a projection, a slide having an inclined part to engage the projection, means for advancing the rod, and a spring connected to the slide for returning the same to initial position, said slide returning sald rod to its initial position.
21. In combination with means for holding the blank, a sliding element with means for actuating the same, a slide movable across the path of sald element and above the same. said sllde having an inclined part for engagement with said element, and means connected to said slide whereby when the same is restored to initial position. said element will be likewise restored and in advance of sald slide.
22. In combination with means for rotating the blank, a longitudinally movable rod having a projection on one end, a slide overlying said rod and disposed angularly across the same, said slide having an inclined part engaged by said projection, and means for advancing the rod.
23. In combination with means for holding the blank, a longitudinally movable element having an upright projection on one end. a slide having an inclined portion at its rear end for engagement with said projection, said element underlying said slide, and means for operating said element.
24. In combination with means for holding the blank, means slidable in a longitudinal plane, a slide overlying said means and movable in a plane at an angle thereto, and thereacross, and an inclined part on the slide engaging said means, said means being adapted to actuate said slide.

No. 101,687. Water Motor. Moteur deau.


Adolph Lang, Harper Forrest Smith and Charles Henry Zink, each an assignee of a third interest, all of Philadelphia, Pennsylvania, U.S.A., 23rd October, 1906; 6 years. Filed 11th Auguts, 1906. Receipt No. 138,611.
Claim.-1. In a water motor, a reciprocating piston, a hollow slide valve controlling admission and exhaust of motive
fluid to actuate said piston, and means actuated by said pison for controlling the movement of said slide valve.
2. In a water motor, a reciprocating piston, a slide valve around which motive fluid passes to actuate said piston and through which the exhaust from said piston passes, and means actuated by said piston for controlling the movement of said slide valve.
3. In a water motor, a reciprocating piston, a hollow slide valve around which motive fluid passes to actuate said piston and through which the exhaust from said piston passes, a throw valve for controlling the movement of said slide valve, and means operatively connected with said piston and said throw valve for actuating the latter at each end of the stroke of said piston.
4. In a water motor, a casing having an inlet and outlet chamber therein. a slide valve located above said chambers and controlling the inlet and exhaust of fluid, a piston located above said slide valve, the latter controlling the admission of fluid thereto and exhaust therefrom, and a throw valve actuated by the movement of said piston for controlling the movement of said slide valve.
5. In a water motor, a casing having an inlet and an outlet chamber, a slide valve casing located thereon, a piston casing located on said slide valve casing, a piston in said piston casing, there being ports and passages leading from said slide valve casing into said piston casing and ports leading from said slide valve casing into said inlet and outlet chambers, a slide valve within the slide valve casing, means for preventing the rotation of said slide valve, and means for changing the position of said slide valve relative to the movement of said piston.
6. In a water motor, a casing having an inlet and outlet chamber therein, a slide valve casing with which sald chambers communicate, a slide valve in sald slide valve casing, a piston casing communicating at one end with the slide valve casing, a connection communicating with the other end of said plston casing and with the slide valve casing, a slide valve in sald slide valve casing controlling the alternate admission and exhaust of water to opposite ends of sald piston casing, said sllde valve casing being always open to the inlet of fluid, and a throw valve actuated by sald piston and adapted to control the admission and exhaust of water to actuate said slide valve.
7. In a water motor, a casing having an inlet and an oullet chamber, a sllde valve casing having ports therein commusicating with sald chambers, a hollow slide valve liaving an annular groove therein, sald groove being always open to tire port communicating with said inlet chamber, a piston caslug mounted on sald slide valve casing, the latter having a port. opening into the piston casing, a connection opening into said piston casing at the opposite end thereof, said sllde voive casing having a port communicating with said connection. sald sllde valve having a port therein always communlcatinig with the port opening into the exhaust chambrr and having ports communicating alternately with the port opening into the Inlet chamber and the port opening ato said connection, \(r\) piston in sald piston chamber, a piston 10 carried thereby. and means actuated by said piston rod for actuating said slide valve.
8. In a water motor. a casing having an inlet and an outlet chamber, a slide valve casing having an inlet port communicating with the inlet chamber and an exhaust port communicating with the outlet chamber, a piston casing mounted on the slide valve casing. the latter having a port opening into said casing, a piston within said casing, a connection communicating with the opposite end of the piston casing, said slide valve having a port therein communicating with said connection, a throw valve casing carried by the slide valve casing, the latter having a feed port therein communicating with a feed port in the throw valve casing, a slide valve in the slide valve casing adapted to control the ports therein, there being passages leading from the throw valve casing for admitting fluid to actuate said slide valve, and a throw valve operatively connected with said piston for controlling the feed and exhaust of fluld to actuate said sllde valve.
9. In a water motor, a casing having an inlet and an outlet chamber, a slide valve casing mounted thereon having an inlet port communicating with the inlet chamber and an exhaust port communicating with the outlet chamber, a piston casing mounted on said slide valve casing, the latter having ports therein communicating with opposite ends of said piston casing. a piston in said casing, a hollow slide valve provided with an annular groove always open to said inlet port and having a port therein always communicating with said exhaust port, there being ports alternately communicating with ports opening into opposite ends of the piston casing, said slide valve being non-rotatably mounted in the slide valve casing, and means actuated by the movement of said piston for controlling said slide valve.
10. In a water motor, a casing having a diaphragm forming an inlet and an outlet chamber therein, said diaphragio
having a tongue, a slide valve casing having a recess with which said tongue engages, there being an inlet port commundcating with the inlet chamber. and an exhaust port communicating with the outlet chamber, a piston casing mounted on said sllde valve casing. there being ports in the latter communicating with opposite ends of sald piston casing, a piston mounted in said piston casing, a hollow slide valve having a plurality of annular grooves thereon, one of said grooves being always open to said inlet port. there being a port in said valve always open to the exhaust port and ports controlling admission and exinaust of fluid from opposite ends of the piston, a throw valve casing carried by the slide valve casing, there being ports and passages communicating with the slide valve casing and the throw valve casing to admit fluid through opposite ends of sald slide valve, a throw valve in the throw valve casing for controlling such admission, a valve stem therefor, set collars carried by said stem. and means actuated by said piston and co-acting with said set collars to actuate said throw valve.
11. In a water motor, a casing having a diaphragm therein forming an inlet and an outlet chamber, there being a longue extending from said diaphragm, a slide valve casing mounted above said chambers and having a recess with which said tongue engages, there being an inlet port communicating with the inlet chamber and an exhaust port communicating with the outlet chamber, a piston casing mounted on said slide valve casing. there being ports communicating with opposite ends of said piston chamber, a piston in said chamber, a piston rod carried thereby, an arm adjustably mounted on said piston rod, a rod adjustably mounted in said arm, a brackec carried by said rod, a throw valve stem on which said bracket is movable, set collars on said stem with which said bracket co-acts to actuate sald throw valve stem, a throw valve caried by said stem, and a slide valve in the slide valve casing controlling admission and exhaust of fluid to the piston casing. sald slide valve being controlled by said throw valve.
12. In a water motor, a casing having a diaphragm forming an inlet and an outlet chamber therein, a slide valve casing mounted above said chambers and having an inlet port communicating with the inlet chamber and an outlet port communicating with the outlet chamber, a hollow slide valve non-rotatably mounted in the slide valve casing and having a plurality of annular grooves, one of said grooves being always open to the inlet port and having a port always oden to the exhaust port, a piston casing mounted on the slide valve casing. there being ports communicating with opposite ends of the piston casing and with which the groove always open to the inlet port alternately registers, a piston in said piston chamber, there being exhaust ports in the slide valve alternately registering with ports communicating with opposite ends of the piston chamber. a plston rod carried by the piston. an arm adjustably mounted thereon, a tappet adjustably carrled by said arm, a throw valve adapted to actuate said sllde valve, a stem extending therefrom on which said tappet travels, and means adjustably mounted on said stem with which said tappet co-acts to actuate the throw valve.
13. In a water motor a casing having a diaphragm dividing the same into an inlet and an outlet chamber. a slide valve casing mounted thereon and having an inlet port communicating with the outlet chamber, a hollow sllde valve having a plurality of annular grooves mounted in said slide valve casing. one of sald grooves being always open to the inlet nort and one of sald grooves being always open to the exhaust part, there being a port in the slide valve communicating with sald latter groove, a piston casing mounted on said slife valve casing, the latter having ports communtcating with the opposite ends thereof. said slide valve having ports therein alternately communicating with salid latter norts, a throw valve casing adanted to close one end of the sllde valve casing, and having a lug scrving as a seat for sald slide valve, a closure for the other end of said slide valve casing having a lug serving as a scat for the other end of the slide valve. and means actuated by the piston for armitting motive fluid to and exhausting motive fuid from opposite ends of the slide valve piston at a predetermined noint in the travel of sald piston.
14. In a water motor. a casing having a diaphragm dividing the same into an inlet and an outlet chamber. a slide valve casing mounted thereon having an inlet port communicating with the inlet chamber and an exhaust nort communicating with the outlet chamber. a sllide valve having imperforate ends mounted in said slide valve casing. a throw valve casing forming a closure for one end of salत slide valve casing and having ports communicating with opposite ends of the slide valve casing. there being a feed port in the slide valve casing having a port always open to the inlet of fluid and communicating with the nort opening into the throw valve casing. a reciprocating piston controlled by sald slide valve. and a valve in the throw valve casing operatively connected with sald piston, and control-
ling the ports in the throw valve casing and thereby the movement of said slide valve.
15. In a water motor, a casing having an inlet and an outlet chamber therein. a slide valve casing mounted thereon. means for preventing improper movement with respect thereto. said slide valve casing having an inlet port communicating with the inlet chamber and an exhaust port communicating with the outlet chamber. a hollow slide valve having a plurality of annular g:ooves thereon mounted in said slide valve casing, one of said grooves being always open to the inlet port, there being a port in said valve always communicating with the exhaust port, a piston casing mounted on said slide valve casing, the latter having ports therein communicating with opposite ends of the piston casing, there bring ports in the slide valve adapted to co-act with sald latter ports, a piston within the piston casing, a piston rod carried thereby, an arm adjustably mounted on sald piston rod, a rod adjustably carried by said arm. a bracket carried by said rod. a throw valve controlling admission of motive fluid to opposite ends of the slide valve casing to actuate said slide valve, a valve rod extending from sald throw valve, and set collars adjustably carried by said rod with which said bracket co-acts to actuate said throw valve.
16. In a water motor, a casing having an inlet and an outlet chamber therein, a slide valve casing mounted thereon, means for preventing improper movement with respec: thereto, said slide valve casing having an inlet port communicating with the inlet chamber and an exhaust port communicating with the outlet chamber, a hollow slide valve having a plurality of annular grooves thereon mounted in said slide valve casing, one of said grooves being always open to the inlet port, there being a port in sald valve always communicating with the exhaust port, a piston casing mounted on said slide valve casing, the latter having ports therein communicating with opposite ends of the piston casing, there being ports in the slide valve adapted to co-act with said latter ports, a piston within the piston casing, a piston rod carried thereby, an arm adjustably mounted on said piston rod, a rod adjustably carried by said arm, a bracket carried by said rod, a throw valve controlling admlssion of motive fluid to opposite ends of the slide valve casing to actuate said slide valve, a valve rod extending from said throw valve, and means for preventing the rotation of said slide valve.
17. In a water motor. a casing having a diaphragm forming an inlet and an outlet chamber, a slide valve mounted thereon and having an inlet port communicating with the inlet chamber and an exhaust port communicating with the outlet chamber, a closure for one end of said casing having an inwardly extending lug, a chambered throw valve casing adapted to close the other end of said casing and having an in wardly extending lug, a hollow slide valve mounted in the slide valve chamber and adapted to alternately engage sain lugs, said valve having a plurality of annular grooves, ons of said grooves being always open to the inlet port, one of said grooves being always open to the exhaust port. a piston casing. a piston therein, there being ports in the slide ralre casing communicating with opposite ends of the piston casing and alternately serving as inlet and exhaust ports, means for conducting water from the inlet chamber into the chamber in the throw valve casing, means for conducting water from the throw valve casing, to opposite ends of the slide valve casing, and a throw valve operatively connected Fith the piston and mounted in said chamber for controlling sald means.
18. In a water motor, a casing having a diaphragm therein forming an inlet and an outlet chamber, a slide valve mounted thereon and having an inlet port communicating with the in let chamber and an exhaust port communicating with the outlet chamber, a closure for one end of sald casing haring an inwardly extending lug, a chambered throw valve casing adapted to close the other end of said casing and having an inwardly extending lug, a hollow slide valve mounted in the slide valve chamber and adapted to alternately engage said lugs, said valve having a plurality of annular grooves, on of sald grooves being always open to the inlet port, one of said grooves being always ope to the exhaust port, a piston casing, a piston therein, there being ports in the slide valve casing communicating with opposite ends of the piston cas ing and alternately serving as inlet and exhaust ports, meanfor conducting water from the inlet chamber into the cham ber in the throw valve casing, means for conducting wate from the throw valve casing to opposite ends of the slide valve casing, said slide valve having the side contiguous to the exhaust port faced off, and means carried by the slide valve casing engaging said faced off side for preventing the rotation of said slide valve.
19. In a water motor, a casing having a diaphragm forming inlet and outlet chambers, a slide valve casing mounfed thereon having an inlet port communicating with the inlet chamber and an exhaust port communicating with the outlo. chamber, meaps for preventing any relative lateral mosing ment of said casings, a hollow slide valve within sald casing and having a plurality of annular grooves thereon, one and said grooves always communicating with the inlet port, and
one of said grooves always communicating with the exhaust port, a piston casing mounted on the slide valve casing, the latter having ports therein communicating with opposite ends of the piston casing. a piston in said casing. a piston rod extending therefrom, an arm adjustably carried by said rod, a rod carried by said arm, a bracket carried by said rod, a removable closure for one end of the slide valve casIng, a chambered throw valve casing for closing the other end of the slide valve casing, there being a passage communicating with the throw valve chamber and with the slide valve casing in proximity to the inlet port, there being passages leading from the throw valve chamber to opposite ends of the slide valve casing, a throw valve within the throw valve chamber adapted to control the passages leading therefrom, a valve stem extending from said throw valve, and set collars mounted thereon with which said bracket co-acts to actuate said throw valve.
20. In a water motor, a casing having a daiphragm therein forming an inlet and an outlet chamber, a slide valve casing mounted thereon, means carried by said diaphragm and engaging said casing for preventing improper movement thereof, said slide valve casing having an inlet port communicating with the inlet chamber and an exhaust port communicating with the exhaust chamber, a hollow slide valve mounted in the slide valve casing and having a plurality of annular grooves, one of said grooves being always open th the inlet port, there being a port in said valve always open to the exhaust port, a piston casing mounted on the slide valve casing, the latter having ports communicating with opposite ends thereof and co-acting with one of the slide valve grooves to serve as inlet ports, sald slide valve having ports therein co-acting with said ports to serve as exhaust ports, a throw valve casing forming a closure for one end of the slide valve casing and provided with a chamber, there being ports and passages leading therefrom communicating with opposite ends of the slide valve casing, there being a feed port communicating with the throw valve casing, and an exhaust port communicating with said casing. a throw valve having a plurality of heads thereon in said throw valve casing and adapted to admit water alternately to opposite ends of the sllde valve, a piston within said piston casing, and means actuated by said piston for intermittently actuating the throw valve.
21. In a water motor, a casing having a diaphragm forming an inlet and an outlet chamber therein, a slide valve casing mounted thereon, means for nreventing relative lateral movement of sald casings, said slide valve having an inlet port communicating with the inlet chamber and an exhaust nort communicating with the outlet chamber, a hollow slide valve non-rotatably mounted in the slide valve chamber having a plurality of annular grooves, one of said grooves always communicating with the exhaust port, one of said grooves always communicating with the inlet port, there being a port in the slide valve communicating with the exhaust port groove, a piston casing mounted on the slide valve casing, there being ports in the latter communi cating with opposite ends of the piston casing and co-acting with one of said grooves to act as inlet ports, there being ports in the slide valve co-acting with sald ports to serve as exhaust ports, means for forming a chamber at each end of the slide valve casing. a piston in the piston chamber, an arm adjustably carried thereby, a rod carried by said arm, a bracket carried by said rod, and means coacting with said bracket to actuate said slide valve.
22. In a water motor, a casing having a diaphragm forming an inlet and an outlet chamber therein. a slide valve casing mounted thereon at right angles thereto, means for preventing relative lateral movement of said casings, said valve casing having an inlet port communicating with the inlet chamber, and an exhaust port communicating with the outlet chamber, a hollow slide valve non-rotatably mounted In the slide valve chamber and provided with a plurality of annular grooves, one of said grooves being always open to the inlet port and one of said grooves being always open to the exhaust port, said slide valve having a port communicating with the exhaust port groove, a piston casing mounted on the slide valve casing, there being ports through the latter communicating with upposite ends of the piston casing and alternately co-acting with one of said grooves to serve as inlet norts, said slide valve having ports therein alternately co-acting with said ports to serve as exhaust ports, a throw valve casing, and having ports and passages communicating with opposite sides of said slide valve casing and with a chamber in the throw valve casing, there being a communication between the inlet and the throw valve chamber and between the exhaust and the throw valve chamber. a throw valve mounted in said chamber controlling admission and exhaust to and from opposite ends of the sllde valve casing, and means actuated by the piston for intermittently actuating the throw valve.
23. In a water motor, a casing having a diaphragm forming an inlet and an outlet chamber, a slide valve casing mounted thereon at right angles thereto, means for preventing relative lateral movement of said casing, said slide
valve casing having an inlet port communicating wth the inlet chamber and an exhaust nort communicating with the outlet chamber, a hollow slide valve non-rotatably mounted in the slide valve chamber and provided with a plurality of annular grooves, one of sald grooves being always open to the inlet port and one of said grooves belng always open to the exhaust port, said slide valve having a nort communicating with the exhaust port groove, a piston casing mounted on the slide valve casing, there being ports through the latter communicating with opposite ends of the piston casing and alternately co-acting with one of said sroove to serve as inlet ports, said slide valve having ports therein alternately co-acting with said ports to serve as exhaust ports, a throw valve casing forming a closure for one end of the slide valve casing, having ports and passages communicating with opposite sides of said slide valve casing and with a chamber in the throw valve casing, there being a communication between the inlet and the throw valve chamber and between the exhaust and the throw valve chamber, a throw valve mounted in said chamber controlling admission and exhaust 'n and from opnosite ends of the slide valve casing, a removable cover for the piston casing, and means for fastening the casings together.

No. 101,688. Turbine Pump. Pompe turbine.


James Lang, Toronto, Ontario, Canada, 23rd October, 1906; 6 years. Filed 17th July, 1906. Receipt No. 137,898.
Claim.-1. In a rotary pump the combination of a casing, a shaft, impeller wheels secured to the shaft and provided with channels having inlets parallel with the shaft, and inwardly directed radial outlets, guide wheels secured to the casing ard provided with channels having radial inlets and outlets parallel with the shaft, substantially as described.
2. A rotary pump provided with sinuous chanbels for the fluid alternately bending in towards and bending away from the axis of the pump and formed partly in stationary and partly in rotary members, the outer bends being formed entirely in the rotary members, substantially as described.
3. A rotary pump provided with sinuous channels for the fluid alternately bending in towards and bending away from the axis of the pump, and formed partly in stationary and partly in rotary members, the outer bends being formed entirely in the rotary members, and the inner bends partly in the rotary and partly in the stationary members, substantially as described.
4. In a rotary pump an impeller comprising a hollow wheel heving an inlet parallel to the axis divided internally by gulde vanes to form channels for the fluid, the sald vanes being arranged helically in the inlet. substantially as des cribed.
5. In a rotary pump an impeller comprising a hollow wheel having an inlet parallel to the axis, and an inwardly directed radial outlet, and divided internally by guide vanes to form channels for the fluid, the said vanes being arranged helically in the inlet, in the outlet on a rearward curve relative to the direction of rotation of the impeller, substantially as described.
6. In a rotary pump an impeller comprising a hollow whe outlig an inlet near the axis and an inwardly a hollow wheel tenet, and substantially radial guide vanes in directed radial tending to the outlet, in combination vanes in the wheel cxlow guide wheel having a radial inlet with a stationary holthe outlet of the impeller indet adapted to co-act with Which adjacent to the inlet lie provided with spiral vanes coincident with the resultant in a direction substantially velocities of the fluid emerging frome radial and tangential ally as described.
7. In a rotary pump an impeller comprising a substantihaving an inlet near the axis and an inwardly directed whed outlet, and substantially radial guide vanes in the wheel rad tending to the outlet, and rearwardly curved relative the ex-
dircetion dirction of rotation of the impeller, substantative to the cribed.

\section*{No. 101,689. Photographic Developing Machine. Machine photographique à décelopper.}


Friedrich Heinrich Lange, Berlin, Germany, 23rd October, 1906; 6 years. Filed 11th May, 1905. Receipt No. 125,0s3.
Claim.-1. In a photographic developing machine the combination of a light tight conduit adapted to receive a web of sensitized paper, an illuminating chamber to receive the negative, such chamber having an exposing device consisting of two pivotally turning spring actuated and mutually engaging flaps forming portions of a cylinder, a source of light enclosed by these flaps, means for intermittently feeding the web between the said illuminating chamber and the platen. and means for simultaneously actuating the said exposing device and the platen relatively to each other so as to press the web and negative together. and for simultaneonsly opening the exposing device, substantially as described.
2. In a photographic developing machine the combination of a light tight conduit adapted to receive a web of sensitized paper, an illuminating chamber to recelve the negative, such chamber having an exposing device consisting of two pivotally turning spring actuated and mutually engaging flaps forming portions of a cylinder, a source of light cnclosed by these fiaps, and actuating means consisting of a shaft, means for driving the latter, a cam mounted on the same, a vertically reciprocating lever arranged to be lifted by the said cam, and a spring actuated slide operated by the said levef, the outer end of such slide being adapted to force the flaps apart, web carrying rollers located in the said light tight conduit, and means driven by the said shaft for interm!ttently rotating such rollers, substantlally as described.
3. In a photographic developing machine the combination of a light tight hinged cases, independent of the said light tight condult and mounted loose on the drum axis. and provided with a light tight closed slit for the web, substantially as described.
4. The process of developing, fixing, washing and drying webs of photographic paper consisting in winding the webs on drums of adjustable diameter, treating them with liquids and then drying them, substantially as described.
5. The process of developing, flxing, washing and drying webs of photographic paper, consisting in winding the webs or: drums of adjustable diameter, treating them with liquids and transferring them to second like drums for the purpose of drying them, substantially as described.

No. 101,690. Hot Mill Roll. Rouleau de laminoirs.
Jacob Loomis, Elwood, Indiana. U.S.A., \(\underset{1906 \text { 23rd October, }}{\text { Let }}\) 1906; 6 years. Filed 20th September, 1906. Receipt No. 139,644.
Claim.-1. A casting for hot mill rolls consisting of a hollow body having a middle chilled portion flanked at each end

With a journal portion each of which in turn terminates in

tion substantial uniformity of thickness of shell from end to end through the middle chilled portion and the fanking journal portions.
2. A casting for hot rolls consisting of a hollow body having a middle chilled portion flanked at each end with a journal portion each of which in turn terminates in a wabbler portion, the casting showing in longitudinal section substantial uniformity of thicknes of shell from end to end through the middle chilled portion and the flanking journal portions, the middle sectional dimenslons \(A\) of the chilled portion being slightly less than the end dimensions \(B\) of said chilled dortion.

No. 101,691. Sheet Metal Shears. Cisailles pour teuilles de métal.


Clinton DeWitt Wagner, Cedar Rapids, Iowa, U.S.A., 23rd October, 1906; 6 years. Filed 3rd October, 1906. Receipt No. 140,005.
Claim.-1. The combination with a guide track and holder for the sheet, of a sheet metal shear, comprising a palr of rotary cutters, a frame to carry them. having divergent throats for the barent sheet and cut-off portion to pass through. guides for said frame to follow said guide track, and a liandle by which the shear is pushed across the sheet. 2. The combination with a guide track and holder for the shect, of a sheet metal shear, comprising a frame, with divergent throats for the parent sheet and cut-off portion to pass through, a pair of rotary shear cutters mounted to turn in said frame, guide rollers on the frame to take the guide track, and suitable means for pushing the shear across the sheet.
3. The combination with a curved track therefor, of a sheet metal shear, comprising a frame with throats to allow the cut sheet to pass through It, rotary sheer cutters mounted in said frame, and two pairs of guide rollers to Cngage said track relatively forward of the cutters, the rearmost pair being separated but slightly more than the thickness of the track, and the forward pair enough more to allow for the maximum of curvature in said track.
4. Combined with a suitable guide track therefor, a sheet metal shear, comprising a frame with throats to permit the cut portion and parent sheet of any width to pass bodily through it, a pair of rotarg cutters mounted in sald frame, guide rollers to engage the guide track, and antifriction rollers to carry the shear.
5. The described shect metal shear, comprising a frame, with throats to allow the cut metal of any width to pass through it. a pair of rotary shear cutters mounted in said frame, means for adjusting one of them vertically. andle friction rollers for the shear frame, and a detachable handla by which it may be pushed across the sheet.


Ernest Ferdinand Wiederholdt, St. Louif, Missouri, U.S.A. 23rd October, \(19 n\). 6 years. Filed 7 th Missouri, U.S.A. Receipt No. 1359,314.
Claim.- 1 . The herein described wall construction, the same comprising hollow tiles consisting of containing walls walls, the cene and cross webs formed integral with said tracted, the central portion of said cross webs being conracted, the spaces in said hollow tiles connecting with as described.
2. The herein described wall construction, the same comprising a plurality of hollow tiles forming retaining walls that there is lateral communication between the hollow that there is lateral communication between the hollow spaces of the tiles, and reinforcing bars or rods extending horizontally and vertically through aligning spaces and embedded within the concrete material, substantially as described.
3. The herein described concrete wall construction, the same comprising hollow tiles which form containing walls for the concrete material, said tiles having spaces aligning in vertical and horizontal directions which are filled by concrete material, and tie bars embedded in the concrete material in said spaces, substantially as described.
4. The herein described concrete wall construction, the same comprising a foundation, courses of tiling arranged on said foundation, and having aligning vertical open spaces, concrete material in said spaces, said tiling being so constructed that there is a lateral communication between adjacent tiles, continuous horizontally disposed bars which are surrounded by the concrete that extends between the adjacent tiles of each course, and vertically arranged bars embedded in the foundation and surrounded by the concrete material in the vertical spaces of the tiles of each zourse, substantially as described.
5. The herein described concrete wall construction, the same comprising a foundation, tiling arranged on said foundation, said tiling providing containing walls for concrete material, integral cross pieces connecting said retaining walls, and horizontally arranged bars supported by the cross pieces below the upper edges of said retaining walls and completels surrounded by said concrete material, substantially as described.
6. The herein described concrete wall construction, the same comprising a foundation, vertically arranged bars anchored in said foundation, H -shaped tiles arranged on said foundation in such manner that the vertical bars extend through the spaces between the legs of said H -shaped tiles, the cross bars or conyerting \(n\) of said tiles being recessed to provide lateral communication between adjacent tiles, horizontally disposed tie bars arranged in the recesses of said cross pieces, below the upper edges of the legs of the tile, and concrete material in the spaces provided by the tiles and surrounding said bars, substantially as described.
7. The herein described tile for concrete wall construction comprising front and rear walls provided on their inner faces with profections to effect an intimate connection between said tile and the concrete contained therein, and an I-shaped web formed integral with said walls and located approximately midway the ends thereof, substantially as described.
8. The herein described wall construction, the same comprising a foundation, hollow tiles arranged on said foundation, said tiles having spaces aligning in vertical and horizontal drections which are filled by concrete matorial, the bars extending through said horizontal spaces and embedded in said concrete material, and vertically disposed bars anchored in the foundation and extending through the concrete which fills said vertical spaces, substantially as described.
9. The herein described wall construction, the same comprising hollow tiles each consisting of a front and rear wall whih are connected by an intergral web that is ar-
ranged approximately midway the ends of the tiles, the central portion of said web being of less of the tiles, the cenand rear walls, and a mass of of less depth than said front spaces between the walls of concrete material filling the the tiles together, substantially tiles and binding all of
No. 101,693. Concrete Crib


Michael John Haney, Toronto, Ontario, Canada, 23rd October
1906; 6 years. Filed 30th July, 1906. Receipt No. 138,252.
Claim.-1. A concrete crib comprising solid side and end walls forming a continuous wall, and separate tie members spanning the space between said side walls and adapte to slide thereinto, as and for the purpose specified.
2. A concrete crib comprising solid side and end walls forming a continuous wall therearound, said side walls having a plurality of vertically arranged sockets therein, and a plurality of tie members spanning the space between said side walls having means for engaging the vertical sockets in said side walls, as and for the purpose specified.
3. A concrete crib comprising solid side and end walls forming a continuous wall therearound, pairs of angularly shaped members secured within said side walls vertically arranged and forming a plurality of vertical sockets therein, a plurality of tie members spanning the space between said side walls and having flanged members projecting from the ends thereof to fit within the said vertical sockets, as and for the purpose specified.
4. In a concrete crib the combination with a mass of concrete forming the side and end walls, of a solid frame forming the base for said mass of concrete, and metal bars rising from said solid frame and extending upwardly through said concrete, as ind for the purpose specified.
5 . In a concrete crib the combination with a mass of concrete forming the side and end walls, of a base for the said mass of concrete, a plurality of horizontally arranged angularly shaped bass secured to said base and forming a frame, upright bars secured to said frame, a plurality of horizontally arranged angularly shaped bars secured to said uprights and superposed above the aforesaid frame, reinforcing members spanning the space between the upper and lower frame, and a plurality of angularly shaped bars arranged vertically in pairs to the inside of said framework and secured thereto embedded in said mass of concrete, and a plurality of tie members spanning the space between the sides of said crib and engaging the pairs of vertically arranged bars, as and for the purpose specified.
6. In a concrete crib the combination with a mass of concrete forming the side and end walls, of a base for the said mass of concrete, a plurality of horizontally arranged angularly shaped bars secured to said base and forming a frame, upright bars secured to said frame, a plurality of horizontally arranged angularly shaped bars secured to said uprights and superposed above the aforesaid frame, a plurality of reinforcing bars extending from the upper to the lower frame on the outer and inner sides thereof, a plurality of pairs of angularly shaped bars vertically arranged to the inside of the sides of said frame and forming vertical sockets on either sides directly opposite, the said frame being embedded in the mass of concrete, a plurality of tie members spanning the space between the sides of said crib having projections from the ends thereof to fit within the said vertical sockets, as and for the purpose specified.
7. In a concrete crib the combination with a mass of concrete forming the side and end walls, of a base for the sail mass of concrete, a plurality of horizontally arranged channel bars secured to said base and forming a rectangular frame, upright angle bars secured to said frame at the corners thereof, a plurality of horizontally arranged channel bars secured to said upright bars and superposed above the aforesaid frame, a plurality of reinforcing bars extending from the upper to the lower frame on the outer and inner sides thereof, a plurality of \(Z\) bars arranged in vertical pairs secured to said upper and lower frame and forming vertical sockets, said sockets being arranged on either side of said crib and directly opposite, the said frame being embedded in
a mass of concrete, a plurality of tie members spanning the space between the sides of said crib having projecting \(T\) shaped portions from the ends thereof to fit within the said vertical sockets, as and for the purpose specified.
8. In a concrete crib the combination with a mass of concrete, forming the side and end walls having a plurality of vertically arranged sockets thereln, said sockets being arranged to the inside of the side walls and in pairs directly opposite, a plurality of tie members formed of a mass of concrete having a section of I beam emt edded therein at each end thereof and partly projecting therefrom and reinforcin: rods secured to each of the said sections of I beam, sald tie members being adapted to span the distance between the sides of the crib and fit within the rertical sockets, as and for the purpose specified.
9. A concrete crib comprising solld side and end walls forming a continuous wall, one of said end walls extending only a portion of the height of said side walls and means for closing the upper portion of said end wall, as and for the purpose specifled.
10. A concrete crib comprising solid side and end walls forming a continuous wall, one of said end walls extending only a portion of the height of said side walls and having the upper edge thereof bevelled inwardly to the said sides, and means for continuing the side wall to complete the crib, as and for the purpose specified.
11. A concrete crib comprising rectangular sections having solid side and end walls forming a continuous wall, one end wall of one section extending only a portion of the height of said crib and bevelled inwardly from the outer face, and the succeeding section having one end thereof extending only a portion of the dept'l thereof and bevelled inwardly from the outer face, said sections being arranged to abut each other so that the bevelled edges of the portions of the end walls engage and form a solid wall between said sections, substantially as described.
12. A concrete crib comprising solid side and end walls forming a continuous wall, and a solid frame base supporting said wall, said wall and base having vertically arranged water passages, as and for the purpose specified.

No. 101,694. Marking Peg and Center Punch. Cheville à marquer et pointeau.


William Houghton, Bath, Maine, U.S.A., 23rd October, 1906;
6 years. Filed 1st October, 1906. Receipt No. 139,919.
Claim.-1. In a device of the character described the combination with a sleeve or tube, of a punch slidably mounted therein, a slotted guide collar arranged in the upper end of said tube, stop pins arranged in said punch to engage the slots in said guide collar, and a spring to retract said punch, stibstantlally as described.
2. In a device of the character described the combination with a sleeve or tube, of a punch slidably mounted therein, an upper guide collar arranged in the upper end of said tube, said collar having formed in its lower and vertically disposed slots and notches arranged at diametrically opposite points, means to secure said collar in said sleeve, upper and lower horizontally disposed pins arranged at right angles in said punch to engage the slots and notches in said collar, a retracting spring arranged on said punch, and means to hold said spring in place, substantially as described.
3. In a device of the character described the combination with a sleeve or tube, of a punch slidably mounted therein, an upper guide collar arranged in the upper end of said tube, said collar having formed in its lower end vertically disposed slots and notches arranged at diametrically opposite points, a set screw to hold said collar in place in said tube, upper and lower horizontally disposed pins arranged at right angles in and projecting from the sides of said punch to engage the slots and notches in said collar, a gulde collar fixed in the lower end of said tube, a collar loosely mounted on said punch below said lower pin and a colled retracting spring arranged on said punch between said fixed lower collar and arranged on said collar, substantially as described.

No. 101,695. Wind Wheel. Moulin d vent.


William T. Fine, Hopkins, Missouri, U.S.A., 23rd October, 1906; 6 years. Filed 24th April, 1906. Receipt No. 135,224. Claim.-1. In a wind wheel the combination with a support, of a turntable mounted thereon and carrying a vane, a fixed and a vertically movable platform on the turntable, a horizontally disposed wheel, rock shafts mounted on the wheel, and carrying blades at their outer ends, cranks formed on the inner ends of the shafts and fitted with rollers cooperating with the platforms to feather the blades, and stops ergaged by the rollers when off the fixed platform for limiting the swing of the cranks.
2. In a wind wheel the combination with a support. of a turntable mounted theren and having an outwardly extendine stem, a vane secured to sald stem, a fixed and vertically movable platform on the turntable, a lever pivoted on the aforesaid stem, and connected with the movable platform, means for operating the lever to raise and lower sald platform, a horizontally disposed wheel, rock shafts mounted on the wheel, and carrying blades, and means carried by the shafts, and co-operating with the platforms to feather the blades.

No. 101,696. Windmill. Moulin à went.


Albert Geoffroy, Eratt, Loulsiana, U.S.A., 23rd October. 1906;
6 ycars. Filed 23 rd March, 1906. Receipt No. 134,212.
Claim.-1. In a windmill the combination with a turntable having a hollow post upon which it rotates, and a vane pivoted upon the turntable in rear of the post, a verticalls movable locking bolt carried by the vane and having a series of engagements with the turntable, a lever fulcrumed upon the vane and connected to the bolt, a guide carried by the turntable and overhanging the top of the post, and a bolt operating cable connected to the lever and passing downwardly through the post in engagement with the guide.
2. In a windmill the combination with a turntable, a wiad wheel thereon, and a vane pivotally mounted on the turntable, of means tending to yieldably maintain the vane out of alignment with the wheel, a keeper upon the turntable, \({ }^{2}\) latch carried by the vane for engagement with the keeper to hold the vane in alignment with the wheel, tension means tending to disengage the latch from the keeper, and means controlled from the ground for holding the latch in engagement with the keeper.
3. In a windmill the combination with a turntable, of the vane pivotally mounted thereon, a locking bolt carried by the vane for engagement with the turntable, a keeper upon the turntable, a latch upon the vane for engagement with the keeper, and means operable from the ground and common to the bolt and lateh for controlling the same.
4. In a windmill the combination with a turntable, of \({ }^{2}\) vane pivoted thereon, a locking bolt carried by the vane for engagement with the turntable, a lever fulcrumed upon the vane and connected to the bolt, a keeper upon the turntable, a pivotal latch upon the vane for engagement with the keep er, tension means tending to normally hold the latch out ol engagement with the keepers, sald latch being provided with a cable guide, an operating cable running through the guide, and a link connected to the lever and the cable and bearinf upon the top of the latch.

No. 101,697. Windmill. Moulin d vent.


Catherine Jane McMasher, Corfield, North Queensland, Queensland, Australia, 23rd October, 1906; 6 years. Filed 14th June, 1906. Receipt No. 136,901.
Claim.-An improved irame for carrying the operating wheel and transmitting mechanism of a windmill consisting of side pieces jointed together at the top and bottom, said frame being supported between a swivel at the top and a swivel foot bearing on a platform at the bottom so as to be capable of revolving, the top swivel being maintained in position by guy ropes or stays, substantially as described and illustrated in the drawings.

No. 101,698. Dipper Teeth. Dent de pelle.


William Bodette, Riverside, California, U.S.A., 23rd October, 1906; 6 years. Filed 30th June, 1906. Receipt No. 137,430.
Claim.-1. A dipper tooth comprising upper and lower bifurcated portions having their extremities rabbeted, in combination with rabbeted saddle plates.
2. A dipper tooth comprising rearwardly extending bifurcated portions, and saddle plates with which sald bifurcated portions have an interlocked engagement.
3. A dipper tooth comprising bifurcated portions, and saddie plates having a scarf jointed connection with said bifurcated portions.
4. A dipper tooth comprising blfurcated portions terminating in tongues, and saddle plates recessed to recelve said tongue.
5. A dipper tooth comprising bifurcated portions having terminal tongues, saddle plates recessed to receive sald tongues, and lasteners passing through the tongues and saddle plates.
6. A dipper tooth comprising rearwardly extending blfurcated portions, saddle plates with which said bifurcated portions have an interlocked connection, and dipper engaging shoulders on sald saddle plates.
7. A dipper tooth comprising rearwardly extending bifurcated portions adagted to straddle the dipper, saddle plites secured to the dipper and having an interlocked engagement with the bifurcated portions of the tooth, and a bolt passing through the bifurcated portions of the tooth and also through the dipper.

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No. 101,699. Grain Drier. Séchoir de grain.


John Nash and Hank Noll, assignee of a half interest, both of North Yakima, Washington, U.S.A., 23rd October, 1906; 6 years. Filed 5th July, 1906. Receipt No. 137,539.
Claim.-1. A drum cylinder having an axle supported for rotation, angular braces extending between the axle and the perimenter of the cylinder, and spaced strips constituting bucket members supported respectively upon the inner and the outer ends of said annular braces.
2. A drum cylinder having a foraminous body and an axle supported for rotation, spaced hoops supporting the foraminous body, angular braces connecting said hoops with the axle, and spaced foraminous strips constituting bucket members supported upon the angular braces adjacent to the axle and the hoops respectively.
3. A foraminous drum or cylinder supported for rotation and having interiorly disposed foraminous bucket members, a hopper bencath said drum, and heating means in the hopper.
4. A chamber or casing having a hopper shaped bottom, a foraminous drum supported for rotation in the casing and having interior agitating means, means for heating air within the hopper, and means, including valves bearing against the drum, for preventing heated air from rising adjacent to the other sides of the drum.
5. A chamber or casing having a hopper shaped bottom, a foraminous cylinder supported for rotation in the casing, heating pipes supported upon the sides of the hopper shaped bottom, and deflectors above said pipes.
6. A chamber or casing having an outlet in the lower part thereof, a foraminous cylinder supported for rotation within the casing, air heating means in the lower part of the casing, shelves upon the walls of the latter, and valves supported by said shelves and adapted for exterior engagement with the cylinder.
7. A chamber or casing, a foraminous cylinder supported for rotation within the casing, a supply hopper above the casing having an inclined foraminous floor and provided with an opening through which the contents of the hopper may be discharged into the cylinder, and air heating means in the chamber below the cylinder.
8. A chamber or casing, a foraminous cylinder supported for rotation within the casing, a supply bin above the casing having a foraminous hopper shaped floor, air heating means in the chamber below the cylinder, and means including valves exteriorly engaging the cylinder for preventing heated air from rising except through the cylinder.

\section*{No. 101,700. Machine for Making Lacing Tips.} Machine d faire les bouts métalliques de lacets.
Frank W. Whitcher, assignee of Charles Frank Pinkham, both of Boston, Massachusetts, 23rd October, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,666.
Claim.-1. In a machine of the character described in combination, turning-in mechanism, cement applying mechanism and compressing mechanism.
2. In a machine of the character described the combination with transferring mechanism, of turning-in mechanism, cement applying mechanism and compressing mechanism.
3. The combination of an exterior turning-in member, and an interior turning-in member co-operating therewith.
4. The combination of exterior turning-in mechanism, and Interlor turning-in mechanism comprising a central support, and grlppers co-operating with the sald central support.
5. Turning-in mechanism comprising a central support for the lacing, grippers therefor, and holding members contracting with the outside of the lacing while upon the central support.
6. Turning-in mechanism comprising a central support or spear for the lacing, grippers therefor, and a chuck engag-
ing the outside of the lacing during the turning-in movement.

7. Turning-in mechanism comprising a central support or spear for the lacing, grippers therefor, and a chuck provided with radially movable members engaging the outside of the lacing during the turning-in movement.
8. Turning-in mechanism comprising a central support or spear for dilating the end of a lacing said central support or spear being provided with an end portion for insertion in the lace, and having a contracted portion or neck back of said end portion, holding means co-operating with the neck of the said central support or spear to grip the end of the lacing. and exterior members contracting with the lacing upon the said central support or spear.
9. Turning-in mechanism comprising a central support or npear for dilating the end of a lacing, said central support or spear being provided with a tapering portion for insertion i:t the lacing, and having a contracted portion or neck back o! said tapering portion, holding means co-operating with the neck of the said central support or spear to grip the end of the lacing, and exterior members having a roughened interior surface contracting with the lacing upon the said central support or spear at its point of greatest diameter.
10. In a machine of the character described the cement applying apparatus comprising a fixed piston, a relatively movable cylinder whereby the cement is ejected from the cylinder during the backward movement of the cylinder.
11. In a machine of the character described the cement applying mechanism romprising a movable pump cylinder provided with a tip having a constricted bore, a fixed piston comprising two portions one of a size corresponding with the interior of the pump cylinder and the other with that of the bore of the tip.
12. In a machine of the character described the cement applying apparatus comprising a movable cylinder provided with a tip having a constricted bore, means supplying cement to the said cylinder, a fixed piston having one portion thereof of a size to fit the main part of the cylinder and another portion of a size to fit said constricted bore.
13. In a machine of the character described the cement applying apparatus comprising a movable cylinder provided with a tip having a constricted bore, means supplying cement to the said cylinder, a fixed piston having one portion of a size to fit the main part of the cylinder and another portion of a size to fit the said constricted bore, and moving means for the sald cylinder whereby the cement is ejected during the backward movement of the cylinder.
14. In a machine of the character described the cement applying apparatus comprising a movable cylinder provided with a tip having a constricted bore. means supplying cement to the said cylinder, a piston fixed with relation to the said cylinder having one portion of a size to fit the main part of the cylinder and another portion of a size to flt the said constricted bore, moving means for the said cylinder, and adjusting means for the said piston whereby the quantity of the cement ejected during the backward movement of the the cement ejected during
15. In a machine of the character described the combination with turning-in mechanism, cement applying mechanism and compressing mechanism, of a cutter gripper and a side gripper holding the lacing or other article during its transfer from the feeding position to the turning-in position.
16. In a machine of the character described the combination with turning-in mechanism, cement applying mechanism and compressing mechanism, of a lace carrier for transferring the turned in lacing from the turning-in position to the compressing position.
17. In a machine of the character described the combination with turning-in mechanism, cement applying mechanism and compressing mechanism of a lace carrier comprising an arm. gripplng members thereon, a rotatable slide rod upon
which the said arm is mounted, and a pair of cams one for imparting to the said lace carrier a rectllinear motion, and the other imparting to the lace carrier a rotary motion whereby the lacing is transferred from the turned-in position to the compressing position.

No. 101,701. Dredge. Dragueur.


Frank Yoeman and John J. Hamlyn, assignee of a half interest, Oroville, California, U.S.A., 23rd October, 1906; 6 years. Filed 20th August, 1006. Receipt No. 138,830.
Claim.-1. In a dredge the combination with a swinging frame carrying an endless excavator, of a counterbalancing weight, a drum, flexible connections between said weight, said frame and said drum, and a variable speed driving means for said drum.
2. In a drodge the combination with a swinging trams carrying a chain of excavating buckets, of vertical guides. counterbalanced weights slidable in said guides, a winding drum, cables attached to the free end of said frame and wound upon said drum, and cables attached to said weights and wound upon said drum in a direction opposite that of the tirst-mentioned cables, substantially as described.
3. In a dredge the combination with a swinging frame carrying an endless excavator, of a counterbalancing weight. a drum, flexible connections between said weight, said frame and said drum, a power shaft, driving connections between the latter and said drum, and variable speed friction drive gearing between said power shaft and said driving conneclions, substantially as described.
4. In a dredge the combination with a swinging frame carrying an endless excavator, of a counterbalancing weight, a drum, fiexible connections between said weight, sald frame and said drum, a power shaft, gearing between said power shaft and the shaft of said drum, sald gearing comprising a longitudinal shaft, a counter shaft geared to said power shaft, a friction disc upon said longitudinal shaft, a shaft extending radially with respect to said longitudinal shaft, a friction wheel slidable upon but free to rotate with the lastmentioned shaft and adapted to engage sald friction disc, and a driving connection between said counter shaft and sald radially disposed shaft, substantially as described.
5. In a dredge the combination with a swinging frame carrying an endless excavator. of a drum, a cable wound upon said drum and attached to said frame, a power shaft, drive gearing between said power shaft and the shaft of said drum and comprising a longitudinal shaft, a counter shaft geared to said power shaft, a friction disc upon said longitudinal. shaft, a shaft disposed radially with respect to said long. tudinal shaft, a friction wheel mounted to slide upon bui keyed to rotate with said radially disposed shaft, and a driring connection between the latter and said counter shaft, substantially as described.
6. In a dredge the combination with a floating body carrying a vertically swinging endless excavator, of guide devices adjacent to the corners of said body, a series of winding drums, and a serien of cables or the like engaged with sald guide and each having one of its ends wound upon one of said druns and its other end adapted for attachment to a stalionary object whereby said floating body may be moved laterally.
7. In a dredge the combination with a floating body carrying a vertically swinging endless excavator, of guide devices adjacent to the corners of said body, winding drums. cables wound upon said drums and engaged with said guide devices, the free ends of said cables being adapted to be secured to stationary objects, a driving mechanism for said drums, a driving mechanism for said excavator, and a variable speed driving mechanism hetween the driving mechanism of said excavator and the driving mechanism of naid drum, substantially as described.
8. In a dredge the combination of a float, a verticalls swinging frame mounted therein, and an endless excarator mounted upon said frame, a series of side line drums a drivng shaft for said irame, a serles shaft, longituding shats seared to sald drive and power shafts, oustershaft, fricgeared to said drive and power shafts, a countershaft and
tional gearing between the ends of said countershaft and
said longitudinal shaft, and means for driving said counter shaft. substantially as described.
9. In a dredge the combination of a float, a vertically swinging frame mounted therein, and an endless excavator mounted upon said frame, a series of side line drums, a driving shaft for said drums, a power shaft. longitudinal shafts geared to said driving and power shafts, a counter shaft, frictional gearing between the ends of sald counter shaft and said longitudinal shaft, means for driving sald countershaft, a main power nhaft, a countershaft geared to the latter and variable speed driving connections between the latter-mentloned countershaft and the first-mentioned countershaft, substantially as described..

\section*{No. 101,702. Bevel and Compass.}

\section*{Beauceau et compas.}


Henry Tatum, Wilbur Hodges and John A. Webb, each an assignee of a third interest, both of Miakka. Florida, U.S.A., 23rd October, 1906; 6 years. Filed 27th August, 1906. Receipt No. 139,026.

Clain.-A tool of the type described comprising a body having a reces formed in one face thercof, an arm pivoted to fold into said recess, a telescope pivoted to and movable with said arm and a cover movably connected with the body and adapted for normally closing the recess to house the telescope and arm therein.

No. 101,703. Meter. Metre.


The American District Steam Company, assignee of John Daniel Walsh, both of Lockport, New York, U.S.A., 23ril October, 1906; 6 years. Filed 12th June, 1906. Receipt No. 136,822.
Claim.-1. In a meter, a casing, a tunnel disposed and supported within the casing and a scraper device disposed within the funnel to remove therefrom sediment collecting therein.
2. In a meter, a casing, a funnel disposed and supported within the casing and a scraper device disposed within the funnel to remove therefrom sediment collecting therein and provided with manually operable means extending outside of the casing.
3. In a meter, a casing, a funnel disposed and supported within the casing, and a scraper device disposed within the funnel to remove therefrom sediment collecting therein and provided with an operating rod extending through the shell or side of the casing.
4. In a meter, a casing formed with an internal perforated shelf or flange, a funnel or nozzle secured to the shelf around the opening thereof and a hood or deflector supported above the nozzle and construoted to shunt liquid onto sald shelf before passing through the nozzle.
5. In a meter, a casing formed with an internal perforated shelf, a funnel secured to the shelf around the opening thereof and a hood supported above the nozzle and having a bowed or curved bottom and constructed to shunt liquid onto said shelf before passing through the nozzle or funnel.
6. In a meter, a casing formed with an internal perforated shelf, a funncl secured to the shelf around the opening thereof and a hood supported above the funnel and having open sides and constructed to shunt liquid onto said shelf before passing through the funnel.
7. In a meter, a casing formed with an internal perforated shelf. a funnel on nozzle secured to the shelf around the opening therrof and a hood supported above the nozzle and having open sides and a bowed bottom and constructed to shunt liquid onto said shelf before passing through the nozzle.
8 . In a meter, a casing, a funnel disposed and supported within the casing and a spear or wedge-shaped scraper device disposnd within the funnel to remove therefrom sediment collecting therein.
9. In a meter, a casing, a tilting bucket therein, and dash pots beneath the bucket, said bucket carrying on its under surface depending plungers disposed toward each end of the bucket, the plungers at each end of the bucket carrying at their lower extremities a connecting or uniting splasher bar adapted to impinge the water in the dash pots.
10. In a meter, a tilting bucket therein movable on ball bearings and dash pots beneath the bucket, said bucket carrying on its under surface depending plungers disposed toward each end of the bucket, the plungers at each end of the bucket carrying at their lower extremities a connecting or uniting splasher bar adapted to impinge the water in the dash pots.
11. In a meter, a casing, a tilting bucket therein, means for rendering the movement of the bucket noiseless, registering mechanism secured to the casing, and means carried by the bucket and engaging with the registering mechanism when the bucket tilts to actuate the registering mechanism.
12. In a meter, a casing, a tilting bucket therein, means for rendering the operation of the bucket noiseless and a pin projecting from the bucket and engaging with the registering mechanism, when the bucket tilts, to actuate the registering mechanism.
13. In a meter, a casing, a tilting bucket therein, means for rendering the operation of the bucket nolseless, a funnel disposed and supported within the casing and above the bucket, and a scraper devire disposed within the funnel to remove therefrom sediment collecting therein.
14. In a meter, a casing, a tilting bucket therein, means for rendering the operation of the bucket noiseless, a funnel disposed and supported within the casing and above the bucket, and a scraper device disposed within the funnel to remove therefrom sediment collecting therein, and provided with manually operable means extending outside of the casing.
15. In a meter, a tilting bucket therein movable on ball bearings, means in addition for rendering the movement of the bucket noiseless, and dash pots bencath the bucket, said bucket carrying plungers adapted to impinge the water in the dash pots, a funnel disposed and supported within the casing and above the bucket, and a scraper device disposed within the funnel.
16. In a meter, a casing, a tilting bucket therein, means for rendering the operation of the bucket nolscless, said casing being constructed with an internal ledge or shelf disposed above the bucket and perforated, a funnel secured to the under surface of the shelf around the opening thereof, and a hood supported above the nozzle and constructed to shunt liquid onto said shelf before passing through the nozzle and into the bucket.
17. In a meter, a casing, a tilting bucket therein, means for rendering the operation of the bucket noiseless, said casing being constructed with an internal shelf disposed above the bucket and perforated, a funnel secured to the under surface of the shelf around the opening thereof, a scraper device within the funnel, and a hood supported above the nozzle and constructed to shunt liquid onto said shelf before passing through the nozzie and into the bucket.
18. In a meter, a casing, a tilting bucket therein movable on ball bearings, additional means for rendering the operation of the bucket noiseless, said casing being constructed with an internal shelf disposed above the bucket and perforated, a funnel secured to the under surface of the shelf around the opening thereof. a scraper device within the funnel, and and a hood supported above the nozzle and constructed to shunt liquid onto said shelf before passing through the nozzle.
19. In a meter, a casing, a tilting bucket therein movable on ball bearings, dash pots beneath the bucket, said bucket carrying on its under surface plungers adapted to impinge the water in the dash pots, said casing being constructed with an internal shelf disposed above the bucket and perforated, a funnel secured to the under surface of the shelf around the opening thereof. a scraper device within the funnel, and a hood sumported above the funnel and constructed to shunt liquid onto said shelf before passing through the nozzle or funnel.
20. In a meter, a casing. a tilting bucket therein, dash pots beneath the bucket, said bucket carrying on its under
surface depending plungers disposed toward each end of the bucket, the series of plungers at each end of the bucket carrying, at their lower extremities a connecting or uniting splasher bar adapted to impinge the water in the dash pots, and means to limit downward movement of the bucket.
21. In a meter, a casing, a tilting bucket therein, dash pots beneath the bucket. said bucket carrying on its under surface and disnosed toward each end thereof depending plungers, the series of plungers at each end of the bucket carrying, at their lower extremities, a connecting splasher bar adapted to impinge the water in the dash pots, and adjustable means to limit downward movement of the bucket.
22. In a meter, a casing, a tilting bucket therein, dash pots beneath the bucket, said bucket carrying on its under surface and disposed toward each end thereof depending plungers, a series of plungers at each end of the bucket carrying, at their lower extremities, a connecting splasher bar, said dash pots being formed with upward projecting bumpers, and said bucket carrying, on its under surface, means adapted to impinge the bumpers.
23. In a meter, a casing, a tilting bucket therein. dash pots beneath the bucket, said bucket carrying on its under surface and disposed toward each end thereof depending plungers, the series of plungers at each end of the bucket carrying, at their lower extremities, a connecting splasher bar, said dash pots being formed with upward projecting bumpers, and said bucket carrying, on its under surface, adjustable means adapted to impinge the bumpers to limit downward movement of the bucket.
24. In a meter, a casing, a tilting bucket therein, dash pots beneath the bucket, said bucket carrying on its under surface disposed toward each end thereof depending plungers, the several plungers at each end of the bucket carrying, at their lower extremities, a connecting splasher bar adapted to impinge the water in the dash pots. said dash pots being formed with upward projecting bumpers, sald bucket carrying on its under surface adjustable means adapted to impinge the bumpers to limit downward movement of the bucket, said casing being formed with an internal shelf disposed above the bucket and perforated, a funnel secured to the under surface of the shelf around the opening thereof, and a hood supnorted above the shelf and constructed to shunt liquid onto said shelf before passing through the funnel.
25. In a meter, a casing. registering mechanism secured thereto, a tilting bucket within the casing, means carried by the bucket and engaging with the registering mechanism. when the bucket tilts, to actuate the same, and dash pots beneath the bucket, sald bucket carrying on its under surface and disposed toward each end thereof depending plungers, the plungers at each end of the bucket carrying, at their lower extremities, a connecting splasher bar adapted to impinge the water in the dash pots.
26. In a meter, a casing. registering mechanism secured thereto, a tilting bucket within the casing. means carried by the bucket and engaging with the registering mechanism when the bucke tilts, to actuate the same, dash pots beneath the bucket, said bucket carrying on its under surface depending plungers disposed toward each end of the bucket. the plungers at each end carrying, at their lower extremities a connecting splasher bar, said dash pots being formed with upward projecting bumpers, said bucket carrying on its under service, means adapted to impinge the bumpers to limit downward movement of the bucket.
27. In a meter, a casing, registering mechanism secured thereto, a tilting bucket within the casing. means carrjed by the bucket and engaging with the registering mechanism, when the bucket tilts, to actuate the same, dash pots beneath the bucket, sald bucket carrying on its under surface depending plungers disposed toward each end of the bucket, the series of plungers at each end of the bucket carrying at theid lower extremities a connecting splasher bar adapted to impinge the water in the dash pots, said dash pots being formed with upwardly projecting bumpers, said tucket carrying, on its under surface, means adapted to impinge the bumpers to limit downward movement of the bucket, said casing being formed with an internal shelf disposed above the bucket and perforated, a funnel secured to the under surface of the shelf around the opening thercof, and a hood supported above the shelf and constructed to shunt liquid onto said shelf before passing through the funnel.
28. In a meter, a casing. registering mechanism secured thereto, a tilting bucket within the casing, means carried by the bucket and engaging with the registering mechanism, when the bucket tilts, to actuate the same, dash pots beneath the bucket, said bucket carrying on its under surface and disposed toward each end thereof depending plungers, the series of plungers at each end of the bucket carrying a connecting splasher bar, sald dash pots being formed with
upward projecting bumpers, said bucket carrying, on Its under surface, means adapted to impinge sald bumpers to limit downward movement of the bucket, sald casing being formed with an internal shelf disposed above the bucket and perforated, a funnel secured to the under surface of the shelf around the opening thereof. a scraper device within the funnel, and a bood supported above the shelf and constructnd to shunt liquid onto said shelf passing through the funnel.
29. In a liquid measuring device, an oscillating bucket provided with plungers on its under side, and a dash pot arranged beneath the bucket and presenting water holding chambers having sides of a curvature corresponding approximateif to the angle formed by the plungers upon entering the chambers, whereby danger of jamming or wedging of the plungers in the chambers is obviated.
20. In a liquid measuring device, an oscillatory bucket provided with plungers on its under side, and a dash pot arranged beneath said bucket and presenting lindependent, non-communicating, water holding chambers having sides o: a curvature corresponding approximately to the angle formed by the plungers upon entering the chambers, whereby danger of jamming of the plungers in the chamber is otviated.
31. In a liquid measuring device, an oscillating bucket provided with plungers on its under side, having at their lower extremities splasher bars, and a dash pot arranged beneath the bucket and presenting water holding chambers baving sides of a curvature corresponding approximately to the angle formed by the plungers upon entering the chambers. whereby danger of jamming of the plungers in the chambers is obviated.
32. In a liquid measuring device, a bucket supported for oscillatory movement, and provided with plungers on its under surface, dash pots arranged beneath the bucket and an enclosing casing providing means to keep the dash pots constantly supplied with liquid, the said plungers terminating at their free ends in splasher bars.

No. 104,704. Weighing Scales. Balance.

E. and T. Fairbanks \& Co., assignee of Henry Fairbanks, all of St. Johnsbury, Vermont, U.S.A., 23rd October, 1906; 6 years. Filed 21st August, 1906. Receipt No. 138, 898.
Claim.-1. A lever formed with its material disposed near its upper and lower edges and having an opening through its neutral line of strains, the load receiver pivot carried by the lever with its knife edge in the opening, a saddle block bearing upon this pivot and two swinging links hanging from the saddle block and by which the free swinging support of the load receiver is carried.
2. A lever or scale beam having an opening and provided with projections in alignment with one wall thereof, and a knife edge pivot extending through said opening
forced by the metal of the lever and projections.
3. In a weighing scale a lever having an opening, a knife edge pivot extending through and beyond the sides of the lever and supported by the lever, a saddle block bearing also extending through the opening and engaging the pirot for its entire length and suspension links encirciing sald saddle block.
4. In a weighting scale a lever having a transverse openlng, a knife edge pivot extending therethrough and having a bearing edge of greater length than the thickness of the lever, said pivot being reinforced through its entire length, the opening being disposed to include the knife edge of the plvot and a bearing member co-extensive in length with the pivot and engaging the same throughout its entire length.
5. The combination with a lever having a fulcrum knife edge pivot with its edge down and a platform pivot with its edge up, of bearings for these pivots, a platform support. s rocking block beneath the platform support and suspension members connecting said block with the platform bearing.
6. The combination with a lever having a fulcrum pivot with its edge down and a platform pivot with its edge up. of bearings for the pivots, a rocking block and a pair of suspension members connecting the opposite end portions of one of the bearings to said block.
7. A lever having the bearing engaging the fulcrum knife edge pivot supported on a rigid stand and the bearing of the load receiver pivot arranged parallel with said pivot and carrying two swinging links by which the free swinging support of the load receiver hangs.
8. A lever having knife edge and fulcrum pivots, a stand, a bearing engaging the fulcrum knife edge pivot and supported on said stand, and the bearing of the platform pivot carrying swinging links encircling the pivot and bearing by which the free swinging support of the platform hangs.
9. In a weighing scale, a lever having a knife edge pivot, a rocking block \(e^{11}\), steel faced to serve as a bearing for said knife edge pivot and the support \(i^{1}\) upon which it rocks, the block and pivot being co-extensive in length in combination with the other pivot of the lever, and its bearing whereby the two bearings may swing into the same planc.
10. The combination in a weighing scalc. of a lever having a knife edge plvot, a bearing therefor, a rocker block connected with the two ends of the bearing and a support having interfitting portions to permit rocking movement. and guards for limiting such movement.
11. In a woighing scale, a rocking block fir, steel faced to serve as a bearing for one knife nign nivot of the lever. and the support \(i^{2}\) upon which it rocks, the block and pivot extending through an opening in the lever, in combination with the other pivot of the lever. and its bearing whereby the two bearings may swing into the same plane.
12. The combination in a woighing scale. of a lever having a knife edge pivot. a bearing therefor both the pivot and bearing extending through an onening in the Iever. a rocker block and a support having interfitting portions to permit rocking movement and guards for limiting such movement.
13. The combination in a weighing scale. of a lever having a knife edge pivot. a bearing therefor. the pivot being in contact with the bearing for its entire length, a rocker block connected with the two ends of the bearing. and a support having interfitting portions to permit rocking movement and guards for limiting surh movement.
14. In combination with a knife erlge pivot. of a lever. of a welghing scale, a saddle block bearing engaging the pivot links encircling this hearing, and a support connected by the link to the hearing, sald stand having an opening in alignmant with the bearing to permit removal of the lattor.
15. In combination with the two main knife eige pivots, of a lever and their bearings. a block. a proiection on which it is free to rock by which block one of these bearings is carried. whereby that bearing is allowed to swing into the same plane with the other and to equalize the stress at the t.wo ends of each pivot.
16. The underframing shown consisting of longitudinal sills \(p\) at the sides of the scale nit, the cross sills \(r\) in pairs coped upon the side sllls in place to carry the extension lever stands at the middle of the scale, (and the base plates r upon the masonary upon which plates all the sllls have their support) in combination with the fulcrum stands \(n\) bolted to the top of the side sills and with levers carried above the lever of the top of the sills.
17. In combination the lever having longitudinally projecting knife edge pivots, the stand, a rocking block and connecting means including a pair of link loons between the pivots and the opposite ends of said rocking block.
No. 101,705. Boiler. Chaudière.


Charles Trow, Wilbert R. De Harpport, Leon Marchessault, Louis Marchessault, Jr., Anna Marchessault, and Victor Marchessault, assginees of Louls Marchessault, all of Minneapolis, U.S.A., 23rd October, 1906; 6 years. Flled 22nd September, 1906. Receipt No. 139,718.
Claim.-1. In a boiler, a plurality of closely assembled
flues, said flues having reduced ends, which reduced ends
are extended through and in the vicinity of the flue sheet of the firebox, substantially as and for the purposes set forth. 2. In a boiler the combination with an outer shell and a fire box, said fire box having a flue shect \(2 a\) spaced apart from an adjacent plate of the sald outer shell, to form a mud leg. of a plurality of flues 3 , having reduced ends \(3 a\) passed through said flue sheet \(2 a\) and extending into the water space a distance approximately equal to the thickness of said underlying mud leg, substantially as described.

No. 101,706. Steam Boiler. Chaudiere d̀ capour.


David Wigert and Benjamin F. Butler, assignee of a half interest, both of Galesburg. Illinois, U.S.A., 23rd October, 1906; 6 years. Filed 27th September, 1906. Receipt No. 139, 846.
Claim.-1. A boiler having an approximately vertical portion provided with a series of sets of flues extending therethrough, each set comprising two rows of flues, one disposed above the other, and at a right angle thereto, all of the flues of one row of each set communicating with the combustion chamber and arranged for the direct passage of the procucts of combustion, and flue members or partitions for directing the products of combustion from one row of each set to the second row of each sct of flues.
2. The combination with a boller, of an auxiliary water heating chamber having a circulating connection with the boiler, said auxillary chamber forming the rear wall of the firebox and spaced from the front face of the main boller to form a vertical passage or combustion chamber through which the products of combustion must pass to the main boiler flue.
3. The combination with a steam boiler, of an auxiliary chamber arranged in front of the main boiler and forming the rear wall of the firebox, a water box arranged at the front of the boiler and having a circulating connection therewith, and a water grate formed of tubes connected at their iront edge to the water box, the rear ends of said tubes extending upwardly within the combustion space formed between the auxiliary chamber and the main boiler and their upper ends being connected to said auxiliary chamber.

\section*{No. 101,707. Comnosition for Removing Scale from Boilers.}

Composition pour enlever les inconstations dans les chaudieres.
Arthur D. Colquhoun. St. Marys, Ontario, Canada, 23rd October, 1906 ; 6 years. Filed 24th March, 1906. Receipt No. 134.230 .

Claim.-1. The herein described composition of matter consisting of water, substantially pure, caustic soda. tri-sodium phosphates. coal oll, potatoes.
2. The herein described matter for removing scale from steam boilers consisting of. water substantially pure-2 gallocs, caustic soda \(1 \frac{1}{2}\) to 7 lbs ., tri sodium phosphates \(1 \frac{1}{2}\) to 5 lbs ., coal oill 1 to \(1 \frac{1}{2}\) pints, potatoes 1 to 4 gallons, substantially as described and for the purposes specifled.

\section*{No. 101,708. Steam Boiler. Chaudière à vapeur.}

Acland Oronhyatckha, Desoronto, Ontario, Canada, 23rd October, 1906 : 6 years. Filed 30th April, 1906. Receipt No. 135,371.
Claim.-1. A steam boiler comprising a plurallty of scctions each composed of two metal plates spaced apart and suitably secured at their abutting portions so as to form a tight joint, each plate being provided with one or more holes in aligament with the holes in the opposite plate, couplings for providing intercommunication between said sections through their associated holes in said plates, and means for coupling said sections in relative position.
2. A steam boller comprising a plurality of sections each composed of two metal plates spaced apart and suitably se-

cured at their abutting portions so as to form a tight joint, each plate being provided with one or more holes in alignment with the holes in the opposite plate, couplings betwoen said sections for providing intercommunication betwen said sections through their associated holes in said plates. blocks held within said sections so as to keep said plates in position, a coupling rod passing through sald sections and said couplings, and means for securing said coupling rod in place.
3. A steam boiler comprising a plurality of soctinns each composed of two metal plates spaced apart and suitably secured at their abutting portions so as to form a tight foint, fach plate being provided with one or more holes in alignment with the holes in the opposite plate, couplings betwern eaid sections for providing intercommunication butwort said sections through their associated holes in said plates. blocks held within sald sections so as to keep said platos in position, a coupling rod massing throush said sections and said couplines, means for sccuring said coupling rod in place, and means for additionallv bracing said sections together preferably near their outer corners.
4. A stam hoiler comprising a plurality of sections each composod of two metal plates spaced apart and suitably secured at their abuttine portions so as to form a tight joint each plate being provided with one or more holes in alignment with the holes in the opposite plate. couplings between said sections and providing intercommunication between said sections throurh their associated holes in said plates, blocks held within said sections so as to keep sald plates in position, a coupling rod passing through said sections and said couplings. means for securing said coupling rod in place, brace rods nassing through the plates of said sections near each corner thercof, washrrs on said rods between said sections. and nuts on said rods for bracig sald sections and coupling them together.
5. A steam boiler comprising a plurality of metal frames. a metal plate secured to each side of said frame so as to form a tight joint, each plate being provided with one or more holes in alignment with the holes in the opposite plates, couplings for providing intercommunication between said sections through their associated holes in said plates, and means for coupling said sections in relative position.
6. A steam boiler comprising a plurality of metal frames provided with V-shaped bottoms. a metal plate secured to each side of said frame so as to form a tight joint, each plate being provided with one or more holes in alignment with the holes in the opposite plate. the lower sets of holes being near the apex of said \(V\)-shaped bottom. couplings for providing intercommunication between said sections through their associated holes in said plates, and means for coupling said sections in relative position.
7. A steam boiler comprising a plurality of metal frames provided with V-shaped bottoms, a first metal plate having its ends bent around said metal frame, a second metal plate having its ends bent around the bent end of said first metal plate, rivets for securing said ends to said metal frame so as to form a tirht joint. the said plates being provided with one or more holes in alignment with the holes in the opposite plate, couplings for providing intercommunication between said sections through their associated holes in said plates, and means for coupling said sections in relative position.
8. A steam boiler comprising a plurality of metal frames provided with V-shaped bottoms, a first metal plate having its ends bent around said metal frame, a second metal plate having its ends bent around the bent end of said first metal plate, rivets for securing said ends to said metal frame so as to form a tight joint. the said plates being provided with one or more holes in alignment with the holes in the opposite plate, couplings for providing intercommunication between said sections through their associated holes in said plates, removable coupling rods passing through said couplings and
said plates, means for keeping said coupling rods in place, and means for coupling said sections together so as to perinit of the removal of said coupling rods and yet prevent the displacement of said sections.
9. A bniler section comprising two metal plates spaced apart aid suitably secured at their abutting portions so as to form a ticht joint. each plate being provided with one or more holes in alignment with the holes in the opposite plate.
10. A boiler section comprising a metal frame, a first plate placed on one side thereof and having its ends lapped or folded over said metal frame. a second metal plate placed on the other side of said metal frame and having its ends lapped or folderl over the lapped ends of said first metal blatr. rach of said plates being provided with one or more holes in alignment with the holes in the opposite plate and rivets for securing the lapped or folded ends of sald metal plates to said metal frame so as to form a tight joint.
11. A boilor section comprising a metal frame provided with a V-shaped hottom. a first plate placed on one side thercof and having its ends lapped or folded over sald metal frame. a second metal plate placed on the other side of sald metal frame and having its ends lapped or folded over the lanper ends of said first metal plate, each of said plates hining norvided with one or more holes in alignment with the hols in the oprosite plate. the lower pair of holes in said plates being at the apex of said \(V\)-shaped bottom and rivets for securing the lapped or folder ends of said metal plates to said motal frame so as to form a tight joint.

\section*{No. 101,709. Conveyer for Excavators. Transport pour excavateurs.}


Thomas McMunn, Winnipeg, Manitoba, Canada, 23rd October, 1:06: 6 years. Filed 8th June, 1906. Receipt No. 186.6м\%.

Claim. \(\cdots 1\). In a device of the class described in combination, a sectional main frame, a sectional dependent adjustable frame, a set of gear wheels offset and dependent from the frame. endless chains meshing the opposing sets of gear wheels, carriers dependent from the chains, weans for keeping the chains continuously in mesh with the rear wheels at the opposing end of the adjoining frames, and means for supporting the frames, as and for the purpose specifed.

2 . In a device of the class described in combination :main frame, a dependent adjustable frame, side boards esHinding longitudinally with the frames and displaced laterally at either side, sets of gear wheels disposed between the side boards and the inain frame, sets of similar gear wheels disposed upon the lower face of the frames, endless sprocket chains passing over the gears one on elther side, carriefs driondent from the chains, a set of gear wheels disposed above the main frame and dependent therefrom designed to continuously mesh with the chains, means for pivoting the depenlent frame to the main frame, out boards carried by the frames and in proximity to the carriers, and means for supporting the frames, as and for the purpose specifled.
3. In a device of the class described, the combination with the sectional frames composed of longitudinal and cross beams, the gear wheels and the gear chains, of the riers dependent from arms extending inwardly from of sides of the chains, there being a carrier for he chain, as and for the purpose specifled.
4. In a device of the class described, the combination Fith the endless sprocket chains dependent from the frame, \(\mathrm{an}^{\text {d }}\) having arms extcnding inwardly from the sides of the inhaving arms extending inwardy from the sides of to the dividual links. of sets of flat plate carriers secured be
arms. arms, angle bar plate carriers disposed at interns there
ween the former carriers, and secured to the arms, tween the former carriers, and secured to the arms, within being a carrier to cach opposing set of the lingth equal the chains, and all of said carriers being of a eagectively, lo or less than the distance betwe
\({ }^{1}\). In a device of the class described. the combination with the frames, an endless belt and carriers dependent therefrom, of out boards carried by the frame, and extending longitudinally above the chain, and adjoining the ends of the upper carriers, as and for the purpose specified.
6. In a device of the class described, the combination with the main frame and the dependent frame pivotally supported therefrom, the chain gear whecls and the chain, of a set of gears above and carried by the main frame, said gears being designed to continuously guide the chains from the adjoining gears on the main frame to the adjoining gears on the dependent frame in the motion of the adjustable frame, as and for the purpose specified.

N0. 101,710. Excavator. Excavateur.


Ezra A. Mathers, Philadelphia, Pennsylvania, U.S.A., 23 rd October, 1906; 6 years. Filed 7th September, 1906. Receipt No. 139,331 .
Claim.-1. An excavating machine comprising a main frame mounted upon traction wheels and having a rotary digger supported thereon upon a pivoted frame, said pivoted frame carrying said rotary digger and the mechanism for conveying the material away from the machine, and means for operating said digger aud raising and lowering said frame, substantially as sot forth.
2. In an excavating machine, the combination for the frame, mounted upon wheels, a rotary digger carried by arms, said arms pivoted to said frame, means for adjusting and supporting said pivoted arms at the desired elevation, means for oprrating said digger, and a conveyer mounted within said dagher and carried by the same pivoted arms, substantially as sect forth.
3. In an excavating machiae, tho conbination of the main frame, a pair of pivoted arms pivoley thereto at their rear ends and having a hollow cylinder rigidly secured to their outer ends, said cylinder being formed with an opening in its top, a rotary digger mounted to rotate upon said cylinder and deposit the material through said opening, a conVeyrr mounted within said cylinder and arranged to receive said material and carry it away from the marhine, and mechanism for operating satd several parts, substantially as set forth.
4. In an excavating machine, the combination of the main frame, the pivoted frame mounted thercon, a hollow cylinder carried on the outer end of said pivoied frame, a rotary digger mounted upon said cylinder, which cylinder has an opening in its top and which digger is arranged to deposit the material through said opening, a conveyer within said cylinder and means for operating said parts, substantially as set fortl.
5. An excavating machine comprising a rotary digger formed of annular heads with radially extending digger blades between them mounted upon a hollow cylinder, said cylinder provided with an opening in its top, said digger being arranged to deposit the material through said opening a conveyer within said cylinder and means for operating said several parts, substantially as sct forth.
6. In an excavating machine the combination of the main frame, a pivoted frame, the hollow cylinder mounted in said pivoted frame and formed with an opening, a rotary digger comprising annular heads with digger blades secured between them and having anti-friction rollers mounted thereon, said rotary digger being mounted on said hollow cylinder with said rollers resting on its surface and means for operating said parts, substantially as set forth.
7. An excavating machine comprising a main frame supporting the driving mechanism, a pivoted frame mounted on said main frame having a hollow cylindrical bearing on its outer end formed with an opening in its top, a conveyer Within said bearing, a rotary digger mounted on said bearing and the driving mechanism, substantially as set forth.
8. In an excavating machine the combination of the main irame, the vertically adjustable frame carried thereby and
having a hollow cylindrical bearing at its outer end with an opening in its top, a conveyer in said bearing, a rotary digger comprising annular heads having digger blades secured bet ween them, said heads mounted to rotate upon said bearing and means for driving said several parts, substantially as set forth.

No. 101,711. Excavator. Excavateur.


George Henry Dunlop. South Melbourne, Victoria, Australia, 203 r October, 1906; 6 years. Filed 21st January, 1904. Receipt No. 111,947.
Claim.-1. In combination in apparatus for excavating, dredging and transporting earth and other materials, a main power station and an overhatal station in one structure, a scraper and power mechanism and three ropes for operating said scraper whereby earth may be filled into the seraper by hauling it iorward, transported in it by hauling it backward and deposited from it by overturning it forward, substantially as described.
2. In combination in apparatus for excavating, dredging and transporting earth and other materials, a main power siation and an outhaul station in one structure, a scraper and power mechanism and three ropes for operating said scraper wheroby earth may be filled into the scraper by hauling it forward, transported in it by hauling it forward and denosited from it by overturning it backward, substantially as described.
3. In combination in apparatus for excavating, dredging and transporting earth and other materials, a main power station and an outhaul station in one structure, a scraper and power mechanism and three ropes for operating said scraper whereby earth may be filled into the scraper by hauling it forward, transported in it by hauling it either backward or forward and deposited from it by overturning it forward or backward as the work may require, substantially as deseribed.
4. In combination in apparatus for excavating. dredging and transporting earth and other materials, a main power station and an outhaul station in separate structure, a seraper and power mechanisin and three ropes for operating said scraper whereby earth may be filled into the scraper by hauling it forward, transported in it by hauling it backward and deposited from it by overturning it forward, substantially as described.
5. In combination in apparatus for excavating, dredging and transporting earth and other materials. a main power station and an outhaul station in separate structures, a scraper and three ropes for operating said scraper whereby earth may be filled into the scraper by hauling it forward. transported in it by hauling it forward and deposited from it by overturning it forward, substantially as described.
6. In combination in apparatus for excavating, dredging and transporting earth and other materials, a main power station and an outhaul station in separate structures, a scraper and power mechanism and three ropes for operating said scraper whereby earth may be flled into the scraper by hauling it forward, transported in it by hauling it forward and deposited from it by overturning it backward, substantially as described.
7. In combination in apparatus for excavating, dredging and transporting earth and other materials. a main power station and an outhaul station in separate structures, a scraper and power mechanism and three ropes for operating said scraper whereby earth may be filled into the scraper hy hauling it forward, transported in it by hauling it either backward or forward and deposited from it by overturning forward or backward as the work may require, substantially as described.
8. In combination in apparatus for excavating. dredging and transporting earth and other materials, a main power
station and an outhaul station in one double cantilever structure, a scraper and power mechanism and three ropes for operating sald scraper whereby earth may be filled into sald scraper by hauling it forward, transported in it by hauling it forward toward the extreme outward limit of the main power station and deposited from it by overturning it forward, substantially as described.
9. In combination in apparatus for excavating, dredging and transporting earth and other materials, a main power station and an outhaul in one double cantlever structure, a scraper and power mechanism and three ropes for operating sald scraper whereby earth may be filled into said scraper by hauling it forward, transported in it by hauling it forward toward the extreme outer limit of the main power station and deposited from it by overturning it backward, substantially as described.
10. In combination in apparatus for excavating, dredging and transporting earth and other materials, a main power station and an outhaul in one double cantilever structure, a scraper and power mechanism and three ropes for operating said scraper whereby earth may be fllled into said scraper by hauling it forward, transported in it by hauling it backward toward the outhaul station and deposited from it by overturning it forward, substantially as described.
11. In combination in apparatus for excavating, dredging and transporting earth and other materials, a main power station and an outhaul station in one double cantilever structure, a scraper and power mechanism and three ropes for operating sald scraper whereby carth may be filled into the scraper by hauling it forward, transported in it by hauling it backward or forward and deposited from it by overturning it forward or backward as the work may require, substantially as described.
12. In combination with a main power station and an outhaul station having suitable power mechanism, a scraper and three ropes for operating said scraper substantially in the manner herein described whercby earth and other materials may be filled into the scraper, transported in it and deposited from it.
13. In combination with a main power station and an outhaul station having suitable power mechanism, a scraper having an arm or projection thereon and three ropes for operating said scraper substantially in the manner horein described wherehy earth and other material may be filled into the scraper, transported in it and deposited from it.
i4. For excavating, dredging and transporting earth and other materials in combination, a main power station and on outhaul station with power mechanism, a scraper and repes for operating said scraper whereby carth and other materlals may be flled into the scraper by haulling it forward, transported in it by hauling it forward and deposited from it by overturning it backward, substantially as described.
15. For excavating, dredging and transporting earth and other materials in combination, a main power station and an outhaul station with suitable power mechanism, a scraper and three ropes for operating said scraper whereby earth and other materials may be filled into the scraper by hauling it forward with one part of the scraper bearing upon the ground, transported in it by hauling it away with another part of the scraper bearing upon the ground and deposited from it by overturing it, substantially as described.
16. For excavating, dredging and transporting earth and other materials in combination, a main power station and an outhaul station with suitable power mechanism, a scraper and ropes for operating said scraper whereby earth and other mterials may be filled into by hauling it forward bearing upon one part of the scraper, transported in it by hauling it away bearing upon another part, deposited from it by overturning it onto the third part of its surface upon which it is borne when being hauled back to be refilled, substantially as described.
17. In combination machinery comprising a scraper, a main power station and an outhaul station power mechanism, three winding drums, brakes and clutches to sald winding drums, power controlling mechanism, manipulating levers therefor, an elevated platform for the operating attendant and three ropes passing from said winding drums to points of attachment at the scraper, of which ropes the main hauling rope is attached near the front of the scraper and the forward hauling rope and the backward hauling rope are attached at the upper part of the scraper whereby earth and other materials may be filled into the scraper, transported in it and deposited from it.
18. In combination a main power station and an outhanl station, a main hauling engine having a winding drum, a controlling engine with two winding drums, a scraper, a main hauling rope passing from the drum of the main hauling engine to the eront of the scraper, a forward hauling rope passing from a drum of the controlling engine to the upper part of the scraper, a backward hauling rope passing from a drum fitted with a friction brake on the controlling
end from the outhaul station to the upper part of the scraper whereby said scraper may be drawn along by the main hauling rope, tilted forward by the forward hauling rope, tilted backward by the backward hauling rope and held tilted as desired by the forward hauling rope hauled by the controlling engine acting against the backward hauling rope restrained by the friction brake so that earth and other materials may be filled into the scraper, transported in it and deposited from it, substantially as described.
19. For excavating, dredging and transporting earth and other materials by means of a scraper operated by ropes as herein described, an arm or projection on the said scraper with which the ropes engage whereby the control of the scraper by the forward hauling rope and the backward hauling rope is facilitated, substantially as described. 20. A scraper having an arm or projection of sufficient length to rise above the surface of the water, when being used for excavating and the like under water, bauling means eagaging with said arm, substantially as described.
21. For excavating, dredging and transporting earth and other materials, a power station and an outhaul station, with suitable power mechanism combined in one structure, consisting of a framing forming the main power station and boom projecting therefrom forming the outhaul station, and a scraper supported and operated by ropes controlled therefrom, substantially as and for the purpose described and shown.
22. For excavating, dredging and transporting earth and other materials in combination, a main power station and an outhaul station with suitable power mechanism, a scraper having a strengthening rib within the bowl and ropes for operating said scraper, substantially as described and shown.
23. For excavating, dredging and transporting earth and other materials in combination with a scraper and ropes attached to said scraper, a machine comprising a main power station and an outhaul station combined in one double cantilever structure with suitable power mechanism wherebs carth may be filled into the said scraper, conveyed in it and dumped from it beyond the llmits of area upon which said rachine stands, substantially as herein described.
24. In combination a main power station and an outhaul station with power mechanism, a scraper and ropes attached to the scraper of which ropes the main hauling rope is at. tached by three draft lines to connect with a single hauling rope, substantially as and for the purpose herein described.
25. In machinery for excavating, dredging and transporting earth and other materials in combination a main power station and an outhaul station with suitable power mechanism, a scraper and three ropes for operating said scraper, the operation of filling the said scraper when controlled as to its angle of tilt by the backward bauling rope restrained by a friction brake applied to its winding drum against the forward hauling rope drawn by its winding drum to which puwer is applied while the scraper is being drawn forwar by \({ }^{*}\) the main hauling rope, substantially as described. 26. In machinery for excavating, dredging and transportiog earth and other materials in combination, a main power station and an outhaul station with suitable power mechanism, a scraper and ropes for operating said scraper, the use ol a drek or decks upon which the mechanism is arranged so that an attendant may oversee the scraper throughout its course and control the scraper by means of such mechanism and ropes so that earth and other materials may be filled into the scraper, transported in it and deposited from it, substantially as herein described.
27. In machinery for excavating, dredging and transportligg earth and other materials in combination, a main power siation, an outhaul station, power mechanism, a scraper operating ropes with each rope directly attached to the scraper, operating ropes with each rope directly attached to the scraper for operating it and brackets or lugs at the front of the scraper, as and for the purpose herein described.
23. In combination for excavating, dredging and transport\(\rightarrow\) sairtr and other materials, a scraper, ropes attannd to said scraver and a machine with sultable power mechansin for operating said scraper by means of said ropes, sto. machine having a double cantilever arm bearing guide pulleys whereby said scraper may be operated each way beyond the limits of the area upon which said machine stands.

\section*{No. 101,712. Coin Assorter and Stacker.}

Appareil dassortir et empiler la monnaie.
Bertram Forrest Brewster, Burrton, Kansas, U.S.A., \({ }^{23 r d}\) (d October, 1906; 6 year.s. Filed 20th August, 1906. Receipt No. 138,822 .
Claim.-11. A' device of the character described comprising a supporting base, a series of superposed sorting
plates mounted to vibrate on said support, a stacking arm for each plate, and means for directing the coins toward said stacking arms.

2. A device of the character described comprising a support, a series of superposed sorting plates arranged to vibrate and also to turn on said support, the respective plates being provided with apertures of different sizes, that is, the apertures of one plate being of a different size from the apertures in the other plate, for the purpose specified, each of said plates being provided with a stacking arm, and there being provided a series of vertical passages leading downwardly from the respective sorting plates, said passages being of a diameter larger than the upertures in the plate from which such passage leads, as and for the purpose set forth.
3. In a device of the character described comprising a support, a series of superposed plates mounted to turn on said support, each plate being provided with apertures, and the apertures of each plate decreasing in size from the apertures in the plate above it, and each plate being further provided with apertures larger than its first-named apertures, the last-named apertures being in registry with one another, with respect to different plates, and stacking arms also provided with apertures coincident with the last-named apertures and constituting passages leading downwardly from the respective plates, as and for the purpose specifled.
4. In a device of the character described the combination of a series of superposed sorting plates, means for sorting coins of different denominations through said plates, whereby the coins of the respective denominations will rest upon the surface of the respective plates, the plates being provided with apertures to receive coins of the denominations it is designed to pass, as well as the coins of the denominations of the plates above it, a series of stacking arms mounted on the respective plates and provided with curved fingers, each of which extends partially around one of the last-named anertures of the plate on which it is mounted, and a stacking box secured to the lowermost plate.
5. In a device of the character described, a series of superposed sorting plates each provided with a series of apertures designed to pass coins of a certain size, the plate being adapted to retain coins of a larger size than their apertures on their upper surface respectively, there being provided passages of different diameters leading from the respective plates downwardly, each passage being of a diameter sufficiently large to pass the coins of that size which is too large to pass through the other apertures in said plate, and a series of stacking arms mounted on the respective plates, each arm being provided with a curved finger extending partially around the upper end of one of said passages.
6. In a device of the character described, the combination with a base, of a standard mounted to vibrate in a vertical plane on said base, a series of superposed sorting plates mounted to turn on said standard, a series of stacking arms, one of which is carried by each of said plates, means for sorting coins of different denominations so that they will be separated from each other and rest upon respective plates, there being provided passages, each of which extends downwardly through the other plate and adapted to pass coins from said plates, and a stacking box secured underneath the lowermost plate, for the purpose specified.
7. A device of the character described, comprising a base, a series of superposed plates mounted to vibrate and also to turn on said base, there being coin passages extending downwardly from the respective plates whereby to convey coins of a certain denomination therefrom, and a series of segmental stacking arms of varying widths, one edge of each arm being in the form of a compound curve, the outer portion of which constitutes the stacking finger and which partially surrounds the upper end of the passage leading from the plates upon which it rests.

No. 101,713. Ditching and Grading Plough. Charrue à fossoyer et de régalage.


Rosario Cardinal, St. Philippe de Laprairic. Quebec, Canada, 23rd October, 1906 ; 6 years. Filed 23rd June, 1906. Receipt No. 137,193.
Claim.-1. In a plough, a central beam having an upwardly curved front end having backwardly inclined sides, draught attaching means on the beam, a point on the beam, means for dividing the soil raised by the point, shields on the beam, wings connected with the beam, means for raising and lowering the wings and adjustable grading members carried by the wings.
2. In a plough, a central beam having an upwardly curved front end having backwardly inclined sides, draught attaching means on the beam, a removable point on the beam provided with vertical cutting blades, means for dividing the soil raised by the point, a shield on the beam, wings connecting with the beam, means for raising and lowering the wings and adjustable grading members carried by the wings.
3. In a plough, a central beam having an upwardly curved front end provided with rearwardly inclined sides, draught attaching means secured to the beam, a point on the beam, a vertical dividing plate secured to the front end of the beam, a shield on the beam, wings connected with the beam, means for raising and lowering the wings and adjustable grading members carried by the wings.
4. In a plough, a central beam having an upwardly curved front end and backwardly inclined sides, draught attaching means on the beam, a point on the beam, means for dividing the soil raised by the point, a vertical shield disposed adjacent the front end of the beam and provided with downwardly inclined flanges, wings connecting with the beam, means for raising and lowering the wings and adjustable grading members carried by the wings.
5. In a plough, a central beam having an upwardly curved front end having backwardly inclined sides, draught attaching means on the beam, a point on the beam, means for dividing the soil raised by the point, shields on the beam, wings connected with the beam, vertical shields secured to the beam and arranged to cover the forward ends of the wings, means for raising and lowering the wings, and adjustable grading members carried by the wings.
6. In a plough, a central beam having an upwardly curved front end having backwardly inclined sides, draught attaching means on the beam, a point on the beam, means for dividing the soil raised by the point, shields on the beam, wings connected with the beam, standards on the beam, bell crank levers supported by the standards, links connecting the wings and the bell crank levers, means for rocking the levers and grading members carried by the wings.
7. In a plough, a central beam having an upwardly curved front end having backwardly inclined sides, draught attaching means on the beam, a point on the beam, means for dividing the soil raised by the point, shields on the beam, wings connected with the beam, cross pieces connecting the wings, standards on the beams, bell crank levers pivotally supported on the standards, links connecting the cross pieces and the bell crank levers, a lever connected to one of the bell crank levers. a link connecting the other bell crank levers and said lever, a segmental rack, a pawl on said lever adjacent the rack and adjustable grading members carried by the wings.
8. In a plough, a central beam having an upwardly curved front end provided with backwardly inclined sides, draught attaching means on the beam, a removable point on the beam, means for dividing the soil ralsed by the point, a shield on the beam. wings connected with the beam, means for raising and lowering the wings, adjustable grading members pivoted to the outer ends of the wings and set screws adapted to lock the grading members.

No. 101,714. Apparatus for Testing Prommatie Tools.
Appareil pour éprouver les outils pneumatiques.


Robert Allison Chambers, New Glasgow, Nova Scotia, Canada, 23rd October, 1906; 6 years. Filed 7th August, 1906. Receipt No. 138,469 .

Claim.-1. In a device of the class described, a cylinder, a piston therefor, a reciprocating tool connected to said piston, and means for measuring the impact of said piston within the cylinder.
2. In a device of the cluss described, a cylinder, a plston therefor, means for introducing a volume of water into said cylinder, a reciprocating tool connected to said piston, and means for measuring the impact of said piston against the water within the cylinder.
3. In a device of the class described, a cylinder, a piston therefor, a water tank, means connecting said cylinder and water tank, a reciprocating tool connected to said piston, and means for measuring the impact of the piston against the column of water within the cylinder.
4. In a device of the class described, a cylinder, a piston therefor, adjustable means for introducing a column of water into sald cylinder, a compresser tank and cylinder, a reciprocating tool attached to said piston, and means for registering the impact of the piston against a column of water within the cylinder.
5. In a device of the class described, a cylinder, a piston therefor, an adjustable inlet port on one side of said cylinder, an adjustable outlet port on the opposite side of said cylinder, a compresser tank, means connecting said compresser tank and cylinder, a reciprocating tool connected to said piston, and means for registering the impact of the forward stroke of the piston.
6. In a device of the class described, a cylinder, a piston therefor, an adjustable inlet port at one side of said cylinder, an adjustable outlet port on the opposite side of said cylinder, a compresser tank, means connecting sald compresser tank and cylinder, a reciprocating tool connected to said piston, means for measuring the impact of the forward stroke of the piston, and means for measuring the return stroke of the piston.
7. In a device of the class described. a cylinder, a piston, therefor adjustable means for Introducing a column of water into said cylinder, an adjustable outlet port, a compresser tank, means connecting said compresser tank and cylinder, a vacuum tank, means connecting said vacuum and cylinder, a reciprocating tool connected to said piston, means for measuring the impact of the forward stroke of said piston, means for measuring the return stroke of the plston, and means for measuring the energy required by said reciprocating tool.
8. A device of the class described comprising a cylinder, a piston therefor, an adjustable inlet port on one side of said cylinder, an adjustable outlet port on the opposite side of the cylinder, a compresser tank, a vacuum tank, connections between said tanks and cylinder, a reciprocating tool connected to said piston, means for measuring the energy supplled to said tool, and means for measuring the forward and return strokes of sald piston.

No. 101,715. Method of Testing Pnenmatio Tools. Méthode d'eprouver les outils pneumatiques.

Robert Allison Chambers, New Glasgow, Nova Scotia, Canada, 23rd October, 1906 ; 6 years. Filed 7th August, 1906. Recelpt No. 138.470.
Claim.-1. A method of testing pneumatic tools and the like, which consists in measuring the fluid compressed by a
series of lmpinging or striking blaws against the eness consumed by such an operation.

2. A method of measuring the efinciency of paeumatic tools and the like which consists in connectirg a reciprocatiog tool to a pump piston, operating said piston to strike a series of impinging blows, and measuring the force of said blows against the power supplied to the tool.
3. A method of testing pneumatic tools and the like which consists in connecting said tools to a reciprocating piston, operating sald piston to impinge against a body of water to compress a column of air, and measuring the ares thes compressed against the energy consumed by the toal.
4. A method of testing pneumatic tools and the like which consists in connecting the tool to a reciprocating plston, operating said piston to strike a series of impinging blows against a volume of water, registering the forward strake of said piston by means of a compression tank, registering the return stroke of said piston by means of a vacuum tank, and measuring the sum of both forces against the energy sugplied to said tool.
No. 101,716. Closnre for Beals, Fto.
Fermeture de Uores, eto.


Michael Angelo Hirsch, Franklin, Pennsylvanla, U.S.A., gosrd October, 1906; 6 years. Filed 8th January, 1906. Beceipt No. 131,647.
Claim.-In a device of the class specified the comblaation of a book or other article, having an outwardly arched, freeonded, resilient tongue attached thereto, with an elastic band, removably retained by said tongue.
10. 101,717. Gas Retort. Cormue d gaz.


Gottfried Theodor Albert Jerratsch, Schweren, Germais, 23rd Ootober, 1906; 6 years. Flled 17th May, 1906. Receipt No. 136,096.
Claim.-In a retort furnace and in comblation with the supporting masonry, the retort formed in sections, the end
section being supported by the masonry while the midnle section is supported by the said end section, substanlially as described.

\section*{Ne. 101,718. Mould for Building Blocke.}

Moule pour blocs de construction.


John A. Johnson, Winamac, Indians, U.S.A., 23rd October, 1906; 6 years. FHled 4th September, 1906. Receipt No. 139,256.
Claim.-1. In a device for forming building blocks, a frame in plurality of separate parts, means for securely uniting sadd parts, a pallet, mould having sides and ends resting upon said pallet, said sides and ends being laterally movable, means for simultaneously separating the opposite members of said sides and ends and springs for returning them to a normal closed position.
2. In a mould for forming building blocks, a removable pallet, mould ends and mould sides mounted loosely on said pallet, two of the opposite of said side or end members having shoulders or projections and the remaining two of sald members having oblique surfaces in contact with the shoulders or projections on the two first members, means for oppositely moving and thereby separating the two first members, whereby the other two members will be simultaneously and oppositely separated and spiral springs connecting one of said members with its opposite co-onerating member.
3. In a mould for forming building blocks, a removable pallet, mould ends and mould sides mounted loosely on said pallet, two of the opposite of said side or end members having shoulders or projections and the remaining two of said members having oppositely sloped oblique surfaces to contact with the shoulders or projections on the two first members, and means for oppositely moving and thereby separating the two first members whereby the other two members will be simultaneously and oppositely separated. and elastic ties to normally move the members with the oblque faces toward each other.
4. In a device for forming concrete blocks. a base comprising side pieces and transverse connecting pieces extending under said side pleces, a pallet removably located on said cross pieces between the side pieces, a two-part frame having the parts hinged to the opposing members of said base, means for fastening the two parts of the frame together, moulds having movable ends and sides. said ends and sides being located within said frame, the sides having oblique surfaces next to the mould of which it is a part, and the ends having shoulders to contact with the oblique surfaces of the sides and separate said sides by an outward movement of the end pleces, and automatic means for restoring the sides and ends to their moulding positions when the separating strain is removed.
5. In a device for forming building blocks, a base, a pallet removably placed thereon, a frame in two parts each of which is hinged to said base, mould sides and ends in oppositely separable parts, means for simultaneously separating said parts and wedges carried by the frame sections for locking the closed members of the moulds.
6. In a device for making building blocks, a base comprising side members which are united by underlying cross pleces, the side members having inward projections adjacent to their ends with oblique inner faces, a pallet fitting between the side members and directed into position by the oblique surfaces of said projections from the base, adjustable mould ends and sides resting upon said pallet, and means for spreading the last-named parts for the removal of the product of the mould.
7. In a device for forming building blocks, a base, a pallet mounted thereon, a two-nart frame having sald parts hinged to the base, mould ends and sides having cutaway portions to permit said parts to cross each other,
means for simultancously spreading the sides and ends and for uniting said sides and ends so they may be removed as a whole, posts mounted on the base extending above the tops of the moulded product on the pallet, the end bars of said moulds having notched extensions to contact with said posts will serve as guides to prevent injury to the product by said sides and ends during the removal of the latter.
9. A base comprising side members connected by underlying cross pieces. said side members having inward extensions with oblique faces, a pallet located between said side members on the cross pieces and directed by said extensions, a frame in two parts, said parts being hinged to opposite side members of the base. mpans for fastening the two members together, a pair of bars parallel with each other extending from end to end within the frame and forming the ends of a plurality of moulds, sides for said moulds located within the frame and extending from side to side thereof. said sides having middle end notches to receive portions of the end bars which are reduced in width to enter said end notches, the projections of said sides having inner wedges to spread the sides by an outward movement of the end bars, springs to draw the sides of each mould together, wedges carried by the frame sections to enter between the sides of adjacent moulds and close the moulds, means to spread tho end bars and posts to limit the spread of said bars and serve as guides to control the withdrawal of the end bars and mould sides on the removal of the latter, said posts extending above the moulded product to prevent injury thereto.
9. In a mould for forming building blocks, a bane, a pallet located upon the base, a frame surrounding the pallet, mould sides extending from one side of the frame to the other within the frame, bars forming mould ends and extending from one end of the mould to the other within the frame remote from the ends of the mould sides and sheet metal plates covering the spaces between the end bars of the mould and the sides of the frame.
10. A device for making concrete blocks, a base, a pallet removably supported thereon, said pallet having a plurality of transverse openings, a plurality of moulds located on said pallet, said moulds being separated by spaces whick register with the transverse openings in the pallet, laterally adfustable sides and ends for said moulds, the outer surfaces of said sides being oblique to form spaces between said moulds which increase in width downwardly.
11. In a mould for forming concrete blocks, a base, a removable pallet located thereon, a two-part frame having said parts hinged to opposite sides of the said base, means for drawing parts of the frame together and fastoning them, a pair of transverse bars located within the frame and extending from end to end thereof and forming the ends of a plurality of moulds, mould sides located within the frame transversely and extending from side to side of the frame. said sides having middle notches to receive reduced portions of the end bars and providing extensions of said sides beyond the bars, wedge faces on said extensions to contact with the shoulders on the bars formed by seid reductions in width of the latter, friction rollers mounted in said shoulders to contact with the wedges, springs to draw the two sides of each mould together, a rock shaft having lateral ears, link bars connecting said ears with said bars forming the ends of the moulds whereby the rocking of the rock shaft will spread the end bars and open the mould.

No. 101,719. Variable Elootric Sige. Enseigne électrique variable.


Albert Levvy, Winntpeg, Manitoba, Canada, 23rd October, 1906 ; 6 years. Filed 2nd May, 1906. Receipt No. 135.475. Claim.-1. An electric advertising and signalling apparatus consisting of symmetrical groups of electric lights upon a irame, a lead wire connected from one side of a source of supply to pमe of the posts of each of the individual lamps,
electro-magnets supported on the frame. one for each lamp, the said magnets having a conducting pin connected thereto which extends through the frame and is connected to the other pole of the lamps, secondary exciting wires extending around the individual electro-magnets from the aforesaid conducting pins to a spring contact on the outer face of the spools. normally opened spring pressed armatures supported and slidable within a conducting plate, there being an armature opposing each of the electro-magnets and having a knife edge on the forward foce thereof designed to be received by the spring contact of the electro-magnets, a lead extending from the outer side of the source of supply to a conducting plate, a primary winding oxtending around each of the individual electro-magnets and connected to a second source of supply, means within the primary winding circuit for controlling the current so that predetermined electro-magnets at the back of any of the groups of lamps may be encrgized, as and for the purpose specifled.
?. An electric advertising and signalling apparatus comprising an insulated frame, symmetrically placed groups of incandescent lamps supported on the frame, an electromagnet connected to each lamp, said electro-magnets having normally open circuits, primary exciting windings designed to energize predetermined electro-magnets at the back of the group of lamps, means for controlling such predetermined energization and means upon the energization of such electro-magnets whereby a second electric circuit is closed and the lamps corresponding in position to the flectromagnets illuminated, as and for the purpose specified.
3. An electric advertising and signalling apparatus comprising an insulated frame, symmetrical placed groups of incandescent lamps supported thereon, an electro-magnet for each lamp upon the back of the frame. said electromagnets having a normally open circuit, primary exciting windings designed to energize predetermined electro-magnets at the back of the grougs of lamps, means for controlling such predetermined encrgization, a secondary winding encircling each of the electro-magnets and extending from one of the poles of the lamps to a spring contact upon the face of the clectro-magnet, a lead extending from the mains and connected to the other pole of the lamps and means where by upon the primary excitation of the electro-magnets a clrcuit is closed through the secondary winding to the other side of the main and the lamps illuminated, as and for the purpose specifled.
4. An electric advertising and signalling apparatus comprising an insulated frame, symmetrically placed groups of incandescent lamps supported on the frame, a lead wire connected from one side of a source of supply to one of the posts of each of the individual lamps. electro-magnets supported on the frame, one for each lamp, the said magnets having a conducting pin connected thereto which extends through the frame and is connected to the other pole of the lamps, secondary exciting wires extending around the individual electro-magnets from aforesaid conducting pins to a spring contact on the outer face of the spools, normally opened springs pressed armatures supported and slidable within the conducting plate there being an armature opposing each of the electro-magnets and having a knife edge on the forward face thercof designed to be recelved by the spring contact of the electro-magnets, a lead extending from the other side of the source of supply to the conducting plate, a primary wlading extending around each of the elec-tro-magnets and in a normally open electric circuit, means for closing such electric circuit so that predetermined elec-tro-magnets are primarily energized and the armature drawn over to close with the spring contact and illuminate the depending lamps and means for breaking the primary exciting circuit after the required lllumination in the first group and shifting it to the electro-magnets of the succeeding group of lamps, as and for the purpose specifind.
5. An electric advertising and signalling apparatus comprising an insulated frame, symmetrically placed groups of incandescent lamps supported thereon, said groups each containing an equal number of similarly situated lamps, a main source of electric energy, a lead extending from one side of the said main source and connected to one pole of the lamps respectively, a vertical conducting plate extending the length of the frame at the back and in proximity thereto, a lead extending from the other side of the main through a switch to said conducting plate, an electro-magnet for each lamp supported upon the back of the frame and having a spring contact on the forward face thereof, a secondary winding extending from each of the spring contacts around the electro-magnet to the second pole of the adjoining lamp, a normally open spring pressed armature opposing each electro-magnet and slidably supported within the plate making clectrical contact therewith, a tip extending from the forward face of the individual armatures and designed to close within the spring contacts of the electro-
magnets, individual leads extending from one side of a second source of supply to the similarly placed electromagnets of each of the groups, such being designed to form a primary exciting wiring for the electro-magnets, individual leads extending from the other side of said second source of supply, each of such leads forming a common return for the primary winding of the electro-magnets of the individual groups and means within the second circuit whereby predetermined electro-magnets within any of the successive groups may be primarily excited, as and for the purpose specified.
6. An electric advertising and signalling apparatus comprising an insulated frame. symmetrically placed groups of incandescent lamps supported thereon, said groups each containing a definite and equal number of situated lamps. a main source of electric energy, a lead extending from one side of the said main and connected to ona pole of the lamps respectively. a vertical conducting plate extending the length of the frame at the back and in proximity thereto, a lead extending from the other side of the source of electric energy through a switch to the said conducting plate. an clectro-magnet to the rear of each lamp and supported on the frame, a spring contact extending outwardly from the face of each electro-magnet, a winding extending from the spring contact around the electro-magnet to a conducting nin in electrical connection with the second pole of the individual lamns, a normally open spring pressed armature onposing each electro-magnet and slidably supported within the nlate making electrical contact therewith, a tip extending from the forward face of the armature and designed to close within the soring contacts of the electro-magnets, a set of binding posts corresponding in number of groups of lamps, a set of binding posts corresponding in number to the number of lamos within the groups. individual lead wires extending from each of the binding posts in the set corresponding to the lamps within the groups and passing behind the successive groups of lampa, wires extending from one side of the similarily nlaced electro-magnets in each group and tapped to one of the aforesald individual leads. wires extending from other of such similarily olaced elec-tro-magnets and tapned to other of the sair leads. and individual wire extending from each of the binding oosts of the set corresponding to the number of grouns of lamps. such wires forming a common return for a set of conductors extending from each of the successive groups, the number of wires in a set corresponding to the number of electromagnets in a group and each wire being connected to the other side of the electro-magnets within the groud. a second source of supply. means whereby said source of supply may be directly and individually connected electrically to any one of the binding nosts corresponding to the number of groups of lamps, and means whereby the other side of the second source of supply may be placed in electrical connection with any predetermined number of the binding posts corresponding to the number of lamns within the groups simultaneously. as and for the purpose specifled.
7. An electric advertising and signalling apparatus comprising an insulated frame. symmetrical placed groups of incandescent lamps supported thereon, sald groups each containing a definite and equal number of situated lamps. a main source of plectric energy. a lead extending from one side of the said main and connected to one pole of the lamps respectively, a verical conducting plate extending the length of the frame at the back and in proximity thereto, a lead extending from the other side of the source of electric energy through a switch to the said conducting plate. 20 electro-magnet to the rear of each lamp and supported on the frame. a spring contact extending outwardly from the face of each electro-magnet, a winding extending from the spring contact around the electro-magnet to a conducting pin in electrical connection with the second pole of the individual lamps, a normally open spring pressed armature opposing each electro-magnet and slldably supported within the plate making electrical contact therewith, a tip extending from the forward face of the armature and designed to close within the spring contacts of the electro-magnets, a set of binding posts corresponding in number to the number of groups of lamps, a set of binding posts corresponding in number to the number of lamps within the groups, individual lead wires extending from each of the binding posts in the set corresponding to the lamps within the groups and passing behind the successive groups of lamps, wires extending from one side of the similarly placed electro-magnets in each group and tapped to one of the aforesaid individual leads, wires extending from other of such similarly placed electro-magnets and tapped to other of the said leads, 8 n individual wire extending from each of the binding posts of the set corresponding to the number of groups of lamps. such wires forming a common return for a set of conductors extending from each of the successive groups, the number
of wires in a set corresponding to the number of electro-
magnets in a group and each wire being connected to the other side of the electro-magnets within that group, a set of series connected accumulators, means whereby said accumulators may be directly connected to any of the individual binding posts corresponding to the number of lamps, means whereby the other side of the accumulators may be placed in electrical connection with any predetermined number of the binding posts corresponding to the number of lamps within the groups simultancously, a series of constant head line lamps upon the display board and paralleled across the mains, such display lamps being designed to be Illuminated upon the cessation of the illumination of the lamps within the groups, a switch whereby the flluminating circuit mains may be thrown elther in electrical connection with the constant display lamps or the variable display lamps and a switch whereby coincident with the illumination of the constant display lamps the accumulators may be thrown in serles with the circuit and re-charged, as and for the purpose specified.
8. In a device of the class described the combination with the display board of an operating and controlling attachment. sald attachment consisting of a support, a finger keyboard. a central contact plate in electrical connection with the display board, keys radially disposed about the plate, electro-mechanical means whereby by the pressing of a finger key the dependent key is separated forwardly against the plate, and means whereby by such operation predetermined electro-magnets on the back of the display board are primarlly energized, as and for the purpose specified.
9. In a device of the class described the combination with the display board of an operating and controlling attachment. said attachment consisting of a sunport, a finger kevboard. a central contact plate in electrical connection with the display board. contact keys radially disnosed about the plate, electro-magnets arranged in a normally open circuit carried by the support, there being an electro-magnet for each key. individual exciting circuits for the electro-magnets directly controlled by individual finger keyg in the kevboard. means carried by the sunnort adanted hy the energization of the adioining electro-magnet to offset the overation of the keys forwardly against the nlate. and mpans whareby bv such operation oredetermined elertro-magnets on the back of the ilsplay board are energized, as and for the purpose specified.
10. In a device of the class describen the combination with the disdlay board of a kevboard controlling attarhment comprising a supdort, a rentrallv disposed contact plate in electrical connection with the disnlay board. contart keys radially disoosed on the sunnort nind ahout the nlate. eler-tro-magnets arranged in a normallv onen cirouit carried by the sunnort and one for each kev. meana carried by the sunnort adanted to be onerated bv the rlectro-magnets to nffect the operation of the keys forwardly against the plate, finger keys carried by the sunnort arraneed when onerated to closn the circuit of the denendont elactro-magnets moanc whernby upon the operation of the kev. fefinite electro-magnets at the back of a prefetermined groun of lamns mav be energized and means whereby the keys may be returnod to their normal nosition when the actuating electro-magnet cirruit is onened, as and for the murnose snecifled
11. In a device of the class described the combination with the display board of a keyboard controlling attachment consisting of a support, a centrally disnosed nlate having individual contact faces on the outer surface thereof. sain contact faces being in electrical connection with a definite set of binding nosts on the display board, an unper onposing conducting plate in electrical connection with a source of sunnly. contact kevs radially disposed on the sumport and about the plates. electro-magnets parangod in nomally onen circuits carried bn the support and one for each key, a series of levers adanted to be operated bv the electro-magnets to throw the kevs forwardly against the plates. finger keys carried by the support arranged when pressed to close the depondent electro-masnet circuit and actuate its lever, springs connected to the levers and the support designed to return the kevs to their normal positions upon the onening of the electro-magnet circuits, and means whereby by the oberation of the key against the plates definite electromagnets at the back of a nredetermined groun of lamps may be nenergized. as and for the purpose specified.
12. In a device of the class described the combination with the display board of a keyboard controlling attachment consisting of a support, a centrally disposed and devendent rtandard. an insulating plate encircling and vertically slidable upon the standard, said nlate having extending therethrough and protruding from its outer face, individual contact pins arranged in a definite number of symmetrical groups therearound and having the pins in electrical connection with the display board. an upper circular conducting plate in electrical connection with a source of supply dependent from the standard and insulated therefrom, keys
radially disposed on the support and about the plates, said keys having vertically disposed sets of outlining pins upon their forward face designed to close contact with the opposings pins on the plate, elcetro-magnets arranged in normally open sircuits carried by the support and one for each key, means carried by the support adapted to be operated by the electro-magnets to effect the operation of the keys forwardly against the plates, individually exciting circuits directly controlled by individual fingers keys in the keyboard, means for sliding the insulating plate upon the standard so that the contact pins thereon may be placed horizonally in alignment with either of the vertically disposed sets of contact pins upon the key an dmeans for withholding the plate in such position for any predetermined length of time, as and for the purpose specifled.
13. In a device of the class described the combination with the display board of a keyboard controlling attachment, consisting of a support, a centrally disposed vertically slidable contact plate in electrical connection with the display board. means for sliding said plate and sustaining in predetermined positions, an upper peripherally slotted conducting plate in electrical connection with a source of supply. an annular plate having slots extending radially outwardly from the inner edge dependent from the support, slidable keys vertically withheld upon the plate by means of a forked portion extending downwardly into and through the slots, vertically disposed sets of outlining contact pins arranged upon the forward face of the keys so that the pins may be either individually replaced or a completo set withdrawn, grooves extending across the top of the key and designed to close within the opposing slot of the upper conducting plate when the key is in operative position. electro-magnets arrangen in normally open circuits carried by the support and one for each key, a series of levers extending upwardly throush the support and terminating in roller ends restraining within the forked portions, such levers being adapted to be operated by the electro-magnets to throw the keys forwardly against the plates. finger keys carried by the supnort arranged when pressed to close the dependent electro-magnet circuit and actuate its lever, springs holding the finger keys normally open and springs connected to the levers and the support designed to return the keys to their normal positions uoon the opening of the electro-magnet circuits, as and for the pur pose specified.
14. In a device of the class described the combination with thte display sign of a controlling attachment, comprising a support. a dependent standard. a centrally disposed contact plate slidable upor the standard and in electrical connection with the display board, a support for the contact plate. keys radially disposed about the plate. electrical mechanical means whereby by the pressing of a finger key the dependent key is operated forwardly agalnst the plate, means whereby by such oneration predetermined electro-magnets un the back of the disnlay board are primarily energized. means for vertically sliding the contact plate, and sustaining in predetermined positions, sald means comprising suitably supported plunger electro-magnets. grouds of varying inngths of fulcrumed levers attached to the plungers and terminating at their other extremity in roller ends designed to roll upon the lower face of the contact plate support. individual finger keys arranged when nressed to close definite plunser electro-magnet exciting circuits and actuate the plunfers having equal lengths of lever arms, as and for the purnuse specifled.
15. In a device of the class described the combination with the lamp display board, the key controlling attachment and a source of supply of means whereby the adjoining groups of laraps may be successively thrown in and out of electrical connection with the source of supply, the circuit being completed when any individual key is in operative position, as and for the purpose specifled.
16. In a device of the class described the combination with the lamp display board, the key controlling attachment and a source of supply of a sliding contact in electric circuit therowith, sald sliding contact consisting of a circular nonconducting support, contact tips extending from the face thereof cach tip being in electrical connection with an indivilual group of lamps, a sliding conducting arm pivoted entirely to the plate, a slip ring in electrical connection with the arm and the source of supply, the circuit being completed when any one of the keys is in operative position and means for sliding the arm sucessively over the contacts at predetermined instants, as and for the purpose specified.
17. In a device of the class described the combination with the sliding contact of a ratchet wheel designed upon a tooth displacement to throw the stide arm successively over the contact tips and means for operating the ratchet against the teeth, as and for the purpose specified.
18. In a device of the class described the combination with the sliding contact of a ratchet wheel, a pawl engaging the teeth, an electro-magnet arranged in a narmally open cir-
cuit, means adapted upon the energization of the electromagnet to engage the pawl with the ratchet wheel and rotate it one tooth displacement and means for completely controlling the energization of the electro-magnet, as and for the purpose specifled.
19. In a device of the class described the combination with a circular non-conducting support of a set of equi-radially disposed contact tips, a contact arm centrally pivoted upon the support. a ratchet wheel having the number of teeth thereon equal in number to the number of contact tips upon the support, the said ratchet wheel being designed in its rotation to slide the arm successively in contact with the tips, an electro-magnet. a normally open exciting circuit which may be closed by the depression of a finger key, a lever arm, a dependent pawl bearing on the ratchet teeth and designed upon the energization of the electro-magnet to rotate the ratchet wheel forwardly one tooth displacement and means upon the cessation of the exciting circuit for placing the pawl in active position against the succeeding tooth, as and for the purpose specified.

No. 101,720. Trousers Eanger. Accroohe pantalons.


Robert James Linklater, Buffalo, New York, U.S.A., 23rd October, 1906; 6 years. Filed 19th July, 1906. Receipt No. 137,958 .
Claim.-1. A trousers hanger comprising two members which are intertwisted in an intermediate part for mutual support and extend parallel and in proximity from one end of the intermediate intertwisted part to one end of said members and curve in correspondence to the lower extremity of the trousers leg between which the lower extremities of the trousers are adapted to be slipped to suspend the trousers in the inverted position from the hanger and extend at an angle from each other from the opposite end of the intermediate part to provide vertically separated means of attachment to a suitable support.
2. A trousers hanger including two wires having outer portions extending parallel and in proximity between which the lower extremities of the trousers are adapted to be slipped to suspend the trousers in inverted position from the hanger, intermediate intertwisted portions for mutual support and inner portions extending at an angle to provide separated means of attachment to a suitable support and provided at their inner ends with eyes.
3. In combination a vertical support and a plurality of individual trousers holders mounted in a vertical row in said support, each of said individual holders being arranged at a different horizontal plane whereby the trousers are supported at different heights and comprising two wires having outer portions extending parallel and in proximity between the lower extremity of trousers and sloped to support them therefrom in inverted position, intermediate portlons which are twisted together for mutual allpport, and inner portions having eyes encircling the vertical support and which are separated to stiffen the supporting of the holders from the vertical support, substantially as set forth.
4. In combination, a vertical support adapted to be attached to any convenient point, and a plurality of trousers holders mounted on said vertical support in a vertical row whereby said trousers holders are in different horizontal row whereby saianes and support the trousers at different heights, each of said holders comprising two wires having outer portions extending parallel and in proximity between which trousers are adanted to be supported, intermediate intertwisted portions for mutual support, and inner portions one of which extends diagonally downward and inward from the intertwisted portions and has an eye at its end encircling the support, and the other of which extends substantially
horizontal inwardly and also has an eye excircling the support whereby each support is supported at two difierent points to stiffen its support and also separate the holders sufficiently from each other for convenient manipulation.

\section*{No. 101,781. Watorproofing Irothed for Oencede,}

\section*{Méthode de remare le beton al t'Sprewoe de l'aws.}

John Marion Rauhoff, Tinley Park, Illinois, U.S.A., 2ird October, 1906; 6 years. Filed th' September, 1806. Receipt No. 139,232.
Claim.-1. The process of rendering concrete waterprool which consists in supplying to the surtace of o previoumly formaed block or body of concrete motallic iron in the form of a fine dust held in suspension in a liquid as water, and afterwards allowing the moist particies of inon to oxdise and expand and fill the pores in the surface of the concrete, substantially as described.
2. The process of closing the surface pores of a subrtasce which consists in supplying to such surface metal th the form of a very fine dust, capable of entering capiliary pores, and afterwards allowing said metalkic duat to axidize and expand, substantially as described.

No. 101,72R. Ganket. Romiolla.


William Sclater, Montreal. Quebec, Canada, 23nd October,
\(1906 ; 6\) years. Filed 14th May, 1906. Lecetpt No. 135.851. Claim.-1. In a gasket the combiration with a length of material doubled and joined together at the eads and presenting an unbroken packing surface, of a metal backtng eaclosed within the fold and abutting the inaer sarface of the material behind said packing surfece and arranged th strands in the same plane es the aforesald metal backing, as and for the purpose specified.
2. In a gasket the combination with a length of resilieat material folded lengthwise and having its ends joined to gether to form a packing ring presenting an unbraten inser annular surface, of a metal backing annularly arranged is the fold of said material behind said unbroken surface and metal rings arranged in substantially the same plame as the aforesaid metal and encircling the same and one another respectively and enclosed in sajd fold, as and for the purpose specified.
3. In a gasket the combination with a length of resilient material folded lengthwise and having its ends joined together to form a packing ring, of a wire ring enclosed to the fold and abutting the inner surface thereof behind the outer and packing surface, and a plurality of wire rings enclosed in said fold afd arranged respectively one inside the other and encircling the aforesaid wire ring, as and for the purpose specified.

\section*{No. 101,728. Propaller Por Vesmels. \\ Propulsewr de antosean.}

Hugh Robertson Shaw, Rosseau, Ontario, Canada, 23rd October, 1906 ; 6 years. Filed 11th July, 1906. Recelpt No. 137.692.

Claim.-1. A propelling wheel for boats and the like comprising a comparatively long tapered front portion and a cylindrical portion located to the rear of the same and provided with a spiral circumferential flange rigidly afined thereto, such cylindrical portion being of a shorter length than the tapered front portion and a tapered rear portion of less length than the cylindrical portion, as and for the porpose specified.
2. A propelling wheel for boats and the like comprising \({ }^{9}\) comparatively long conlcal tapered front portion and a cylindrical portion located to the rear of the same and provided with a sprial circumferential flange rigidly anred thereto, such cylindrical portion being of a shorter length than the tapered front portion and a conical tapered reas portion of less length than the cylindrical portion, as and for the purpose syecifled.
3. The combination with a propelling shaft extending through the stern portion of the keel of the boat and jofro nalled in suitable bearings, of a propeling wheel amred to the shaft and provided with a conical front portion of a
comparativety longer taper, a shorter cylindrical Intermediate portion having spiral flanges rigidly affed thereto and

a conical rear portion of a less length than the intermediato portion, as and for the purpose specifled.

Na. 101,724. Ciam Shell Buchet.
Godets pour huîtres.


Gordon H. Williams, Cleveland, Ohio, U.S.A., 23rd October,
1906; 6 years. Filed 7th July, 1906. Receipt No. 137,607.
Claim.-1. In a clam shell bucket the combination of two scoop members having their inner ends hinged together, a bracket, means secured to said bracket supporting the outer ends of same members, a sheave mounted upon one of said. scoop members, sheaves mounted upon said bracket, and a closing cable secured at one of its ends to one of said scoop members and passing around sheaves.
2. In a clam shell bucket the combination of two scoop members hinged at their front or inner ends, one of such members provided with an extension, a sheave mounted on such extension, a bracket, means mounted upon said bracket and supporting the rear or outer ends of said members, a sheave mounted upon said bracket, and a closing cable secured at one of its ends to said extension and passing around said sheaves.
3. In a clam shell bucket the combination of two clam shell scoop members hinged at their front or inner ends, one of said members provided with an extension rigidly connected therewith, a sheave mounted upon such extension, a bracket, linhs having their upper ends pivoted upon said bracket and their lower ends pivoted to the rear or outer ends of sald members, two stheaves mounted upon such bracket, a closing cablo secured at one of its ends to said extension and passing around said sheaves and a supporting cable having one end attached to said bracket.
4. In a clam sheli bucket the combination of two scoop members each provided at their inner ends with brackets, a common shaft journalled in the brackets of one member, and keyed to the brackets of the other member, an extension keyed to such shaft and provided with a sheave mounted thereon, a separate bracket and means mounted thereon adapted to support the rear or outer ends of said members, shearves mounted upon said latter bracket and a closing cable secured to said extension and passing around said sheave.
5. In a clam shell bucket the combination of two scoop members each provided at their inner ends with brackets, a
common shaft journalled in the brackets of one member and keyed to the brackets of the other member, an extension keyed to such shaft intermediate of the brackets of sald members respectively, and provided with a sheave mounted thereon, a separate bracket, links having their upper ends pivoted upon said latter bracket and their lower ends plvoted to the rear or outer ends of said members, two sheaves mounted upon said latter bracket and a closing cable passing over one of the sheaves of said bracket around the sheave of said extension, over the other sheave of said bracket and thence secured to said extension.

No. 101,725. Liquid Meanuring Pump. Pompe d mesurer les liquides. -


George Yanacopoula, New York City, New York, U.S.A., 23rd October, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,826 .
Claim.-1. A measuring decanter comprising a casing having a top and forming a reservoir a part of which serves as a measuring chamber, a piston in operative position with respect to sald measuring chamber, a piston rod connected to said piston and slidingly guided through and adapted to extend above the cover, said rod having an abutment above said cover, and a series of independently movable abutments pivoted on the cover and of relatively different lengths, said abutments successively from the shortest one being of open character, whereby each of said abutments can occupy a position within that next external thereto, and the entire series lie compacitly flat on the reservoir top, and a discharge tube communicating with the measuring chamber and terminating in a spout.
2. A measuring decanter comprising a casing having a top and forming a reservoir a part of which serves as a measuring chamber, a piston in operative position with respect to said measuring chamber, and containing a port for establishing communication between said chamber and the reservoir above the piston, a piston rod centrally playing through said piston and having nut provision at its lower end, a flange secured on sald rod and designed to closely cover the piston port when the rod is depressed, and also to effect the depression of the piston, said rod being slidingly guided through and adapted to extend above the rescrvoir cover, an abutment on the upper portion of the rod, means comprising members independently movable with respect to each other, for arresting the rod at different degrees of depression, and a discharge tube communicating with the meascring chamber and terminating in a spout.

\section*{No. 101,726. Low Water Alarm.}

George Yeates, Montreal, Quebec, Canada, 23rd October, 1906; 6 years. Filed 14th April, 1906. Recelpt No. 134,917.
claim.-1. In a device of the character described, a casing provided with a stirrup, a fusible valve in the casing, a pipe leading from the casing, means on the pipe for giving an audible alarm when the valve is fused, and means for indicating when the pipe is closed.
2. In combination with a boiler having a crown sheet, a faced casing provided with screw threads adapted to engage an opening in the crown sheet and provided with an integral stirrup having openings therein, a screw-threaded plug disposed in the stirrup and provided with a passage therethrough, a fusible valve normally closing the passage, and a spring adapted to force the valve away from the passage when the valve is partly fused.

\section*{Avertisseur de niveau d'eau.} dre valvo is partly fused.
3. In combination with a boiler having a crown sheet, a screw-threaded casing adapted to engage an opening in the

crown sheet, and provided with a stirrup having openings therethrough, a screw-threaded plug disposed in the upper end of the stirrup and provided with a faced upper end and a passage therethrough, a fusible valve adapted to close said passage, a pipe connected with the passage, a normally open valve on the pipe, means for giving an alarm when the fusible valve is withdrawn from said passage, and means for indicating when the second valve is closed.
4. In combination with a boiler, a fusible member, a pipe acapted to be placed in connection with the boller by the fusing of said member, a valve on sald pipe provided with a handle, and a seal connecting the pipe and the handle.
5. In combination with a boiler having a crown sheet, a fusible member carried by the crown sheet, a pipe adapted to be unclosed by the fusing of said member, a valve on the outer end of said pipe normally open, a seal carried by the outer end of said pipe and adapted to be broken when the valve is closed, and means for giving an audible signal when said fusible member is fused.

No. 101,727. Relief Vaive. Soupape de soulagement.


Edgar B. May and James H. Davis, assignec of a half interest, both of Chicago, Illinios, U.S.A., 30th October, 1906 ; 6 years. Filed 1st October, 1906. Receipt No. 139,917.
Claim.-1. In a device of the kind described, an enclosing shell provided with an inlet and an outlec, and with a duct extending from the outlet to a point higher in the shell, and two valve seats connected with the duct, in combination with a float arranged between the valve seats and provided with a valve for each seat whereby the movement of the float will control the operation of the valves.
2. In a device of the kind described, an enclosing shell provided with an inlet and an outlet, in combination with a removable part having formed therein a duct extending from the outlet to a point within the shell and provided with two valve seats and a float arranged between the valve seats provided with a valve for each seat whereby the movement of the float will control the operation of the valves.
3. In a device of the kind described, an enclosing shell provided with an inlet and an outlet, in combination with a removable part formed to be seated within the shell to close the outlet and provided with a duct extending from the outlet to a point near the upper porion of the shell and two aligned valve seats connecting the duct, a float arranged between the valve seats provided with a valve for each seat and relatively adjustable to each other whereby the morement of the float will control the operation of the valves.
4. In a device of the kind described, an enclosing shell provided with an inlet and an outlet, in combination with a removable part formed to close the outlet and provided with a duct extending therefrom to a point in the upper portion of the shell, two aligned valve seats formed in said part permitting the entrance of fluid in the duct, a remorable cap 14 arranged to close an opening in the top of said part and a float arranged between the valve seats provided with relatively adjustable valves for said seats.
5. In a device of the kind described, an enclosing shell provided with an inlet and an outlet, a removable part 7 constructed to close the outlet and provided with a duct 8 extending from the outlet to a point in the upper portion of the shell, valve seats 9 and 10 formed in said part and an air duct 15 extending through the wall of said part, in combination with a valve stem 11 having mounted thereon valves 16 and 17 for said seats and a float 12 whereby the operation of the float will control the operation of the valves.
6. In a device of the kind described, a shell 1 provided with an inlet 2 and an outlet 3 with a depending wing 5 in said inlet, in combination with a removable part 7 , having formed therein a duct 8 and valve scats 9 and 10 , a valve stem 11 provided with valves 16 and 17 for said seats and harlag a float mounted on said stem.
7. In a device of the kind described, an enclosing shell provided with an inlet 2 , a foraminated depending wall in said inlet, an outlet 3 , a duct 8 extending from the outlet to a point higher in the shell provided with valve seats 9 and 10 , in combination with a float arranged between the valse seats provided with a valve for each seat.

No. 101,728. Skirt Supporter. Support de jupes.


Joseph M. Roberts and Lawrence O. Davis, assignee of a hall interest, both of St. Augustine, Florida, U.S.A., 30 th October, \(1906 ; 6\) years. Filed 6th October, 1906. Receipt No. 140,092.
rlaim.-A device of the character described comprising a supporting belt, a garment engaging clasp, suspension straps, tach independently adjustable as to length, hooks upon the upper ends of said straps detachably engaging the support. ing belt, a triangular loop to the sides of which said suspension straps are connected at their lower ends and a supporting strap carrying the garment engaging clasp and connected with the base portion of the triangular loop, said supporting strap also being adjustable as to length, substantially as described.

No. 101,729. Truck Bolster. Traversin de chứssis.
The Pressed Steel Car Company, Pittsburg, assignee of Charles August Lindstrom, Allegheny, Penasylvania. U.S.A., 30 th October, \(1906 ; 6\) years. Filed 28 th September. 1906. Recelpt No. 139,867.

Claim.-1. A truck bolster having a cast compression member, whose web is formed with integrally cast upwardy io clined thickered end portions, and a tension member whose end portions are bent around and secured to the said inclined portions, substantially as described.
2. A truck bolster having a cast compression member, formed with integrally cast upwardly inclined, thickened end

portions, having depending bolster guiding flanges, and a tension member extending in a substantially straight line to the said thickened portions, and bent around and secured to the same, substantially as described
3. A truck bolster having a cast iron compression member formed with flanges which are deeper at the center than al the ends, the ends having integrally cast upwardly inclined thickened portions, substantially as described.
4. A truck bolster having a cast compression member formed with depending flanges deepest at their central portion, said member having at its ends downwardly extending flanges forming bolster guides, and also upwardly inclined thickened portions, and a wrought tension member secured to said thickened portions, substantially as described.
5. A truck bolster having a cast compression member with integral end flanges extended downwardly and forming guides for the bolster and an open housing for the spring seat, and a wrought tension member connected to the compression member, substantially as described.
6. A truck bolster having a cast compression member with flanges deeper at the center than at the ends, and depending flange portions extending downwardly from the ends and arranged to form guides for the bolster, and an open housing for the spring seat, substantially as described.
No. 101,730. Steel Car. Char en acier.


The Pressed Steel Car Company. Pittsburg, assignee of Charles A. Lindstrom. Allegheny, Pennsylvania, and John Frederick Strelb, Avalon, Pennsylvania, U. S. A.. 30th October, 1906: 6 years. Filed 2nd October, 1906. Receipt No. 139,975.
Claim.-1. A car prame having diagonally extending metal platform sills suspended from the under frame of the car, the rear portions of said sills being bent upwardly and extending along the side sills of the under frame to a point back of the bolster, thereby relnforcing the side sills and strengthening the under frame of the car at the bolster, substantially as described.
2. A car frame having metal platform sills suspended from the under frame of the car and extending in a direction obliquely to the center line of the car, and a flanged platform end sill overlaying the forward ends of the platform sill and having a marginal flanged angle secured thereto, substantially as described

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3. A car frame having an end sill, side sills and bolster, metal platform sills below the level of the side sills extending upwardly along the same to the bolster and fixed to the side sills, said platform sills being supported on open sided brackets attached to the end sill, substantially as described.
4. A car frame having flanged metal platform sills below the main under frame of the car and suspended therefrom, said platiorm sills extending upwardly and fixed to the car Srame back of the end sill, and C-shaped brackets suspending the platform sills from the end sill, substantially as described.
\(\overline{5}\). A car frame having a platform, and a platform end sill composed of a flanged plate and a marginal flanged beam, substantially as described.
6. A car frame having a platform, and a platform end sill composed of a flanged plate and a marginal flanged beam of angle shape, substantially as described.

No. 101,731. Railway Car. Char de chemin de fer.


James Mllton Waugh, Chicago, Illinois, U.S.A., 30th October, 1906; 6 years. Filed znd October, 1906. Receipt No. 139.991.

Claim.-1. The combination with shouldered draft irons and a drawbar provided with a yoke, of two like sets of spring cushioning plates, sliding spacing blocks interposed between and in contact with the ends of the sets of cushioning plates, follower plates interposed between the sets of cushioning plates and the drawbar and yoke, and spacing plates interposed between and in contact with the follower plates and the centers of the sets of cushioning plates.
2. The combination with shouldered draft irons and a drawbar provided with a yoke, of a plurality of sets of spring cushioning plates arranged in pairs, the sets constituting such pairs being of like stiffness and the sets in the different pairs differing in stiffness, sliding spacing blocks interposed between and in contact with the ends of the two sets of cushioning plates of each pair, follower plates interposed between the external sets of cushioning Flates and the drawbar and yoke, and interposed spacing plates having bearing contact with the centers of the sets constituting each pair and with the follower plates.
3. The combination with shouldered draft irons, and a drawbar provided with a yoke, of two like sets of spring cushloning plates, sliding spacing blocks interposed between and in contact with the ends of the two sets of cushioning plates, two sets of spring follower plates interposed between the sets of cushioning plates and the ends of the drawbar and yoke, and spacing plates interposed between and bearing on the centers of the sets of cushioning plates and the sets ot spring follower plates.
4. The combination with shouldered draft irons and a drawbar provided with a yoge, of two like sets of spring cushioning plates, sliding spacing blocks interposed between and in contact with the ends of the two sets of cushioning plates, spring follower plates interposed between sets of cushioning plates and the ends of the drawbar and yoke, and spac ing plates interposed between and bearing on the centers of the sets of cushioning plates and the sets of follower plates the shoulders on the draft irons engaged by the spring follower plates being inclined or bevelled.

\section*{No. 101,732. Railway Car. Char de chemin de fer.}

Anton Becker, Columbus, Ohio, U.S.A., 30th October, 1906 ; 6 years. Filed 27th September, 1906. Recelpt No. 139,' 861.

Claim.-1. In a device of the character described the combination of draft sills having pockets for follower plates,
follower plates therein，and colled springs located side by side between the follower plates．


2．In a device of the character described the combination of draft sills，internal lugs thereon，bars secured to the lugs，follower plates supported by the bars，and coiled springs located side by side between the follower plates．
3．In a device of the character described the combination of draft sills having pockets therein，follower plates in the pockets，lugs and supporting the follower plates，and nested of draft sills having pockets，lugs on the sills at the ends springs located side by side between the follower plates．
4．In a device of the character described the combination of draft sills having flanges at top and bottom，of center sills having flanges at top and bottom to receive the draft sills between them and both center and draft sills having aligned openings or pockets for the body bolster．
5．In a device of the character described the combination of draft sills made with buffing brackets at one end．
6．In a device of the character described the combination of draft sills having pockets for follower plates，and stops to limit the movement of the follower plates．

No．101，733．Metallic Car．Char métallique．


Anton Becker，Columbus，Ohio，U．S．A．，30th October，1906； 6
years．Filed 27th September，1906．Receipt No．139，862．
Olaim．－1．In a car，the combination of a plurality of con－ tinuous crossbearers，doors pivotally mounted between the crossbearers to form a part of the floor of the car and to swing downward to dump at the sides of the track，and channel irons mounted on the top of the crossbearers with their backs on the fioor level and with their edges turned downward，adapted to engage the edges of the adjacent doors to form a continuous level floor．
2．In a metallic car，the combination of a plurality of continuous crossbearers，doors plvotally mounted between the crossbearers to form a part of the floor of the car and to swing downward to dump at the sides of the track， continuous channel irons mounted on the top of the cross． bearers with their back on the floor level and with their edges turned downward and inward toward the centres of the crossbearers，said down turned edges also fitting the corresponding bevel on the sides of the doors whereby when the doors are closed and pushed upward a tight level floor is formed，as described．
3．In a metallic car，the crossbearer formed of a beam continuous with a wider continuous channel iron secured to its top，the edges of the channel being turned downward and inward．and a center sill below the bearer，as described．

4．In a car，the combination of a horizontal girder，cross－ b’arers and two bolsters extending crosswise of the girder， a shaft journalled on successive crossbearers or bolsters having crank arms adjacent to the fournalled portions， and a crank pin connecting successive crank arms be－ tween successive crossbearers or bolsters，means for re－ volving sald shaft，doors piroted to the longitudinal girder resting on the crank pin of the shaft between the crank arms adapted to be moved by rotating the shaft up to form a part of the level floor and own between the journals of said shaft to discharge the load at the sides of the car，and channel irons wide enough to fill the spaces between suc－ cessive doors，secured flanges downward on the tops of the crossbearers，the backs of the channels being level with the floor．
5．In a car the combination of a longitudinal girder， crossbearers and two bolsters，extending crosswise of the girders，a shaft journalled on successive crossbearers or bolsters having crank arms adjacent to the journalled portions，and a crank pin connecting successive crank arms between successive crossbearers or bolsters，means for revolving said shaft，doors pivoted on the longitudinal girder resting on the crank pins of the shaft between the crank arms adapted to be moved by rotating the shaft up to form a part of the level floor and down between the journals of said shaft to discharge the load at the sides of the car，and channel irons wide enough to fill the spaces between successive doors secured fianges downward on the tops of the crossbearers，the back of the channels forming a part of the level floor，and the channel flanges being turned downward and inward to engage corresponding ber－ ols on the edges of the dors whereby a tight floor is formed．

6．In a metallic car，in combination with a central longi－ tudinal girder，a floor frame consisting of a plurality of crossbearers above sald girder extending from side to side of the car，members connecting the outer ends of sald crossbearers and beams on the top of said central girder rigidly secured to successive crossbearers，as described．
7．In a metallic car，the combination of a central longi－ tudinal girder，a plurality of beam crossbearers on the top of said girder extending from side to side of the car， longitudinal beams above said central girder rigidly secured to successive crossbearers，hinge castings mounted on said longitudinal beams and floor doors hinged to said hinge castings adapted to swing up between the crossbearers to form a level floor and adapted to swing downward to dump the load at the sides of the car．
8．In a metallic car，the combination of a central longi－ tudinal girder having wide top and bottom flanges，a plu－ rality of beam crossbearers on the top of said girder er－ tending from side to side of the car，longitudinal beams above said girder connecting successive crossbearers，hinge castings for doors mounted on the tops of said longitudinal beams and floor doors mounted in said hinge castings adapt－ ed to swing up and from a part of a level car floor and adapted to swing down to dump the load at the sides of the cars．
9．In a metallic car，the combination of a central longi－ tudinal girder having wide top and bottom flanges，a plu－ rality of beam crossbearers on the top of said girder ex－ tending from side to side of the car，longitudinal besms above said girder connecting successive crossbearers，hinge castings for doors mounted on the tops of said longitudinal beams，floor doors mounted on said hinge castings adapted to swing up and form a part of a level car and adapted to swing down to dump the load at the sides of the cars，con－ necting the bottom of the central girder with the cross． bearer beams，as described．

10．In a metallic car，an end section construction prorid－ ing a housing for the draft rigging consisting of an end sill and bolster having in their lower center portions inverted， \(U\)－shaped notches，as described，and \(Z\)－bars 67 secured in vertical position in said notches connecting sald end sill and bolster，as described．
11．In a metallic car，an end section construction providing a housing for the draft rigging consisting of an end sill and bolster having in their lower center portions inverted c． shaped notches，as described，Z－bars 67 secured in vertical position in said notches connected to sald end sill and bol－ ster，as described，and a reinforcing casing 72 secured to the end sill，there being no opening 70 in the casting registering with the space between the Z－bars 67 ．
12．In a metallic car the combination of an end sill or bol． ster composed of two flanged half portions 60 meeting each other in the center line 61 of the car，having the upper por tions of their flanges secured together by bolts or rivets there belng in each half portion a flanged notch 63 in which 7－bars 67 extending parallel to each other and to the cenn
line of the car are secured by rivets or corresponding means 60 ，substantially as described for the purposes set forth．
13．In a dumping car，an under frame composed of longitu－ dinal and transverse members and having a floor substadt
ally wholly composed of drop doors, in combination with a center sill wholly underlying the said transverse members, substantially as described.
14. A dumping car comprising longitudinal and transverse members, including, an articulated center sill in combination with a plurallty of doors hinged adjacent to said articulated center sill, and a load sustaining center sill underlying said articulated center sill, substantially as described.
15. In a dumping car, a wide center sill in combination with slde members or sills, the transverse members extend ing from side member to side member and overlying the said center sill, a false or articulated center sill composed of sections connecting the transverse members and overlying the said center sill, and a plurality of drop doors occupying the openings framed by said side member, said articulated center sill and said transverse members, substantlally as described. No. 101,734. Freight Car. Ohar de marchandises.


Anton Becker, Columbus, Ohio, U.S.A., 30th October. 1906; 6 years. Filed 27th September, 1906. Recelpt No 139,863.
Claim. - 1 . The combination with a car bottom and sides thereon, of cross rods at the ends of the car, gates, castings secured to the gates and mounted to turn on the rods, and zeeans for holding the gates in upright position.
2. The combination with a car bottom and sides thereon of gates hinged at their lower edges between the sides, angle irons secured to the sides, timbers or furrings secured between the angle irons, said timbers or furrings and the gate edges constructed to fit each other, and reinforcing strips at opposite sides of the gate at its side edges.
3. The combination with a car bottom and sides thereon, of hinged gates at the ends of the bottom, angle irons secured ty) opposite sldes of the sides at their ends, timbers or furrings secured between the angle irons and shaped to fit the edges of the gates, hooks carrled by the gates, and pivoted locking pawls carried by the angle irons to enter the hooks and secure the gates in upright position.

\section*{No. 101,735. Metallic Car Underframe. \\ Char métallique.}

Anton Becker, Columbus, Ohio, U.S.A., 30th October, 1906; 6
years. Filed 27th September, 1906. Receipt No. 139,864.
Claim.-1. In a car in combination with a car underframe, a depending bracket secured thereto, a normally open upturned bearing on the bracket, a shaft resting in said bracket, and an angular cover for the bearing having one arm secured to the bracket and the other arm extending over the bearing.
2. In a car in combination with a car underframe, a hanger depending from a member thereof, a shaft adjacent to the hanger and at right angles to the member to which it is secured, an upturned open bearing on-the hanger supporting the shaft, and an angular cover having one arm secured to the hanger and the other arm holding the shaft in the bearing.
3. In a car in combination with a car underframe, a hanger depending from a member thereof, a shaft adjacent to the hanger and at right angles to the member to which it is secured, and upturned open bearing on the hanger supporting the shaft, and an angular cover having one arm detachably secured to the hanger and the other arm holding the shaft in the bearing.
4. In a car in combination with a member of a car underframe having a vertical web and a flanged bottom, a \(Y\)-shaped hanger secured at the tops of the \(Y\) to the flange of the un-
derframe member, and a brace member secured to the under frame member and to an angular portion of the \(Y\) of the hanger.

5. In a car in combination with a member of a car underframe having a vertical web and a flanged bottom, a \(Y\) shaped hanger secured at the tops of the \(Y\) to the fiange of the underframe meber, a reinforcing plate secured to the web of the underframe member, an angular portion on said plate bent at right angles into contact with an adjacent angular member of the \(\bar{Y}\), and means for securing said angular member to the \(Y\).
6. In a car in combination with a member of a car underframe having a vertical web and a flanged bottom, a \(\bar{Y}\)-shaped hanged secured at the tops of the \(Y\) to the flange of the underframe member, a reinforcing member secured to and depending from this underframe member, the depending portion being wedge-shaped to the angular portion of the Y of the hanger, flanges on the angular edges of said depending portion in contact with the angular portion of the \(Y\), and means for securing said flanges to the hanger.
7. In a car in combination with a member of a car underframe having a vertical web and a flanged bottom, a \(Y\) shaped hanger secured to the web of the underframe member and depending therefrom, the depending portion being wedge-shaped to fit the angular portion of the \(Y\) of the hanger, flanges on the angular edges of said depending plate in contact with the angular portions of the \(F\) and means for securing sald flanges to the hanger.
8. As an article of manufacture, a hanger for a shaft made in the form of a \(Y\) with a support for a shaft at the lower end thereof, there being flanges on the upper ends of the angular portions of the \(\bar{Y}\), the whole being formed by folding one continuous strip of metal, as described.
9. In mechantam of the class described, in combination with a car underframe having crossbearers. side stakes secured upon the ends of the crossbearers, plates over the crossbearers notched to recelve the stakes of the T's toward the centre of the car, plates over the crossbearers, notched to receive the T's having portions beyond the stakes and side sllls outside the stakes. supported on the ends of the plates and secured to the stakes.
10. In mechanism of the class described. the combination with a car underframe having crossbearers. T-shaped side stakes unon the ends of the crossbearers with the shanks of the T's toward the center of the car, plates over the crossbearers notched to receive the T's there being upturned flanges or lips near the ends of sald plates upon the crossbearers bearing against the flanges of the T's, and means for securing the sald upturned flanges to the flanges of the T's.
11. In mechanism of the class described. the combination with a car under-frame having crossbearers. side stakes secured upon the enis of the crossbearers with the shanks of the T's toward the center of the ear. plates over the crosshearers notched to receive the T's. there being upturned flanges or lips near the ends of sald plates unon the crossbearers bearing aguinst the flanges of the \(T\) 's, means for securing the said upturned flanges to the flanges of the T's, and horizontal side sills outside the stakes supported on the ends of sald plates over the crossbearers and secured to said stakes.
 transverse the crossbearers. the vertical to iongitudinal cured plates secured the combination of a crossbearers brace
girder.
girder. a metallic car, the and a plurality of the car, brace 15. In a metalox girder ang crosswise girder lying in the hollow central thereof exten of the central girder edges seupon the top opposite sides of having their uppen said brace plates upo nlane of thers. vertical ransverse crossbearevertical webs of the lower angular cured to the ecured to the vertas secured to the fates upon said plates secure upon said girder. diagonal farned extension of \({ }_{0}\) other flanges of the central girder. angular upturned a cross plate flanges of the secured to an atral girder. and a crose pand brace plates secur of the central sed the webs thereof and the bottom plate girder
inside diagonal braces. In a metallic car, the combinaturality of crossbearers 16. In a metral hox girder and a plurality of the car brace hollow ceniral therpof extonding crosswise of the central girder lying in upon the ton opposite sides of the car having their upper edges plates upon oppore of the car having the upon sald brace the transverhe crochearers. Vertical of the central girder, secured to the to the veritcal webs of to the lower angular plates secure upon said plates secured to the insife the ther flanges upon said girder. and a cross plate inside the other flanges of the central girder. amo thereof and to the diacentral girder gonal braces.
onal braces. metallic car the embination of a longitudinal 17. In a metalisc car mex and a plurality of crossbearers hollow central box irder and a crosswise of the car. hrace upon the top thereor extend the central girder lying in the plates upon opposite sides car having their upper edges setransverse plane of the car hertical flanges upon said brace cured to the crossbearers, vertical flanges upon said brace cured
plates secured to the vertical webs of the central girder.
and a cross plate inside of the central girder sccured to the webs thereof and to the diagonal braces.
18. As an article of manufacture, a top plate for a crossbearer for a metallic car, consisting of a plate 40 having beaches 48 in each end adapted to recelve a portion of a notes stake. and upturned flanges 49 adjacent to the notches 48 bent out of the cross plate, adapted to be secured to the fanges of the car stake.
19. As an article of manufacture, a top plate for a car rossbearer, consisting of a flat plate having recesses near the ends adapted to have car stakes fit therein, and extending portions 43 extending beyond the openings for the car stakes on which the side sills of the car may be supported.

\section*{No. 101,736. Checkrein Holder. Porte-rènes.}

Samuel Henry Altice, Jamestown, New York, U.S.A., 30th October. 1906; 6 years. Filed 3rd October, 1306. Receipt No. \(140,007\).
Claim.-In a device of this character described the combination with a casing having apertures, an integral base and means for securing the base upon a harness, of a rotatable drum within the casing, a tension device secured to the drum for controlling the movement thereof, annular notched flanges upon the ends of the drum and substantially equal in diameter to the internal diameter of the casing, an ear upon the casing. a lever pivoted upon the ear and disposed outside of the casing said lever having an angular extension overlapping the base, a spring seated within the base and bearing upon sald extension parallel locking arms extending from
the lever through the apertures within the casing and adapt. the lever through thandy engage the flanges and a checkrein
ed to simultaneously


secured to the drum between the flanges and adapted to be wound thereon.

No. 101,737. Table for Milliners. Table de modiste.


Kate Bynner Atherton and Herbert Warren Atherton, coinventors, both of Holyoke, Massachusetts, U.S.A., 30 Ib October. 1906; 6 years. Filed 4th October, 1906. Recelpt No. \(140,025\).
Claim.-1. A milliners' table consisting of a supporting frame, a top supported by said frame and adjustable as to height and inclination relatively thereto, and provided with a hat holder support adjustable vertically and revolubly relatively to the table top, means for confining sald support immovably in its adjusted position, and a hat holder carried by said support.
2. A milliners' table having a top provided with a hat holder support, and a hat holder carried thereby which is bodily vertically adjustable, and also longitudinally adjustable.
3. A milliners' table having a top provided with a hat holder support, and a hat holder carried by said support, and vertically adjustable, horizontally adjustable and adjustable revolubly about a horizontal axis.
4. A milliners' table having a top provided with a bat holder support comprising a vertical member which is rotstively and also vertically adjustable relatively to the top, and a horizontal member having a swivel clamp revolubly adjustable thereabout, and a hat holder comprising a supporting stem confined by said clamp and lonyitudinally and horizontally adjustable relatively thereto.
5. In a device of the character described, a hat holder head or body and supporting means therefor constructed with capability for the adjustment of the holder longitudinally of its axis, and means for the confinement of the holder in its adjusted position.
6. In a device of the character described, a hat holder head 6. In a device of the character described, a hat holder with
or body, and supporting means therefor constructed with
capabilities for the adjustment of the holder longitudinally of its axis and rotatively about its axis, and means for the conflnement of the holder in its adjusted position.
7. In a device of the character described, a hat holder head or body, and a supporting means therefor and with which the holder is adjustably connected whereby the latter is revoluble about an axis outside of and parallel with its own axis.
8. In a device of the character described, a hat holder head or body and a supporting ineans therefor with which the holder is adjustably connected and whereby it is movable revolubly about an axis at right angles to its own axis.
9. In a device of the character described, a hat holder head or body and supporting means therefor with which the holder is adjustably connected, and whereby the holder may be adjusted rotatively about its own axis, and along the line of its axis, also revolubly about an axis parallel to its own axis. and furthermore revolubly about an axis at right angles to its own axis.
10. A milliners' table having combined therewith a vertical rod provided with a horizontal member, a swivel clamp provided with a hole transversely therethrough, through which said horizontal member engages and having a hole therethrough at right angles to said first-named hole, and provided with opposite apertured ear lugs, a bar or stem slidably engaged through said ear lugs and carrying a contractible hat holder, a bolt having an eye engaging said stem and having its shank extended through the second-named hole in said clamp and receiving a binding nut at its protrudins threaded end and means for adjustably holding the clamp body on said horizontal member.
11. A milliners' table having combined therewith, vertically and also rotatively adjustable relative thereto, a vertical rod provided with a horizontal member, a swivel clamp provided with a hole transversely therethrough, through which said horizontal member engages, and having a hole therethrough at right angles to sald first-named hole, and provided with opposite apertured ear lugs, a bar or stem slid ably engaged through said ear lugs and carrying a contractible and expansible hat holder, a bolt, having an eye en. gaging said stem, and having its shank extending through the second-narned hole in said clamp and receiving a binding nut at its protruding threaded end, and means for adjustably holding the clamp body on said horizontal member
12. A milliners' table consisting of a supporting frame. oppositely arranged bent arms having pivot screws connecting them in a common axial line to the frame and having clamping nuts threading on said screws and against the arms for holding the latter in ans adjustably swung position, said arms having their inner ends approached and in parallelism. a table top having a depending member engaged between the adjacent extremities of said bent arms, a pivot screw passing horizontally through said arms and the depending member of the top therebetween, and having a clamping nut, and said table top having a vertical socket, a rod rotatively and vertically adjustable in said socket. with confining means therefor, and provided with a horizontal extension, a swivel clamp longitudinally and revolubly adjustable on said extension, and a contractible hat holder having a carrying stem which is horizontally and longitudinally adjustable relatively to and adapted to be engaged by the said swivel clamp.
13. A milliners' table consisting of a supporting frame, oppositely arranged bent arms having pivot screws connecting them in a common axial line to the frame, and having clamping nuts threading on said screws and against the arms for holding the latter in any adjustably swung position, said arms having their inner ends approached and in parallelism, a table top having a depending member engaged between the adjacent extremities of said bent arms, a pivot screw passing horizontally through sald arms and the depending member of the top therebetween, and having a clamping nut, and sald table top having a vertical socket, a rod rotatively and vertically adjustabe in said socket. with confining means therefor, and provided with a horizontal extension, a swivel clamp longitudinally and revolubly adjustable on said extension, a hat holder consisting of a partially circular band of spring metal, and a stem having an angularly bent end with Which an intermediate portion of said spring band is connected and which stem is horizontally and longitudinally, and also rotatively, adjustable relatively to and adapted to be confined by said swivel clamp.
14. In a device of the character described, a supporting bar of rod, a swivel clamp longitudinally and revolubly adjustable thereon, a hat holder conslating of a head, and a stem with which said head is connected, and which is horizontally and longitudinally and also rotatively adjustable relatively to and adapted to be confined by said swivel clamp.
15. In a device of the character described, a supporting bar or rod, a swivel clamp longltudinally and revolubly adjusiably engaged therewith, and said clamp comprising a clamp body \(m\) and a disc section \(m^{2}\) having opposite ear lugs \(s s\) made with transverse apertures, and said clamp body and disc section having an axial hole therethrough, an eye bolt
having its head located between said ear lugs, having its shank extending through and beyond sald axial hole, and having a thumb nut engaging thereon to be set against the back of the clamp body, and a hat holder head having a stem engaging through said ear lugs and the eye of sail bolt, for the purposes set forth.
16. In a device of the character described, a hat holder head and a support on which it is adjustably mounted with means for its confinement in any adjusted position, and said head being capable of contraction and expansion for a binding engagement within a hat.
17. In a device of the character described, a hat holder consisting of a partially circular band of spring metal provided with oppositely located finger studs, a stem having its extremity connected with an intermediate portion of saidspring band. and a support with which such stem is adjustably connected.
18. In a device of the character described, a hat holder consisting of a partially circular band of spring metal provided with oppositely located finger studs, a stem, having its forward extremity bent off-set from its main portion, and connected with an intermediate portion of said spring band, and a table having a hat holder support with which such stem is adjustably connected.

No. 101,738. Corn Planter. Plantoir de blé-d'inde.


Thomas Marshall Bailey, Madison, Alabama, U.S.A., 30th Orfober. 1406; 6 years. Filed 28th September, 1906. Receipt No. 139,882.
Claim.-1. In a planter the combination of a grain spout comprising vertical and horizontal portions, braces extended ernm respectively said vertical and horizontal portions and provided at their points of intersection with bearings, a transverse shaft mounted in said bearings, a gate located in said spout to retard the delivery of grain therethrough, and ar eccentric connection between said gate and transverse shaft for actuating the gate at stated intervals.
2. In a planter the combination of a grain spout comprising vertiral and horizontal portions, means for supplying grain to the spout at stated intervals, a gate located in said spout to retard the delivery of the grain therethrough, a shaft, an eccentric connection with said shaft and gate, a drive shaft. and independent connections between said drive shaft and the means for supplying grain to the spout and to the shaft for operating the gate located in said spout.

\section*{No. 101,739. Tnb Support, Ironing Board and Clothes Rack.}

Support pour cuves, planche à repasser et ratelier d linge.
Edwin Lot Bergstresser. Hublersburg, Pennsylvania. U.S.A., 30th October. 1906; 6 years. Flled 19th September, 1906. Receipt No. 139,628.
Claim.-1. The combination with a table or support having an attaching board at one end provided with a right angu-lar-shaped slot, of an ironing board, spaced plates at one end of said board adapted to engage said attaching board, a pin between said spaced plates adapted to engage said slot in said attaching board, and a brace secured to said ironing board and adapted to rest upon the top of said table or support, substantially as described.
2. The combination with a telescoping tub support or table having a vertically disposed attaching board at one end formed with a right angular-shaped slot, of an ironing board, vertically disposed spaced plates secured transversely at one end of said ironing board and adapted to engage said attaching board, a transverse pin between said spaced plates adapted to engage said slot in sald attaching
board, and a swinging brace pivotally connected to said troning board and adapted to rest upon the top of said tub support or table, substantially as descitibed.

3. In combination with a supporting device, an ironing board having brackets on its under side at suitable distances from its opposite ends. spaces being provided between said brackets and the under side of the board, means to secure one of said brackets to the supporting device, supporting legs pivotally secured to the other bracket and adapted to bear on the supporing device, and arms pivotally connected to the upper side of one of the said brackets, adapted to lie in the space between said bracket and the under side of the ironing board and to fold into the space between the other bracket and the under side of the ironing board, substantially as described.

No. 101,740. Stacker for Ore Tailinge. \(\Delta\) meulonneur pour métaus.


Hiram Wheeler Blaisdell, Los Angeles, California, U.S.A., 30th October, 1906; 6 years. Filed 15th August, 1906. Recelpt No. 138,706.
Olaim.-1. In an apparatus for discharging material from a conveyer belt, means independent of said belt for propelling the apparatus.
2. An apparatus for discharging material from a conveyer belt, means independent of said belt for propeling the apparatus and devices for reversing the direction of travel.
3. An apparatus for discharging material from a conveyer belt, means independent of said belt for propelling the apparatus and devices for automatically reversing the direction of travel.
4: An apparatus for discharging material from a conveser belt, and a motor on said apparatus for propelling the same.
5. An apparatus for discharging material from a conreyer belt, an electric motor on said apparatus for propelling the same and means for supplying current to said motor.
6. An apparatus for discharging material from conveyer belts, supporting wheels thereon, a motor mounted on said apparatus and power transmitting connections between se:id motor and wheels.
7. An apparatus for discharging material from conveyer belts, means for permitting the conveyer belt to leave sald apparatus in either a forward or reverse belt to leave sadd
be desired.
eyer belts, a discharging discharging material from conveyer belts, a discharging pulley 39, a first idler pulley 44
and a second 1 dler pulley 47 and a second ider pulley 47.
9. In an apparatus for discharging material from a conveyer belt, a rotary distributor mounted on said apparatus and a motor to drive said distributor.
10. In an apparatus for discharging material from a con veyer belt, a rotary distributor mounted on said apparatus and a motort o drive sald distributor.
11. In an apparatus for discharging material from a conveyer belt, a travelling carriage, discharging idler pulleys thereon and a rotary distributor to receive material from said conveyer belt and distribute the same and a motor to drive said distributer.
12. In an apparatus for discharging material from a conveyer belt, a distributor revolving on a horizontal axis carried by a support revoluable in a horizontal plane.
13. An apparatus for discharging material from conveyer belts, supporting wheels thereon, a motor mounted on sald apparatus, power transmitting connection between sald motor and wheels. a carriage and discharging and ider pulleys mounted thereon.
14. In an apparatus for discharging material from a conveyer belt a distributor and means for changing the direction of discharge of said distributor and a motor mounted on said apparatus to drive sald distributor.
15. In an apparatus for discharging material from a conveyer belt a motor mounted upon sald apparatus, connection between sald motor and the supporting wheels of said apparatus and devices in said connection for reversing the direction of rotation of said wheels.
16. In an apparatus for discharging material from conveyer belts. a motor mounted upon sald apparatus, a worm connected to the armature shaft of sald motor, a gear driven by said worm, a shaft driven by said gear. a bevel gear on said shaft, bevel gears driven in reverse directions by said bevel gear. clutches connected with said driven gears, a shaft actuated by sald clutches, worms on sald shaft, and gears driven by sald worms on the axle of said apparatus.
17. In an apparatus for discharging material from conveyer belts, a motor mounted upon said apparatus, connection between said motor and the supporting wheels of said apparatus, devices in said connection for reversing the direction of rotation of said wheels. a lever connected with sald devices and stationary contact pieces to operate said lever.
18. In an anparatus for discharging material from conveyer belts a motor mounted upon said apparatus, connection between said motor and the supporting wheels of said apparatus, a gear upon the outer end of the axles of said supporting wheels and a stationary rack for said gear to mesh with.
19. In an apparatus for discharging material from conveyer belts, a motor mounted upon said apparatus. connec tion between said motor and the supporting wheels of sald apparatus. devices in said connection for reversing the direction of rotation of said wheels, a gear upon the outer end of the axles of said supporting wheels and a stationary rack ir sald gear to mesh with.
20. In an apparatus for discharging material from convever belts, a rotary distributor and a pivoted support for said distributor.
21. In an apparatus for discharging material from conveyer belts, a rotary distributor, a motor to drive sald distributor and a pivoted support for said motor and distrlbutor.
22. In an apparatus for discharging material from convever belts, a rotary distributor, a plvoted support for sald distributor and a hooper to dellver material to said d!stributor.
23. In an apparatus for discharging material from conveyer belts, a rotary distributor, a pivoted support for sald distributor, a hopper to deliver material to said distributor and a revoluble portion unon sald hopper.
24. In an apparatus for discharging material from conveyer belts. a discharging pulley 39, a first ider pulley 44. a second idier pulley 47. a brush mounted adjacent to puller 39, and means for onerating said brush.

No. 101,741. Potato Harvester. Arrache-patates.
James P. Brennan, Columbus, Wisconsin, U.S.A.. 30th October, 1906; 6 years. Filed 1st October, 1906. Recelpt No. 139,930.
Claim.-1. In a potato harvester the combination with the beam of the excavating blade, of means for slidably connecting the front end of sald beam by a fixed pivot to the beam supporting frame, means for raising and lowering both the
front and rear ends of said beam simultaneously by the manuel act of the operator, means for retaining the front

cnd of the beam at substantially a fixed point upon said pivot as the rear end of the bean is raised and lowered by contact of the excavating blade with uneven surfaces.
2. In a potato harvester the combination with the main frame and reel screen and blade supporting beam, of means for slidably connecting the front end of said beam by a fixed pivotal draw bolt to said frame, means for communicating a vertical movement to both the front and rear ends of the beam simultaneously, by the manual act of the operator, such means consisting of a three-armed lever pivotally supported from said frame, a flexible connection communicating from one of the arms of said lever over bearings with the rear end of said beam, and a link communicating from another arm of said lever to the front end of said beam, said link being adapted to serve the twofold purpose of communicating motion from the hand actuated lever to the beam as said lever is moved and of holding the front end of said beam at a substantially fixed point relatively to said retaining pivot when said operating lever is at rest.
3. In a potato harvester the combination of a main supporting frame 3, operating lever 24 pivotally supported from said frame, blade supporting beam 5 provided at its front end with a vertical slot formed at right angles thereto for the reception of the pivotal bolt 55, pivotal bolt 55 rigidly fixed at one end to said frame and having pivotal bearings in said vertical slot. link 26 communicating between the arm 25 of said operating lever and said beam, said link being adapted to serve the twofold purpose of communicating a vertical movement from the operating lever 24 of the front end of said beam as said operating lever is moved and as a means of holding the front end of said lever at a fixed point as its rear end is raised by contact with an uneven surface, flexible connection \(3 n\) communicating from arm 29 of the operating lever 24 over the pulley 31 with the rear end of said beam, all substantially as and for the purnose specified.
4. In a potato harvester of the class described, a potato screen comprising a plurality of longitudinal screen bars provided with U-shaped depressions in combination with a nlurality of resilient fingers vieldingly supported alternately between said screen bars above the lower extremity of sald depressions, substantially as set forth.

No. 101,742. Band Re-maw. Scie d ruban.


John L. Graham, Haakwood, Michigan, U.S.A.. 30th October, 1906; 6 years. Filed 28th September, 1906. Receipt No. 139,884.
Claim.-1. In a sawmill the comblnation with a suitable frame provided with feed or gauge rolls, of a plurality of
sliding tables locsted opposite the feed rolls, a bracket pivotally secured at one end to each of the sliding tables, a journal bearing stationarily mounted in the upper free ond of the bracket, a pressure roller, the lower end of which is pirotally secured to the table, and the upper end of which is received in the journal bearing, an obliquely disposed rod, one end of which loosely engages the upper end of the bracket, cushion members on the rod bearing against the bracket to yieldingly retain the latter and its pressure roll in approximately vertical position, the opposite end of the rod being pivotally secured to the table, and means for effecting the independent reciprocation of the tables relative to each other.
2. In a sawing machine the combination with a suitable frame, and feed rolls or gauge rolls mounted thereon, of a plurality of independent relatively movable tables slidingly mounted on the frame opposite the feed rolls, a pivotally mounted yieldingly supported pressure roll carrled by each table, a separate fluid operated means connected to each table for moving individual table separately from the rest, a valve mechanism for each fluid operated means, said mechanism comprising a valve and valve rod, individual rock shafts to which the valve rods are connected, the rock shafts leading to a common point and a separate lever for each rock shaft, the levers grouped closely together.
No. 101,743. Shoulder Form. Forme pour épaules.


Alexandre M. Grean, New York City, New York, U.S.A., 30th October, 1906; 6 years. Filed 6th Occober, 1906. Receipt No. 140,077.
Claim.-1. As a new article of manufacture, a shoulder form for garments comprising a fabric sheet having a shoulder form for garments comprising a fabric sheet having a shoulder end curved lengthwise and crosswise, and a flattencd neck end, the contour of the form being in compound curves.
2. As a new article of manufacture, a shoulder form for garments comprising a fabric sheet having a flattened neck end, and a padded shoulder end curved lengthwise and crosswise and elevated above the neck end, the whole contour of the form being in compound curves, substantially as shown and described.

No. 101,744. Fiy Net for Horses. Moustiguaire pour chovauc.


Francis Jacques and Andrew I. Jacques, co-inventors, both of Chatham, Ontario, Canada, 30th October, 1906; 6 years. Flled 3rd October, 1906. Receipt No. 139,997.
Claim.-1. Fly net for horses, being formed out of one solid plece of leather, by slitting into regular lengths slits
fitted with suitable fastening, blackened, expanded forming meshes, dried and finished substantially as specified and set forth.
2. A fly net for horses being formed out of two pieces of leather by slitting into regular lens'ths slits secured in the center, on a strip of leather by means of metallic clips, blackened, expanded forming meshes, dried and flished substantially as set forth.
3. A fly net for horses being formed out of solid pieces of leather by slitting into regular leagths slits, except the lower ends which will be slit into laces, expanded forming meshes, dried and finished substantially as specified and set forth.

No. 101,745. Grain Cleaner. Nettoycur d grain.


Alfred Joel, Zurich, Switzerland. 30th October, 1906; 6 years. Filed 3rd August, 1906. Receipt No. 138,392.
Claim.-1. In a brushing machine, a cylinder, a brushing mechanism rotating within the same, means for rotating the same, and an inlet and discharge to said cylinder, substantially as described.
2. In combination with a mill, a cylinder or chamber, a sieve forming the bottom thereof and a rotating brushing device operating within the cylinder or chamber with means for rotating the same and an inlet and outlet to and from said cylinder. substantially as lescribed.
3. In combination with a mill, a brushing chamber having a sieve forming its bottom, a rotating brush contained within the chamber, means for driving the same and means for removing the dust during the jrocess of treatment, substantially as described.

No. 101,746. Nnt Lock. Arrête-écrou.


Willam Rundle, Johannesburg, Transvaal, South Africa, 30th October, 1906; 6 years. Filed 18th September, 1906. Receipt No. 139,605.
Claim.-1. In means for securing a nut on a bolt or its equivalent, the combination with the bolt or its equivalent and nut, of a washer, means which prevent the rotation of said washer round the bolt, the washer having a projection adapted to engage the nut.
2. Means for securing a nut on a bolt or its equivalent comprising in combination the bolt or its equivalent and nut. of the washer non-rotatably arranged on the bolt and having a plurality of projections which are adapted to be bent over or against the flat faces of the nut.
3. In means for securing a nut on a bolt or its equivalent, the combination with the nut and bolt or its equivalent, the latter having a longitudinal groove in the threaded portion of a washer slidably fitting the threaded portion of the bolt and constructed with an internal projection adapted to fit the
groove in the bolt to prevent the washer rotating on the bolt, the washer being constructed with a plurality of external projections which are adapted to be bent over or against the flat faces of the nut.
4. In means for securing a nut on a blot or its equivalent, the combination with the nut and bolt or its equivalent, the latter constructed with two longitudinal grooves in the threaded portion, of a washer slidably fitting the threaded portion of the bolt and constructed with two internal projections fitting the grooves in the bolt and constructed with a plurality of external projections, which are adapted to be bent over or against the flat faces of the nut.
5. In means for securing a nut on a bolt or its equivalent, the combination with the nut and bolt, the latter constructwith a longitudinal groove in the threaded portion, of a washer fitting the threaded portion of the bolt and constructed with an internal projection adapted to be beat into the groove in the bolt, and constructed with a plurality of external projections which are adapted to be bent over or against the flat faces of the nut.
6. In means for securing a nut on a bolt or its equivalent, the combination with the nut and bolt, the latter constructed with a longitudinal groove in the threaded portion, of a locking washer slidably fitting the threaded portion of the bolt and constructed with a projection engaging the groove in the threaded portion of the bolt, sald washer being provided with a plurality of projecting pieces formed by sawcuts or slits in the washer, which pieces are adapted to be bent over or against the flat faces of the nut.
7. In means for securing a nut on a bolt or its equivalent, the combination with the nut and bolt of a washer slidably fitting the threaded portion of the bolt and means which prevent the rotation of said washer round the bolt, the washer being constructed with a plurality of tapering projections formed by saw cuts or slits in the washer. Which tapering projections are adapted to be bent over or against the flat faces of the nut.
8. Means for securing a nut on a bolt or its equivalent, comprising in combination the nut and bolt or its equirs. lent, the latter formed with a flat running the full length of the threaded portion. of a locking washer slidably fitting the threaded portion of the bolt and constructed with a flat engaging the flat on the bolt to prevent its rotating thereon, the washer being constructed with a plurality of external projections adapted to be bent over or against the flat faces of the nut.
9. Means for securing a nut on a bolt or its equivalent, comprising in combination the nut and bolt or its equivalent, the latter formed with a flat running the full length of the threaded portion, of a locking washer slidably fitting the threaded portion of the bolt and constructed with a flat engaging the flat on the bolt to prevent its rotating thercon, the washer being constructed with a plurality of projections formed by saw cuts or slits in the washer. which projections are adapted to be bent over or against the flat faces of the nut.

No. 101,747. Plough Mechanism.
Mécanisme de charrue.


John M. Sausser, Osnaburg, Ohio, U.S.A., 30th October, 1906; 6 years. Filed 1st October, 1906. Receipt No. \(139,941\).
Claim.-1. A device for regulating the depth of furror cut by a plough consisting of a clevis pivotally attached to the plough and having means to which the draft animal attachments may be applied, an arch member passing ovef the plough beam and connecting with the clevis at the point

Where the same is pivotally attached to the beam, a lever attached to said arch. member and extending back within working distance of the plough handles, and a means attached to the plough beam for retaining said lever in temporary fixed positions.
2. A device for regulating the depth of furrow cut by a plough consisting of a clevis pivoted at its ends to the plough beam and extending around the end of the same. said clevis being provided with means to which the draft animal attachments may be applied an arch member connecting with the clevis at the pivotal points thereof and extending over the plough beam, a brace member connectine with said clevis at an intermediate point thereof and extending up over the end of the plough beam and connecting with said arch member, a lever attached to said arch and brace inembers an axtending bark on within operating distance of the plough handles, and means located upon the plough beam and adapted to retain the lever in temporary fixed gositions.
3. A device for regulating the depth of furrow cut by a plough consisting of a clevis pivoted at its ends to the plough beam and passing around the front end thereof and having at its intermediate point means adapted to receive the draft animal attachments, an arch member fixed to the ends of the clevis and extending over the plough beam, a brace member fixed at its ends to an intermediate point of the clevis and extending over the end of the plough beam and having a horizontal portion which connects with the arch member and projects in the rear thereof, a lever fixed to said horizontal portion of the brace member and extending back to within operating distance of the plough handles, a means attached to the plough beam and adapted to engage the lever to retain the same in temporary fixed positions.
4. A device for regulating the depth of furrow cut by a plough consisting of a clevis pivotally attached to the plough and having means to which the draft animal attarhments may be applied, an arch member passing over the plough beam and attached to the clevis, and a lever connected with said arch member.
5. A device for regulating the depth of furrow cut by a plough consisting of a clevis pivotally attached to the plough and having means to which the draft animal attachments may be applied, arch members attached to the clevis and passing over the plough beam, and a lever attached to said arch members.
6. A device for regulating the depth of furrow cut by a plough consisting of the clevis pivotally attached to the plough and having means to which the draft animal attachments may be applied, arch members attached to said clevis and spaced apart and passing over the plough beam. and a lever attached to said arch members.
7. A device for regulating the drpth of furrow cut by a plough consisting of a clevis pivotally attached to the plough and having means to which the draft animal attachments may be applied, an arch member attached to the clevis and being vertically disposed above the pivotal points thereof and extending over the plough beam, and a lever attached to said arch member.
8. A device for regulating the depth of furrow cut by a plough consisting of a clevis pivotally attached to the plough and having means to which the draft animal attachments may be applied, an arch member attached to the clevis and being vertically disposed over the pivotal points thereof and passing over the plough beam. a second arch member also attached to the clevis and being located in advance of the first said arch member and being spaced from the same, and a lever attached to said arch members.
9. A device for regulating the depth of furrow cut by a plough consisting in plates attached to the beam of tice plough and having a number of perforations, a clevis plvotally attached to said plates and having means to which the draft animal attachments may be applied and a lever attached to the clevis and extending back within operating distance of the plough handles.
10. A device for regulating the depth of furrow cut by a plough consisting in plates atached to the bea!n of the plough and having a number of perforations, a elevis pivotally attached to said plates and having means to which the draft animal attachments may be applied and a lever attached to the clevis and extending back within operating distance of the plough handles.

\section*{No. 101,748. Overshoe. Galoche.}

Solomon Schwarzscheld, Rochester, New York. U.S.A.. 30th October, 1906; 6 years. Filed \(12 t h\) September. 1916. Receipt No. 139,462.
Claim.-1. The herein described process of manufacturing overshoes, which consists in forming superposed deposits of rubber containing material on the exterior of a foot form, cementing a sole plece of rubber containing material to the 10-34
exterior of the sole portion of said material deposited on said form, and then vulcanizing the whole.

2. The herein described process of manufacturing overshoes, which consists in forming superposed deposits of rubber contining material on the exterior of a foot form, cementing a sole piece of rubber containing material to the exterior of the sole portion of the material deposited on the said form, reinforcing the material deposited on sald form by cementing a strip of rubber containing material thereto, and then vulcanizing the whoie.
3. The herein described process of manufacturing overshoes, which consists in dipping a foot form in a bath of rubber containing materlal, withdrawing said form from said bath with a coating of said material deposited on sald form. securing a reinforcoment of rubher containing material to said material deposited on said form. and then vulcanizing the whole.
4. The herein described process of manufacturing overshoes, which consists in dipping a foot form into a bath of rubber containing material, withdrawing said form from sald bath with a coating of said rubber containing material on said form. cementing a sole piece of rubber containing material to the exterior of the material deposited on sald form, and then vulcanizing the whole.
5. The herein described process of manufacturing overshoes, which consists in dipping a foot form into a bath of rubber containing material, withdrawing the said form from said bath with a coating of said material deposited on said form, cementing a sole piece of rubber containing material to the exterior of the material deposited on said form, and vulranizing the whole in contact with steam under pressure.
6. The hernin described process of manufacturing overshoos. which consists in dipping a foot form into a bath containing rubber and a volatile ingredient. withdrawing said form from said bath with a deposit of the ingredients thereof on said form, allowing the volatile ingredients of said deposit to evaporate, repeating the foregoing steps a number of times to form a plurality of superposed deposits on said form. cementing a sole piece of rubber contalning material to the exterior of the material deposited on said form, vulcanizing the whole in contact with steam under pressure. and then removing the same from sald form.
7. The herein described process of manufacturing overshoes. which consists in forming superposed deposits of rubber containing material on the exterior of a foot form, placing a reinforcing picce of sheet rubber containing material on the extcrior of said material deposited on said form, then depositing a film of material over the first denosit and said reinforcing plece.
s. The herein described process of manufacturinfg overshoes, which consists in dipping a foot form into a bath of rubber containing material. withdrawing said form from said bath with a coating of said material deposited on said form, attaching a reinforcing piece of sheet rubber to the outside of said material deposited on said foot form, then dipping the whole into said bath and withdrawing the same therefrom, and then putting the whole through a vulcanizing process.
9. The herein described process of manufacturing overshoes which consists in dipping a foot form into a bath of whber containing material, withdrawing said form from said bath with a coating of said rubber containing material on said form. repeating the foregoing steps a number of times to form a plurality of superposed deposits of said material on said form, cementing a sole plece and a reinforcing piece if sheet rubber containing material to the exterior of the naterial deposited on said form. dipping the foot form with said parts thereon again into sald bath and withdrawing the same therefrom and then vulcanizing the whole.
10. An overshoe for folding into a small space, comprising a flexible sole having portions which are more highly flexible than other portions of said sole arranged to facilitate bending the sole transversely at said more flexible portions in folding.
11. An overshoe for folding into a small space comprising a flexible sole of non-uniform thickness, the thin portions being arranged to facilitate bending the sole transversely at those portions in folding, and the thicker portions to form wearing surfaces.
12. An overshoe comprising an integral elastic rubber vamp and sole portion of substantially the same thickness, and an extra interrupted wear sole adapted to give extra thickness to the bottom of the overshoe at certain portions only while not adding to the same extent to the thickness of other portions thereof, substantially as and for the purpose herein set forth.
13. An overshoe comprisng an integral elastic rubber vamp and sole portion, and rubber sole pieces secured to said sole portion at points under the ball and toe of the overshoe, leaving therebetween portions of sald sole portion uncovered to facilitate folding of the said uncovered portions.
14. An overshoe comprising an integral rubber vamp and sole portion, a reinforcing strip around the edge of said sole partion to register with the sole edge of the shoe of the wearer, and a film of rubber extending over the said reinforcing strip and onto said vamp and sole portion and integral with said vamp and sole portion.
15. An overshoe comprising an integral elastic rubber vamp and sole portion, a reinforcing strip of rubber around said sole portion to register with the sole edge of the shoe of the wearer, an extra rubber sole piece secured to sald sole portion, and a film of rubber extending over said reinforcing strip and sole piece onto said vamp and sole portion and integral with said vamp and sole portion.
16. An overshoe comprising an integral elastic rubber vamp and sole portion, a reiuforcing strip around the foot entrance of said overshoe, a reinforcing strip around the edge of said sole portion to register with the sole edge of the shoe of the wearer, a rubber sole plece secured to said sole portion, and a film of rubber extending over said reinforcing piece and said sole piece onto said vamp and sole portion and integral with said vamp and sole portion.
17. An overshoe having a continuous integral rubber exterior, a continuous integral rubber interior, and a reinforcing plece therebetween.
18. An overshoe having a continuous integral exterior of elastic waterproof material, a continuous integral rubber interior, and an extra sole plece therebetween.
19. An overshoe comprising a seamless thin highly elastic rubber covering adapted to envelope the forward portion of the foot, and a reinforcement of elastic sheet rubber secured to said covering and disposed thereon to pass around the edge of the shoe sole of the wearer.
20. An overshoe having a vamp and inner sole portion made in one piece of concentrically stratified highly elastic thin rubber, and a sole piece of elastic sheet rubber secured to and covering the bottom of said inner sole portion and extending over the edges thereof to form a reinforcement, the whole adapted to stretch in being placed upon the shoe of the wearer.
21. An overshoa having a vamp and inner sole portion made in one piece of highly elastic thin rubber, a sole piece of elastic sheet rubber secured to and covering the bottom of sald inner sole portion and extending over the edges thereof to form a reinforsement and to retain the overshoe in place on the foot, and a strip of sheet rubber extending around the foot entrance of the overshoe and adapted to reinforce the said highly elastic thin rubber material at that point and by fts elasticity to act as an extra retaining means to keep the overshoe in place on the shoe of the wearer.

\section*{No. 101,749. Shoe. Chaussure.}

Thomas Skerrett, Spokane, Washington, U.S.A., 30th October, 1906; 6 years. Filed 3rd October, 1906. Receipt No. \(140,017\).
Claim.-1. In a shoe the combination with the quarters and full vamp of a shoe, of an auxiliary quarter attached to the main quarter, and a half vamp and toe cap forming an integral portion of the auxiliary quarter, the half vamp and toe cap being secured to the maln full vamp.
2. In the construction of shoes the combination with the unarters and a full vamp, of an auxiliary quarter having a half vamp and toe cip integral therewith, the auxiliary quarter being attached tu the outer face of the main quarter of a shoe, and the balf vamp and toe cap being attached to the
full vamp of the shoe, and a counter for the shoe having a side extension which is carried along the connected main and

auxiliary quarters and between the half and the full vamps, as described.

No. 101,750. Switch. Aiguille.


Ralph Rahiser, James Garfield Cunningham and Franklin Benjamin Hall, co-inventors, all of Evans City, Pennsylvania, U.S.A.. 30 th October, 1906; 6 years. Filed 10th August, 1906. Receipt No. 138,565.
Claim.-1. In a switch throwing device of the character described, the combination with a main track and siding track, of pivotally mounted spring depressed switch tongues connected together, casings located upon one side of said fracks, a bell crank lever pivotally mounted in one of the said casings and connected to said tongues, an operating lerer pivotally mounted in the other of said casings, and connectel to said lever a spring retained plate mounted in one of said siding tracks, a shaft mounted adjacent to said track and adapted to be actuated by said plate, said shaft being adapter to move said tongues, means mounted within one of sald rasings to lock said operating lever in its adjusted position. and means mounted within the other of said casings and connected to the first-named means to release sald means, substantially as described.
2. In a switch throwing device of the character described, the combination with two pivotally mounted switch tongues adapted to be connected together, of casings located in the vicinity of said tongues, a bell crank lever mounted in oing of said casings and connected to said tongues, an operatigb lever mounted in the other of said casings and connected to sald lever, means contained within the last-named casing to lock said tongues in an adjusted position, mearis mounted adjacent to the other of said casings to release said first-named means, and means to return said tongues to their dormal position, substantially as described.

\section*{No. 101,751. Tie Plate. Plaque de tirant.}

Bertie B. Moss, Salem, Indiana, U.S.A., 30th October, 1906; years. Filed 18th August, 1906. Receipt No. 138,791.
Claim.-1. A tie plate having a reversible lug plate pro. vided at opposite sides thereof with counterpart lugs, one lug near one end and the other lug near the opposite end thereof.
2. A tie plate comprising a main part having a groove extending from end to end thereof in one side of the part with

ribs on the opposite side thereof, the main part having a lug hole in the middle portion of the groove, and a reversible lug plate having two counterpart lugs at opposite sides thereof, one lug being near one end and the other lug near the opposite end of the body thereof, cither lug being insertible in the lug hole.
3. A tie plate comprising a main part having a groove in one side extending from end to end thereof with ribs on the opposite side thereof, the part having two pairs of spike holes therein spaced apart different distances between the two holes of the pairs. said main part having also a lug hole in the middle portion of the said groove, and a reversible lue plate having two counterpart lugs at opposite sides thereo:. one lug being near one end and the other lug near the opposite end of the body thereof, either lug being insertible in the lug hole, the body of said lug plate fitting into said groove.
4. In a tie plate the combination of a main part for supporting a rall provided with a groove in the top thereof extending across said top and having a lug hole extending across the groove at the middle portion thereof. with a lug plate fitting into said groove and lug hole.
5. In a tie plate the combination with a main part having a groove therein and a lug hole in the groove. of a lug plat. fitting into the groove from either end thereof and extending beyond the lug hole, the plate having a lug on one side near an end thereof and another lug on its other side near the opposite end thereof. either iug fitting into the said lug hole.

No. 101,752. Fastener for Bnildings in Construction.
Attache pour batisses en construction.


The Unit Concrete Steel Frame Company, assignee of Emile George Perrot, all of Philadelphia, Pennsylvania, U.S.A.. 30th October, 1906; 6 years. Filed 27th August, 1906. Receipt No. 138,997.
Claim.-1. Means Yor fixing a structural part or other device in position, comprising a block or casting, relatively movable means engaging said block or casting to hold the same in position on a fixed support, and other relatively movable means also engaging said block to hold said part permanently in position relative thereto.
2. Means for flxing a structural part or other device in position, comprising a block or casting having a socket, relatively movable means engaging said socket to hold said block in position on a fixed support, and other relatively movably means also engaging said block to hold said structural part or device permanently in position relative to said block.
3. Means for fixing a structural part or similar device in position. comprising a block or casting having a screwthreaded socket therein, means engaging said screw-threaded socket to hold said block in position upon its support and other means also engaging said screw-threaded socket to hold said part in position relative to said block.
4. Means for fixing a structural part or other device in position, comprising a block or castinz having screw-threaded sockets therein, means for engaging one of said sockets to hold said block in position on a suitable support, and means for engaging the other of said sockets to hold said part in position relative to said block.
5. Means for fixing a structural part or other device in position. comprising a block or casting having sockets therein. means for engaging one of said sockets to hold said block in position on its support, a screv-threaded stud engaging another of said sockets, and means carried by said stud to hold said part in position relative to said block.
6. Means for fixing a structural part or other device in position. comprising a block or casting having screwthreaded sockets therein, means for engaging one of sald sockets to hold said block in position on its support, a screwthreaded stud engaging other of said sockets, and nuts engaging said stud for holding said part or device in position relative to said block.
7. Means for flxing a structural part or device in position, comprising a block or casting having screw-threaded sockets therein, a bolt engaging one of said sockets to hold said block in position upon its support, a serew-threaded stud engaging other of said sockets, and a nut or plate ensaging said stud to hold said device in position relative to said block.
8. Means for fixing a structural part or other device in position, comprising a block or casting having a central screwi hreaded opening therein, means engaging said block to hold the same permanently in position upon its support, a screwthreaded stud adapted to enter said socket, means carried by said stud for holding said part in position relative to sald block, and separators also carried by said stud.

No. 101,753. Process of Making Cement and Concrete Products.
Procćdé pourl a fabrication du ciment et béton.


George H. Bartlett, Mattapan, Massachusetts, U.S.A., 30th October, 1906; 6 years. Filed 7th September, 1908. Receipt No. 139,315.
Claim.-1. The method of making a concrete article, consisting in confining concrete material containing an excess of water in contact with a polished and non-adhesive panel beneath said material, and allowing the same to remain in such contact untll dry and hardened and provided with a permanent polish.
2. The method of making a concrete article having a polished surface, consisting in confining a requisite quantity of concrete material containing an excess of water. during the setting and hardening and drying of the material. With a lower face portion thereof in contact with a polished, moisture repellent and non-adhesive surface or panel.
3. The method of making a concrete article having a polished surface consisting in preparing the concrete material under the wet process. and confining a requisite quantity of such material during the setting and hardening thereof, with a lower nortion in contact with a polished. moisture repellent. and non-adhesive surface or panel until it becomes dry and hard.
4. The method of making a concrete article having a polished surface, consisting in depositing concrete material including hydraulic cement with an excess of water in a mould having a glossy bottom pancl, and allowing the same to remain in contact with said panel during the settling and draining of the water in the material thereby cansing the last hardening to take place in the portion of the article that is in contact with said panel, the said article remaining in contact with the panel until hardened and dry and provided with a permanent polish.
5. The method of making a concrete article having a nolished surface. consisting in moulding a requisite quantity of concrete material containing an excess of water in a mould having a greater depth than whith. and having a polished, moisture repellant, and non-adhesive hotton surface or panel, and leaving sald matrrial in the mould during the setting and hardening and drying of the cement. whereby the sald article is formed with a glassy narrow edec.
6. The inethod of making an ornamentor conerete article which consists in fopositing unon a smooth and glossy forming surface a mass of conerote which includes hydranlic cement contain!ng an excess of water causing the cement to cover the forming surface, and confining the mass until the cement crystallizes and dries.
7. The method of making an ornamented concrete article which consists in denositing a coating of hydraulic cement upon a smooth and glossy forming surface. and then fenositing upon said coating mase of concrete containing a hydraulic cement and an excess of water. the cement of the concrete uniting with sald coating. and confining the said mass until the cement crystallizes and drios.

No. 101,754. Copy Folder. Porte-copie.


Jay Cook, Oelwein, Iowa, U.S.A., 30th October, 1906; 6 years. Filed 1Sth July, 1906. Recelpt No. 137,930.
Claim.-1. A copy holúer comprising in combination a frame constituting a back adapted to support a sheet of copy, a base plate projecting forwardly from said frame, a movable angle clamp supported on said base plate and located in the angle between said base plate and said frame, and means for resiliently pressing said clamp inwardly.
2. A copy holder comprising in combination a frame adapted to hold a sheet of copy, a movable clamp adapted to secure said sheet, means for attaching said clamp to sald frame in a substantially central portion, and means for attaching said clamp to gaid frame in a latterly removed position with said clamp projecting laterally from said frame.
3. A copy holder comprising in combination, a frame presenting an elongated opening therethrough, and a movable clamp mounted in said opening, having a frame transversely disposed upon the face of said holder and adapted to engage 1 sheet of copy placed thereupon.
4. A copy holder comprising in combination a frame having an elongated opening disposed substantially centrally therein. a second opening disposed laiorally upon sald frame, and a movable clamping frame adapted to be mounted in
rither of said openings, and extending transversely of sald frame.
5. A copy holder comprising in combination a frame haring an elongated opening therethrough, and adapted to support a sheet of copy, a movable clamp mounted in said onening and comprising a frame disposed upon the face of said first frame. an anchor disposed bchind sald first frame and a spring connecting said anchor with said second frame and resiliently maintaining said second frame in position.
6. A copy holder comprising in combination, a frame. a rack carried thereby, a movable sleeve mounted on sald frame and having a rotatable pinion meshing with said rack. said pinion being adapted to adjust said sleeve. a spring in connection with said sleeve and maintaining frictional pressure between said sleeve and said frame, and a marker carried by sald sleeve and projecting across said frame.
i. A cony holder comprising in combination, a frame. a rack carried thereby, a movable sleeve mounted on said frame and having a rotatable pinion meshing with said rack. said ginion being adapted to adjust sald sleeve, a epring in connection with said sleeve and maintaining friciional pressure between said sleeve and said frame. an arin rigidly carried by said sleeve, and a marker bar jointed to aid arm and projecting across the face of sald frame.
8. In a copy holder in combination, a frame adapted to support a sheet of copy, a base plate profecting forwardly from the lower portion thereof and having a substantial rentral groove in the upper face thereof, said base plate further having a second groove near one extremity thereof. an angle clamp attached to the point of connection of sald frame and sald base plate, means for constraining said angle clamp against said frame, and a draw bar attached to satd angle clamp and adapted to occupy either of said grooves.

No. 101,755. Concrete Wall Forming Apparatus Appareil pour la formation de murs en beton.


Harry Philip Englehardt, New York City, New York, U.S.A. 30th October, 1906; 6 years. Filed 5th September, 1906. Receipt No. 139,281.
Claim.-1. In an apparatus for the nurpose described. standards provided with channels, base bars on which the standards are mounted, mould plates or boards adapted 10 engage their ends in sald channels, and a spacing block removably engaging with said standards.
2. In an apparatus for the purpose described. standards or uprights having channels, mould plates forming the outer walls of said channels, base bars on which the stand ards are mounted, braces extended from the base bars to said standards, a spacing block adapted to engage betweca the inner and outer standards, a metal strap attached to said block, and wedges for engaging between the strap 30 d standards.
3. An apparatus for the purpose described, comprising standards having channels, angle plates forming the outer walls of sald channels, base bars on which the standardy are mounted, and mould plates or boards adapted to engage with their ends in said channels.
4. In an apparatus for the purpose described, inner and outer portable standards having channels. base bars to which the standards are connected, and mound the chanboard nels.
No. 101,756. Game. Jeu.


Bertram C. Kenyon, Mishawaka, Indiana, U.S.A.. 30th October, 1906; 6 years. Filed 29th August, 1906. Receipt No. 139,081.
Claim.-1. In a game device the combination of a drop table, a cue, a receptacle for a cue ball in front of said cue, a receptacle for object balls, means for shooting said cue, means for lowering said table to inclined position. means for lowering said ball receptacles, means for collecting the balls from the table when inclined and directing one of sald balls to said cue ball receptacle and the remeinder to said object ball receptacle. means for raising said table to substantially horizontal position and means for raising said ball receptacles to the level of said table.
2. A game device comprising a table, a ball, means for propelling said ball upon the table to thereby put it in play, means for repositioning said ball upon the table, and devices for correlating said propelling means and repositioning means, whereby the ball is automatically reposilloned after being propelled.
3. A game device comprising a table, a plurality of balls, means for propelling one of said balls towards the others, means for repositioning said balls upon different parts of the table, and means for co-relating said propelling and repositioning means, whereby the balls are automatically repositioned after propulsion.
4. A game device comprising a table adapted to lie horizontal when the device is in play, a ball free to roll upon said table, means for propelling said ball, means for subsequently repositioning the same, and means for co-relating said propelling and repositioning means, whereby the sequence of operation thereof is regulated mechanically.
5. In a game device, the combination of a table, an object ball, a cue ball, means for propelling said cue ball toward said object ball and means for collecting and repositioning said balls.
6. In a game device , the combination of a table, an object ball free to roll thereon, means for automatically positioning said ball upon said table, a cue bal, means for propelling sald cue ball toward said object ball, and means for co-relating said propelling and positioning means.
7. A game device comprising a table adapted to lie horizontal when the device is in play, a plurality of balls free to roll upon said table, means for pronelling one of said balls to act upon the others. means for repositioning the first propelled ball at one part of the table, other means for repositioning the other balls at another part of the table and means for co-relating said propelling means and both repositioning means for rendering the game device automatic.
S. In a game device, the combination of a table, a ball. a spring, ball propelling means urged by said spring, a handle, and a retractor operated by said handle for retracting said propelling means against the force of its spring. said retractor being adanted to release said propelling means when in retracted position, and subsequently re-engage it.
9. In a game device the combination of a table, a ball, a spring, a cue urged by said spring and adapted to propel said ball, a handle, a retractor operated by sald handle for retracting said cue against the force of its spring, said re-
tractor being adapted to suddenly release sald cue when retracted, and means operated by said handle for repositionin said ball upon thr table after being propelled by said cue.
10. In a game device the combinationally in substantially table, means for holding sald adapted to move said table into horizontal position, means adanted to receive said ball from inclined position, a runway adapticlined position, and means said table when the latter is in hichll upon said table. for subsequently positioning sambination of a ball, a drop
11. In a game device the combination of a substantially able, means for holdine san adanted to move said table into horizontal position, means adaptod to receive said ball from iaclined position, a runway and inclined position, reans for aid table when the lattor is in indmission of the ball when closing said runway against the admission of the receptacle the table is in normal prosceding from said runway.
iz. In a game device the combination of a ball, a drop rable. means for bolding said table normally in substantlally horizontal position, means adapted to move sald table into inclined position, a runway adapted to receive the ball from said table when the latter is in inclined position. a gate for retaining the ball when the table is down and positioning nceans adapted to receive the ball proceeding from. said runnay.
13. In a game device the combination of a ball. a drop table. means for holding said table normally in substantially horizontal position, means adapted to move said table into inclined position. a runway adapted to receive the ball proceeding from said table to direct it to a predetermined point, and lift means located at said point and adapted to raise the ball, substantially as described.
14. In a game device the combination of a ball, a drop table, meaus for holding said table normally in substantially horizontal position, means adapted to permit said table to drop into inclined position, a runway adapted to receive the ball from said runway and to direct it to a predetermined point. means adapted to automatically raise said lift means, and other means adapted to lower sald lift means when the latter is in raised position.
15. In a game device the combination of a ball, a table pivoted upon a horizontal axis, and adapted to assume horizontal and inclined positions, means for rotating said table about its pivot, a runway adapted to receive said ball from the table when the latter is in inclined position, and means for subsequently positioning said ball upon the table.
16. In combination, a table, a ball, means for positioning said ball upon the table, means for propelling said ball, a handle for operating said propelling means and said positioning means, and devices for controlling the times of operation of said propelling and positioning means.
17. In combination, a table, a plurality of balls, means for rolling said balls upon said, table, means for repositloning said balls, tally tokens, tally means for dellvering the same, a handle for putting into opeiation said ball rolling means and sald repositioning means and said tally means, and devices for controlling the times of operation of said ball rolling means, repositioning meuns and tally means.
18. In a game device the combination of a ball, a drop table, lift means adanted to raise sald table into normal and substantially horizontal position, means adapted to sustain said ball in raised position, a ball receptacle adapted to lift the ball to the level of the table when the latter is in raised position and means for sustaining said ball receptacle in raised position.
19. In a game device the combination of a ball, a table, means for positioning the ball upon said table, means for propelling it upon said table, and spring driven means for operating both of said means, substantially as described.
20. In a game device the combination of a ball, a table, means for propelling the ball upon the table, a spring for urging said propelling means. means for repositioning sald ball upon said table after said ball has been propelled, a second spring for urging said positioning means to operate the same, a handle for straining both of said springs, and means whereby the said handle is adapted to release the spring of the propelling means first and the spring of the positioning means afterwards.
21. In a game device the combination of a table, a ball, means for positioning said ball upon said table, means for propelling said hall unon said table. means for returning said ball from said table to said positioning means, a handle, means operated by the handle for driving said positioning and ball propelling and ball returning means, and correlating devices for controlling the times of operation of said position and ball returning and ball propelling means.
22. In a game device the combination of a table, an object ball, means for positioning said ball upon said table, means for propelling said ball upon said table, and means for returning said ball from said table to said positioning means, springs for operating said ball positioning means. ball propelling means, and ball returning means, a handle for strain-
ing said springs and corrclating devices for controlling the limes of operation of said ball positioning means, ball proprlling means and ball returning means.
23. In a game device, the combination of a ball, a drop table, means for supporting sald table and adapted to hold it normally in substantially horizontal position, said supporting means being also adapted to receive the ball from said table when inclined and to direct said ball to a predetermined point, and means adapted to raise and lower said table supporting means.
24. In a game device, the combination of a ball. a table adapted to swing about a horizontal axis, means for operating the table to bring it alternately to horizontal and inclined positions, a vertically movable receptacle for carryine said ball, means for raising sald receptacle to the height of the table when in level position and lowering said receptacle to a position below the table when the lattor is in inclined position so that the balls may roll from the table to the receptacle, and devices for co-relating said table operating means and sald receptacle operating means
25. In a game device the combination of a cue and object balls, a drop table having an aperture therein for the cue ball, and an aperture for an object ball, means for raising and lowering said table, vertically movable receptacles for carrying said balls, means for moving said receptacles to a top position flush with the raised position of the table. and to a bottom position lower than the lowered position of the table for the purpose described.
26. In a game device, the combination of a ball. a table, means for propelling the ball upon the table. mrans for positioning sald ball upon said table, two springs. the first for urging said propelling means and the second for urging said positioning means, a handle for straining said springs, an escapement for controlling the operation of said positioning means, and means whereby the said handle is adapted to relcase first the propelling mrans and afterwards the escapement and through the escapement the spring of the positing means.
27. In a game device the combination of a plurality of object balls, a cue ball. means for propelling said cue ball towards the object balls, a table having an aperture therein. a platform for elevating said object balls to the level of the table through the aperture therein, means for propelling said propelling means, means for elevating said platform, and devices for co-relating sald propelling means and platform elevating means whereby the parts are so timed as to clevate said platform to the level of the table automatically just prior to the operation of said propelling means.
28. In a game device the combination of a cue, a cue ball. a table having an aperture therein, a platform for elevating sald cue ball up to the level of said table through the aperture therein, said cue ball loosely fitting said aperture, means for both shooting said cue and elevating said platform co-relating devices for timing said shooting and elevating means to automatically elevate sald platform to the level of the table just prior to the shooting of the cue, and ball confining means located below the level of the table for governing the lateral position of the cue ball the normal position of the platform being below the level of the table whereby the cue ball is retained within its confining means prior to the shooting of the cue.
29. In a game device the combination of a cue. a cue ball, object balls, a table having an aperture therein, a platform for elevating said object balls up to the level of the table through the aperture therein, means for shooting said cue. means for olevating said platform, and co-relating devices for timing said elevating mechanisin and cue whereby the elevating mechanism automatically raises the platform to the level of the table just prior to the shooting motion of the cue, said platiorm normally resting below the lovel of the table for preventing premature scattering of the object balls.
30. In a game device the combination of a ball, a table having an aperture therein through which the ball may be elevated to the level of the table, a platform for elevating said ball, and a downwardly yielding wall adapted to retain said ball in said platform prior to the entrance of the ball into the aperture in the tabla.
31. In a game device the combination of a cue ball, means for propelling the same, a drop table hinged at one end for permitting said ball to roll off when table is in inclined position, means for raising and lowering said table and corelating devices connecting said propelling means and said table operating means whereby said table is held in raised position during the propelling action of said propelling means and sald table is subsequently lowered and again raised prior to the next succeeding propelling action of said propelling means.
32. In combination. a table, a ball, means for positioning said ball upon the table, means for propelling said ball, a handle for operating said propelling means and said positloning means, and devices including a fan escapement for
controlling the times of operation of said propelling and positioning means.
33. In a game device, the combination of a table, a ball. means for propelling said ball upon sald table, means for positioning said ball upon said table, and co-relating devices operative upon said propelling means and positioning means for automatically controlling the times of operation thereof, said co-relating devices including a fan escapement for modifying the rate of operation of said positioning means.
34. In an automatic game device the combination with the game playing parts, of a spring for driving the same, hand operated means for straining sa!d spring. a fan wheel escapr. ment for governing the speed of operation of the parts under the Influence of sald spring, said escapement comprising two independent fan wheels, one of which is a permanent part of the escapement and the other of which is auxiliary, a clutch for throwing the auxillary fan wheel into and out of engagement with the first. and a cam device for operating said clutch, sald cam device being adapted to throw said auxiliary fan wheel out of engagement with the first some time prior to the return of the driving spring to normal condition, the retarding influence of the escapement being therefore greater a: the time when the force of the spring is greatest.
35. In a game device having stationary parts and movable playing parts the combination including such parts. of a mester member for operating said movable parts, a spring operative upon said master member to return it to normal position, a hand lever adapted to move sald master member frward from normal position agalnst the force of said spring, said hand lever being adapted to return to its normal rosition independently of said master member, an escapement for governing the return movement of the master member under the influence of sald spring. a spring influenced escapement arrester urged to project said arrester to stop the motion of the escapement, a dog for holding sald arrester in retracted position, means operated by said hand lever for throwing said dog and arrester into engagement with each other and means operated by said master member for disengaging sald dog from said arrester.
36. In a game device the combination with the stationary parts of a table hinged at one end. means for raising and lowering the free end of said table to bring it to inclined position and to substantially horizontal position. balls adapted to be played on sain table. vertically movable lift means for elevating sald balls to the table when the latter is in horizontal position, collecting means for receiving said balls from the table when the latter is in horizontal position and delivering them to said lift means when the latter is in low. ered position, and correlating devices for timing sald table and platforms whereby the lift means is lowered before the tahin is brought to inclined position and said lift means is raised after said table is brought to horizontal position.
27. In a game device the combination with the stationary narts of a table hinged at one end. means for ralsing and lowering the free end of said table to bring it to inclined position and to substantially horizontal position, balls adapied to be played on said table. a vertically movable platform for elevating sald balls to the table when the latter is in horizontal position, collecting means for recelving said balls from the table when the latter is in inclined nosition and delivering them to said platform when the latter is in lowered rosition. and correlating devices for timing said table and platiorm whereby said platform is lowered before the table is brought to inclined position and said platform is raised after said table is brought to horizontal position.
38. In a game device the combination with the stationary parts of a table hinged at one end, means for ralsing and lowering the free end of said table to bring it to inclined position and to substantially horizontal position, balls adapted to be played on said table, a vertically movable platform for elevating said balls to the table when the latter is in horizontal position, inclined runways for receiving said balls from the table when the latter is in inclined position and de. livering them to sald platform when the latter is in lowered position, and correlating devices for timing said table and platform whereby said platform is lowered before the table is brought to inclined position and said platiorm is raised ifter sald table is brought to horizontal position.
39. In a game device the combination of a ball. a table adapted to swing about a horizontal axis, means for operat. ing said table for alternately swinging it to horizontal and inclined positions, a ball receptacle for raising said ball to the table. means for conveying the ball to said receptacl. from the table. means for operating said ball receptacle and correlating devices for timing the operation of said tabl. operating means and said receptacle operating means, said currelating devices including a fan escapement, a spring for driving it and a handle for both straining the spring and co: rolling the escapement.
40. In a game device the combination of a ball, a table adapted to swing about a horizontal axis, means for oper-
ating said table for alternately swinging it to horizontal and irclined positions, a ball receptacle for raising said ball to the table, means for conveying the ball to said receptacle from the table, a driving member having a limited movement, a compound lever connecting said driving member and said ball receptacle whereby said receptacle received a greater movement than has said driving member, said table operating means being also connected to and operated by said driving member.
41. In a game device the combination of a ball, an aper tured table, a platform for raising said ball to the level thereof, and a downwardly yielding retaining wall upon said nlatform.
42. In a game device, tally means consisting of a token receptacle, a member adapted to move in proximity thereto ard a set of fingers on said moving member each adapted to remove a token from said receptacle, said fingers being arranged in series whereby the number of tokens removed depends upon the amount of motion of the member wherein said fingers are mounted.
43. In a game device, tally means consisting of a token receptacle, having an opening therein through which a token may pass and a member having a set of projections arranged in series and adapted to move across the opening in said receptacle for removing tokens therefrom one after the other, substantially as described.
44. In a game device, tally means consisting of a token receptacle having an opening therein through which a token may pass, a member adapted to reciprocate in proximity thereto. and a set of fingers on eaid reciprocating member for removing tokens from said receptacle, said fingers beinf yielding in one direction for permitting return movement of the reciprocating member.
45. In a game device, tally means consisting of a token receptacle, open at the bottom, a sector pivotally mounted beneath said receptacle for supporting the tokens therein, and projections on said sector for removing tokens from said receptacle.
46. In a game device including balls, tally means consisting of a taken redeptacle, movable members for removing tokens therefrom, plungers for operating said movable members, a reciprocating tally box adapted to receive one and also more than one ball behind sald plungers for operating said plungers and moving them different amounts depending upon the number of balls in the tally box behind them, a power device and means operated by said power device for first moving said tally box forward and subsequently returning it to original position.
47. A game device including balls, tally means consisting of a token receptacle, movable members for removing tokens therefrom plungers for operating said movable members, a reciprocating tally box adapted to receive the balls behind said plungers for operating them, a door at the back end of the box for retaining and releasing the balls, and means for operating said door.
48. A game device including balls, tally means consisting of a token receptacle, movable members for removing tokens therefrom plungers for operating said movable members, a reciprocating tally box adapted to receive the balls behind said plungers for operating them and means for automatically reciprocating said tally box.
49. A game device including balls, tally means consisting of a token receptacle, movable members for removing tokens therefrom, plungers for operating said movable members, a reciprocating tally box adapted to receive said balls behind said plungers for operating them, a door at the back end of the box for retaining and releasing the balls, and means for automatically opening said door.
50. A game device including balls, tally means consisting of a token receptacle, movable members for removing tokens therefrom, plungers for operating said movable members, a reciprocating tally box adapted to receive the balls behind said plungers for operating them, a door at the back end of the box for retaining and releasing the balls, and means for automatically closing said door.
51. A game device including balls, tally means consisting of a token receptacle, a dellvering sector, a plunger for operating said sector, a reciprocating tally box adapted to receive a ball behind said plunger and in front of the back wall of the box, whereby the sald back wall may act upon the plunger through the ball, and means for reciprocating said box.
52. An automatic pool game apparatus consisting of a casing, a table, a plurality of balls, means for propelling one of them against the others, means for repositioung them upon the table, tally tokens, tally means for dellvering said tokens, and means for operating and means for timinm sald propelling means, repositioning means and tally means.

No. 101,757. Continuous Kiln. Four.


Johann Rappold, Allschwil, near Basle, Switzerland, 30th October, 1906; 6 years. Filed 7th September, 1906. Receipt No. 139,312.
Claim.-In a firing kiln with travelling hearth and in combination, a firing flue with a recessed lower portion along each side, a dependent ledge between each recessed portion and the upper portion of the flue, a hearth of fireproof matrial extending into said recessed portions and having side ledges projecting upwardly behind the aforesald dependent ledges and means to continuously supply granular material to the space between thg said ledges and to the side recesses.

No. 101,758. Dry Press. Presse d̀ sécher.


Johann Rappold, Allschwil, near Basle. Switzerland, 30th October, 1906; 6 years. Filed 8th September, 1906. Recelpt No. 139,357.
Claim.-1. A dry press comprising a mould table, upper and lower press heads, arms for supporting said press heads, means for raising the upper press head independently of the lower press head, pistons operated by fluid under pressure. and means connecting the pistons to the press head, arms to force the press heads toward each other when the pistons are driven outwards, substantially as set forth.
2. A dry press comprising a mould table, upper and lower press heads, arms for supporting said press heads, a cam for raising the upper press head independently of the lower press head, pistons operated by fluid under pressure, and means connecting the pistons to the press head arms to force the press heads together towards each other when the pistons are driven outwards, substantially as set forth.
3. In a dry press of the kind described a hydraulic cylinder, two pistons mounted therein, an operative connection between the upper piston and the lower press head arm, an operative connection between the lower piston and the upper press head arm, an inlet branch on the cylinder intermediate the two pistons and means for controlling the supply of fluid under pressure to said cylinder, substantially as set forth.
4. A dry press comprising a mould table, press heads on opposite sides of said mould table, means for operating one of said press heads arms independently of the other, a hydraulic cylinder for operating both said press head arms together, means for controlling the supply of fluid under pressure to the cylinder, and means for intermittently relieving the pressure in the cylinder simultaneously with the raising of the upper press head arm, substantially as desscribed.
5. In a dry press of the kind described. a rotary mould table, upper and lower press heads, arms carrying said press heads, a hydraulic cylinder, a valve therefor, pistons movable in said cylinder, operative connections between the upper piston and the lower press head arm, operative connections between the lower piston and the upper press head arm, a cam for raising the upper press head arm, a cam for operating the cylinder valve, a cam for operating the cylinder pump and gearing for intermittently rotating the table and operating the sald rams, substantially as set forth.

No. 101,759. Grain Door for Freight Cars.
Porte à grain pour chars ì marchandises.


Ludwig \(\Lambda\). Thorson, Melvin. Minnesota, U.S.A., 30th October, 1906; 6 years. Filed 11th August, 1906. Receipt No. 138,589.
Claim.-1. The combination with the side posts of a freight car door opening having their inner edges rabetted, of substantially U-shaped channel bars fitted in the rabbeted portlons of the posts and provided with longitudinal flanges lapping the inner sides of the posts and having transverse slots, fastenings piercing the posts and the slotted portions of the flanges, the channel bars being adjustable laterally upon the fastenings, and a slidable door having flanges working in the U -shaped channel bars.
2. The combination with a car having a doorway, of upper and lower brackets secured to the car at each side of the doorway, a hanger depending from each upper bracket and including a transverse seat which is open at one end, a cable connected to each hanger and the adjacent lower bracket, and a slidable door having guide loops slidably embracing the respective cables and capable of being received within the seats and turned therein to swing the door upwardly toward the top of the car.
3. The combination with a car having a doorway, of upright ropes at opposite sides of the doorway, a vertically slidable door having guides slidably embracing the ropes, and adjusting means to maintain the ropes taut.
4. The combination with a car having a doorway, of upright ropes at opposite sides of the doorway, a vertically slidable door having guides slidably embracing the ropes, pairs of brackets for the support of the ropes, and adjusting means carried by certain of the brackets for maintaining the ropes taut.
5. The combination nith a car having a doorway, or upper and lower brackets at opposite sides of the doorway, ropes carried by the brackets, there being a threaded adjustment between one end of eden rope and the adjacent bracket to maintain the rope taut, and a door having guides slidably embracing the ropes.
6. The combination with a car having a doorway, of upper and lower brackets to opposite sides of the doorway, ropes hanging from the upper brackets, ferrules provided upon the lower ends of the ropes and having hooks, screw eyes adjustable upon the lower brackets and engaged by the hooks of the lower brackets and engaged by the hooks of the respective ferrules for maintaining the ropes taut, and a door having guides slidably embracing the ropes.

No. 101,760. Stexilizer for the use of Barbers. Stérilisateur à l'usage des barbiers.


Ernest O. Bauer, Valatie, New York, U.S.A., 30th October, 1906; 6 years. Filed 5th June, 1906. Receipt No. 136,581. claim.-A sterilizer comprising an outer casing formed with openings near the tod and bottom, a flange extending inwardly from the casing, a heating vessel within the casing and supported by the flange, the vessel extending above the flange and forming a support for a razor or like, the upper edge of the casing forming a guide for the handle of sald razor, a heating medium in the casing below the vessel, a support within the casing below the vessel, and in alignment with an opening in the casing, the supoprt and opening forming a holder for an article between the heating medium and the bottom of the vessel, substantially as described.

No. 101,761. Syringe. Seringue.


Joseph Jacob Brin, Chicago, Illinois, U.S.A., 30th October. 1906; 6 years. Filed 15th June, 1906. Receipt No. 136,995.
Claim.-1. In a syringe the combination with a spray tube, of a series of distending fingers surrounding said tube ald means for distending said fingers comprising a besd io which the outer ends of sald fingers are slidably connected. and means for imparting a relative sliding movement said cone and finger members, substantially as described.
2. In a syringe the combination with a spray tube, of a series of distending fingers surrounding said spray tube, 1 bevelled head to which the outer ends of sald fingers are
slidably connected and means for imparting a relative sllding movement to said head and finger members, substantially as described.
3. In a syringe the combination with a spray tube, of an expansible frame, a berelled head having tracks within it, the frame being slidably connected to said tracks whereby the end of the frame will lie concealed within said head when in a contracted position, and means for imparting a relative sliding movement to sald head and frame, substantially as described.
4. In a syringe the combination with a spray tube having fingers attached thereto, of a sleeve sliding upon said tube, a bevelled cone attached to said sleeve, grooves withing said cone to which the fingers are slidably connected, and means for imparting a relative sliding movement to sald cone and inger members, substantially as described.
5. In a syringe the combination with a spray tube of a series of distending fingers, a sloeve sliding upon said spray tube and provided with a cushion, a slotted cone attached to said sleeve, to which the outer ends of said fingers are slidably connected and means for imparting a relative sllding movement to said cone and finger members, substantially as described.
6. In a syringe the combination with a spray tube, of a series of distending fingers surrounding said tube, means for distending said fingers comprising a cone to which the outer ends of said fingers are slldably attached and project beyond the end of the cone, and means for imparting a relative movement to said cone and finger members, substantially as described.
7. In a syringe, the combination with a spray tube, of a series of distending fingers surounding sald tube, and means for distending said ingers comprising a head to which the outer ends of sald fingers are slidably connected, said head being of a form and size to serve as a guard for the ends of said fingers, and means for imparting a relative sliding movemant to said head and fingers, substantially as described.
8. In a syringe, the combination with a spray tube, of a series of distending fingers surrounding said tube, means for expanding and contracting said fingers comprising a longitudinally grooved cone-shaped head to which the outer ends of said fingers are slidably attached, the grooved guides of said head being inwardly convergent at a greater angle throughout their inner portions than throughout their outer portions, whereby sald fingers resist compression through external contraction throughout the first part of their contracting movement and yield to external compreselon throughout the latter part of their contracting movement, substantially as described.
No. 101,762. Artificial Teeth. Dent artifcielle.


Harry B. Gregory, Newberry, Michigan, U.S.A., 30th October, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,717.
Claim.-An artificial tooth having secured to its inner side a loop, a cap arranged over said loop, an individual backing pressed over said cap and the inner side of the tooth, said backings being connected together to form a bridge, and said artificial teeth being secured in said individual backings, substantially as described.

\section*{No. 101,763. Veterinary Dental Float. \\ Apparell dontaire pour vétérinaires.}

Garnet J. Read and Albert Meierhofer, Minonk, Illinois, U. S.A., 30th October, 1906; 6 years. Filed 14th June, 1906. Receipt No. 136,892.
Olaim.-1. A veterinary dental float having an abrading disc provided with tangential abrading furrows and an eccentric
channel intersecting the furrows, and means for operating sald disc.

2. In a veterinary dental implement, a supporting arm terminating in a circular socket, a disc mounted for rotation in said socket and provided with tangential abrading furrows and with a circular channel in said furrowe disposed eccentrically to said disc, and means operating through said arm for rotating said disc.
3. In a veterinary dental instrument, an arm having at one end a head provided with an internal circular shoulder, a disc having an abrading surface and mounted for rotation upon said shoulder, and means operative through said arm for rotating said disc.
4. A veterinary dental float having a held provided with a socket, a gear mounted in the socket and having its hub extending rearwardly through a bearing in the head, means for detachably securing the hub of the gear in place, a disc detachably secured to the face of the gear and mounted in said socket, and operating means including a pinion meshing with said gear.
5. In a veterinary dental instrument, an arm having at one end a head provided with an internal circular shoulder and with a central transverse bearing, a gear having a hub extending through said bearing and likewise extending beyond the opposite face of the gear and internally threaded, a stop plate bearing upon the rear face of said head and held in position by a cap screw operating through said plate, and into said hub within said bearing, a disc having an abrading surface, and mounted for rotation upon said shoulder, an3 provided with a socket for engaging the adjacent portion of said hub, and held in position by a cap screw operating through said disc and into said gear hub, and with a stud extending into a cavity in said gear, a rod mounted for rotation in said arm, and terminating in a pinion for engaging said gear, and means for rotating said rod.

No. 101,764. Indicator for Dispeneing Beveraces. Indicateur pour la distribution des browvages.


Henry A. Rueter, Boston, Massachusetts, U.S.A., 30th October, 1906; 6 years. Filed 16th June, 1906. Recelpt No. 136,974.
Claim.-1. The herein described means for mechanically employing trade marks or other insignia of origin in connection with high pressure beverage dispensing apparatus for securing and promoting the co-operation of the customers and the beverage manufacturers in preventing iraud in dis.. pensing the beverages, consisting of the combination with a bar having a stationary pipe connection with a remote source of beverage supply, and a high pressure dispensing faucet located in said pipe at the bar, of an indicator located always between the attendant and the customer, containing
the manufacturer's name, trade mark, or other distinctive and attractive insignia denoting origin, and indicator operating means for conspicuously visually altering the indicato: In such a manner as forcibly to attract the customer's at in stion, said faucet and operating means operating indepentention, said faucet and operating means operating indepen dently of and unaffected by the high pressure within said pipe connection, said operating means including permanent connection with the faucet for automatically actuating the indicator in the act of operating the faucet, and thereby prevent fraud, as described.
prevent fraud, as described. under high pressure, the combination with a bar, having a plurality of adjacent stationary plpe connections for drawing respectively different beverages under high pressure from remote sources of supply, each pipe having its own independent high pressure dispensing faucet located at the bar, of indicators arranged side by side at the bar within the direct visual range of the customer when belng operated under normal conditions by the attendant, and each containing the manufacturer's name, trade mark, or other distinctive and attractive insigna denoting origin of the particular high pressure beverage indicated thereby, and indicator operating means for each indicator, connecting it with its individual faucet, for conspicuously altering the indicator in such a manner as forclbly to attract the customer's attention in the act of operating the faucet, said faucets and operating means being capable of operating independently of and unaffected by the high pressure controlled by the faucets.
3. The combination with a bar, of a faucet below said bar and an indicator connected thereto to move into sight above said bar and to disappear from sight below said bar, said indicator being moved from one of said positions to the other in the act of operating the faucet.
4. As a means of preventing fraud in dispensing llquors the combination with the bar or counter, of a faucet provided with a visual indicator normally extended prominently above the counter and depressed from the sight of the customer by the act of operating the faucet.
5. As a means of preventing fraud in dispensing liquors the combination with the bar or counter, of a faucet havins an operating handle provided with an upward extension. whose upper end is provided with means for giving visual as surance that the correct faucet is operated, said means operating in the direct range of vision of the customer ordering liquor, said means containing the trade mark or other insignia of origin of the particular liquor, the movement of the handle giving a wide amplitude of conspicuous movement to said trade mark at the end of said extension, whereby the attention of the customer is drawn to said trade mark and his co-operation is thereby enlisted to prevent fraud.
6. As a means of preventing iraud in dispensing liquors, a plurality of signals having different distinguishing characteristics in the nature of conspicuous marks of origin of the respective llquors, and having a position in sight and a position out of sight, and connected respectively to the different dispensing devices, the movement of said signals from one of sald positions to the other being such as to attract attention and induce the customer to scrutinize said marks of origin, whereby he is led to watch for the movement of a given signal when ordering a corresponding liquor, and operating means for said signals, operated by the delivery of the liquor, for changing from one of sald positions to the other the signal relating to the particular liquor being dispensed.

\section*{No. 101,765. Dental Tool. Outil dentaire.}

Charles A. Spahn, Newark, New Jersey, U.S.A., 30th October.
1906; 6 years. Filed 13th June, 1906. Receipt No. 136,838.
Claim.-1. A dental tool for backing false teeth with gold comprising a pair of pivoted handle portions, a forwardly extending jaw member provided at its free end with a resillent cap or covering connected with one of said handle portions, and a forwardly extending arm connected to the other handle portion, said forwardly extending arm being provided with an oscillating forked jaw member, one of the arms of the sald forked jaw member being provided at its free end with a resilient cap or covering and the other arm of the forked jaw member being provided at its free end with a punch-like member, substantially as and for the purpose set forth.
2. A dental tool for backing false teeth with gold comprising a pair of pivoted handle portions, a forwardly extending jaw member connected with one of said handle portions, provided at its free end with a cup-like receiving socket, and a cap or covering of resilient material arranged upon said cup-like recelving socket, a forwardly extending arm connected to the other of said handle portions, sald forwardly extending arm being provided with an oscillating forked jaw member. one of the arms of sald forked jaw member being provided at its free end with a cup-like recelving socket, a cap or covering or resilient material arranged upon said cuplike receiving socket, and the other arm of sald forked jaw
member being provided at its free end with a punch-like member, substantially as and for the purpose set forth.

3. A dental tool for backing false teeth with gold comprising a pair of pivoted handle portions, a forwardly extending jaw member connected with one of said handle portions, provided at its free end with a cup-like recelving socket, and a cap or covering of resilient material aranged upon said cup-like recelving socket, substantially as and for the purposes set forth.
4. A dental tool for backing false teeth with gold comprising a pair of pivoted handle portions, one of said handle portions being provided with a forwardly extending jaw member, a cap or covering made of rubber or similar material, and nieans for sectring the said cam or cover to the said jaw member, a forwardly extending arm connected to the other handle portion, a forked jaw nember pivotally connected to said forwardly extending arm, a cap or covering made of rubber or similar material, arranged upon the free end of onc of the arms of said forked jaw member, means for securing the said cap or covering thereto. and a punch-like member connected with the otner arm of the said forked jaw member, substantially as and for the purposes set forth.
5. A dental tool for backing false teeth with gold comprising a pair of pivoted handle portions, one of said handle portions being provided with a forwardly extending jaw member, a cap or covering made of rubber or simllar material, and means for securing the said cap or covering to the said jaw member, a forwardly extending arin connected with the other handle portion, a forked jaw member pivotally connected to said forwardly extending arm, a cap or covering made of rubber or similar material, arranged upon the free end of one of the arms of said forked jaw member, and means for securing a cap or covering thereto, and a punch like member connected with the other arm of the said forked jaw member, said punch-like member being provided with a hole or opening in the end thereof adapted to fit over the pins or studs of the false tooth, the sald punch-like member providing a means for adapting the gold around the base of the pins or studs of the said false tooth, substantially as and for the purposes set forth.
6. A dental tool for backing false teeth with gold comprising a pair of pivoted handle portions, a forwardly extending jaw member connected with one of said handle portions, a cup-like receiving socket connected with the free end of said jaw member, a cap or covering of resilient material arranged upon said cup-like receiving socket, sald cap or covering consisting of a main body portion, substantially in the form of a truncated cone, said main body portion being adapted to be inserted within the said cup-like receiving socket, and an annular head extending around said cap or covering. adapted to engage with the outer edges of the sald cup-like recelving socket, a forwardly extending arm connected to the other handle portion, a forked faw member pivotally connected upon the free end of said forwardly extending arm. thr said forked faw member being provided with a pair of downwardly extending arms, a cup-like receiving socket upon the free end of one of said arms, a cap or covering of resilient material, arranged upon the said cup-like recelving sockrt, said cap or covering consisting of a main body portion, substantially in the form of a truncated conc. said main body portion being adapted to be inserted within the said cun-like receiving socket, and an anular head extending around the said cap or covering, adapted to engage with the
outer edges of said cup-like receiving socket, and a punchlike member connected with the other arm, said punch-like member being provided with a hole or opening in the end thereof adapted to fit over the pins or studs of the false tooth, the said punch-like member providing a means for adapting the gold around the base of the pins or stubs of the said false tooth, substantially as and for the purposes set forth.

\section*{No. 101,766. Process of Obtaining Fibre and other Products from the Plant Balsam Orriza. \\ Procédé pour obtenir des fibres, et autres produits des plantes de baumier.}

William Sunderland, Lehi, Utah, U.S.A., 30th October. 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,071.
Claim. -The process of obtaining flber, rubber gum, resins and other bodies from the plant balsam orriza consisting in first, removing the bark; second, boiling in an alkali solution and removing the floating gum ; third, fermenting in water rendered alkaline and lastly, carding ahe resulting fibre and evapourating the alkali solutions to dryness, substantially as described.

No. 101,767. Match Box. Boîte a allumettes.


Francis B. Watson, Caldwell, Kansas, U.S.A., 30th October, 1906; 6 years. Filed 15th June, 1906. Receipt No. 136,931.
Claim.-1. A match box comprising a casing, the lower portion of the walls of which taper toward each other, sald walls having cut-away portions, retalning springs carried by the inclined portion of one of said walls and extending across the bottom of the casing to a point adjacent the bottom of the other of said walls, and a guard bar secured to the casing and extending therebelow in such position as to limit the movement of the retaining springs, said bar having an upwardly bowed portion.
2. In a match box the combination with a receptacle, of match retaining springs normally closing the bottom of said receptacle, and a filling slide adapted to be inserted between said springs and the base of the receptacle.
3. A match box comprising a casing having an open bottom. springs spanning the bottom of said opening casing, a filling slidet adapted to be inserted betwern sald springs anh the bottom of said casing to form a temporary bottom for the box while the same is being flled, and a retaining spring plate formed upon the box and forming a keeper for the slide when sald slide is not in use.

\section*{No. 101,768. Fluid Actuated Turbino. Turbine d fluide.}

Frederick William Gordon, Philadelphia, Pennsylvania, and Alexander Gordon, Ashbury Park, New Jersey, U.S.A., assignee of a half interest, 30th October, 1906; 6 years. Filed 29th May, 1906. Receipt No. 136,361.
Claim.-1. The comblnation with a carrier having curved blades, and operable in one direction, of a second carrier inving blades varying in curvature from the blades of cne other carier, and operable in an opposite direction, whereby the rative fluid will be received by one set of blades at an angle varying from that at which it is received by the other set of blades.
2. The comblnation with a casing having supply and exhaust ports, of reversely operable carriers, each carrier
having curved blades, and the curve of one set of blades varying in depth from that of the other set of blades.

3. The combination with a rotatable carrier having a series of curved blades, of a second rotatable carrier having a series of curved blades formed on an arc shorter than that on which the blades of the first carrier are formed, one of said carriers being rotatable in a direction opposite to that of the other, and a casing having supply and exhaust ports.
4. The combination with a casing having supply and exhaust pors of a shaft journalled in sald casing, carriers secured to said shaft, and each having a series of curved blades, the arc on which one series of blades is formed being shorter than that of the other serles, a second shaft surrounding he first-named shaft, and also journa.... in the casing, a series of carriers secured to sald second shaft, a series of curevd blades on each carrier of the second shaft, each series of blades being formed on an are shorter than the arc on which the preceding blades are formed and means for transmitting power from the shafts.
5. The combination with a casing having supply and exhaust ports, of a pair of shafts, one mounted within the other, a scries of carriers, each having a chamber adjacent to its periphery, secured to the inner shaft, curved blades in each of said chambars, a carrier secured to the outer shaft. and having a chamber adjacent to its periphery, and curved blades in said chamber, a drum projecting from said carricr. carriers, each having a chamber adjacent to its periphery and curved blades in said chamber, secured to the drum, the blades of all the carriers being progressively shallower, and power transmitting elements carried by the shafts.
6. In a fluid actuated turbine, the combination with a carrier having curved blades. of a second reversely operable carrler also having curved blades drawn on an arc shorter than the arc of the blades of the frst carrier, and mean; for transmitting power from sald carriers.
7. The combination with a series of connected carriers operable in one direction, and having progressively varying curved blades, of a second series of reversely operable carriers also having progressively varying blades, and means for transmitting power from sald carriers.
8. The combination with a casing having supply and exhaust ports, of reversely operable sets of carriers, and blades or buckets of progressively varying curvature carried by said carriers.
9. The combination with a casing having supply and exhaust ports, of a primary carrier having curved blades to recelve the motive fluid, a reversely operable carrier having curved blades of less depth than the blades of the primary carrier, a carrier operable in the same direction as the primary carrier, and having curved blades less in depth than those of the interposed reversely operable carrier. a second reversely operable carrier having curved blades of less depth than the preceding carrier a third carrier operable in the same direction as the primary carrier, and hraving curved blades of less depth than the preceding reversely operable carrier, a shaft to which one set of carriers is secured, a tubular shaft surrounding the other 'shaft, and a drum projecting from said tubular shaft, and to which the other set of carriers is secured.
10. The combination with a casing having supply and exhaust ports. of reversely operable carriers, each carrier having curved blades. and the curve of one set of blades varylng in depth from that of the other set of blades.

No. 101,769. Convezer Belt. Courroie de transport.


Ernest B. Folsom and Warren Edwards Murray, assignee of a half interest, both of San Francisco, California, U.S.A., 30th October, 1906; 6 years. Filed 8th September, 1906 Recelpt No. 139,336 .
Claim.-1. A conveyer belt having staples driven through it from the underside with the projecting ends of the staples bent backward on top of the belt but not clinched, said bent ends providing a substantially continuous armoured surface.
2. A conveyer belt having staples driven through it from the under side with the projecting ends of the staples bent back flat upon the surface of the belt, said flattened ends unclinched and forming in the aggregate a substantially continuous protective armour.
3. A conveyer belt having staples driven through it from the under side and along the central portion of the belt most subject to wear, said staples having their projecting legs bent downward on to the belt to afford a substantially continuous protective armour.
4. A conveyer belt having staples driven through it, with the projecting legs of the staples bent back to provide a substantially continuous protective armour.
5. A conveyer belt having staples driven through it with the projecting legs of the staples bent back to provide a substantially continuous protective armour, said staples arranged with their heads diagonal to the belt to embrace both the warp and woof threads.
6. A conveyer belt having wires driven through it from the under side, means to prevent the wires being drawn through the belt, and the projecting ends of the wires bent back flat on to the belt in the direction opposite to the travel of the belt, sald bent ends constituting a substantlally protective armour.

INo. 101,770. Wire Strainer. Tendour de Ml de fer.


Thomas Francis Locke, Premaydena, and Edwin Walter Duncombe, assignee of a half Interest, Deloralne, both of Tasmania, Australia, 30th October, 1906; 6 years. Filed 11th July, 1906. Recelpt No. 137,685.
Claim.-1. In straining devices the combination of two wire gripping frames one of which is connected to the fulcrum of
a lever having two equal hooks pivoted to it . and the other of which has a chain, substantially as described.
2. In straining devices, a wire gripping frame having jointed members \(h, i, j\), adapted to swing freely and having two pivoted arms forming a large clear central space, substantlally as described.
3. In straining devices, a wire gripping frame having an arm \(c\), with a jaw recess \(e\), arm recess \(f^{1}\), and perforated lug 9 . in combination with an arm pivoted to the first-named arm and connections from both said arms to a chain or lever, substantially as described.
4. In straining devices, a wire gripping frame having two metal arms one having a recess at 20 formed by bending over a part of the metal, also a recess at \(x\) formed by bending over anotber part of the metal which forms a lug having a pivot pin through the sald lug and both arms, as described.
5. In straining devices the combination with a wire gripping frame arm having a pivot pin at one side of the longitudinal central line of the frame and a lug having an eye at that side of the plvot pin which is remote from the said line, substantially as described.
6. In stralning devices, a lever end \(n\) having its metal bent over forming a longitudinal gap, a fulcrum pin for a connection \(p\), and two hooks which are of equal length and have ends pivoted within the gap, substantially as described.

No. 101,771. Holder and Exhibitor for Carde. Appareil d exhiber et porte-cartes.


Wiliam E. Hateway, assignee of John Daniel Karle, both of Bridgeport, Connecticut, U.S.A., 30th October, 1906; 6 years. Filed 5th November, 1904. Receipt No. 119,747.
Claim.-1. A card holder and exhibitor comprising a back plate and a carrier pivotally supported thereto and in parallel relation therewith, a card separator connected with said plate and having a series of progressively arranged stops, each succeeding stop lying in a higher plane than the preceding one, a spring actuated spreading finger adapted to engage one edge of the pack of cards arranged in said holder so that, when the carrier is turned on its pivotal support, the pack is carried along with said carrier through the medium of said finger to distribute the cards against the several stops of the separator and thus open the pack sufficient to display he character and value of each card, said spreading finger adapted to spring back and ride over each halted card so as to engage with the remaining cards of the pack, substantially as set forth.
2. A card holder and exhibitor comprising a back plate and a carrier pivotally supported thereto and in parallel relation therewith, a card separator on said plate having a series of stops for the cards, each stop lying in a higher plane than the preceding one, a resilient spreading finger adapted to engage one edge of the pack, springs having projections adapted to engage the face of the uppermost card of the pack to prevent displacement of the cards and also to effect the engagement of the cards with the stops, substantially as set forth.
3. The combination in a card holder and exhibitor of the character described, of a back supporting plate and a carrier pivotally supported thereto, means on said plate for halting and separating the cards, means, Including an arcua.e slot in said plate and a co-operating pin on said carrier for restricting the movement of the carrler with respect to the plate, a support for the lower end of the cards, substantjally as described and for the purpose set forth.

No. 101,772. Boiler Tube Cleaner. Nettoyeur de tube de chaudieres.


Albert Florian Krause and Charles C. Ladd, assignee of a half interest, both of Buffalo, New York, U.S.A., 30th October, 1906; 6 years. Filed 28th June, 1905 . Receipt No. 126,434.
Claim.-1. In a boiler cleaner the combination of a casing provided with a transverse fluid chamber having an end opening which extends through the side of the casing and forms a lateral exhaust port for the motive fluid, a piston arranged in said chamber, means for controlling the supply of the motive fluid to opposite sides of the piston, and a scale loosener actuated by the piston and arranged to pass through the side of the casing, substantially as set forth.
2. In a boiler tube cleaner the combination of a casing having a transverse fluid chamber provided with an internal abutment and an end opening which extends through the side of the casing and forms a lateral exhaust port for the motive fluid, a hollow shouldered piston arranged in said chamber, opening at its shouldered end into the chamber and closed at its opposite end. said piston having means for alternately connecting the interior thereof with the space between said abutment and the shoulder of the piston and with said lateral exhaust port, a supply passage arranged in th.? casing and communicating constantly with said space, and a scale loosener extending through the side of the casing and actuating by the piston, substantially as set forth.
3. In a boiler tube cleaner the combination of a casing having a fluid chamber provided with an opening in its end, a hollow piston reciprocating in said chamber, means for controlling the supply of the motive fluid to opposite sides of the piston, and a hammer rod carried by the piston and extending through the hollow body thereof and the end opening of the fluid chamber, substantially as set forth.
4. In a boiler tube cleaner the combination of a casing having a transverse fluid chamber provided with end openings extending through the sides of the casing, a piston arranged In said chamber, means for controlling the supply of the motive fluid to opposite sides of the piston, and a duplex hammar consisting of a rod carried by and extending through the piston and having its ends arranged in the end openings of the casing, substantially as set forth.
5. In a boiler tube cleaner the combination of a casing having a transverse fluid chamber provided with an internal abutment, said chamber being closed at one end and provided at its other end with an opening which extends through the side of the casing and forms a lateral exhaust port, a hollow shouldered piston reciprocating in said chamber, opening at its shouldered end into the chamber and closed at its opposite end by a head, said piston having an exhaust port arranged to connect its interior with the open ended portion of the fluid chamber and an inlet port connecting its interior with the space between said abutment and the shoulder of the piston a supply passage arranged in the casing and leading to said space, and a hammer rod carried by said piston head and extending through the hollow body of the piston and the closed end of the fluid chamber and separated from the piston walls by an intervening fluid passage, substantially as set forth.
6. In a boiler tube cleaner the combination of a head or casing having a fluid chamber, a piston arranged in said chamber and having a port arranged to connect the space in front of its shoulder with the portion of said chamber behind the piston, sald chamber having an internal annular groove arranged on the front side of said shoulder in all positions of the piston, a supply passage arranged in the casing and communicating directly and constantly with said groove, and a scale lonsener actuated by said piston, substantially as set forth.
7. In a boiler tube cleaner the combination of a casing having a fluid supply passage and centering chambers extending through sides of the casing and having enlarged inner portions which communicate with said passage, and centering plungers sliding in sald chambers and each provided with an cnlargement fitting the enlarged portion of the corresponding chamber, substantially as set forth.
8 . In a boiler cleaner the combination of a casing having a fluid supply passage and centering chambers extending through the sides of the casing, bushings arranged in the outer portions of said chambers, the inner portions of the chambers being of greater diameter than the bore of said hushings, and plungers arranged in said bushings and chambers and provided at their inner ends with enlargements adrepted to strike the corresponding ends of the bushings, substantially as set forth.
9. In a boller cleaner the combination of a head or casing having a main fluid chamber, radial fluid chambers arranged on the front and rear sides of said main chamber and a supply passage leading to said main chamber, said front chambers connecting with said main chamber and said rear chambers connecting with said supply passage, a piston arranged in said main chamber, means for controlling the admission of the motive fluid to opposite sides of the piston, a scale loosener actuated by the piston, and centering pins or plungers fitted in said radial chambers, substantially as set forth.
10. In a boiler tube cleaner the combination of a head or casing having a fluid supply passage and radial fluid chambers communicating with said passage. centering pins or plungers sliding in said chambers and adapted to project beyond said head and bear against a surrounding boller tube, cupped packing discs applied to the inner ends of said plungers, and means for limiting the outward movement of said plungers in their chambers. substantially as set forth.
11. In a boiler tube cleaner the combination of a head or casing having a transverse fluid chamber and radial fluld chambers arranged on the front and rear sides of said transverse chamber, a main supply passage leading to said transverse chamber and connected with the rear radial chambers, an auxiliary passage extending forwardly from said transverse chamber and connected with the front radial chambers, a piston reciprocating in said transverse chamber, means for controlling the supply of the motive fluid to opposite sides of the piston, a scale loosener actuated by said piston, and centering pins of plungers fitted in said radial chambers, substantially as set forth.
12. In a boiler tube cleaner the combination of a head or casing having a transverse fluid chamber provided with an internal annular groove or channel and radial fluid chambers arranged on the front side of said transverse chamber, a main supply passage leading to said groove, an auxiliary pssage leading from said groove to said radial chambers, a piston reciprocating in said transverse chamber, means for controlling the supply of motive fluid to opposite sides of the piston, a scale loosener actuated by the piston and centering pins or plungers fitted in said radial chambers. substantially as set forth.

\section*{No. 101,773. Excavator. Excavateur.}

John C. Junkin, Drayton, and John E. Countryman, Grafton, assignee of a half interest, both in North Dakota, U.S.A. 30th October, 1906; 6 years. Filed 19th July, 1906. Receipt No. 137,960.
Claim.-1. In a excavating apparatus, excavating devices arranged to move outwardly and upwardly in reverse directions from the center of the ditch.
2. In an excavating apparatus the combination with supporting and guiding means, of a pair of endless bucket equipped carriers arranged to travel in the excavating action, in reverse directions outwardly and upwardly from the center of the ditch, substantially as described.
3. In an excavating apparatus the combination with a vertically adjustable supporting frame, of an endless bucket equipped carrier mounted to move over guides on said trame, and means for driving said carrier, substantially as described.
4. In an excavating apparatus the combination with a vertically adjustable supporting frame, of a pair of endless bucket equipped carriers mounted to move over guides on said frame, said guides being arranged to cause sald carriers to travel in reverse directions outwardly and upwardly from
the center of the ditch, and means for driving said carriers, substantially as described.

5. In an excavating apparatus the combination with a wheeled platform support, and a vertically adjustable supporting frame, and means for imparting vertical adjustments to the latter, of a pair of endless bucket equipped carriers mounted to travel over rotary guides on said supporting frame, said guides being arranged to cause said carriers to travel in the excavating action, in reverse directions outwardly and upwardly from the center of the ditch, substantially as described.
6. In an excavating apparatus the combination with a counterbalanced vertically adjustable supporting frame, of excavating device mounted on said frame, substantially as described.
7. In an excavating apparatus the combination with a vertically adjustable supporting irame, of a pneumatic counterbalancing device operative thereon and excavating devices mounted on sald frame, substantially as described.
8. In an excavating apparatus the combination with a supporting platform, of a supporting frame vertically movable thereon, a pneumatic counterbalancing device operative on the latter, means operative at will for causing said frame to raise and lower, and excavating devices mounted on said supporting frame, substantially as described.
9. The combination with a vertically movable support, of a pneumatic counterbalancing device arranged to balance said support in an intermediate position, and power actuated means operative at will to force said support either upward or downward from its center counterbalanced intermediate position, substantially as described.
10. In an excavating apparatus the combination with a supporting platform and a counterbalanced vertically adcarrier mounted on said supporting frame. means for driving said carrier in different positions of said supporting frame and a variable speed feed device for lowering said frame to force the buckets to their work, substantially as described.
11. In an excavating apparatus the combination with a supporting platform and a countorbalanced vertically adjustable supporting frame mounted thercon. a bucket equipped carrier mounted on said supporting frame. means for driving said carrier under different adjustments of sald frame, a variable specd drive for moving said supporting frame downward to force said buckets to their work. and a relatively high speed feed device for imparting upward or return movements to said supporting frame, substantially as described.
12. In an excavating apparatus the combination with a supporting platform and a vertically adjustable supporting frame mounted thercon, a power driven bucket equipped carrier mounted on said frame and a device for counterbalancing said supporting frame comprising a pair of cylinders anchored to said platform and having co-operating pistons, connections between said pistons and sald supporting frame and an alr storage tank having a pipe connection leading to said tro cylinders, substantially as described.
13. In an excavator the combination with a bucket equipped carrier and supporting and driving means therefor, of a bucket cleaning scraper properly positioned to scrape or clean the buckets. substantially as described.
14. In an excavating apparatus the combination with an endless bucket equipped carrier and guiding and driving means therefor, of a fixed scraper in position to scrape and clean the buckets which are moved past the same, substantially as described.
15. In an excavating apparatus the combination with an endiess bucket equipped carrier and guiding means therefor,
of an approximately U-shaped scraper located in position for action on the interior of the buckets as the latter are moved past the same in the vicinity of the dumping point, substantially as describe.
16. In an excavating apparatus the combination with a bucket and a carrier therefor arranged to move the same from the filling to the dumping position, of a scraper arranged to pass through the interior portion of said bucket to clean the same at or in the vicinity of the dumping point, substantially as described.
17. In an excavating apparatus the combination with an endless power driven bucket carrjer and guiding device therefor including guide wheels located at the dumping point. buckets attached to said endless carrier, said buckets having their bottom portions formed on such lines that said bottoms extend approximately concentric to the axis of the said guide wheel when said bucket is at the dumping point. and a fixed scraper located in position to engage closely with the bottom of said buckets as the latter are moved in the vicinity of the dumping point, substantially as described.
10. In an excavating apparatus the combination with a pair of parallel laterally spaced endless power driven carriers and one or more buckets to the outer side portlon of which buckets said parallel carrlers are attached, sald bucket or buckets having at the side adjacent to the bank laterally offset lips or projections arranged to cut clearance for the adjacent endless carrier, substantially as described.
19. In an excavating apparatus the combination with a vertically adjustable supporting frame, of a fluid actuated counterbalancing device operative on said frame, substantially as described.
20. In an excavating apparatus the combination with a vertically adjustable supporting frame and excavating devices mounted thereon. of a counterbalancing device for sald adiustable frame actuated by an elastic fluid under pressure. substantially as described.

No. 101,774. Roller Cutter. Coupe-rouleau.


Harry E. Wilmoth and Eugene Watson, assignee of a third interest, both of Atchison, Kansas, U.S.A., 30th October, 1906. 6 years Filed 1st October 1906. Receipt No. 139,942.
Claim.-1. The combination of two rotary cutters provided with shearing edges, and co-operating surface ad. jacent said edges which simultaneously with the cutting operation draw the metal along the freshly cut edge there of, with means for supporting and rotating the cutters.
2. The combination of two rotatory cutters each provided with a shearing edge and a roll portion, the roll portion of one cutter being tapercd and adapted to co-operate with the roll portion of the other, to draw the metal along the freshly cut edge thereot with means for supporting and rotating the cutters.
No. 101,775. Production of Nitric Acid from Air. Production d'acide nitrique de l'air.
Salpetersäure Industrie Gesellschaft, Gesellschaft mit Bes chrankter Haftung. assignee of Arthur Paulding and Harry Paulding, Bismark, Westphalia. Prussia, Ge many, 30th October, 1906; 6 years. Filed 26th March 1904. Receipt No. 115,665.

Claim.-Process for the production of nitric acid or nitric oxide, characterized by air or another mixture of oxygen and nitrogen being heated to a very high temperature br any non-reducing source of heat and being cooled dow from this highly heated condition or chilled as suddenly as possible, substantially as described and shown and for the purpose set forth.

No. 101,776. Dust Removing Device.
Appareil à enlever la poussidre.


Emery I. Nichols, San Francisco, California, U.S.A., 30th October, 1906; 6 years . Filed 12th December, 1905. Receipt No. \(130,925\).
Claim.-1. A dust removing device, consisting of a steam generator having a water inlet pipe connected to the top of the generator, and a steam outlet pipe connected to the bottom of the generator, a steam ejector connected to the generator and discharging into or through the generator chamber, and a heating device located below the generator, substantially as set forth.
2. A dust removing device, consisting of a steam generaator having a water inlet pipe connected to the top of the generator, and a steam outlet pipe connected to the bottom of the generator, a steam ejector connected to the generator and discharging into or through the generator chamber, a water regulating device consisting of the water inlet pipe and valve stem therein being constructed of two different kinds of metal, one having a greater expansion when exposed to the action of heat than the other, and a heating device located below the generator, substantially as set forth.
3. A dust removing device, consisting of a steam generator formed of a series of holliow sections connected together and arranged one above another so as to form one continuous water and steam passage through the whole series of sections, from the water inlet at the top section, to the steam outlet at the bottom section, and adapted to prevent the water from flowing by gravitation through the series of sections, means for forcing water into the generator through the water inlet pipe connected to the top section, a steam ejector connected to the generator for creating a vacuum, and a heating device located below the generator, substantially as set forth.
4. A dust removing device, consisting of a steam generator formed with a series of hollow sections, connected together and arranged one above another, forming one continuous water and steam passage through the whole series of sections, a self-regulating water supply device, cousisting of the water inlet pipe being formed of a metal having a greater expansion than the valve stem contained therein, when the same is exposed to the action of heat, a suitably designed steam ejector connected to the generator for creating a vacuum, a heating device located below the generator, and means for discharging the dust and refuse into or through the generator chamber, substantially as set forth.
5. The combination of a steam generator provided with a flue for carrying ofir the products of the combustion by which the steam is generated, an ejector, an exhaust tube leading thereto, a tube leading from said generator to the nozzle of said ejector, and a plpe for conveying to said flue the matter discharged from said ejector, substantialiy as get forth.
6. The combination of a steam generator provided with a flue for carrying off the products of the combustion by which the steam is generated, a water regulating device consisting of a water inlet pipe and a valve stem therein constructed of two different metals, one having a greater expansion when exposed to the action of heat than the other, an ejector, an exhaust tube leading thereto. a tube leading from said generator to the nozzle of sald ejector, and a pipe for conveying to said flue the matter discharged from the ejector, substantially as set forth.

No. 101,777. Fnrnace. Fournaise.


Embury McLean, Brooklyn, New York, U.S.A., 30th October, 1906; 6 years. Filed 13th June, 1905. Receipt No. 126,018.

Claim.-1. In combination with a furnace, a blower, means for varying the supply of air to the furnace from such blower, means for varying the escape of gases from the furrace in quantities substantially corresponding to the quantities of air supplied to the furnace by the blower, whereby substantially uniform pressure in the furnace is maintained.
2. In combination with a furnace, a blower, means for varying the supply of air to the furnace from such blower, means for varying the exhaust of gases from the furnace in quantities substantlally corresponding to the quantities of air supplied by the blower, the parts being so proportioned and arranged that a substantially uniform atmospheric pressure is maintained in the furnace.
3. In combination with a furnace, a blower, means for varying the supply of air to the furnace from such blower in quantities graduated between the extremes, means for varying the escape of gases from the furnace in quantitios graduated between the extremes and substantially corresponding to the graduated quantities of air supplled to the furnace by the blower, whereby a substantially uniform pressure in the furnace is maintalned and the function of the furnace, such, for example, as the production of steam pressure, is maintained substantially constant.
4. In combination with a furnace, a blower, means for varying the supply of air to the furnace from said blower in quantities graduated between the extremes, means for varying the exhaust of gases from the furnace in quantities graduated between the extremes and substantially corresponding to the graduated quantities of air supplied to the furnace by the blower, the parts being so proportioned and arranged that a substantially uniform atmospheric pressure is maintained in the furnace and the function of the furnace, such, for example, as the production of steam pressure, is maintained substantially constant.
5. In combination with a furnace, a blower, means for varying the supply of air to the furnace from such blower in quantities graduated between the extremes, means for varying the escape of gases from the furnace in quantitios graduated between the extremes, and substantially corresponding to the graduated quantitles of air supplled to the furnace by the blower whereby a substantially uniform pressure in the furnace is maintained.
6. In combination with a furnace, a blower, means for varying the supply of air to the furnace from said blower it quantities graduated between the extremes, means for varying the exhaust of gases from the furnace in quantities graduated between the extremes and substantially corresponding to the graduated quantities of air supplied to the furnace by the blower, the parts being so proportioned and arranged that a substantially uniform atmospheric pressure is maintained in the furnace.
7. A furnace, a forced draft blower therefor, a blower engine, an outlet for products of combustion from the furnace, a damper controlling the outlet, and a steam boller heated by the furnace, combined with a damper motor and a steam regulating valve controlled by the steam pressure and connected on one side of the steam space of the boiler and on the other to both the blower engine and damper motor, the valve being constructed to automatically reduce the amount of steam passing through it correspondingly with
rise of steam pressure and to permit an increase of volume of steam passing through it correspondingly with a fall of boiler pressure, and the blower engine and damper motor both being so constructed as to respectively cause corresponding variation of speed of the blower and corresponding variations in the position of the damper, whereby a substantially uniform pressure in the fire chamber of the furnace and a substantially uniform pressure of steam in the boller may be maintained.
8. A furnace, a forced draft blower therefor, a blower engine. an outlet for products of combustion from the furnace, a damper controlling the outlet and a steam boller icated by the furnace, combined with a damper motor, and a steam regulating valve controlled by the steam pressure and connected on one side to the steam space of the boller and on the other to both the blower engine and the damper motor, the valve comprising a diaphragm and means for adjusting the tension, a passage for admitting steam from the boiler to one side of the diaphragm and a passage from the inlet side of the valve to the connection leading to the blower engine and damper motor, the construction and arrangement of the valve being such as to automatically reduce the amount of steam passing through it correspondingly with rise oi steam pressure and to permit increase of volume of steam passing through it correspondingly with a fall of boiler pressure, and the blower, engine and damper motor both being so constructed as to respectively cause corresponding variations of speed of the blower and corresponding variations in the position of the damper. whereby a substantially uniform pressure in the fire chamber of the furnace and a substintially uniform pressure of steam in the boiler may bo lieintained.
9. A furnace, a forced draft blower therefor, a blower engine, an outlet for products of combustion from the furnace, a damper controlling the outlet and a steam boiler heated by the furnace, combined with a motor for the damper adapted to be operated or controlled by steam pressure in a direction to open the damper, and means opposing such actuation of the motor and tending to hold the damper in closed position and acting co-operatively with the motor to cause the damper to assume positions corresponding with the pressure of steam acting on the motor, and a steam regulating valve connected on one side to the boiler and on the other side to both the damper motor and blower engine, said valve being constructed and arranged to reduce the volume of steam passing therethrough when the pressure of steam in the boller rises above normal and to increase it when the boiler pressure falls below normal for the purposes set forth.

No. 101,778. Gate. Barrière.


Isaac Newton Merritt, Grassies Corners, Ontario, Canada, 30th October, 1906; 6 years. Filed 30th August, 1906. Receipt No. 139,111.
Claim.-1. In a lift and drop gate, a post, a gate having a lower end pivotally connected to the post and adapted to be lifted upward, a segmental bar on the gate at equal distance from the pivot, a guide on the post to receive the bar, means connecting the opposite end of the gate and the post and extendirg besond the post to lift the gate and and extending bijonc the post to bring the gate to closed means conuectini: rhe pivotal end of the gate and the post position.
2. A gate way comprising posts a distance apart and opposite to each other, gates having their lower and opposite ends pivotally connected to the posts and in line with each other, and adapted to be lifted upward and away from each
other, segmental bars on the gates at equal distance from their respective gates, pivots, guides on the post to receive the bars, means connecting the inner and adjoining ends of the gates and the posts, and extending beyoud the posts to open the gates, means connecting the pirotal ends of the gates and the posts and extending beyond the posts to close the gates, means on one said gate to lock the gates together, and means on the ground to support and lock the adjoining ends of the gates.

\section*{No. 101,779. Gate for Wire Fences.} Barrière pour clotures de al de fer.


Roy Hamilton Singer, Uniontown, Maryland, U.S.A., 30th October, 1906 ; 6 years. Filed 4th September, 1906. Receipt No. 139,258 .
Claim.-1. The combination with opposing fence posts and screw eyes set thereln, of wires attached to one set of the screw eyes and lever clamps secured to the other ends of the wires and consisting of curved bars having their free ends provided with lateral claws for engaging the wires and their opposite ends with openings for attachment of the wires, and with a contlguous hook or notch, the same being located out of lateral alignment with the opening and clav as shown and described.
2. The improved closure for passageways in fences comprising a series of wires, a series of screw eyes to which the series are permanently attached at one end, lever clamps secured to the other ends of the wires and having a hook and an end claw which are disaligned with the point of sttachment of the wire as described, and another series of screw eyes adapted for engagement with the clamps in the nanner described.

No. 101,780. Wire Fence Tie.
Attache de cloture de fil de for.


John McCawly Gilmer, Montpelier, Ohio, U.S.A., 30th October, 1906 ; 6 years. Filed 5th September, 1906. Recelpt No. 139,277.
Claim.-1. A wire fence tie consisting of a portion of wire bent in substantially circular form and engaging the fence wires near the crossing of the same and at the sides of the said wire opposite the sides thereof which contact each other, said tie also having its ends bent around itsell and terminating within the plane of the fence wires.
2. In combination with the crossed wires of a fence, \(a\) wire fence tie consisting of a portion of wire bent in a closed circuit and having its ends wound partially around itself in opposite directions and terminating in the plane of the said fence wires.

\section*{No. 101,781. Fence Post. Pôteau de clotures.}


Clement J. B. Moore, Calistoga, California, U.S.A:, 30th October, 1906 ; 6 years. Filed 23rd July, 1906. Receipt No. \(138,082\).
Claim.-A fence post comprising a right angular or Lshaped post, a squared base provided on its under face with a depending spiral-shaped anchor, the base being of a sufficlent height to provide a marginal recess on two of its sides which extends downwardly into the base and part of the way therethrough, said recess conforming to the configuration of the post, and said post having one end detachably mounted in the recess so that its end surface will contact or rest on the bottom of the recess and be wholly within sald base, substantially as specified.

\section*{No. 101,782. Fence Post. Pôteau de cloture.}


Daniel Rupert Parker, Chelsea, Massachusetts, U.S.A., 30th October, 1906 ; 6 years. Flled 26th September, 1906. Receipt No. 139,806.
Claim.-1. A fence post comprising a concrete base, and a metallic upright having its lower portion embedded in said base, and its upper portion provided with wire engaging members inserted in orifices in the upright, each member having at one end a screw thread and a nut engaged therewith and adapted to bear on one side of the upright, and at its opposite end a head or hook adapted to engage a fence wire, and to hold the same against the opposite side of
the upright.
2. A fence post comprising a concrete base, and a metallic upright composed of a metal strip bent to form two diverging legs or members, the lower ends of which are embedded in said base, the said upright being provided with adjustable wire engaging members.
3. A fence post comprising a concrete base, a metallic upright composed of a metal strip bent to form two diverging legs or members, the lower ends of which are embedded in said base, and adjustable wire engaging members secured to one of said legs.
4. A fence post comprising a concrete base, a metallic upright composed of a metal strip bent to form two diverging legs or members, the lower ends of which are embedded in said base, the said upright being provided with adjustable wire engaging members, and one or more cross bars or braces connecting the legs above the base.

No. 101,783. Fence Post. Pôteau de clôture.
Hugh C. Youngs, Attica, Michigan, U.S.A., 30th October, 1906; 6 years. Filed 10th September, 1906. Recelpt No. 139,371.
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Claim.-A fence post having a retalning member embedded therein and comprising a pair of co-operating sections, one of said sections being corrugated to form transverse openings and the other having its inner edge folded to form a

channel and engaging members adapted for entrance through the openings and to engage at their inner ends within the channel.

No. 101,784. Structural Metal Bar.
Barre de métal pour construction.


Carl Weber, Chicago, Illinois, U.S.A.: 30th October, 1906; 6 years. Filed 27 th September, 1906 . Receipt No. 139,858. Claim.-1. As a new article of manufacture, a relnforcing bar for metal concrete construction consisting of a metal bar having longitudinal wings with spaces between adjacent wings concavely curved in cross section and longitudinal recesses at intervals in opposite wings having their bases expanded laterally and forming abrupt end shoulders projecting beyond the adjacent surfaces of the unrecessed portions of the wings in which said recesses are formed.
2. As a new article of ma ufacture, a reinforcing bar for metal concrete construction consisting of a metal var, fourwinged in cross section having recesses at intervals in opposite wings and the bases of said recesses expanded laterally and forming end shoulders, for the purpose set forth.

\section*{No. 101,785. Turbine Pump. Pompe d turbine.}

Frederick Wilson Gordon, Philadelphia, Pennsylvania, and Alexander Gordon, assignee of half of the interest, Ashbury Park, New Jersey, U.S.A., 30th October, 1906; 6 years. Filed 29th May, 1906. Receipt No. 136,362.
Claim.-1. The combination with a casing, of a pair of shafts, one mounted within the other journalled in said casing a series of independent carriers rigid with one of the shafts and each having blades, the blades of one carrier differing in spacing from those of anather carrier, and a series of carriers rigld with the other shaft, alternating with the first series and having blades, the spacing of one set of which is different from that of another set.

2. A turbine comprising a casing, means for supplying fluid thereto, sets of connected carriers, each carrier having a series of parabolic blades, the delivery ends of which lie in planes substantially parallel to the axis of the carrier and mechanisms for driving one set of carriers in one direction and the other set of carriers in an opposite direction.
3. A turbine comprising a casing, a carrier having blades of parabolic form, the delivery ends of which lie in planes substantially parallel to the axis of the carrier, means for rotating said carrier in one direction, a second carrier also having blades of parabolic form the delivery ends of which lie in planes substantially parallel to its axis, and means for rotating sald second carrier in a direction opposite to that of the first carrier.
4. In a turbine the combination with connected carriers each having blades of parabolic form and the delivery ends of which are substantially parallel to the axis of the carrier, of connected carriers each also having blades of parabolic form and the delivery ends of which are substantially parallel to the axis of the carrier, means for independently rotating one set of carriers in one direction, and means for independently rotating the other set of carriers in a direction opposite to that of the first set
5. The combination with a casing. of a carrier having blades of parabolic form the delivery ends of which are nearly parallel to its axis, a second carrier arranged in close proximity to the first carrier and also having blades of parabolis form the delivery ends of which are nearly parallel to its axis, sald blades being so disposed that they will enter the fluid delivered from the first set of blades without shock or blow at an angle different from that at which it was entered by said first set of blades, and means for rotating the carrlers in opposite directions.
6. The combination with a carricr having blades of parabolic form the dellvery ends of which are nearly parallel to its axis, said blades entering fluid at a certain angle, of a second carrier having blades of parabolic form, the delivery ends of which are nearly parallel to its axis and which enter fluid at an angle different from that of the blades of the other carrier;, and means for rotating the carriers in opposite directions.
7. The combination with a rotary carrier having parabolic blades, of a second oppositely rotatable carrier having parabolic blades differently spaced apart and of different height from those of the first carrier.
8. The combination with a primary carrier having parabolic blades, of means for rotating said carrier, a second carrier having parabolic blades differing in spacing, in number and In height from the blades of the primary carrier, and means for rotating said second carrier in a direction opposite to that of the primary carrier.
0. The combination with a primary carrier having parabolic blades, of means for rotating said carrier, a second carrier having parabolic blades differing in spacing. in number and in heighth from the blades of the primary carrier, and means for rotating said second carriage in a direction opposite to that of the primary carrier.

\section*{No. 101,786. Procens of Recovering Turpentine.} Procédé pour obtenir de la térébentine.
R. H. Durward Benn, Montreal, Quebec, Canada, 30th October, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,670.
Claim.-1. The herein described process of distilling wood which consists in subjecting the wood to the action of live steam until the heavier oils begin to distill, and then shut-
ting off the live steam and introducing superheated steam to complete the distillation of the heavy oils, substantially as

2.The herein described process of distilling wopd which consists in subjecting the wood to the action of live steam introduced in the form of a plurality of flne jets until the heavier oils begin to come off, then shutting off the supply of live steam and introducing superheated steam in the same manner until the distillation of the heavy olls is effected, substantially as described.
3. The herein described process of distllling wood which consists in heating the wood until the turpentine and heary oils have all distilled, then transferring the mass of partially distilled wood to a second retort and there completing the distillation, substantially as described.
4. The hercin described process of treating wood which consists in partially distilling the wood in one retort and completing the distillation in another retort, substantially as described.
5. The herein described process of distilling wood which consists in partially distilling the wood in an internally heated retort, then transferring it to an externally heater retort and completing the distillation, substantially as described.
6. The herein described process of distilling wood which consists in subjecting the wood to the action of live steam until the heavier oils begin to distill, then shutting of the live steam and introducing superheated steam untll the hearier oils are distilled, then transferring the mass of partially distilled wood to a second retort and there completing the distillation. substantially as described.
7. The herein described process of distilling wood which consists in subjecting the wood in a closed retort to the action of live steam introduced through the perforated pipes extending through the interior of the retort until the heavier oils begin to distill, then shutting off the live steam and introducing superheated steam until the distillation of the heavy oils is effected, then transferring the partially distilled mass of wood to an externally heated retort and then completing the distillation in the second retort, substantially as described.
8. The herein described precess of distilling wood which consists in distilling the wood for a predetermined period of time by internal heating and then completing the distillation by external heating, substantially as described.
9. The herein described process of distilling wood which consists in subjecting the wood to the action of live stean distributed through the midst thereof for a predetermined period of time and then subjecting the wood to the action of superheated steam in a similar manner for a second period of time, substantially as described.
10. The herein described process of distilling wood which consists in subjecting the wood for a predetermined period of time to the action of live steam then subjecting it for a second period of time to the action of superheated steam and then completing the distillation by external heating. substantially as described.

\section*{No. 101,787. Brick Making Machine. Machine à faire de la brique.}

Christian J. Boos, Jackson, Michigan, U.S.A., 30th October, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,176.
Claim.-1. A brick making machine, comprising a mould constructed and arranged for a vertical, step-by-step. swinging movement into inverted position.
2. A brick making machine, comprising a frame, a mould mounted for swinging movement within the frame, and a double facing member associated with the mould, and means constructed and arranged to present the double facing member with respect to the completed bricks to prevent accidental displacement of the latter when the mould is swung from over the bricks.
3. A brick making machine, comprising a mould composed of separable parts, means constructed and arranged where-
by the mould may be swung upon a horizontal axis, and means carried by the mould to prevent upsetting of the bricks when discharged from the mould.

4. A brick machine comprising a frame, a mould mounted for swinging movement within the frame, the mould including a double facing member, and means constructed and arranged whereby the double facing member may be separated from the mould when the latter is swung from over the completed bricks.
5. A brick making machine, comprising a frame, a pallet board support mounted upon the frame, a mould having each side provided with a slot, a pallet board for disposition upon the top of the mould, a lever mounted for projection through each of said slots to detachably secure the pallet board against displacement, and means constructed and arranged whereby the mould may be swung vertically to inverted position upon the pallet board support to permit of the removal of the completed bricks from the mould.
6. A brick making machine comprising a swinging mould, a pallet board detachably associated with the mould, and a double facing member mounted for swinging movement with the mould, and also independently thereof.
7. A brick making machine, comprising a swinging mould. a pallet board detachably mounted upon the mould, and a series of double facing members mounted for swinging movement with the mould. and also independently thereof.
8. A brick making machine comprising a swinging mould, and a double facing member mounted for swinging movement with the said mould and also indenendently thereof.
9. A brick making machine, including a swinging mould. and a series of double facing members mounted for swinging movement with the mould and also independently thereof.
10. A brick making machine comprising a mould having cach side provided with a slot and a pair of ears adjacent each slot, a pallet board, and a lever pivotally mounted in each pair of said ears for projection through the corresponding slot to detachably secure the pallet board in place.
11. A brick making machine comprising a mould having three of its facing members movable independently thereof. two of said members being formed of a single plece of material.
12. A swinging mould of the character described, including separable facing members, two of the facing members being formed of a single piece of material.
13. In a device of the class described, a mould including separable facing members, two of the facing members being formed of a single plece of material of substantially Z-formation.
14. In a device of the class described, a mould including a substantially Z-shaped facing member.
15. In a device of the class described, a mould including a series of substantially Z-shaped facing members.
16. A mould of the class described, ipcluding division plates, a hinged back facing plate, a series of combined front and bottom facing plates, and a removable pallet board.
17. In a device of the class described, a mould, including division plates, a hinged back plate, a combined front and bottom facing member, and a removable pallet board.
18. A brick making machine, comprising a swinging mould, means whereby the mould may be turned to an inverted position, and double facing members associated with the mould to prevent accidental displacement of the bricks when the mould is swung from over the bricks.
19. A brick making machine comprising a swinging mould of separable parts, and means constructed and arranged
whereby the mould may be swung to an inverted position, parts of the mould preventing displacement of the bricks when the mould is swung backwardly from over the bricks.
20. A brick making machine comprising a swinging mould including separable facing plates, two of the facing plates being formed of a single piece of material, means for swinging the mould into an inverted position, and means constructed and arranged whereby the double facing plates may prevent displacement of the bricks when the mould is swung backwardly.
21. A brick making machine comprising a swinging mould composed of separable facing member, means whereby the mould may be swung to an inverted position, and means whereby some of the facing members will prevent accidental displacement of the bricks when the mould is swung from over the bricks, the latter facing members being of substantially Z-formation.
22. A brick making machine comprising a swinging mould composed of separable parts. means constructed and arranged whereby a part of the mould may be separated from other parts thereof when the mould is swung from over the bricks to prevent upsetting of the discharged bricks.
23. A brick making machine comprising a swinging mould composed of separable facing members, a part of the mould preventing accidental displacement of the bricks when discharged from the mould.
24. A brick making machine comprising a mould constructed and arranged for vertical swinging movement, and means to prevent accidental displacement of the bricks when discharged from the mould.
25. A brick making machine comprising a mould constructed and arranged for vertical swinging movement into inverted position, a part of the mould preventing accidental displacement of the bricks when the mould is swung to its normal nosition.
26. A brick making machine including a combined tilting and swinging mould.
27. A brick making machine including a combined vertically tilting and swinging mould.
28. A brick making machine including a combined tilting and swinging mould composed of separable parts.
29. A brick making machine comnrising a combined tilting and swinging mould including means to prevent accidental disnlacement of the bricks when discharged from the mould.
30. A brick making machine comprising a mould movable about two separate and distinct axes. and means carried by the mould to prevent accidental displacement of the bricks when dierharged from the mould.
31. A brick machine comprising \(\Omega\) mould movabic about two senarate axes, and means carried bv the mould to prevent accidental displacement of the bricks when discharged from the mould.
32. A brick making machine comprising a mould movable abont two senarate axes and including means to prevent accldental displacement of the bricks when discharged from the mould.
33. A brick making machine including a combined tilting and swinging mould, both movements thereof being in the same dircetion.
34. A hrick making machine including a mould provided with a shiftable fulcrum olement.
35. A brick making machine including a mould provided upon opposite parts with diagonally opposite fulcrum members.
36. A brick making machine including a mould provided upon opnosite parts with diagonally opposite fulcrum memhers. and a support provided with bearing notches for cooperation with said fulcrums.
37. A brick making machine including a mould provided With fulcrum members, a support nrovided with bearing notches for co-operation with sald fulcrum members, and means carried bv the mould to prevent accidental displacement of the bricks when discharged from the mould.
38. A brick making machine including a swinging mould provided with separable facing members, one of sald facing members being arranged to swing with the mould and also indeyendently thereof.
39. A brick making machine lncluding a swinging mould having one element thereof movable independently of the mould during movement of the latter.

\section*{No. 101,788. Stock Car. Char d bétail.}

Rose Ellis, Creston, Iowa, administratrix of the estate of William F. Ellis, deceased, 30th October, 1906; 6 years. Flled 13th December, 1905. Recelpt No. 130,952.
Claim.-1. An attachment for stock cars consisting of supporting plates lavinis means for protruding the same into the interior of the car to support the intermediate deck or flour ariu for withcrawing them when said floor is rem. \(\%\) d
2. An attachment for stock cars consisting of supporting plates having means for protruding the same into the in-

terior of the car to support an intermediate deck or floor and for withdrawing them into the spaces within the framework when said floor is removed.
3. An attachment for stock cars consisting of supporting plates having means for protruding the same into the interlor of the car to support an intermediate deck or floor and for withdrawing them when said floor is removed, and means operative from the exterior of the car for actuating the plates.
4. An attachment for stock cars consisting of supporting plates having means for protruding the same into the interior of the car to support an intermediate deck or floor and for withdrawing them when said floor is removed, rods having means for rotative connection to the car, and connecting means between the plates and rods whereby the rotation of the rods will actuate the plates.
5. An attachment for stock cars consisting of supporting plates having means for protruding the same into the interior of the car to support an intermediate deck or floor and for withdrawing them when said floor is removed, rods having means for rotative connection to the car, connecting means between the plates and rods whereby the rotation of the rods will actuate the plates, and means for detachably supporting said rods with the plates in their withdrawn position.
6. The combination with a stock car, of supporting plates having means for protruding the same into the interior of the car to support an intermediate detachable deck or floor and withdrawing them when the intermediate deck or floor is removed.
7. The combination with a stock car, of supporting plates for protruding into the interior of the car to support an intermediate deck or floor and for withdrawal into the spaces within the framework when the intermediate floor is removed.
8. The combination with a stock car, of supporting plates for protruding into the interior of the car to support an intermtdiate deck or floor and for withdrawal into the spaces within the framework when the intermediate fioor is moved and means operative from the exterior of the car for actuating the plates.
9. The combination with a stock car, of supporting plates for protruding into the interior of the car to support an intermediate deck or floor and for withdrawal into the spaces within the framework when the intermediate floor is removed, rods mounted for rotation upon the car, and connecting means between the plates and rods whereby the rotation of the rods will actuate the plates.
10. The combination with a stock car, of supporting plates for protruding into the interior of the car to support an intermediate deck or floor and for withdrawal into the spaces within the eramework when the intermediate floor Is removed. rods mounted for rotation upon the car, connecting means between the plates, and rods whereby the rotation of the rods will actuate the plates, and locking means for sustaining sald rods in their withdrawn position.
11. The combination with a stock car having as an element of its construction side walls formed of spaced longitudinal slats, of supporting plates for protruding into the interior of the car and sustained when thus protruded by said slats, for supporting an intermediate deck or floor, and for withdrawal when the intermediate deck or floor is withdrawn.
12. The combination with a stock car having as an element of its construction side walls formed of spaced vertical stanchions and spaced longitudinal slats, of supporting plates for protrusion into the interior of the car for supporting an intermediate deck or floor, said supporting plates having spaced recesses corresponding to the spaced side members for engagement thereby to permit said plates to be withdrawn into the spaces within the framework when the intermediate deck sections are removed.
13. The combination with a stock car, of supporting plates having means for protruding the same into the interior of the car and for withdrawing the same when not required, and an intermediate deck section for extension across the doorway opening and of greater width than the same for supporting upon sald plates, said deck section having lateral projections for extension into the doorway openings.
14. The combination with a stock car, of supporting plates having means for protruding the same into the interior of the car and for withdrawing the same when not required. and an Intermediate deck section for extension across the doorway opening and of greater width than the same for supporting upon said plates. said deck section having lateral projections for extension into the doorway openings. and reinforcing stay plates extending beneath its ends and resting with the deck section upon sald supporting plates. 15. The combination with a stock car, of supporting plates having means for protruding the same into the interior of the car and withdrawing them when not required, and an intermediate deck for support upon said plates when protruded formed of a plurality of detachable sections placed side by side throughout the Interior of the car.
16. The combination with a stock car of supporting plates mounted to swing into the interior of the car to support an intermediate deck or floor, and having means for withdrawing the plates when the deck or floor is removed.
17. The combination with a stock car of supporting plates mounted to swing into the interior of the car to support an intermediate deck or floor, and means for withdrawing the the plates when the deck or floor is removed and latera! srut-off plates carrled by sald supporting plates to fill the gaps in the car through which the supporting plates work when the supporting plates are projected into the car.
18. The combination with a stock car of supporting plates nounted to swing into the interior of the car to support an irtermndiate deck or floor, means for withdrawing the plates when the deck or floor is removed, and lateral shut-off plates integral with the supporting plates for filling the gans in the sides of the car through which said supporting plates work when the supporting plates are projected into the rar.
19. The combination with a stock car of supporting plates for protruding into the interior of the car to support an iritermeriate deck or floor, means within the frame work when the intermediate floor is removed, rods mounted for rctation upon the car frame, and means for connecting the supporting plates to the rods.
20. The combination with a stock car having as an element of its construction side walls formed of spaced vertical stanchions and diagonal brace stanchions, swinging supporting plates for protrusjon into the interior of the car for supporting an intermediate deck or floor, means for willing drawing the plates when not required, sald supporting flates having spaced recesses corresponding to sald spaced side members for engagement whereby when the plates are withdrawn. and lateral shut-off plates carried by said supporting plates to fill the gaps between the frame members.
21. The combination with a stock car having as an element of its construction spaced vertical stanchions and longitudinal slats forming its side walls, of movable support. ing plates for protrusion into the interior of the car and supported when thus protruded by said longitudinal slats, said plates for supporting intermediate deck or floor sections, and reinforcing checks beneath said plate supporting slats.
22. The combination with a stock car of supporting plates for protruding into the interior of the car to support intermediate deck or floor and for withdrawal into the spaces \(\begin{gathered}\text { rith- }\end{gathered}\) ir. the framework when the intermediate floor is remored. rods mounted for rotation upon the car, connecting means between the plates and rods whereby the rotation of the rods will actuate the plates, said rods having cranks upon their free ends, and slidable bolts extending into the paths of said cranks to detachably engage the same to maintain said plates in withdrawn position.

\section*{No. 101,789. Preparation of Oxygen.} Préparation d'oxigène.
George Francois Jaubert, Paris, France, 30th October, 1906 ; 6 years. Filed 24th November, 1905. Receipt No. 130,380. Claim.-The process for preparing oxygen or gases rich in oxygen, which consists in kindling and burning in a closed vessel a mixture of combustible material and of a large excess of perchlorate or nitrate of potash, and if desired of inert matcrials serving to moderate the decomposition, said mixture being brought in the form of cartridges, blocks, agglomerates, or the like.

No. 101,790. Shock Loader. Monte-gerbes.


Soren M. Nelson and Nicls Neilsen, co-inventors, both of Marietta, Minnesota, U.S.A., 30th October, 1906; 6 years. Filed 19th September, 1906. Receipt No. 139,625.
daim.-1. The combination with a wheeled frame provided with a hopper, of a fork pivotally supported on sald frame and having teeth or tines adapted to rest and slide upon the ground and pick up the shocks of grain or corn thereon, and mechanism within control of the operator for lifting said pivoted fork to discharge the shock gathered up thereby into said hopper.
2. The combination with a wheeled frame provided with a hopper or receptacle, of a fork pivoted on said frame near said hopper and having teeth or tines adapted to rest and sllde upon the ground and pick up the bundles or shocks of grain or corn thereon, mechanism within control of the operator for lifting said fork to discharge the shock into said hopper, and a carrier arranged to gather up the bundles it sald hopper and dellver them at the side of the machine, substantially as described.
3. The combination with a wheeled frame provided with a hopper, of a plvoted fork adapted to rest and slide upon the ground, an inclined plate arranged in said hopper and whereon the bundles of grain are discharged from said fork, mechanism for tilting said fork, and a carrier arranged to recelve the bundles from said plate.
4. The combination with a wheeled frame having a shock receptacle, of a fork pivoted on said frame and having teeth to rest and slide upon the ground, a hinged plate arranged in sald hopper, means for imparting a jarring or lolting movement to sald plate, and a transversely operating carrier arranged to receive the bundles from said plate, substantially as described.
5. The combination with a wheeled irame having a hopper rear its forward end, of a fork pivotally supported on the lorward wall of said hopper and having teeth that rest and slide upon the ground, mechanism for raising said fork to allow the shocks gathered up thereby to be discharged into said hopper, an inclined plate provided in sald hopper and whereon the bundles fall from said fork, means for imparting a jarring or jolting action to sald plate, and a carrier pivotally supporied at its lower end in said hopper and arranged to receive the bundles from said plate and deliver them at the side of the machine.
6. The combination with a wheeled irame provided near its forward end with a transversely arranged hopper, of a fork pivoted on the forward wall of said hopper and having teeth that rest and slide upon the ground, a drum loosely mounted on the rear axle. a standard mounted on sald frame and having a pulley, a cable attached to said drum and passing over said pulley to said fork, and a clutch mechanism within control of the operator for temporarily locking said drum on said axle and a carrier operating in the bottom of said hopper and arranged to receive the bundles of grain or eorn and deliver them at the side of the machine.
7. The combination with a wheeled frame and a hopper, of a tilting fork arranged in front of said hopper and having teeth adapted to pick up shocks of grain or corn and mechanism for raising said fork to discharge the gathered shock into said hopper.
8. The combination with a frame and hopper, of a tilting fork arranged to pick up shocks of grain or corn from the eround, mechanism for tilting said fork to ralse a shock and discharge it into sald hopper and a carrier or elevator operating in comnecton with said hopper.
9. The combination with a wheeled frame provided with a shock receptacle, of a fork having teeth adapted to pick up shocks of grain or corn, a vibrating plate provided in said receptacle and a carrier or elevator operating in connection with said receptacle.
10. The combination with a wheeled frame provided with a hopper having a removable floor or plate, of a pivoted fork arranged to pick up shocks of grain or corn. means for tilting sald fork to discharge its load into said hopper and a carrier or elevator operating in sald hopper.
11. The combination with a wheeled frame having a drop portion near its forward end and a hopper carried thereby. the bottom of said hopper being below the rear of said frame, a forked hinged near the forward wall of sald hopper and having teeth adapted to pick up shocks of grain or corn, a side delivery elevator operating in sald hopper, and means for tilting sald fork.
12. The combination with a frame, of a side delivery carrier or elevator mounted thereon, a fork pivoted in front of said elevator and having teeth adapted to slide upon the ground and pick up shocks of grain or corn, a vibrating bundle support provided near said elevator and mechanlsm for raising said fork to discharge its load upon sald support, subtantially as described.
13. The combination with a frame. of a side delivery elevain or carrier thereon, a fork hinged in front of said elevator and having teeth adapted to pick un shocks of grain or corn. an unright standard monnted on said frame in the rear of said elevator and provided at its upper end with an anti-friction wheel, a cable attached to said fork and passing over said wheel and mechanism for winding up said cable to ralse said fork.
14. The combination with a wheeled frame and hopper, of a. side delivery carrier or elevator operating therein, a fork hinged near the forward wall of said hopper, mechanism for driving said carrier continuously from the wheel axle and merhanism for intermittently raising said fork to discharge ils contents.
15. The combination with a wheeled frame and a shock receptacle, of a vibrating bundle support provided in said receptacle, a carrier or elevator operating near said support, and means for delivering shocks of grain or corn to said support, substantially as described.

No. 101,791. Tead Pencil. Crayon de mine de plomb.


Edward Penkala, 15 Franz-Josef Platz, Acram, Kroatien Hungary, 30th October, 1906 ; 6 years. Filed 29th May, 1906. Receipt No. 136,382 .

Claim.-1. In a lead pencil the combination of a holder having a boring therein, a tube having a boring therethrough and adapted to slide with friction in the holder, a lead within the tube, and means for retaining the lead stationary therein, substantially as set forth.
2. In a lead pencil the combination of a holder having a boring therein, a tube having a boring therethrough and adapted to slide with iriction in the holder, a lead within the tube and a rigid member inserted in said holder boring and extending from the top wall thereof into the said tube
gaging the upper end of said lead, substantially as set orth 3. In a lead pencil the raving a boring therethrough and boring thercin, a tube havion in the holder, a lead within the dapted to slide with iriction within said holder boring and abe. and a wire contained with and extending downwardly abutting the upper wall in the said tube and enga
substantially a Wire Stretcher. Tendeur de fl.
No. 101,792. Wire Stretcher. Tendeur de fl.


Henry Waller, Binscarth, Manitoba, Canada, 30th October, 1906; 6 years. Filed 25th June, 1906. Receipt No 137,246.
Claim.-1. The herein described wire stretcher comprising a lever, a fulcrum bar on one side and at one end thereof and comprising a laterally inclined portion and an incurved portion bent therefrom to provide a concave recess to receive a post, the ends of said fulcrum bar being secured to said lever, a link connected to the lever, a chain attached to said link and a wire engaging hook attached to said chain and having a \(V\)-shaped gripping notch, substantially as described.
2. A wire stretcher comprising a lever, a segmental fulcrum plate or bar connected to one end of said lever and projecting laterally from one side of the same, a brace bar connected to said fulcrum bar, a wire engaging hook having a V-shaped gripping notch, a link to engage said lever, means to hold said link in place and a flexible connection to attach said hook to said link, substantially as described.

\section*{No. 101,793. Cooler for Beer, Etc.}

Refrigérant pour la bière, etc.


Edward Neely. Chicago, Illinois, U.S.A., 30th October, 1906; 6 years. Filed 9th July, 1906. Recelpt No. 137,651.
Claim.-1. In a device of the class described the combination with the cabinet having the top portion and the bot-
tom portion of the coil chamber forming the front of of the cabinet, a member removable from the of the top cobinet to give access to the coil chamber for top of the the coil chamber and connected supported in the frot, a supply pipe extending adjacted to one end of the front of supply pipe extending adjacent to the chamof the coil, a other end of the coll emerges therefrom and where the \({ }^{2}\) connections between the pipe and the end and detachable elements being so constructed and arrend of the coil, the connections are detached the coll chamber that when the faucet in place can be removed bodily fror with its coll and
2. In a device of the class dodily from the cabinet.
the cabinet having the top portion the combination with of the coil chamber forming the fon and the bottom portion inet, a member removable the front of the top of the cabgive access to the coil from the ton of the cabinet to coil rhamber, a faucet supported in the it. a coil in the chamber and connected to one end of the front of the coll extending adjacent to the one end of the coil. a supply pipe the coll emerges the the chamber where the other end of the pine and therefrom. detachable connectlons between sncuring the chamber in place the elements being so constructed and arranged that when the connections are de. tached the coil chamber with its coll and faucet in place can be removed hodily from the cabinet.
3. In a device of the class described the combination with a cabinct having the ton portion and the wider bottom portion, the top portion being over the rear of the bottom portinn of the coll chamber forming the front of the top of the cabinet and fllling the top nortion above the rear of the bottom nortion. a member removable from the ton of the cabinet to give access to the coll rhamber for icing it, a coll in the coil chamber. a fancet supnorted in the front of the chamber and connected to one end of the coil. a supply pipe extending adjacent to the chamber where the other end of the coll omerges therefrom. detachable connections between the pipe and the end of the coil and a drip non adapted to fit between the coil chamber and the front of the ton of the hottom portion of the cabinet to secure the cooling chamber in nlace, the elements beine so constructed and spranged that when the connections are detached and the drip dan romoved the coll chamhar with itc coll and faucet in place can he removed hodily from the eabinet.
4. In a device of the class described the combination with the cabinct having the tob portion and the widor bottom nortion, the ton nortion beine over the rear of the bottom nortinn of the roil chamber forming the front of the tnn in the chest and filling the ton nortion above the rear of the bottom portion and supported by the horizontal edges of the cabinet. a member removable from the ton of the cablaet to rive acenss to the coil chamber for icing it. a coil in the coll chamber, a faucet supported in the front of the chamber. nnd connected to one end of the coil. a sumply nipe exten. ing adiacent to the chamher where the other end of the peil emerges therefrom and detachable connections between the nine and the end of the coll. the elements heing so conatran ted and arranged that when the connestione are detachin the coil chamber with ita roil and fauret in nlace ran be forwned on the cabinet and remarai hodilv therefrom.
5. In a device of the class described the combination with the cabinct having the top portion and the bottom portion, the top portion being over the rear of the bottom nortion and adapted to extend partly beneath a bar. of the coil chamber forming the front of the top of the cabinet and flling the ton portion above the rear of the bottom portion. the grain plate resting on the top of the nortinn of lo cabinet not extending beneath the bar and removable to ice the coil chamber, a coll in the coll chamber. a faucet suoported in the front of the chamber and connected to one end of the coll. a supply pipe extending adiacent to the chamber where the other end of the coil emerges therefrom and detachable connections between the pipe and the end of the coil, the elements being so constructed and arranRed that when the connections are detached the coll cham from with its coil and faucet in olace can be
beneath the bar and out of the cabinet.
6. In a device of the class described the combination \(\begin{aligned} & \text { rith }\end{aligned}\)
6. In a device of the class described the combination rita the the top portion and the bottom portion and adapted to extend partly beneath a bar, of the coll chamber forming the front of the top of the cabinet and flling the top portion above the rear of the bottom portion. the drain plate resting on the top of the portion of the ce the inet not extending beneath the bar and removable to the coll coil chamber, a drip pan adapted to fit between the col chamber and the front of the top of the boiler portion the the cabinet to secure the coil chamber in nlace. a cofl in the coil chamber, a faucet supported in the front of the chamber over the drip pan and connected to one ond of the coll. supply pipe extending adjacent to the chamber whabe conother end of the coll emerges therefrom and detachable con-
nections between the pipe and the end of the coll, the elements being so constructed and arranged that when the connections are detached and the drip pan removed the coil chamber with its coll and faucet in place can be removed bodily from beneath the bar and out of the cabinet.
7. In a device of the class described the combination with the cabinet, of a removable cail chamber carried by the cabinet and provided with a coil, a faucet on the coil chamber and connected to the coll, and a removable drip pan mounted on the cabinet under the faucet and which when in position prevents the removal of the coil chamber.
8. In a device of the class described the combination with the cabinet, of a drain pipe therein, a removable coil chamber carried by the chest and having an overflow pipe discharging into the waste plpe, a coil in the coil chamber provided with a faucet, and the removable drip pan located under the faucet and securing the coil chamber in position and having an outlet also discharging into the drain pipe.
9. In a device of the class described the combination with a storage cabinet, of a removable coil chamber carried by the the cabinet and provided with a plurality of coils, supply pipes passing into the cabinet and detachably connected to the coils, a discharge faucet for each coil mounted on the front wall of the coil chamber, and a removable drip pan mounted on the cabinct under the faucets and engaging the coil chamber to secure it in place and providing a closure for the chest whereby when the drip pan is removed and the colls disconnected from the supply pipes, the coil chamber may be removed from the cabinet.
10. In a device of the class described the combination with the coil chamber adapted to extend partially beneath the bar, of the drain plate covering a partion of the chamber not beneath the bar, the ice holding cylinder, the coil about the cylinder, and the hopper-shaped extension of the top of the cylinder extending toward the side away from the bar, for the purpose described.
11. In a device of the class described the combination with the coil chamber adapted to extend partially beneath the bar, of the drain plate covering a portion of the chamber not beneath the bar, the ice holding cylinder about the cylinder, the faucet in the front of the coil chamber to which the pipe extends, and the hopper-shaped extension on the top of the cylinder extending toward the side away from the bar and covering the connections between the pipe and the faucet.
12. In a device of the class described the combination with the cabinet having the top and bottom portions, the bottom portion being wider than and extending beyond the top portion, of the coil chamber in the top portion of the cabinet and supported thereby and having the strip 33 across the front thereof, and the removable drip pan adapted to be supported on the strip 33 and the tops of the walls of the extended portion of the cabinet.
13. In a device of the class described the combination with the cabinet having the drain pipe in the bottom thereof, of the coil chamber in the top of the cabinet having the overflow plpe therein discharging into the drain pipe, and the drain plate on the top of the cabinet over the coil chamber having an aperture in the bottom thereof discharging into the overfiow pipe.
14. In a device of the class described the combination with the cabinet having the drain pipe in the bottom thereof, of the coil chamber in the top of the cabinet baving the overflow pipe therein discharging into the drain pipe, the drain plate on the top of the cabinet over the coil chamber having an aperture in the bottom thereof discharging into the overflow pipe, and the drip pan carried by the cabinet adjacent the coil chamber and having an aperture discharging into the drain pipe.
15. In a device of the class described a hollow drain plate having one side perforated, with the swab therein and a handle for moving the swab.
16. In a device of the class described a hollow drain plate having one side perforated, with the swab therein, and the rod extending the length of the plate and through one end thereof and provided with a handle for moving the swab.
17. In a device of the class described the trough-like hollow drain plate having its top perforated and extending beyond the edges of the trough portion, with the swab therein, and the handle for moving the swab.
18. In a device of the class described the hollow troughlike drain plate having one side perforated, the swab exlending across the trough portion, the rod extending the length of the plate and through one end thereot and provided with a handle for moving the swab, and the brace rod 68 , for the purpose described.

No. 101,794. Lock. Serrure.


John F. Pixley, Columbus, Ohio, U.S.A., 30th October, \(1906 ; 6\) years. Filed 1st August, 1906. Receipt No. 138,348.
Claim.-1. The combination with a casing and a keeper, of a locking bolt, rotatively journalled, and operating in said casing, and adapted to be projected into or withdrawn from, said keeper and arm or finger arranged to project into the path of said bolt, to be rocked when said bolt is moved endwise, said arm or finger being independent of said bolt, to permit rotative movement of the latter, and a registering mechanism operated by said arm or finger.
2. The combination with a casing having a cylindrical chamber, and a chambered extension, of a registering mechanism arranged in the chamber of the extension, a bolt jcurnalled to rotate axially and having endwise movement it: the cylindrical casing, and an arm or finger connected with the register mechanism and arranged to extend freely it.to the cylindrical chamber, and in the path of the endwise movement of the bolt.
3. The combination with the casing having a chamber, and a chambered extension, the wall of said chamber being slotted longitudinally of the chamber, of a bolt mounted for rotative and longitudinal movement in said chamber, the handle or knob connected to the bolt, and extending through the slot in the casing, and a register mechanism arranged within the chambered extension, and independent of the bolt, to permit of the rotative movement of the latter, and adapted to be engaged by the bolt when moved longitudinally to register such longitudinal movements.
4. The combination with a chambered longitudinally and transversely slotted casing having a chambered extension, of a bolt mounted in the chamber of said casing for both rotat!ve and longiturinal movement therein, a knob handle connfected to the bolt and extending through and operating in the slot in said casing, and registering mechanism arranged within the chambered extension of the casing, and indepenlent of the bolt, to permit of the rotative movement of the latter, and means arranged to be engaged and actuated by the bolt, when moved longitudinally, for operating the registering mechanism to register such longitudinal movement.
5. The combination with a casing having a chamber, and a chambered extension, of a bolt fitting said chamber, and arranged for longitudinal and axial rotative movement therein, means for moving said bolt longitudinally and axially, means for locking said bolt when it is moved axially, and means arranged within the chambered extension of the casing for registering the longitudinal movements of the bolt.
6. The combination of a casing having a chambered extension, and a keeper, an axially rotated bolt mounted in the casing for movement longitudinally into and out of locking relation with respect to the keeper, an arm or finger independent of but arranged to extend into the path of longitudinal movement of the bolt, to be engaged and rocked thereby, a register mechanism arranged within said chambered extension, and actuated by said arm or finger, and means connected with the bolt for moving the same.
7. The combination with a chamber casing having a chambered extension, a register mechanism arranged in the chambered extension, and including a spring pressed arm or finger, said arm or finger having its iree end extending Into the casing chamber, a bolt mounted in the casing chamber, means connected to said bolt for rocking it axially and for moving it longitudinally, a keeper into and out of engagement with which said boit is moved longitudinally, and means operative when the bolt is moved axially for holding the bolt against longltudinal movement.

No. 101,795. Reifigerator.
Appareil refrigérant.


George A. Masters, Chicago, Illinois, U.S.A., 30th October, 1906; 6 years. Filed 3rd July, 1906. Receipt No. 137,483. Claim.-1. In a refrigerator, in combination, an alr compressor, a storage tank for the compressed air, a cylinder adapted to have communication with said tank, an adjustable pressure valve for said tank, adapted to open and close communication between said tank and said cylinder, a piston in said cylinder, means actuated by the movement of said piston for stopping the operation of said air compressor, an expansion engine adapted to be driven by the compressed air, a cold room, means for cooling said cold room with the exhaust from said engine, and means actuated by variations of temperature within said cold room, for varying the supply of compressed air to said engine.
2. In a refrigerator, in combination, an air compressor, a clutch for connecting said compressor with a source of power, a storage tank for the compressed air, a cylinder adapted to have communication with said tank, an adjustable pressure valve for said tank, adapted to onen and close communication between said tank and said cylinder, a lever for operating said clutch, a piston in sald cylinder for moving sald lever to disconnect said compressor from its source of nower, an expansion engine adanted to be driven by the compressed air, a cold room, means for cooling said cold room with the exhaust from said engine, and means actuated by variations of temperature within said cold room, for varying the supply of compressed air to said engine.
3. In a refrigerator, in combination, an air compressor, a storage tank for the compressed air, a cylinder adapted to have communication with said tank, an adjustable pressure valve for said tank, adapted to open and close communication between said tank and said cyllnder, a piston in said cylinder, means actuated by the movement of said piston for stopping the operation of said air compressor, means for starting the operation of said compressor when the pressure in said tank has been lowered to a predetermined point, an expansion engine adapted to be driven by the compressed air, a cold room, means for cooling said cold room with the exhaust from said engine, and means actuated by variations of temperature within said cold room, for varying the supply of compressed air to said engine.
4. In a refrigerator, in combination, an air compressor, a clutch for connecting said compressor with a source of power, a storage tank for the compressed air, a cylinder adapted to have communication with said tank, an adjustable pressure valve for sald tank, adapted to open and close communication between said tank and said cylinder, a lever for operating said clutch, a piston in said cylinder for moving said lever to disconnect sald compressor from its source of power, means for starting the operation of gaid compressor when the pressure in said tank has been lowered to a predetermined point, an expansion engine adapted to be driven by the compressed air, a cold room, means for cooling said cold room with the exhaust from said engine, and means actuated by variations of temperature within said cold room, for varying the supply of compressed air to said engine.
5. In a refrigerator, in combination, an air compressor, a clutch for connecting said compressor with a source of power, a storage tank for compressed air, a cyllinder adapted to have communication with said tank when the pressure in said tank passes a predetermined point, a lever for operating said clutch, a piston in said cylinder for moving said lever to disconnect said compressor from its
source of power, a spring for moving said lever to condect said compressor with its source of power when the pressure in said tank luas been lowered to a predetermined point, an expansion engine adapted to be ariven by the compressed ail, a cold room, means for cooling said cold room with the exhaust rom said engine, and means actuated by variations of temperature within said cold room for varylag the supply or compressed air to said engine.
b. In a reirigerator, in combination, an air compressor, a clutch for connecting said compressor with a source of power, a storage tank tor the compressed air, a cyinder adapted to have communication with said tank, an adjustable pressure valve for said tank adapted to open and close communication between said tank and said cylinder, a lever tor operating said clutch, a piston in said cylinder tor moving said lever to disconnect said compressor from its source of power, a spring for moving said lever to connect said compressor with its source of power when the pressure in said tank has been lowered to a predetermined point, an expansion engine adapted to be driven by the compressed air, a cold room, means tor cooling said cold room with the exnaust from said engine, and means actuated by variations of temperature within said cold room, for varying the supply of compressed air to said engine.
7. In a refrigerator, in combination an air compressor, a storage tank for the compressed air, a cylinder adapted to have communication with said tank, an adjustable pressure valve for said tank adapted to open and close communtcation between said tank and said cylinder, a piston in said cylinder, means actuated by the movement of said piston for stopping the operation of said air compressor, an expansion engine adapted to be driven by the compressed air, a pump driven by said engine for causing a circulation of water for cooling the compressed air, a cold room, means for cooling said cold room with the exhaust from said enginc, and means actuated by variations of temperature within said cold room for varying the supply of compressed air to said engine.
8. In a refrigerator, in combination an air compressor, a clutch for connecting said compressor with a source of power a storage tank for the compressed air, a cylinder adapted to have communication with said tank, and adjustable pressure valve for said tank adapted to open and close communicstion between said tank and said cylinder, a lever for operating said clutch, a piston in said cylinder for moving sald lever to disconnect said compressor trom its source of power, an expansion engine adapted to be driven by the compress. ed air, a pump driven by said engine for causing a circulation of water for cooling the compressed air, a cold room, means for cooling said cold room with the exhaust from said engine, and means actuated by variations of temperature within said cold room for varying the supply of compressed air to said engine.
9. In a refrigerator, in combination an air compressor, s storage tank for the compressed air, a cylinder adapted to have communication with said tank, an adjustable pressure valve for said tank adapted to open and close communics. tion between said tank and said cylinder, a piston in said cylinder, means actuated by the movement of said piston for stopping the operation of said air compressor, megns for starting the operation of said compressor when the pressure in said tank has been lowered to a predetermined point, an expansion engine adapted to be driven by the compressed air, a pump driven by said engine for causing a circulation of water for cooling the compressed air, a cold room, means for cooling said cold room with the exhaust from said engine, and means actuated by variations of temperature within said cold room for varying the supply of compressed air to said engine.
10. In a refrigerator. in combinstion an air compressor, \(a^{2}\) clutch for connecting said compressor with a source of power, a storage tank for the compressed air, a cylinder adapted to have communication with said tank, an adjustable pressure valve for said tank adapted to open and close communication between said tank and said cylinder, a levef for operating said clutch, a piston in said cylinder for moring said lever to disconnect said compressor from its source of power, means for starting the operation of said compressor when the pressure in said tank has been lowered to predetermined point, an expansion engine adapted to be driven by the compressed air, a pump driven by said engine for causing a circulation of water for cooling the compressed air, a cold room, means for cooling said cold room with the exhaust from said engine, and means actuated by variations of temperature within said cold room for varying the supply of compressed air to said engine.
11. In a refrigerator, in comblnation an air compressor, \& clutch for connecting said compressor with a source of power, a storage tank for the compressed air. a cylidef adapted to have communication with said tank, an adjustable pressure valve for sald tank adapted to open and close
communication between said tank and said cylinder, a lever for operating said clutch, a piston in said cylinder for moving said lever to disconnect said compressor from its source of power, a spring for moving said lever to connect said compressor with its source of power when the pressure in said tank has been lowered to a predetermined point, an expansion engine adapted to be driven by the compressed air, a pump driven by said engine for causing a circulation of water for cooling the compressed air, a cold room, means for cooling said cold room with the exhaust from said engine, and means actuated by varintions of temperature within said cold room for varying the supply of compressed air to said engine.
12. In a refrigerator, in combination an air compressor, a storage tank for the compressed air, an expansion engine adapted to be driven by the compressed air, a cold room, means for cooling said cold room with the exhaust from said engine, an adjustable valve for delivering a predetermined quantity of compressed air to said engine, a by-pass valve for delivering an additional quantity of compressed air to said engine, and means actuated by variations of temperature within said cold room for operating said by-pass valve.
13. In a refrigerator, in combination an alr compressor, a storage tank for the compressed air, a cylinder adapted to have communication with said tank when the pressure in said tank passes a predetermined point, a piston in said cylinder, means actuated. by the movement of said piston for stopping the operation of said air compressor. an expansion engine adapted to be driven by the compressed air, a cold room, means for cooling said cold room with the exhaust from said engine, an adjustable valve for delivering a predetermined quantity of compressed air to said engine, a by-pass valve for dellvering an additional quantity of compressed air to said engine, and means actuated by variatlons of temperature within said cold room for operating said by-pass valve.
14. In a refrigerator, in combination an air compressor, a storage tank for the compressed air, means actuated by the pressure within said tank for stopping the operation of said air compressor when the pressure in sald tank passes a predetermined point, means for starting the operation of said compressor when the pressure in said tank has been lowered to a predetermined point. an expansion engine adapted to be driven by the compressed air, a cold room, means for cooling said cold room with the exhaust from said engine, an adjustable valve for delivering a predetermined quantity of compressed air to said engine, a by-pass valve for dellvering an additional quantity of compressed air to said engine, and means actuated by variations of temperature within said cold room for operating said by-pass valve.
15. In a refrigerator, in combination air compressor, a clutch for connecting sald compressor with a source of power, a storage tank for the compressed air. a cylinder adapted to have communication with said tank when the pressure in said tank passes a predetermined point, a lever for operating sald clutch, a piston in sald cylinder for moving said lever to disconnect said compressor from its source of power, a spring for moving said lever to connect sald compressor with its source of power when the pressure in sald tank has beed lowered to a predetermined point, an expansion engine adapted to be driven by compressed air, a cold room. means for cooling said cold room with the exhaust from sald engine. an adjustable valve for delivering a predetermined quantity of compressed air to said engine, a by-pass valve for delivering an additional quantity of compressed air to said engine, and means actuated by variations of temperature within said cold room. for operating said by-pass valve.
16. In a refrigerator. in combination an air compressor, a storage tank for the compressed air, an expansion engine adapted to be driven by the compressed air, a pump driven by said engine for causing a circulation of water for coollng the compressed alr, a cold room, means for cooling said cold room with the exhaust from said engine, an adjustable valve for delivering a predetermined quantity of compressed air to said engine, a by-pass valve for delivering an additional quantity of compressed air to said engine, and means actuated by variations of temperature within said cold room for operating said by-pass valve.
17. In a refrigerator, in combination an air compressor, a storage tank for the compressed air, means actuated by the pressure within sald tank for stoppling the operation of sald compressor when the pressure in said tank has been lowered determined point, means for starting the operation of said compressor when the pressure in the tank has been lowered to a predetermined point, an expansion engine adapted to be driven by the compressed air, a pump driven by said engine for causing a circulation of water for cooling the compressed air. a cold room, means for cooling said cold room with the exhaust from said engine, an adjustable valve for dellvering a predetermined quantity of compressed air to said englne, a by-pass valve for delivering an additional quantity of compressed air to said engine, and means actuated by variations
of temperature within said cold room for operating said bypass valve.
18. In a refrigerator, in combination a cold room, an air compressor, a storage tank for the compressed air located in said cold room, a pipe extending through said tank and communicating with the air of said cold room for permitting a circulation of air for cooling said tank, an expansion engine adapted to be driven by said compressed air, a pump driven by said expansion engine for causing a circulation of water for cooling said compressed air, and means for cooling said cold room with the exhaust from said engine.
19. In a refrigerator, in combination a cold room, a storage tank for compressed air, a smaller air storage tank within said first-mentioned tank, a valve adapted to prevent the passage of compressed air from the smaller tank to the larger tank, an air compressor arranged to deliver compressed air to each of said tanks. a second air compressor arranged to deliver compressed air to said smaller tank, an expansion engine adapted to be driven by the compressed air, means of cominunication between said smaller storage tank and said engine, and means for cooling said cold room with the exhaust from said engine.
20. In a refrigerator car, in combination an air compressor, means for driving said air compressor with power from the car axle, a storage tank for the compressed air, an expansion cugine, an adjustable valve for dellvering a predetermined quantity of compressed air to said engine, a by-pass valve, and means actuated by variations of temperature within said cold room for operating said by-pass valve.
21 . In a refrigerator car, in combination an air compressor, means for driving said air compressor with power from the car axle, a storage tank for the compressed air, an expansion engine, an adjustable valve for delivering a predetermined quantity of compressed alr to said engine, a by-pass valve, means actuated by variations of temperature in sald cold room for operating said by-pass valve, and means actuated by the pressure within said storage tank for stopping the operation of said air compressor when the pressure in said tank passes a predetermined point.
22. In a refrigerator car, in combination a car body, trucks for supporting said car body, one of sald trucks comprising a rotatable axle, a sprocket wheel on said axle, a rotatable shaft journalled within said car body, an alr compression pump operatively connected to said shaft, a sprocket wheed loosely mounted on said shaft, said wheel carrying one wember of a two-part clutch, a corresponding clutch member slidably mounted on said shaft, a chain belt extending over the sprocket wheel on said axle and the sprocket wheel on said shaft, a storage tank for the compressed air, a cylinder adapted to have communication with said tank, an adjustable pressure valve for said tank adapted to open and close communication between said tank and said cylinder, a lever for sliding said slidable clutch member, a piston in said cylinder for moving said lever, an expansion engine adapted to bet driven by the compressed air, a cold room, pipes in said cold room for receiving the exhaust from said engine, and means actuated by variations of temperature within said cold room for varying the supply of compressed air to said engine.
23. On air storage and cooling tank comprising a large air tank and a smaller air tank within the larger each supplied with air inlets, a valve for permitting the passage of air from said larger tank to said smaller tank, an air outlet for said smaller tank and a pipe extending through and opening upon the exterior of said tanks for permitting a circulation of the outer air for cooling said tank.

No. 101,796. Lock. s'crrure.
Martin Mohr, Newport, Kentucky, U.S.A., 30th October, 1906 , 6 years. Filed 27 th June, 1906. Receipt No. 137,347.
Claim.-1. In a lock the combination with the casing formed in two parts, of a heap plvoted to the lower part, a duuble set of tumblers arranged in said part, a lever pivoted in said part, adapted to engage the hasp, and a locking bolt carried by the other part for the purpose described.
2. In a lock the combination with the casing formed in two parts, of a hasp pivoted to the lower part, a pair of double tumblers pivoted in said part, a plate secured over sald tumblers, a duplicate pair of tumblers arranged over said tumblers on the plate, a spring locking bolt carried by the other part, and a line connected to the hasp adapted to en. gage said bolt for the purgose described.
3. In a lock the combination with the casing formed in two parts, one of the parts being provided with a guldeway on the outside, a locking belt arranged under the guideway cn the inside, and means connected to the hasp for forcing the bolt into the guideway, for the purpose described.
4. In a lock the combination with the casing, of a double set of tumblers pivoted in said casing, a hasp pivoted in said casing and provided with an inwardly projecting memver a guideway formed on the face of the casing, a spring bolt secured in the casing under the guldeway, and a line connected to the hasp adapted to engage the bolt, for the purpose described.

plate secured between sald tumblers, a spring actuated asp secured in sald shell, a lever provided with jaws at one end and adapted to engage the hasp and bevelled at one other end, a guideway formed in the face of the other shell, a spring bolt secured under the guldeway on othe projecting in said guideway operated by the bevelled end of the lever adapted to be described.

\section*{No. 101,797. Wire Straining Apparatus. appareil détirer le fil de fer.}


Whlliam Nepean Hutchison, 57 Peckham Road, Camberwell, London, England, 30th October, 1906 ; 6 years. Filed 7th January, 1906. Receipt No. 132,705.
Claim.-1. In a wire tightening device the combination with a strainer bar having hooks at its end, and a winding spool at its middle provided with means for engaging the wire, of an operating lever having cranked handles at its ends, and two movable cllips secured to the middle part of the said lever and holding the sald bar between them crosswise of the sald lever.

\section*{No. 101,798. Refrigerator. Appareil réfrigérant.}

Frederick A. Hickson, Atlanta, Georgia, U.S.A., 30th Octo. ber, 1906 ; 6 years. Filed 11th April, 1906. Receipt No. 134,836.
Claim.-1. A refrigerator having supporting devices detachably secured on the inner sides of its walls, each of said supporting devices comprising a yoke portion, upstanding lugs thereon and angularly bent arms extending outwardly and upwardly from the ends of the yoke portion, laterally spaced apart and detachably secured to the sald walls of the refrigerator, and an ice pan in the refrigerator resting on the yoke portion of the supporting devices and bearing against the upstanding lugs thereon, said icepan being thereby detachably and removably supported in the refrigerator and out of contact with the walls thereof.
2. A refrigerator having removable shelf supporijuc do vices interiorly thereof, said shelf supporting devices comprising corner posts having projections to support the

NT OFFICE RECORD Shelves,
posts in

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which a refrigerator, a removab
Which is less than th, a removable
refrigerator, and suppe space between the one the length of their supporting supporting brackets the end walls of of from the end wing members which devices to engalls of the refrigeratorge the icepan spaced the refrigerator the icepan and maintain brackets baving he refrigerator walls.
4. A supporting and maintain it spaced from 4. A supporting brac refrigerator, comprising a for the removable ice pan of a thereon, and angularly bent arms extion, upstanding lugs upwardly from the ends of the yoke extending outwardly and spaced apart.
5. A supporting bracket for refrigerator, struck up from a removable icepan of the comprising a yoke portion irom a single piece of metal and gularly bent arms extending from the lugs thereon and antion and laterally spaced from the ends of the yoke por 6. An ice pan for refrige apart.
side wall provided at its lower edge with a shell having a posed depending extension having end notches, end walls and bottom sections formed integrally with said side wall, said bottom sections being inserted in said notches and supported thereby, and a door forming the opposite side of the pan and secured between the end walls, substantially as described.
7. An icepan for refrigerators comprising a shell having a side wall, provided at its lower edge with a centrally disposed depending extension having end notches, end walls and bottom sections formed integrally with said side wall, sald bottom sections being inserted in said notches and supported thereby, and having upturned flanges at their sides, sald fanges at one side of the bottom sections partly forming a wall opposite the said side wall, and a door co-acting with said side sections to form the opposite side of the pan, when said door is closed, substantially as described.

\section*{No. 101,799. Wire Stretcher. Tendeur de \(\mu \mathrm{defor}\).}

William P. Sullivan, Steele, Montana, U.S.A., 30th October, 1906; 6 years. Filed 13th August, 1906. Receidt No. 138,622.
Claim.-1. In a fence wire stretcher, in combination with a fence post and wire, a frame, a flexible element secured at its ends to said frame and adapted to encircle the post, a vertically disposed stirrup secured to said frame and provided with spikes at opposite ends adapted to engage the post at one side thereof, and a cam lever secured to said flexible element intermediate its ends and adapted to bear against the opposite side of the post to maintain the stirrup spikes in engagement with the post.
2. In a fence wire stretcher, in combination with a fence post and wire, a frame, a vertically disposed stirrup attached to said frame and provided at opposite ends with spikes adapted to engage the post at one side thereof, sald stirrup being formed of sheet metal coiled upon itself, s fiexible element secured at opposite ends to said frame, and adapted to encircle the post, and a cam lever secured to said element intermediate the endsh thereof and adapted to bear against the opposite sides of the post to maintain the stirrup spikes in engagement with the post.
3. In a fence wire stretcher, in combination with a fence post and wire, a frame comprising sides and a connecting end piece, a pair of transverse shafts journalled in sald
sides, a roller and a gear wheel mounted on the front shaft, a gear wheel mounted on the rear shaft in mesh


With said first-mentioned gear, means for rotating said gear shaft, a stirrup secured to the end piece of the frame and provided with spikes for engagement with the post. a pawl secured to one of the sides of the frame for engagement with the gear on the rear shaft, and a flexible element secured at one end to sald roller and provided with a wire clamp at its opposite end, said clamp comprising a plate formed with a longitudinal hook-shaped lug, forming a seat for the wire, a pin mounted in said plate to one side of said lug and extending on opposite sides of said plate, a cam mounted on one end of said pin and extending within the seat formed by said lug, and a crank attached to the opposite end of the pin to actuate said cam, and retain the wire within said seat.

No. 101,800. Saw Swage. Scic de étamper.


Charles John Anderson, Eureka, Callfornia, U.S.A., 30th October. 1906; 6 years. Filed 17 th September, 1906. Recelpt No. 139,568.
Olaim.-1. A saw swaging device comprising a body, two rocking swaging tools mounted therein, a handle in connection with one tool, a rock shaft, a swinging arm connected to the rock shaft and having a sliding connection with the handle and gearing for establishing connection with the rock shaft and the other tool
2. A saw swaging device comprising a body, two positively operating swaging tools mounted thereon, a handle in connection with one tool, a rock shaft mounted on the body, an arm in connection with the rock shaft, means establishing connection between the handle and said arm, and means connecting the rock shaft with the other tool.
3. A saw swaging device comprising a body, two positively operating swaging tools mounted thereon, a handle in connection with one of sald tools, a rock shaft mounted on the body, an arm attached to the rock shaft, means effecting a sliding connection between said arm and sald handle and toothed sectors meshed with each other and respectively
connected with the rock shaft and with the remaining tool, for the purpose specified.
4. A saw swaging device comprising a body, two positively operating swaging tools mounted thereon, a handle attached to one of the tools, a guide attached to the handle, a rock shaft, an arm attached to the rock shaft and sliding in the guide, and a means establishing connection between the rock shaft and the other tool whereby both of the tools are operated together.

No. 101,801. Device for use in Transferming Ioe Cream Cans.
Appareil d̀ transfer les bidons de crême d̀ la glace.


Jacob Renner, Rockwell City, Lowa, U.S.A., 30th October. 1906 ; 6 years. Filed 11th September, 1906. Receipt No. 139,636.
Claim.-1. A device for separating ice in a cream ireezer tube from a can therein, consisting of two semi-cylindrical pivotally connected sections adapted to pass downward over a can to separate and hold the ice therefrom, whereby the can may be lifted from the tub or a can placed therein while the device remains in the tub.
2. A device for the purpose specifled comprising two substantially seml-cylindrical sections, metal strips secured along the edges and around the top of the sections, and pivoted connections between the sections at about the center between the upper and lower ends.
3. A device for the purpose specifled comprising two substantially semi-cylindrical sections consisting of metal pivotally connected together centrally of the upper and lower ends, metal strips secured to the side edges of the sections, and also extending around the top thereof and handles attached to the top of the sections.

No. 101,802. Ioe Tonge. Tenailles dalace.


Murdoch Hugh McDonnell, Cyrstal Falls, Michigan, U.S.A.. 30th October, 1906; 6 years. Filed 21st September. 1906. Recelpt No. 139,693.
Claim.-1. As an improved article of manufacture the herein described ice tongs comprising two side frames each of which embodies two arms pivotally connected together intermediate of their ends with two links connected to the upper ends of the arms and to each other and three handlea,
two of sald handles connecting one frame with the other at the pivotal juncture of the links with the upper ends of the arms and the third handle connecting said irames together at the juncture of the two links with respect to each other and flexible supporting members connecting the lower ends of said arms.
2. As an improved article of manufacture the herein described ice tongs comprising two frames each of which embodies two arms pivotally connected together intermediate of their ends, two links connected at one end with the upper end of said arms and connected together at their opposite conds, chains connecting the frec ends of the arms of one frame with the corresponding ends of the other frame arms, and handles connecting said frames together at the juncture of the links with the arms and also at the juncture of the two links with respect to each other.

No. 101,803. Holdback for Harness. Entrave pour harnais.


Hallock R. McDonald and Laurin R. Cope, assignee of a half interest, both of Lisbon, Ohio, U.S.A., 30th October, 1906; 6 years. Filed 10th September, 1906. Receipt No. 139,365.
Claim.-1. The combination with an ordinary harness including a breeching, traces, back strap, girth and breast strap or collar, of an attachment therefor comprising sockets or thimbles fitted on the front ends of the shafts and holdback straps independent of the traces connected at their rear ends to the breeching and at their front ends to the sockets or thimbles, the connection of the holdback straps to the breeching forming the sole connection betwen the attachment and the harness.
2. A harness including a girth, breast member and breeching in combination with traces extending directly from the breast member and holdback straps extended directly from the breeching and having terminal means of attachemnt to the front ends of the thills, said traces and holdback straps being otherwise disconnected from and independent of each other and of the harness.
3. A harness including a breast member, girth and breeching in combination with traces extended directly from the breast member and holdback attachments each including a holdback strap and an attaching thimble, each of said attachments being terminally secured to the breeching and otherwise disconnected from the harness.
4. A harness including a breast member, girth and breeching in combination with thills and a whiffletree, traces extending directly between the breast member and whiffletrse and otherwise disconnected from the harness and holdbacis attachments each secured at its opposite ends to the breeching and to the front end of a thill respectively and otherwise disconnected from the harness or vehicle, each of said attachments including a holdback strap and an attachment thimble.
5. A holdback for harness comprising a holdback strap and a socket or thimble provided on its interior with a compressible shaft engaging device arranged to frictionally engage a shaft to prevent the socket or thimble from rotating on the same.
6. A holdback for harness comprising a holdback strap and a socket or thimble adapted to fit on the front end of the shaft and provided with an interiorly arranged spring secured at one end to the socket or thimble and having its other end free, said spring being bowed between its ends and
arranged to be compressed when the socket or thimble is placed on a shaft.
7. A holdback for harness comprising a holdback strap and a socket or thimble consisting of a tapering leather body portion, a core tapered within the smaller end of the body portion, a tapered metal tip fitted to the core and recelving and engaging the adjacent ond of the leather body portion and clamping the same on the core and fastening devices piercing the tip and the leather body portion and securing the same to the core.
S. A holdback for harness comprising a holdback strap and a socket provided with interiorly arranged yleldable means allapted to conform to shafts of different sizes and arranged to frictionally engage the same to prevent the socket or thimble rotating thereon.
9. In a device of the class described, a thimble or socket provided with an interiorly arranged spring for frictionally engaging a shaft to prevent the socket from rotating on the front end of the same, said spring being yieldable to at shafts of different sizes.

No. 101,804. Wheel for Vehicles. Roue de vethicules.


The Pradeau Wheel Syndicate, assignee of Charles William Pradeau, 1 Stowe Road, Shephard's Bush, London, England, 30th October, 1906; 6 years. Filed 13th September, 1906. Receipt No. 139,482.

Claim.-1. A spring wheel for motor cars and other vehicles, each spoke of which is provided with a hollow cylinder containing a spring plunger, the onter end of each plunger being formed into a fork to which is pivoted a crank piece carried by a bearing bridge attached to the outer rim, for the purposes set forth.
2. A spring wheel for motor cars and other vehicles comprising a serics of spokes. each provided with a hollow cylinder, a spring plunger mounted in each cylinder, a fork fcrmed at the outer end of each plunger, a pivoted member, a hearing bridge attached to the outer rim for supporting said pivoted member, and means for securing satd bearing bridge to the rim, substantially as described.

No. 101,805. Vehicle Wheel. Roue de véhicules.
William H. Parham and Finis E. Lack, assignee of a hall interest, both of Paducah. Kentucky, U.S.A., 30th October, \(1906 ; 6\) years. Filed 23 rd June, 1906. Receipt No. 137,187.
Claim.-1. A wheel of the class described comprising a resilieut rim having flat inner and outer faces, a hub, and a plurality of spokes constructed of flat resilient metal and consisting of arched outer portlons, and straight inwardly converging sides, the straight portions of the contiguous spokes being fitted together, whereby the spokes mutually st:pport each other.
2. A wheel of the class described comprising a resilient rim, a hub, a plurality of resilient spokes. and mesns for adjusting the tension of the spokes to vary the stifiness of the wheel.
3. A wheel of the class described comprising a resilient series of elastic tubes between the rims, and bolts near the rim, a hub, and a plurality of resilient spokes constructed

of resllent material, which is bent to form loops, and adjustable means for varying the tension of the spokes.
4. A wheel of the class described comprising a resillent rim, a hub, a plurality of spokes constructed of resillent material and forming loops, and adjustable means for connecting the sides of the loops to vary the tension of the spokes.
5. A wheel of the class described comprising a resillent rim, a hub, and a plurality of resilient spokes forming loops, the sides of the loops being provided with bends forming seats, and adjusting devices receiving the sides of the spokes ar the said seats, whereby they are held against inward or outward movement on the spokes, the said adjusting devices being adapted to vary the tension of the spokes.
6. A wheel of the class described comprising a rim, a hub composed of sections having radial grooves, and provided at the inner ends thereof with annular grooves and spokes consisting of loops having sides fitted in the radial grooves of the hub, said spokes being also provided at their inner ends with lugs fitting in the annular grooves of the sections of the hub to interlock the spokes with the latter.
7. A wheel of the class described comprising a flat resilient rim, a solid tire arranged on the rim, a hub, spokes secured to the hub and having loops fitted against the inner face of the rim, and clips engaging the spokes and the tire and securing the same to the rim.
8. A wheel of the class described comprising a resilfent rim having a flat outer sace, an endless solid rubber tire provided with a flat inner face and arranged on the rim, and means for holding the tire against lateral movement.
9. A wheel of the class described comprising a resilient rim having a flat outer face, an endless rubber tire arranged on the flat outer face of the rim, and an endless metallic band embedded in the tire, and surrounding the rim and spaced therefrom.
10. A wheel of the class described comprising a resllient rim having a flat outer face, an endless rubber tire arranged on the flat outer face of the rim and provided with a base having projecting edges, an endless metallic band embedded in the tire at the projecting edges of the base and presenting exterior metallic faces and having interiorly arranged openings for the rubber of the tire, and means for engaging the exterior metallic faces for retalning the tire on the rim.

\section*{No. 101,806. Elastic Wheel for Vehicles.}

\section*{Roue élastique pour véhicules}

Robert Henry Isaac Cook, 9 South Street, Greenwich, Kent, England, 30th October, 1906; 6 years. Filed 13th June, 1906. Receipt No. 136,843.

Olaim.-1. The combination of inner and outer rims of cylindrical form, and a series of elastic tubes between the rims.
2. The combination of inner and outer rims of cylindrical form, a series of elastic tubes between the rims, tubes between the rims, and bolts near the ends of the tubes securing them to the rims.
3. The combination of inner and outer rims of cylindrical form, and a series of elastic tubes between the rims in contact throughout their length with them.
4. The combination of inner and outer rims of cylindrical form, a series of elastic tubes between the rims in contact throughout their length with them, and bolts near the ends of the tubes securing them to the rims.
5. The combination of a felloe, inner and outer rims of cylindrical form and of greater width than the felloe, and a series of elastic tubes between the rims.
6. The combination of a felloe, inner and outer rims of cylindrical form and of greater width than the felloe, a
ands of the tubes securing them to the rims.

7. The combination of a felloe, inner and outer rims of cylindrical form and of greater width than the felloe, and a series of elastic tubes between the rims in contact throughout their length with them.
8. The combination of a felloe, inner and outer rims of crifuriral form and of greater width than the felloe, a series of elastic fubes between the rims in contact throughout their length with them, and bolts near the ends of the tubes securing them to the rims.
9. The combination of Inner and outer rims of cylindrical form, a series of elastic tubes between the rims, plates irside the tubes, and bolts passing through the walls of the tubes and connecting the plates to the rims.
10. The combination of inner and outer rims of cylindrical form, a series of elastic tubes between the rims in contact throughout their length with them, plates inside the tubes, and bolts passing through the walls of the tubes and ecnnecting the plates to the rims.
11. The combination of a felloe, inner and outer rims of cylindrical form and of greater width than the felloe, a scries of clastic tubes between the rims, plates inside the tubes, and bolts passing through the. walls of the tubes and connecting the plates to the rims.
12. The combination of a felloe, inner and outer rims of cylindrical form and of greater width than the felloe, a scries of clastic tubes between the rims in contact throughcut their length with their plates inside the tube, and bolts passing through the walls of the tubes and connecting the plates to the rims.

\section*{No. 101,807. Wagon Wheel. Roue de wagon.}

Israel T. Hurd, Lansing, Michigan, U.S.A., 30th October, 1906; 6 years. Filed 12th June, 1906. Receipt No. \(136,825\).
Claim.-1. A wheel having a rim composed of a central and side layers made in sections with the sections of the layers breaking joints and having washers extending across the joints between the sections of the outer layers, and means for securing said washers in olace.
2. A wagon wheel comprising a hub, spokes radiating therefrom, and a rim applied to said spokes and consisting of a central and side layers, the sections of the layers breaking joints, and plates overlapping the joints of the sections of the side layers.
3. The combination in a wheel with the central and side layers of the rim, of bolts extending through the rim at a point between the sections of the side layers thereof, and washers on said bolts and overlapping the joints between the sections of the outer layers.
4. A wheel comprising a hub, spokes radiating therefrom, and a felloe formed on central and side layers made in sections, the sections of the central layer fitting between the outer ends of the spokes and the sections of the side layers overlapping the joints of the central section with the joints of the side sections arranged between the spokes.
5. A wagon wheel comprising a hub, spokes attached at their inner ends to the said hub, a felloe formed of layers made in sections fastened together, the outer ends of the spokes fitting between the adjacent ends of successive sections of the central layer, the sections of the layers breaking joints, transverse bolts for fastening the layers together, sundry of the bolts extending through the joints of the sections of the outer layers and washers for the bolts passing through the joints, each washer extending across the joint and its end being provided with Inwardly extending prongs driven into the adjacent sectlons.
6. A wagon wheel comprising a hub having a polygonal face portion, an integral flange and a ring, the opening of

which corresponds with the sald polygonal face portion, spokes having their inner ends abutting against the polygonal face portion, transverse bolts for fastening the flange, spokes and ring together, a felloe made of a central layer and outer layers superimposed on opposite faces of the sald central layer, bolts for fastening the layers together and bolts for fastening the outer layers and the outer spoke ends together.
7. A wagon wheel comprising a hub having a polygonal face portion, an integral flange and a ring, the opening of which corresponds with the said polygonal face portion, spokes having their inner ends abutting against the polygonal face portion, transverse bolts for fastening the flange, spoke and ring together and a felloe made of a central layer and outer layers superimposed on opposite faces of the said central layer, the central layer being made in sections abutting with their ends on the outer ends of the spokes.
8. A wagon wheel comprising a hub having a polygonal face portion, an integral fiango and a ring, the onnning of which corresponds with the sold polygonal face portion, spokes having their inner ends abutting against the polygonal face portion. transverse bilts for fastening the flange, spokes and ring together and a felloe made of a central layer and outer layers superimposed on opposite faces of the said central layer, the certral layer being made in sections with their ends on the outer ends of the spokes. the latter having shoulders for the ends of the said sections to rest on.
9. A wagon wheel comprising a hub having a polygonal face portion, an integral flange and a ring, the opening of which corresponds with the said polygonal face portion. spokes having their inner ends abutting against the polygonal face portion, transverse bolts for fastening the fiange. spokes and ring together and a felloe made of a central layer and outer layers superimposed on opposite faces of the said central layer, the central layer being made in sections abutting with their ends on the outer ends of the spokes. the outer lavers being also made in sections breaking joints with each other and with the sections of the central layer.
10. A wagon wheel comprising a hub having a polygonal face portion, an integral flange and a ring. the opening of which corresponds with the said polygonal face portion. spokes having their inner ends abutting against the polygonal face portion, transverse bolts for fastening the flange. spokes and ring together, a felloe made of a central layer and outer layers superimposed on opposite faces of the sald central layer, the central laver being made in sections abutting with their ends on the outer ends of the spokes. the outer layers being also made in sections. breaking foints with each other and with the sections of the central layer, with each berse bolts for fastening the layers together and trans: verse bolts for fastening the outer layer and the spokes together.

No. 101,808. Vehicle Wheel. Roue de oéhicule.

Fīテ1


John C. Schleicher, Mount Vernon, New York, U.S.A., 30th October, 1906; 6 years. Filed 20th August, 1906. Rocelpt No. 138,833.
Claim.-1. A vehicle wheel comprising two side wheels, a wheel located between said side wheels and having a band secured to its under face with projections, spring plates carried on the spokes of the side wheels, seats on cald plates engaged by the projections of the band, an eccentrically mounted ratchet wheel, a pawl engaging it, a spring band adapted to be expanded and contracted by said ratchat wheel and springs supported between said spring band and spring plates, substantially as described.
2. A vehicle wheel comprising two side wheels, a wheel located between said side wheels and having a band secured to its under face provided with projections, spring plates carried on the spokes of the side wheel and engaged by the projections of the band, an eccentrically mounted ratchet wheel, a pawl engaging it, a spring hand adanted to be expanded and contracted by said ratchet wheel and springs supported between said spring band and spring plates, substantially as described.
3. A vehicle wheel comprising two side wheels, a wheel located between said side wheels and having a band secured to its under face provided with projections, spring plates carried on the snokes of the side wheels and engaged by the nroiections of the band. an eccentrically mounted ratchet wheel. a pawl engaging it, a spring band adapted to be exnanded and contracted by said ratchet wheel and vieldable means supported between said spring hand and spriak plates. substantially as described.
No. 101,809. Sectional Wheel Tire.
Bandage sectionnel de roue.


Albert John Fortescue, Arncliffe, near Sydney, New South South Wales, Australia, 30th October, 1906;6 years. Filed 31st August, 1906. Receipt No. 139,136.
Claim.-1. In sectional wheel tires combination with a projection under each end of one or more sections, of a bridge piece holding behind sald projections and against the ends of the rim sections.
2. In sectional wheel tires the combination with a projection under each end of one or more sections, of a bridge plece having stops which hold against said projections and against the ends of the rim section, substantially as described.
3. In sectional wheel tires the comblnation with a projec-
tion under each end of one or more sections. of a bridge
piece having stops which hold against said projections and against the ends of the rim sections and loose liners on the inner or outer faces of said stops, substantially as described and illustrated.
4. In sectional wheel tires the comblnation with a projection under each end of one or more sections, of a bridge piece provided with stops which take against said projections, a plug or spacing plece between the ends of the tire and with or without bolts for retaining said bridge piece in position substantially as described and illustrated.

No. 101,810. Adjustable Wheel Tire. Bandage de roue ajustable.


Samuel Frederick Mudge, Arncllffe near Sydney, New South Wales, Australia, 30th October, 1906 ; 6 years. Filed 17th July, 1906. Receipt No. 137,901.
Claim.-1. An improved adjustable wheel tire formed in one or more sections, enlarged ends on said section or sections, recesses formed in said ends and tie or connecting pleces formed corresponding in shape to sald recesses, in combination with a wheel having its rim formed corresponding to the tire sections.
2. An improved adjustable wheel tire formed in one or more sections, enlarged ends on said section or sections, circular recesses formed in said ends and tie or connecting pieces formed with ends corresponding in shape to said recesses in combination with a wheel having its rim formed in sections, substantially as herein described.
3. In a wheel tire of the kind described, formed of one or more sections, enlarged ends on said sections, recesses extending through said enlarged ends, a feather edge flange on said section or sections of tire in combination with a tie or connecting piece and fastening bolts or pins extending through the ends of the tie pieces and through the enlarged ends of the tire section or sections, substantially as set forth.
4. In a wheel tire of the kind described, formed of one or more sections, enlarged ends on each section of the tire, circular recesses extending partly through said enlarged ends, a shoulder formed at the end of each círcular recess, a hole extending through sald shoulder, in sombination with a tie or connecting piece having circular ends thereon and lateral pins on sald ends, substantially as described.
5. In a wheel tire of the kind described, formed of one or more sections, enlarged ends on sald section or sections, recesses in said ends and tie pieces corresponding in shape to said recesses and with or without fastening bolts, slots in the ends of said tie pleces and in the enlarged ends of the tire sections, pins adapted to fit into said slots, in combination with a wheel having its rim formed corresponding to the tire sections, substantially as set forth.

\section*{No. 101,811. Tire Setter.}

\section*{Appareil d poser les bandages.}

George W. Tinkey, Plymouth, Ohio, U.S.A., 30th October, \(1906 ; 6\) years. Filed 25th June, 1906. Recelpt No. 137,240. Claim.-1. A tire setter comprising a lever with opposite
minal portions arranged to fit against the outer face of a felly of a wheel, said terminals being provided at the bot-

tom with projecting lips arranged to engage beneath the felly and a tire engaging hook pivotally mounted between the arms.
2. A tire setter comprising a lever provided with opposite felly engaging arms having a shank, a lug extending from the shank and provided with an opening, a set screw mounted on the lug, a tire engaging hook pivotally mounted between the arms, adjusting means connected to the outer ends of the lever and embodying guide pulleys and a flexible connection the free end of the flexible connection being passed through the opening of the lug and adapted to be engaged by the set sorew, and means for anchoring said adjusting means.

No. 101,812. Tire Setter. Apparell d poser les bandages.


Seward E. Tumalty, Perry, New York, U.S.A., 30th October, 1906; 6 years. Filed 6th August, 1906. Receipt No. 138,444.
Claim.-1. An attachment for a tire setting machine, comprising a center rod, co-axial with the hub of the wheel receiving the tire, a support for sald rod, a part on the center rod to meet the hub of the wheel, a universal foint connection between said part and rod, a spring around said rod and means co-optrating with said spring to resist the upward motion of the hub and means adapted to extend over the wheel and in which said center rod is mounted.
2. An attachment for a tire setter consisting of an arm over the floor of the machine, a slidable center rod held co-axially with the hub, a spring around said rod and hav-
ing a bearing on said arm, a plate on the center rod having a universal joint connection with said rod, and means cooperating with said spring to resist the movement of the hub.
3. An attachment for machines for setting tires consisting of a base ring, an arm over the base ring and crossing the extended axis thereof, a slidabie center rod on the arm held co-axial with the hub and with the base ring to conform to the hub of the wheel, means for permitting the movement of the arm out of action, a plate on the center rod having a unlversal joint connection with said rod, a spring around said rod and means co-operating with the spring to resist the upward movement of the hub.
4. An attachment for a tire setting machine, having an arm over the base ring, a bracket on the arm, a center rod guided by the bracket, a nut threaded on the center rod and supported by the arm, and means on the bracket and spring means on the center rod to resist the upward motions of the hub of the wheel.
5. An attachment for machines for setting wagon tires, consisting of a movable arm over the base ring, a bracket on the arm, a center rod in the bracket, a threaded nut on the center rod and held against turning thereon, a sleeve threaded in the bracket, and receiving said center rod, said rod being movable in the sleeve and said nut being movable with the rod, and a spring internosed between said nut and the sleeve, and means on the center rod to meet the hub of the wheel.
6. In an attachment for a tire setting machine, a horizontal arm over the machine, a vertical center rod held by the arm co-axial with the wheel and independent of the hub thereof, a foot plate on the center rod to press against the end of the hub of the wheel, and means for longitudinally adjusting the center rod and means around said rod for holding said foot plate with yielding pressure against the hub of the wheel.

No. 101,813. Prepayment Device for Electric Meterm.
Compteur électrique actionné par une pièce de monnaie.


Berrle Cunningham, Peterborough, Ontario, Canada, Amos Berrle 30 th October 1906; 6 years 30th October, 184
ent electric meter, ceipt No. 138,184. Claim. -The combination and \(B\) in connection wing dogs \(A\) and.
of the two rocking dogs \(A\) andine feed, as
of the two rocking dogs
I and \(E\) to produce a magazin

No. 101,814. Wrench. Clé d̀ écrou.


John Franklin Doss, Depoy, Kentucky, U.S.A., 30th October, 1906: 6 years. Filed 11th June, 1906. Receipt No. 136,783.
Claim.-A tool of the ciass described, formed of a blade 1 having the opening 3 therein, the side edges 4 of the opening being converged and one of the side edges 4 being provided at spaced intervals throughout its entire length with the teeth 6 , the said side edges at one end of the opening being terminated in an acute angle with respect to each quer at the point of intersection of the planes occupied by the edges as at 5 , and the continuance 7 of the convergent edges 4 in parallel relation with respect to each other, substantially as described.

No. 101,815. Pipe Wrench. Clé à tuyau.


George M. Gealey, Enon Valley, Pennsylvania, U.S.A., \({ }_{\text {Re- }}^{\text {30th }}\) October, \(1906 ; 6\) years. Filed 16th ceipt No. 140,335 . Claim.-1. An implement prising a pair of alligatortical slot, a body portiod by sald portion provided with a vertare secured, pins varried undersaid jaws and to which they are stion having an incline ued bebody portion, the said body portion upper end received the neath face, lever having a bevelled jaws and engaging haid neath face, a tween the dependig portion, a sleeve pa for securing liver incline face of the body through said sleeve forted to the lever slots, a bolt passing throig pivotally connecterried by said lever to the jaws and a chaged with the pins
and adapted to be engaged as described. body portion, substantialiy po paws of alligator and haring 2. In a pipe wrench, 2. In by a body portion in said body portions, a lever received spart by a boding below said ical slots, a lever red upper portions depencovided with vertical having a bevelled portion, ing portions provideing portions and ha on the body ports to between said dependincline lower face onged in said slon conend to engage an incline lever and engaged its one end cortion end to passed through jaws, a chain having the body porting means passever to the jaws, ans carried bynected after being secure the leve lever, and means to be connected.
nected to the chain is adaptedially as described
to which said a pipe, substantiall structur
passed around a concrete Struen.
No. 101,816. Reinforced Conction en béton. \({ }_{\text {Renfort pour constructh octo- }}\) Renfort pour constructiongton, U.S.A..306. Recelpt
Charles E. Fowler, Seat Filed 4th Septem ature specifed. ber, 1906, 6 structure of the nature formed core congisting ber, 139,251 . forced structure body or core congistian co. 10, a reinforceprising a boang means
claim.-1. In a rener comprising inforcing
structural member metallic
of bars embedded in said body with their end portions projecting therefrom, a facing formed from plastic composition

and metallic reinforcing means consisting of members spaced apart and interposed between said body and facing.
2. A structure of the nature indicated comprising shafts or columns spaced apart, a web extending therebetween havIng a body or core formed of plastic composition, metallic reinforcing members embedded in said body and extending into said shafts or columns, a facing formed from plastic composition, and metallic reinforcing means interposed between sald body and the facing.
3. A reinforced structure of the nature specified comprising shafts or columns spaced apart, and a web extending therebetween, each of said parts having a body or core formed from plastic composition, and a facing formed from plastic composition, metallic reinforcing members embedded in the body or core of said web and extending into the bodies or cores of sald shafts, and metallic reirforcing means interposed between said bodies or cores and their respective facings.

\section*{No. 101,817. Windmill Mechanism.}

Mécanisme de moulin de vent.


John W. Innes, West Zorra, Oxford, Ontarlo, Canada, 30th October, 1906 ; 6 years. Filed 5th September, 1905. Receipt No. 128,200 .
Claim.-1. In a device of the class described the combination with pulleys, and a belt passing over said pulleys, of a lever one end of which rests on sald belt, and means for regulating the pressure of said lever on said belt to give a uniform rate of speed.
2. In a device of the class described the combination with pulleys, a belt passing over and means for supporting and operating said pulleys, of a lever, one end of which is provided with an anti-friction roller or pulley and rests on said 10-38
belt, a support for said lever, and means for regulating the pressure of said lever on said belt to give a uniform rate of speed.
3. In a device of the class described the combination with pulleys, a belt passing over and means for supporting and operating said pulleys, a lever one end of which rests on said belt, and a support for said lever, of a rod resting on said lever, and means for regulating the pressure of said rod on said lever to give a unlform rate of speed.
4. In a device of the class described the combination with pulleys, a belt passing over and means for supporting and oferating said pulleys, a lever, one end of which rests on sald belt, and a support for said lever, of a tubular spindle, means for supporting and operating said tubular spindle, a spindle rod vertically adjustable in and rotating with said tibular spindle, and resting on said lever, and means for
 give a uniform rate of speed.
5. In a device of the class described the combination with pulleys, a belt passing over and means for supporting and operating said pulleys, a lever one end of which is provided with an anti-friction roller or pulley and rests on said belt, and a support for said lever, of a tubular spindle, a cross bar and bracket in which said tubular spindle is supported, a plate secured to the underside of said crossbar on which said tubular spindle rests, a support for said crossbar, a spindle rod vertically adjustable in and rotating with said tubular spindle and extending through said plate secured to the underside of said crossbar and resting on said lever, and means for regulating the pressure of said spindle rod on said lever to give a uniform rate of speed.
6. In a device of the class described the combination with pulleys, a belt passing over and means for supporting and oferating sald pulleys, a lever one end of which rests on said belt, and a support for said lever, of a tubular spindle in which elongated slots are formed, means for supporting and operating said tubular spindle, a spindle rod partly located in said tubular spindle and provided with lugs adapted to engage with the elongated slots in said tubular spindle. and the lower end of sald spindle rod resting on said lever, weighted arms pivotally connected at one end to the upper end of said tubular spindle, and links connecting said weighted arms with the lugs on said spindle rod.
7. In a device of the class described the combination with pulleys, and a belt passing over said pulleys, of a lever, one end of which rests on said belt, means for regulating the pressure of said lever on said belt to glve a uniform rate of speed, and means for giving a greater or less pressure of said lever on said belt to give a greater or less speed.
8. In a device of the class described the combination with pulleys, a belt passing over and means for supporting and operating said pulleys, of a lever, one end of which is provided with an anti-friction roller or pulley and rests on sald belt, a support for said lever, means for regulating the pressure of said lever on said belt, to give a uniform rate of speed, and means for giving a greater or less pressure of said lever on said belt to give a greater or less speed.
9. In a device of the class described the combination with pulleys, a belt passing over and means for supporting and operating said pulleys, of a lever one end of which is provided with an anti-friction roller or pulley and rests on said belt, and a weight on the other end of and a support for said lever, and means for regulating the pressure of sald lever on said belt.
10. In a device of the class described the combination with pulleys, a belt passing over and means for supporting and oferating said pulleys, a lever one end of which rests on said belt, and a support for said lever, of a rod resting on sald lever, means for regulating the pressure of said rod on sald lever to give a uniform rate of speed, and means for giving a greater or less pressure of said lever on said belt to give a greater or less speed.
11. In a device of the class described the combination with pulleys, a belt passing over and means for supporting and operating said pulleys, a lever one end of which is provided with an anti-friction roller or pulley and rests on said belt. and a weight on the other end of and a support for said lever, of a rod resting on said lever, and means for regulating the pressure of said rod on said lever.
12. In a device of the class described the combination with pulleys, a belt passing over and means for supporting and operating said pulleys, a lever, one end of which rests on sald belt, and a support for said lever, of a tubular spindle, means for supporting and operating said tubular spindle, a rod vertically adjustable in and rotating with said tubular spindle and resting on said lever, means for regulating the pressure of sald rod on sald lever to give a uniform rate of speed, and means for giving greater or less pressure of said lever on said belt to give a greater or less speed.
13. In a device of the class described the combination with pulleys, a belt passing over and means for supporting and operating said pulleys, a lever one end of which is provided
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{ }^{\triangle} \mathrm{TE}_{\mathrm{NT}}
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William Edward Murray, Los Angeles, California, U.S.A. 30th October, 1906 ; 6 years. Filed 20th September, 1906. Receipt No. 139,643.
Claim.-1. The steady floating foundation consisting of a hollow braced and stiffened water tight structure upon which different kinds of superstructure are carried, the said foundation having a flange projecting beyond the width and length of the superstructure carried thereon, said flange having receptacles for being loaded with water and with another substance such as gravel of greater density than water, in order to sink the foundation to the requisite depth for insuring steady floation, substantially as hereinbefore described.
2. The steady floating foundation consisting of the combination of a hollow water tight structure or foundation, a superstructure upon the same, a flange projecting outward from and constituting part of the said foundation and surrounding the same and projecting beyond said superstructure, said flange provided with receptacles or pockets adapted to be flled with water and with heavier substances in order to sink the foundation to the required depth, substantially as hereinbefore described.

No. 101,819. Cutter Head. Porte-lamps.
John James Stevens, Galt, Ontario, Canada, 30th October, 1906: 6 years. Filed 22nd November, 1905. Receipt No. 130,309.
Clam.-In a turret lathe or the like the combination with the head having a central orifice and radial grooves, of cutters held in the grooves and extending slightly beyond the face of tha head, a flat clamping plate having a central ori-

of the tools in proximity to the inner and outer periphery
of the plate.
No. 101,820. Means of Storing Hydranic Power.
Moyen demmagasiner le powvoir hydraulique.


Leo Von Gerstenbergk-Zeck, Bergsulza, near Sladtsulza, Germany, 30th October, 1906 ; 6 years. Filed 5th September, 1906. Receipt No. 139,276.
Claim.-1. Means for storing hydraulic power comprising in combination means adapted to form an upper reservoir, adjustable means adapted to regulate the flow of water from said upper reservoir, means adapted to form a lower reservoir to receive water from said upper reservoir after said water has done work, adjustable means adapted to regulate the flow of water from said lower reservoir whereby the flow of water in the lower water course may be kept normal notwithstanding variations in the flow of the same from upper reservoir.
2. Means for storing hydraulic Dower comprising in combination a plurality of means adapted to form a plurality of upper reservoirs, a plurality of adjustable means adapted to regulate the flow of water from said upper reservoirs, meang adapted to form a lower reservoir to receive water from said upper reservoirs after said water has done work, adjustable means adapted to regulate the flow of water from said lower reservoir, whereby the flow of water in the lower water course may be kent normal notwithstanding varistions in the flow of the same from sald upper reservolr.
3. Means for storing hydraulic power comprising in combination means adapted to form an upper reservoir, adjustable means adapted to regulate the flow of water from said upper reservoir, a plurality of means adapted to form a plurality of lower reservoirs to receive water from sald reservoir after said water has done work, a plurality of adjustable means adapted to regulate the flow of water from said lower reservoirs, whereby the flow of water in the lower water course may be kept normal nothwithstanding variations in the flow of the same from said upper reservoir.
4. Means for storing hydraulic power comprising in combination a plurality of means adapted to form a plurality of upper reservoirs, a plurality of adjustable means adapted to regulate the flow of water from said upper reservoirs, a plurality of means adapted to form a plurality of lower reservoirs to recelve water from sald upper reservoirs after said water has done work, a plurality of adjustable means adapted to regulate the flow of water from said lower reservoirs, whereby the flow of water in the lowermost water course may be kept normal nothwithstanding variations in the flow of the water from said upper reservoirs.
5. Means for storing hydraulic power comprising in combination a weir a adapted to form an upper reservoir d, adjustable sluice valves \(g\) adapted to regulate the flow of water from said upper reservoirs, a weir \(c\) addapted to form a lower reservoir \(e\) to receive water from said upper reservolr after sald water has done work, adjustable sluice valves \(f\) adapted to regulate the flow of water from said lower reservoir. whereby the flow of water in the lower water course may be kept normal notwithstanding variations in the flow of the water from sald upper reservoir, substantially as described.

No. 101,821. Means of Regulating a Water Supply.
Moyen de régulariser la consonmation de l'eals.


101821
F=.
The Harrison Safety Boiler Works, assignee of Joseph Willard Gambler, all of Philadelphia, Pennsylvania, U.S.A., 30th October, 1906 ; 6 years. Filed 19th May. 1906. Receipt No. 136,076.
Claim.-1. A filter, by-pass about the filter, a float actuated valve in the by-pass, and means for operating it according to the variation in pressure of the water actuating the float.
2. A filter, a by-pass about the filter, a valve in the bynass, a water chamber and means therein for automatically operating the valve according as the filter is clogged or free.
3. A heater, a filter, a by-pass about the filter, a valve in the by-pass, a vented fioat chamber below the normal water level of the heater and opening at the bnttom into a space beyond the filter, a float in the chamber adapted to operate the by-pass valve according as the water therein rises or falls.
4. In a heater, a filter, a by-pass nbout the fllter, a valve in the by-pass, a float chamber opening into the heater beyond the filter, a float in said chamber adapted to operate the by-pass valve.
5. A tank, a filter therein, means for automatically regulating the supply to the tank, a by-pass about the filter containing a valve, a water chamber adapted to fill or empty according as the filter is clear or clogged, and means for automatically operating the by-pass valve according to the height of the water in the chamber.
6. A tank, a filter therein, means for automatically regulating the supply to the tank, a by-pass about the fliter containing a valve, a water chamber opening into the space beyond the filter, and means for operating the by-pass valve according to the height of water in the supplemental chamber.
7. A filter, a valved by-pass about the same, a float and intermediate means for operating the valve arcording as the filter is cleared or clogged.

No. 101,822. Trap Gun. I'nsil-piage.


David A. Cowsert, San Angelo, assignee of Charles D. Lovelace, Fort Worth, both in Texas. U.S.A., 30 th October. 1906; 6 years. Filed 1st August, 1906. Recoipt No. 138,349.
Claim.-1. The combination with a barrel having one end thereof enlarged and provided with a pair of shoulders one of which is adapted to receive the head of a cartridge, a breech block fitting within the enlarged end of the barrel and engaging the second shoulder for retaining the cartridge in position, means for detachably connecting the barrel and breech block, a flring mechanism, and means for roleasing the firing mechanism.
2. In a trap gun, a breech frame having spaced resilient side members, provided with apertures, a breech block provided with trunnions extending through the agertures in said side members, a barrel having one end thercof enlarged for the recention of the breech block and provided with cam slots for locking engagement with said studs. firing mechanism carried by said breech frame, and means for releasing said firing mechanism.
3. In a tray gun, a breech frame having spaced resilient side members provided with apertures, a breech block provided with oppositely deposed trunnions extending through the apertures in said side members and held thereby from rotation, a barrel having one end thereof enjarged for the reception of the breech block and provided with cam slots for locking engagement with said studs, a firing pin carried by the breech block, a spring actuated bolt mounted on the breech frame, a trigger for holding said bolt in withdrawn position, and means for releasing said trigger.
4. In a trap gun, a breech frame provided with spaced depending ears, a standard pivotally connected to said cars, a post having a swivel connection with the standard, a breech block carried by the frame. a barrel having one end thereof enlarged for the reception of the breech block and detachably secured to the latter, firing mechanism carried by said breech frame, means for releasing the firing mechanism, and means for clamping the standard to the lepending ears of the breech frame.

No. 101,823. Mirpor Support. Support de miroir.
Charles H. Ayer, Franklin J. Hole and Ralph E. Olney, coinventors, all of Mt. Clemens, Michigan, U.S.A., 30th October, 1906; 6 years. Filed 4th September, 1906. Receipt No. \(139,229\).
Claim.-1. A mirror support for bureaus and the like comprising a pair of like fixtures, each comprising a bracket, an arm hinged to the bracket, a universal hinge connection be-
tween the arm and the mirror frame, and supports hingedly connecting the bracket at its upper and lower ends with ons

of the supporting standards of the mirror, the lower support being laterally adjustable.
2. A mirror support for bureaus and the like comprising a pair of like fixtures, each comprising a bracket, an ara hinged to the bracket and adapted to fold on top of the braket, a universal hinge connection between the arm and the mirror frame and supports hingedly connecting the bracket at its upper and lower ends with one of the supporting standards of the mirror, the lower support being laterally adjustable and provided with stops to limit the swing of the bracket thereon.

No. 101,824. Boiler Flue Cleaner.
Nettoyeur de tubes de chaudieres.


Samuel McAdoo, Toronto, Ontario, Canada, 30th October,
1906 ; 6 years. Filed 12th September, 1906. Receipt No. 139,461.
Olatm.-1. In boiler flue cleaners the combination of the tubular boller and a boiler setting whose wall has a slot, with a slide movable in said slot, a steam supply pipe movable through said slide, a discharge pipe secured to its inner end and provided with jet openings in that face which is adjacent to the end of the boller, substantially as and for the purpose specifled.
2. In boiler flue cleaners the combination of the tubular boiler and a boiler setting whose wall has a slot, a slide movable in said slot, a steam supply pipe movable through said slide, a discharge plpe secured to its inner end and provided with jet openings in the face which is adjacent to the end of the boiler, and means for closing the slot whatever may be the position of the pipes with respect to the top and bottom of said slot.
3. In boiler flue cleaners the combination of the tubular boiler and a boiler setting whose wall has a slot, a slide movable in said slot, a steam supply pipe movable through said slide, a discharge pipe secured to its inner end and provided with jet openings in that face which is adjacent to the end of the boller, said slide belng so much longer than the slot that it will close the same whether the boiler cleaning device is in use or out of use.

No. 101,825. Steam Boiler Regulator. Régulateur de chaudières.


Fred Behrens, Angelica, New York, U.S.A., 30th October, 1906; 6 years. Filed 4th September, 1906. Receipt No. 139,215. Claim.-1. The combination with a boiler Including a valved steam supply plpe to a pump, of a feed regulator for the boller comprising a casing connected with said boiler, a flexible diaphragm mounted in sald casing, and means \(10-\) cated on opposite sides of said diaphragm and operated by its movement for opening and closing the valve in sald steam supply pipe, to regulate the feed water to the boiler.
2. The combination with a boiler including a valved steam suply pipe, to a pump, of a boller, a feed regulator comprising a casing connected with said boiler and a flexible diaphragm mounted in said casing, and means mounted in sald casing and bearing against opposite sides of said diaphragm. said means being operated by the movement of the diaphragm and adapted to open or close the valve in said steam supply pipe to regulate the feed of water to the boller.
3. The combination with a boiler including a valved steam supply pipe to a pump, of a feed regulator for the boiler comprising a casing connected thereto and a flexible diaphragm mounted therein, means mounted in said casing and bearing against opposite sides of said diaphragm, said means being adapted to be operated upon movement of the diaphragm to open or close the valve in said steam supply pipe, and means for adjusting the vertical position of sald regulator with respect to the boller.
4. The combination with a boiler including a valved steam supply pipe to a pump, of a feed regulator for the boller connected thereto and comprising a casing and a flexible diaphragm mounted therein the movement of said diaphragm being automatically controlled by the pressure of the water within the boller, and means for opening and closing the valve in said steam supply pipe, said means being operated by the movement of said diaphragm.
5. The combination with a boiler including a valved steam supply pipe to a pump, of a feed regulator for the boiler connected thereto and comprising a casing, and a flexible diaphragm mounted therein, the movement of said diaphragm being automatically controlled by the pressure of the water within the boller, means for opening and closing the valve in said steam supply pipe, said means being operated by the movement of said diaphragm, and means for raising or lowering sald regulator with respect to the boller.
6. The combination with a boller of a feed regulator connected therewith and adapted to be automatically operated by the pressure of the water within the boller, and means connected with the boiler above and below the feed regulator for automatically sounding an alarm when the water level in the boiler has reached certain fixed limits.
7. The combination of a steam boiler, of a feed regulator connected therewith and adapted to be automatically operated by the pressure of the water within the boiler, and means connected with the boiler and located above and below the feed regulator for automatically sounding an alarm when the water level in the boiler reaches certain fixd limits, sald means each comprising a casing, a diaphragm mounted in each casing and operated by the water pressure in the boiler and connections between said dlaphragms and sald alarm means.
8. The combination with a steam boller, of a feed regulator comprising a casing and upper and lower vertically disposed pipes connested therewith. and pipe connections between sald boiler and the outer end of said vertical pipes. the joints between the several pipes being swivelled to permit the regulator to be raised or lowered with respect to the boiler, and means for raising or lowering the regulator.
9. The combination with a boller including a valved steam supply pipe to a pump, of a feed regulator for the boller connected therewith ani comprising a casing and a flexible diaphragm mounted therein. the movement of said diaphragm being automatically controlled by the pressure of the water in the boiler, a lever pivotally mounted in the casing on each side of said diaphrgam and bearing against the diaphragm at one end, a lever for operating the valve in the steam supply pipe and connections between the opposite ends of said diaphragm and said valve lever for operating the latter to onen or close the valve to regulate the feed of water to the boller.
10. The combination with a boiler including a valved steam supply pipe to a pump, of a feed regulator for the boiler connected therewith and comprising a casing formed of upper and lower shells, a skeleton guard mounted on the Inner face of each shell and a flexible diaphragm secured between said shells and guards, the movement of said diaphragm being automatically controlled by the pressure of the water within the boiler, and meuns for opening and closing the valve in the caid steam supply pipe, said means being operated by the movement of said diaphragm.
11. The combination with a boiler including a valved steam supply pipe to a pump, of a feed regulator for the boller connected therewith and comprising a casing formed of the upper and lower shells. a slgeleton guard mounted on the inner face of each shell and a flexible diaphragm secured betwern said shells and guards. the movement of said diaphragm being automatically controlled by the pressure of the water within the boiler, means for opening and closing the valve in said steam supply pipe, said means being operated by the movement of said diaphragm, and means for adjusting the vertical position of the regulator with respect to the boiler.
12. The combination with a voiler including a valved steam supply pipe, of a feed regulator comprising a casing and upper and lower vertically disposed pipes connected therewith. and horizontal pipes connecting sald vertical pipes with the boller, the joints between the several pipes being swlvelled to permit the regulator to be raised or lowered by means for raising or lowering the regulator, a flexible diaphragm mounted in the casing and adapted to be automatically operated for opening and closing the valve in said steam boiler supply pipe, and means being operated by the movement of the diaphragm.

\section*{No. 101.826. Cover for Sap Bucketa. Couvercle pour seaux d sève.}


George Adams, Franklin Center, Quebec, Canada, 30th October, 1906; 6 years. Filed 23rd May, 1906. Recelpt No. 136,169.
Claim.-1. A soap bucket cover provided with a sleeve on one side, and provided with a transversely extending ralsed portion, and provided with a rolled curved flange on its under sidc, and sccuring means carried by the curved olled flange.
2. In combination with a sar bucket cover having a rolled flange on its under side, a curved body disposed beneath the rolled flange and provided with resilient arms.

No. 101,827. Sap Spout. Couttiere d sève.


Joseph Clark, Richford, Vermont, U.S.A., 30th October, 1906;
6 years. Filed 30th July, 1906. Receipt No. 138,241.
Claim.-1. A sap spout having a cup on its under side in communication with its bore and a partition over the sald up with its lower end in the cug.
2. A sap spout having a cup on its under side in comaunication with its bore and a partition across the bore over the cup having its lower end within the cup and notched.
3. A sap spout comprising a rear portion having a cylinirical bore, a trough-shaped front portion lower than the rear portion, a cun connecting the trough and the rear portion, and a partition in rear of the trough with its lower end within the cup.
4. A sap spout having a rear portion provided with a longitudinal bore, a cup on its under side in communication with said bore, and a partition extending across the front cnd of the bore and having its lower end within the cup and provided with a V-shaped notch.

No. 101,828. Injector. Injecteur.


George H. Boetcher, Cambridge, Ohio, U.S.A., 30th October, 1906; 6 years. Filed 9th October, 1906. Recelpt No. 140,162.
Claim.-1. An injector comprising a nozzle, a conduit into which the nozzle extends and which is provided with an opening beside said nozzle into the outer air, a casing adapted to contain a body of liquid and having a liquid discharge opening and an air discharge opening and into which the conduit extends. and a sleeve surrounding the end of the conduit within the casing and being provided with an onening at the side of the conduit end.
2. An injector comprising a nozzle, a conduit into which the nozzle extends and which is provided with an opening besides said nozzle into the outer air, a casing adapted to contain a body of liquid and having a liquid discharge opening and an air discharge opening and into which the conduit extends, and a sleeve surrounding the end of the conduit within the casing and flaring outwardly into close proximity with the casing and being provided with an opening at the side of the conduit end.

No. 101,829. Bouquet Holder. Porte-bouquet.


John Burdick, Browning, Montana, U.S.A., 30th October, 1906 ; 6 years. Filed 4 th September, 1906. Receipt No. 139,257.
Claim.-1. A device of the class described comprising a hollow body portion including two sections hinged rugether at their lower ends for movement of their upper ends toward and away from each other, means for holding the sections yieldably with their upper ends separated, means for holding the sectlons with their adjacent edge portion in mutual engagement, absorbent linings for the sections, and flanges carried by the upper ends of the sections and extending outwardly, therefrom, said sections and their respective flanges being each formed from a single piece of metal, the body portion being open at its upper end.
2. A device of the class described comprising two transversely semi-circular sections rounded at their lower ends and open at their upper ends, a hinge secured to the rounded portions of the sections for movement of the sectlons into and out of engagement with each other, said sections being cut away to recelve the hinge, means for holding the sections with their edge portions in mutual engagement, absorbent linings for the sections, an outwardly extending flange carried by the upper end of each section, each of said sections and its flange being formed of a single piece of metal, and means for holding the sections yieldably with their edge portions in spaced relation.
3. A boquet holder comprising a body portion including two sections hinged together at their lower ends for movement into and out of operative position, said body portion belng adapted for engagement in the neck of a vase, outwardIv extending flanges carried by the outer ends of the sections and arranged to rest upon the neck of a vase in which the body portion is engaged, means for holding the sections yieldably in operative position, a latch arranged to hold the sections in operative position, absorbent linings for the sections, and pins carried by the sections and extending thereinto for the engagement of plants disposed within the holder to retain sald plants in position.

No. 101,830. Feed Water Regulator. Régulateur d'eau d'alimentation.


Charles H. Chandler, Seattle, Washington, U.S.A., 30th October, 1906; 6 years. Filed 24th July, 1906. Recelpt No. 138,118.
Claim.-1. A feed water regulator comprising a receptacle, flexible pipes connecting the receptacle with a boller, a lever carrying a weight on one of its arms, supporting connection between the receptacle and the other
arm of said lever, an oscillating valve, a lever handle for the valve, means for adjustably regulating the amount of opening and closing of said valve, and operative connection between said lever and the handle, substantially as described.
2. In an apparatus of the class described the combination with a vessel, and a water receptacle connected to the vessel by two flexible pipes being respectively connected to the vessel at points above and below the normal level of the water therein, of a valve, operative connection between said receptacle and the valve whereby the latter is caused to reduce the opening of the valve through a descending movenent of the receptacle, means to further open the valve when the receptacle ascends and means to regulate the amount of both the closing and opening movements of the valve, substantially as described.
3. In apparatus of the class described the combination with a vessel, and a water receptacle connected to the vessel by two flexible pipes, said pipes being respectively connected to the vessel at points above and below the normal level of the water therein, of a valve, operative connection between said receptacle and the valve whereby the latter is causcd to reduce the opening of the valve through a descending movement of the receptacle, means to further open the valve when the receptacle ascends, means to regulate the amount of both the closing and opening movements of the valve, and means to cause the yalve actuating means to operate to a limited extent independentiy of the valve, substantially as described.
4. In apparatus of the class described the combination with a vessel, and a water receptacle connected to the vessel by two flexible pipes, of a valve, a handle fixedly secured to the valve and provided with a slot inclined from a radial line projected through the valve axis, sald slot terminating adjacent of the valve in an enlarged portion, a bar loosely mounted upon the spindle of said valve and provided with a slot, means for securing said handle to the bar, such means being also adapted when extended through said enlarged portion of the first-named slot to move to a limited extent with the bar independently of the handle, and operative connection between the said bar and the receptacle, substantially as described.
5. In combination with a vessel, a receptacle in communication therowith, a pivoted lever having a weight adjustably mounted with respenct to one end thereof and an adjustable connection with said receptacle at its opposite end, a valve and mechanism for operating said valve, and means in the plane of the fulcrum of said lever and operative with the l \(\in\) ver for actuating said mechanism.
6. In combination with a vessel a receptacle in communication therewith, a pivoted element connected to sald recoptacle at one end thereof and carrying a weight at the opposite end thereof, a valve, mechanism for operating said valve, and means located, in the plane of the fulcrum of sald element and operated by the element for actuating said mechanism.
7. In combination with a vessel, a receptacle in communication therewith, a pivoted lever adjustably connected to said receptacle at one end thereof and having a weight adjustably mounted with respect thereto at its opposite end, a valve with mechanism connected thereto for operating the same, and arms carried by the lever and located in the plane of the fulcrum thereof for operating mechanism.
S. In combination with a vessel, a receptacle in communication therewith, a valve, mechanism for operating said valve adjustably connected thereto, mechanism for supporting said receptacle adjustably connected thereto and means operative with said supporting mechanism for actuating said valve operating mechanism.
9. In combination with a vessel, a receptacle in communl cation therewith, a valve having mechanism adjustably connected thereto for operating sald valve, a pivoted lever for supporting said receptacle, and means carried by said lever In the plane of the fulcrum thereof for actuating said ralve operating mechanism.
10. In combination with a vessel, a receptacle in communication therewith, a valve having an element rigidly connected thereto, a pivoted element adjustably connected to said rigid element, and means for supporting sald receptacle and for operating said pivoted element.
11. In combination with a vessel a receptacle in communication therewith, a valve having an element rigidly connected to the spindle thereof and an element pivoted to said spindle and adjustably connected to said rigid element, and means supporting the receptacle and connected to sapivoted element for communicating movement of the receptacle to said pivoted element.
12. In combination with a vessel a receptacle in communication therewith, a valve having a handle mechanism ad justably connected to the handle for operating the ralvans a pivoted element for supporting sald receptacle, and meang mechanism.

No. 101,831. Axle Repairer.
Appareil à réparer les essieux.


Lottie G. Fader, Bayside, Nova Scotia, Canada, administratrix of the estate of Samuel L. Fader, deceased, 30th October, 1906; 6 years. Filed 24th March, 1905. Receipt No. 123,664.
Claim.-1. A broken axle repairer comprising a supplemental axle with lugs at one end and a spindle at the other, and clips and set screws for securing the same in place upon an axle.
2. A broken axle repairer comprising a supplemental axle with a spindle at one end and adapted to be secured to the underside of an axle, a plate with elongated slot, a clip and a set screw, as and for the purposes specifled.
3. A broken axle repairer comprising a supplemental axle with spindle at one end and lugs at the other end, set screws engaged in said lugs, a clip to embrace the axle and the supplemental axle and adjustable means for co-operation with said clip and axle, as set forth.
4. A broken axle repairer comprising a supplemental axle with spindle at one end and lugs at the other, set screws ongaged in said lugs to engage opposite faces of an axle, a clip, a plate with openings to receive the legs of the clip, one of said openings being elongated and a set screw engaged in a vertical extension of said plate, as and for the purpose set forth.
5. A supplemental axle having a spindle at one end and lugs at the other end, set screws engaged in said lugs to engage opposite faces of an axle, a plate with horizontal portion with openings, one of which is elongated and a vertical extension with an opening and a set screw engaged in the opening of the extension and engaged with one of the legs of said clip.

\section*{No. 101,832. Car Door Lock.}

Serrure de porte de chars.
Carl O. Johnson, Lynn, Massachusetts, U.S.A., 30th October, 1906 ; 6 years. Filed 4th July, 1906. Receipt No. 137,511. Claim.-1. In a lock device of the class described the combeination of a movable catch, a movable hook arranged to hold the catch in a predetermined position, and a gravity operating member for actuating the hook.
2. In a lock device of the class described the combination of a pivoted catch, a hook arranged to hold the catch in a predetermined position, and a pivoted gravity operating member for actuating the hook.
3. In a lock device of the class described the combination of a pivoted catch, an extension projected therefrom, a hook arranged to engage the extension aforesaid, and a movable gravity operating member engaging the hook for actuating the same.
4. In a lock device of the class described the combination of a nivoted catch, an extension projected therefrom, a hook arranged to engage the extension aforesaid, and a movable gravity operading member having a loop for engagement with the hook.
5. In a lock device of the class described the combination of a pivoted catch, an extension projected therefrom, a pivoted hook adanted to engage the extension aforesaid, a tall for said hook and a gravity operating member cooperating with the tail of the hook.
6. In a lock device of the class described the combination of a pivoted catch, an extension projected therefrom, a pivoted hook adapted to engage the extension aforesaid, a tail for said hook and a pivoted gravity operating member provided with a loop receiving the tail of the hook.
7. In a lock device of the class described the combination of a support, a catch pivoted thereto, a hook arranged to
hold the catch in a predetermined position, a tail extending from the hook, means for actuating the hook and a guide means co-operating with the hook.

8. In a device of the class described the combination of a movable car body, a door for said body, lock means for the door comprising a catch pivoted thereto, a hook arranged to engage the catch, a gravity operating member for actuating the hook and a connection between the catch and the car body.
9. In a device of the class described the combination of a movable car body. a door therefor, lock means for the door comprising a catch npivoted thereto, an extension projected from the catch, a pivoted hook engaging said extension, a tail extending from the hook, a pivoted gravity bar provided with a loop recelving the tall aforesald, a weight at one end ofe said bar and a connection secured at one end to the car body and passed through the door and connected with the catch aforesald.

No. 101,833. Railway Scales.
Balance de chemin defer.


Peter B. Kimpler, Ellinwood, Kansas, U.S.A., 30th October, 1906; 6 years. Filed 10th September, 1906. Receipt No. 139,376.
Claim.-1. In a platform scale the combination of two substantially parallel sets of cams, each cam having a pair of trunnions, bearings for the trunnions, the inner trunnion being projected and provided with a terminal socket, crossbars received within the sockets of the opposite trunnions, detachable fastenings connecting the trunnions and the crossbars, a platform supported upon the cams, arms carried by the crossbars and means connected to the arms for rotating the crossbars.
2. In a platform scale the combination of two series of rotatable cams, crossbars connecting the corresponding cams of the two series, arms carried by the crossbars, a connecting rod connecting one-half of the arms, another connecting rod connecting the other half of the arms, a windlass at each end of the device, a cable extending from one windlass to the inner end of the opposite connecting rod,
another cable leading from the same windlass to the inner end of the adjacent connecting rod, a guide for said other cable located beyond the inner end of the adjacent connecting rod, a cablo leading froin the other windlass to the outer end of the adjacent connecting rod, another cable leadIng from the latter windlass to the outer end of the opposite connecting rod, and a guide for said cable beyond the outer end of the other connecting rod.
8. In a platform scale the combination of abutments, cams rotatably mounted upon the abutments, crosshars connecting opposite cams, upright push bars, a platform supported upon the cams normally out of engagement with the push bars and capable of being lowered with the cams into engagement with the push bars, arms rising from the crossbars and terminating short of the platform, a connection rod connecting one-half of the arms, another connecting bar connecting the other half of the arms, a windlass at each end of the scale, a cable leading from one windlass to the inner end of the opposite connecting har, another cable leading from the same windlass to the inner end of the adjacent connecting bar, a guide for said cable located beyond the inner end of the adjacent connecting bar, a cable leading from the other windlass to the outer end of the other connecting bar, another cable leading from the said other windlass to the outer end of the opposite connecting bar, and a guide for said cable located teyond the outer end of said opposite connecting bar.

No. 101,834. Mud Guard for Vehicles.
Garde-grotte pour véhicules.


William Terrence McCaulay, Osgoode, Ontario, Canada, 30th October, 1906: 6 years. Filed 25th August, 1906. Recelpt No. 138,983 .
Claim.-1. In a vehicle mud guard the combination with the guard extending partially around the vehicle wheel, of a plurality of braces supporting the guard and means intermediate of the length of each brace for adjusting the length of the same.
2. In a vehicle mud guard the combination with the guard extending partially around the vehicle wheel, of a plurality of two part braces suppoiting the guard in position and means for adjustably holding the two parts of each brace together, as and for the purpose specifled.
3. In a vehicle mud guard the combination with the guard extending around the outside of the wheel and a side shield extending around the inner side of the wheel, of adjustable means for supporting both guards in position, as and for the purpose snecified.
4. In a rehicle mud guard the combination with the wheel, the axle and two clips thereof, a mud guard extending partially around the wheel, two braces connected to the innermost cllp. a third brace connected to the outer cllp, and means for adjustably connecting two braces of the guard, as and for the purpose specifled.
5. In a vehicle mud guard the combination with the wheel, axle, and two cllps thereof, a mud guard extending partially around the wheel, a brace connected to the outer clip and to the center of the mud guard, two braces connected to the inner clip and to the extremities of the mud guard, a third star-shaped brace having the arm thereof connected to the three braces thereof the innermost clip, as and for the purpose specifed.
6. In a vehicle mud guard the combination with the guard extending partially around the vehicle wheel, of adjustable braces for supporting the same in position, and a mud scraper secured to the mud guard at the rear thereof, as and for the purpose specified.
7. In a vehicle mud guard, the combination with the wheel, axle and two clips thereof, a mud guard semi-circular in cross sections extending partially around the wheel. straps secured thereto at the center and extremitles, a b:ace adjustably connected to the center strap and to the outer clip. two braces adjustably connected to the straps at the extremities of the guard and to the inner clip, a side guard secured to the straps and a star-shaped brace connecting the three braces and the inner clip, substantially as described.

No. 101,835. House. Maison.


Donald J. McKay, Winnipeg, Manitoba, Canada, 30th October, 1906; 6 years. Filed 4th September, 1906. Receipt No. 139,223.
Claim.-1. A house comprising a frame covered with wire netting and layers of straw or grass secured thereon, by clamping strips, for the purpose described.
2. A house comprising a frame, wire netting secured over said frame and a series of layers of straw or grass arranged on said netting, for the purpose set forth.
3. A house comprising a frame, a netting secured over said frame, a series of horizontal layers of straw or grass arranged on said netting and means for clamping said layers to said netting, for the purpose described.
4. A house comprising a Prame covered with wire netting. a series of horizontal layers of straw or grass arranged on said netting and strins secured over the ends of the straw or grass to the netting by wire loops, for the purpose described.
5. A house comprising a frame covered with netting. a series of horizontal layers of straw and grass arranged on said netting and means for clamping the butts of one layer under the heads of the next lager, for the purpose described.
6. A house comprising a frame covered with neting, a series of horizontal layers of straw or grass arranged over said netting and clamping strips adapted to clamp the butts of one layer under the heads of the next layer on said netting, for the purpose set forth.

Mo. 101,836. Folder for Umbrellan, Cames, Etc.
Porte-parapluie, etc.


Gusten Nordenstierna, Bristol, Pennsylvania, U.S.A., 30th October, 1906 ; 6 years. Filed 6th September, 1906. Recelpt No. 139,303.
Claim.-1. A holder for umbrellas, canes and the like, comprising a main frame having upright bars and a horizontal crossbar interposed between and connected to said upright bars, a bar connected at its ends to the upright bars and at intermediate points of its length to the crossbar and having intermediate \(U\)-shaped receivers and rounded projections between the mouths of said receivers and also having vertically disposed posts at opposite sides of the mouth of the recelvers, hollow retainers mounted on the vertical posts so as to swing horizontally and having their free ends disposed adjacent to each other and in the mouth of the receiver and springs contained in the hollow retainers and connected to the posts and engaging the retainers so as to return the said retainers to and normally hold the same in a position crosswise of the mouths of the receivers.
2. A holder for umbrellas, canes and the like comprising a receiver having a mouth, vertically disposed posts on the sides of the receiver, hollow retainers mounted on the vertical posts so as to swing horizontally and having their iree ends diapased adjacent to each other and in the mouth of the receiver, and springs contained in the hollow retainers and connected to the posts and engaging the retainers ao as \(t 0\) return the said retainers to and normally hold the same in a position crosswise of the mouth of the receiver.
8. A holder for umbrellas, canes and the like comprising a receiver, a mouth, posts on the sides of the receiver, hollow swinging retainers mounted on the said posts and having their free ends normally disposed adjacent to each other and in the mouth of the receiver and apring traps fixed to the posts and arranged in the longitudinal centers of the retainers with their forward ends in engagement with portions of the retainers.

\section*{To. 101,837. Table. Table.}

James Rozee, Yarmouth, Nova Scotia, Canada, 30th October, 1906; 6 years. Filed 10th September, 1906. Receipt No. 139,881.
Clatm. -The herein described new article of manufacture adapted to be converted for use as a work holder, lap board, a skirt fitting appliance and an invalid bed table, consisting of a table top having a continuous unbroken surface and provided at each corner with an opening, the openings at. each end of the table top being in transverse alignment. sleeves secured to the lower face of said top at each corner thereof and arranged in alignment with said openings and sleeves, means for bracing and connecting together each pair of legs arranged at each end of the table thereby causing when a leg is adjusted, the vertical adjustment of a pair
of legs, said means further constituting astop for limiting the vertical movement of the legs, and set screws extending

through each of the sleeves, and engaging the legs for securing them in adjusted position.

No. 101,838. Ventilator for Windows.
Ventilatcur pour fenêtre.


Augustus A. Stephens, Bellaire, Ohlo, U.S.A., 30th October, 1896; 6 years. Filed 21st August, 1906. Recelpt No. 138,892.
Claim.-The combination with a window casing having screened openings beneath its bottom which openings lead from the outside, of a perforated tubing arranged within the casing at the bottom thereof, sald tubing having a dependent pipe extension at each end adapted to extend through the bottom of the casing and having flaring mouths fitting over the corresponding openings beneath the bottom of the casing, a second perforated tubing arranged at the top of and within the casing and independest of the other tubing, the perforalions of the latter tubing being arranged in the bottom thereof, a pipe leading from one end of the upper tubing through the flooring of the casing, a fan in communication with the lower end of the last-named pipe, and means for operating the fan to draw warm air out of the casing through the tubing, the pipe and the lan.

\section*{No. 101,839. Wromght Metal Ferrule.}

Ferrure de métal.
The Cleveland Hardware Company, assignee of Sereno S. Holcomb. all of Cleveland, Ohio, U.S.A., 30th October, 1906 ;
6 years. Filed 17th October, 1906. Receipt No. 140,402.
Claim.-1. A wrought metal ferrule for single trees and the like comprising an approximately cylindrical body and two integral outwardly extended ears and a tubular rivet passing through said cars and having its ends upset against them, substantially as and for the purpose specifled.
2. A wrought metal ferrule for single trees and the like comprising an approximately cylindrical body and two in-

egral outwardly extending ears, one of said ears being bent over the edge of and against the face of the other ear, and a tubular rivet which passes through the three thicknesses of metal thereby produced and is upset at its ends to secure them together, substantially as and for the purpose specified.

No. 101,840. Smoke Congumer. Foyer fumivore.


B

The Perfect Simplex Combustion Company, Montreal, assignee of William McArdle, Montreal, Quebec, Canada, 30th October, 1906; 6 years. Filed 19th May, 1906. Receipt No. 136,066.
Claim.-1. The combination with a fire chamber having a bridge wall therein of a continuous transverse tuyere between the front of the fire chamber and the bridge wall and directing a blast within such chamber, and means whereby an oxygenic fuid is supplied to such tuyere, substantially as described and for the purpose set forth.
2. The combination with a fire chamber having a bridge wall therein, of a continuous transverse tuyere between the front of the fire chamber and the-bridge wall and directing a blast within such chamber, and means whereby pure air is supplied to such tuyere, substantially as described and for the purpose set forth.
3. The combination with a fire chamber having a bridge wall therein, of a continuous transverse tuyere between the front of the fre chamber and the bridge wall and directing a blast within such chamber, substantially as described and for the purpose set forth.
4. The combination with a fire chamber having a bridge wall therein, of a pair of converging plates between the front of the chamber and the bridge wall, means whercby air is supplied to the space between such plates, substan tially as described and for the purpose set forth.
5. The combination with a fire chamber, of a pair of converging plates within such chamber adjacent to the exit port thercof and disposed to direct a blast against the wall of such exit port, means whereby air is supplied to the spare between such plates and such plates being ar-
ranged to present ports whereby the gases of combustion flow into the said space, substantially as described and for the purpose set forth.
6. In a tubular boiler the bridge wall whereof has its front side concaved transversely to the fire chamber, the combination of a tuyere extending continuously from side to side of the combustion chamber and disposed to direct a blast against the said concaved wall, means whereby air is supplied to the tuyere, the said tuyere being provided with intake ports to allow the entry of the gases of combustion thereinto, substantially as described and for the purpose set forth.
7. In a tubular boiler the bridge wall whereol has its front side concaved transversely to the fire chamber, the combination of a pair of downwardly converging plates extending transversely to the chamber and disposed in direct a blast against such concaved wall, means whereby air is supplied to the space between the plates, and such plates being arranged to present ports whereby the gases of combustion flow into the sald space, substantially as described and for the purpose set forth.
8. The combination of a tubular boiler b, fire chamber \(c\), bridge wall d, concavity g. ash plt e, plates h, i, fues \(k k\), entry ports \(m, m\), baffle walls \(o, 0\), and curved passage \(r\). substantially as described and for the purpose set forth.

No. 101,841. Gate Valve. Soupape.


The Darling Pump and Manufacturing Company. Williamsport, assignee of Henry Nillholland, Reading, both in Pennsylvania, U.S.A., 30th October, 1906; 6 years. Filed 9th July, 190b. Keceipt No. 137,626.
Claim.-1. The improvement in gate valves herein described comprising the main ir body wedge block having a longitudinal borf or passage and provided in two opposite sides with openings forming bearings for the trunnions of the valve discs and having surrounding one of sald openings a projection whereon to support the bottom wedge block and provided on its two other opposite faces with inclined surfaces, the bottom wedge block having side plates provided with inclined faces co-operating with those of the body wedge block, and a front plate having an opening recoiving the projection on the main wedge block and fitting over said projection whereby the bottom wedge block may be supported thereon and directly by the main or body wedge block, the opposite valve discs or plates provided with inwardly pdojecting studs turning in the cearings in the body wedge block and the casing for aaid valve, all substantially as described, whereby the botom nedge block and the valve plates or discs may be supported directly by the body wedge block, substantlally as and for the purpose set forth.
2. The combination in the gate valve with the body wedge block of the valve discs or plates supported at the opposite sides thereof, and the bottom block supported directly by the body wedge block and operating between the same and one of the valve plates or discs, substantially as set forth. 3. The combination of the body wedge block having a longitudinal opening or bore and provided in its opposite sides with openings leading to sald bore and forming bearings for the studs of the valve plates or discs, the valve plates or discs arranged on opposite sides of the body wodge block and having studs projecting into the bearing openings thercof, and the bottom wedge block operating between the body wedge block and one of the valve plater and supported directly by the body wedge block, substantially as set forth.
4. The combination in a gate valve of parallel rotative discs having journal studs, the main wedge block having
a pertures for the reception of said studs and provided cround one of said apertures with a support for the bottom wedge block and bottom wedge block suspended from said support, substantially as and for the purpose set forth.
5. The combination in a gate valve of the valve plates and the body or main wedge block having on one side a projection forming a support for the bottom wedge block, the bottom wedge block supported on said projection and having an opening receiving the same and the opposite rotative discs, substantially as set forth.
6. The combination of the main wedge block, the opposite rotative discs, connections between the discs and the main wedge block, and the bottom wedge block operating between the main block and one of the discs an dsupported independently of the connections between the said discs and the body wedge block whereby the bottom wedge block is carried by the body independently of the rotative discs.

No. 101,842. Air Cooler for Engines.
Refrigérant d air pour machines.


George Wolke, Edward P. Kirby and William K. McLaughlin,
each an assignee of a third interest, all of Jacksonville, Illinols, U.S.A., 30th October, 1906 ; 6 years. Filed 22nd April, 1905. Receipt No. 124,488.
Claim.-1. An internal combustion motor having a crank chamber, a cylinder having heat radiating flanges or webs and communicating with sald crank chamber, air distributing tubes supported by the flanges and having discharge openings for projecting cooling streams or jets of air between the flanges to the heated parts of the motor, a piston in said cylinder, and valve mechanism co-acting with said piston to pump a cooling medium through said air distributing tubes, substantially as described.
2. An internal combustion motor having a crank chamber, a cylinder communicating with sald crank chamber, flanges surrounding the cylinder, air distributing tubes extending through the flanges and having discharge openings for projecting cooling jets or currents of air longitudinally along and against the heated portions of said cylinder, a piston in said cylinder, and valve mechanism co-acting with said piston to pump air into said distributing tubes, substantlally as described.
3. An internal combustion motor having a crank chamber a cylinder communicating with said crank chamber, flanges surrounding said cylinder, distributing tubes passing through said flanges and provided with jet orifices for directing cool ing jets of currents of air longitudinally along and against the heated parts of the motor, a piston in said cylinder, and valve mechanlsm co-acting with said piston and crank chamber to pump air into said distributing tubes, substantially as described.
4. An Internal combustion motor having a crank chamber, a cylinder provided with exterior flanges and communicating with said crank chamber, an air distributing chamber surrounding the cylinder at its inner end, discharge tubes supported by said flanges and leading from said distributing chamber longitudinally of the cylinder, and provided with jet orifices to direct cooling currents of air against the heated parts of the motor, a piston in said cylinder, and valve mechanism co-acting with said piston and crank chamber to
pump air into said distributing chamber, substantially as described.
5. In an internal combustion motor the combination of a cylinder, an annular air distributing chamber surrounding sald cylinder at one end, air discharge tubes projecting from said chamber and arranged around said cylinder, sald tubes belng provided with jet apertures to project streams of air against the cylinder, and means for forcing air into said air distributing chamber, substantially as described.
6. In an internal combustion motor the combination of a cylinder having heat radlating flanges upon its sides and head, and air discharge tubes extending through said flanges upon its sides and adapted to discharge air bo: ween the same and said flanges upon its head, substantially as described.
7. An internal combustion motor having a closed crank chamber, a cylinder in communication with said crank chamber, an annular air distributing chamber surrounding one end of said cylinder, a plurality of longitudinally extending air discharge tubes projecting from said distributing chamber and arranged around said cylinder to direct cooling currents of air against the heated parts of the latter, a piston in said cylinder, and valve mechanism co-acting with said piston and crank chamber to pump air into said distributing chamber, substantially as described.
S. An internal combustion motor having a closed crank chamber, a cylinder in communication with said crank chamber, heat radiating flanges or webs upon said cylinder, air discharge tubes projecting through sald fianges or webs and adapted to discharge sooling currents of air between the same and against the cylinder, an air distributing chamber in communication with said discharge tubes and said crank chamber, a piston in said cylinder, and valve mechanism coacting with sald piston and crank chamber to pump air into said distributing chamber, substantially as desoriber.
9. In an internal combustion motor the combination of a cylinder, a piston in said cylinder, flanges surrounding the cylinder, perforated alr distributing tubes passing through the flanges, a closed crank chamber in communication with said cylinder and provided with inlet and discharge openings, a crank shaft in said crank chamber operated by said piston, and a semi-circular disc secured to said crank shaft and adapted to alternately open and close said openings in sald crank chamber, substantially as described.
10. In an internal combustion motor the combination of a cylinder having heat radiating flanges, pir discharge tubes projecting through said flanges, and means for forcing air through said tubes, substantlally as described.
11. In an internal combustion motor the combination of a cylinder having annular radially projecting heat radiating flanges, longitudinally disposed air discharge tubes projecting through said flanges, and means for forcing air through said tubes, substantially as described.
12. In an internal combustion motor the combination of a cylinder having heat radiating flanges upon its sides and head, and air discharge tubes extonding through said flanges upon its sides and adapted to discharge air between the same and said flanges upon its head, substantially as described.
13. In an internal combustion motor the combination of a cyinder head having an exhaust valve, heat radiating flanges upon sald head and projecting radially from said exhausi valve, and air discharge tubes adapted to direct cooling currents of air between said flanges and against said discharge valve, substantially as described.

No. 101,843. Glags Retaining Device for Sashes. Appareil d retenir les vitres de chassis.


Christopher Columbus Chancey, Hartford, Alabama, U.S.A.; 30th October, 1906 ; 6 years. Filed 19th September, 1906. Receipt No. 139,627.
Claim.-A window sash having an undercut groove for the reception of putty \(B\) behind the glass \(C\), under the lip por-
ton \(A^{1}\) of the sash \(A\), substantially in the manner and for the purposes hereinbefore described and set forth.

No. 101,844. Oorn Harvester.
Moissonneuse à blé d'inde.


Frederick J. Cook, Ballard, Washington, U.S.A., 30th October, 1906 ; 6 years. Filed 21st August, 1906. Receipt No. 138,891.
Claim.-1. In a corn harvester the combination with longitudinally disposed snapping rolls and husking rolls, of a transversely extending guide between said rolls, and an endless conveyer for positively feeding ears or corn along said snapping rolls and through said guide, substantially as described.
2. In a corn harvester the combination of a wheeled frame, a pair of snapping rolls mounted thereon, a pair of husking rolls mounted longitudinally upon said frame to one side of sald snapping rolls. a guideway upon said frame between said paire of rolls, a fingered endless conveyer mounted upon said frame to travel along said snapping rolls and said guideway, and means for simultaneously operating said rolls and said conveyer, substantially as described.
3. In a corn harvester the combination of a wheeled frame, a pair of snapping folls mounted thereon, a pair of husking rolls mounted upon said frame to one side of the said snapping rolls, a guideway upon said frame between the adjacent inner ends of said pairs of rolls, an endless conveyer mounted upon said frame to travel along sald snapping rolls and sald guideway, a hopper at the lower end of sald husking rolls, a deflector plate for directing the ears of corn from said husking rolls into said hopper, and an endless conveyer for conducting the ears of corn from said honper to a suitable receptacle, substantially as described.

No. 101,845. Well Btrainer. Lien pour murs.


Edward E. Johnson, White Bear, Minnesota, U.S.A., 30th October, 1906; 6 years. Filed 6th October, 1905. Receipt No. 129,009.
Claim.-1. A strand or wire adapted to interlock on itself to form a strainer wall, substantially as described.
2. A strainer wall composed of parallel interlocking strands between which the water is admitted, substantially as described.
3. As a new article of manufacture, a strip or wire having longitudinally grooves and flanges constructed to interlock with the flanges and grooves of a corresponding parallel strip or portion to form a strainer wall, substantially as deseribed.
4. As a new article of manufacture, a strip or wire having a series of perforations and longitudinal grooves and flanges constructed to interlock with the flanges and grooves of a corresponding parallel strip or portion to form a stralner wall, substantially as described.
5. A strainer wall composed of adjacent interlocking portions or strips of wire between which the water is admittod, substantially as described.
6. A strainer wall comprising overlapping portions or strips of wire forming in effect outer and inner walls, a water admitting crevice belng provided between the strips in the outer wall and the inner wall being provided with nerforations communicating witll said crevice, substantially as described.
7. A well strainer comprising a spiral winding haviag interlocking convolutions between which the water is admitted, substantially as desoribed.
8. A well strainer comprising a spiral winding having overlapping convolutions forming in effect a cylinder having outer and inner walls, a water admitting cravice being provided between the convolutions in the outer wall and the inner wall being provided with perforations communicating with said crevice, substantially as described.
9. A well strainer comprising a cylinder formed of a spiral winding having overlapping convolutions provided with grooves and flanges interfitting with each other in adjacent convolutions and inlet apertures extending through the wall of the cylinder, substantially as described.
10. A well strainer formed of a spiral winding provided with water passages and having overlapping convolutions provided with grooves and flanges interfitting with each other in adjacent convolutions and spun or rolled together to prevent unwinding, substantially as described.
11. A well strainer comprising a cylindric strainer portion formed of a spiral winding. and end nipples having a screwthread engagement with the ends of the spiral winding, substantially as described.

No. 101,846. Life Saving Apparatun.
Apparedl de sauvetage.


Peter Mahoney, Brooklyn, New York, U.B.A., 30th October,
1906; 6 years. Filed 20th September, 1906. Receipt No. 139,661.
Olatm.-1. In a life saving apparatus for ships the comblastion of a kite, a kite line attached theroto, a tall block secured to the rigging through which tail block the kite lits is rove, a reel box and a frame adjustably mounted therela and carrying the kite line reel.
2. In a life saving apparatus for ships the combination of a kite, a kite line held on the ship and attached to the kite in the usual manner, a second line supported by eaid kite line and held on board the ship and forming the means for estab lishing connection between the ship and the shore.
shing connection between the ship and the shore.
3. In a life saving apparatus for ships the combination of a kite, a kite line held on the ship and attached to the kite in the usual manner and a second line supported by the kite line at a suitable distance from the kite, its free ond being weighted 60 that it can be lowered to the ground by paying it out from the ship faster than the fite line.
4. In a life saving apparatus for ships the combination of a kite and a kite line connected thereto and held on the shilp. a block suspended from the kite liae at a sultable diatance from the kite, the second or communicatiag line held of the ship and rove through sald block, a weighted lantern or other weight attached to the second line which when paid out faster
than the kite line drops to the shore and establishes communication between the shore and the ship.
5. In a life saving apparatus for ships the combination of a kite, a kite line, a tail block secured to the rigging through which tall block the kite line is rove and then connected to the kite in a usual manner, a block suspended from the said kite line at a suitable distance from the kite, a reel box adapted to be secured to the ship and containing an adjustable frame carrying the kite line reel and alsu a second line reel, the second line being rove through the block suspended from the kite line, a wind drag attached close to the end of the second line and a weighted lantern or other weight attached to the free end of the second line so that when the second line is paid out faster than the kite line, the former is brought to the ground and communication is established between the ship and the shore.
6. The combination with a life saving apparatus embodying a kite, a kite line attached thereto and a second line, af a float or drag pointed at both ends and connected at one end to the shlp end of said kite line and at the other end to a supplementary line carried aboard a ship and controlling said fioat or drag.

No. 101,847. Life saving Apparatus.
Appareil de sauvetage.


Peter Mahoney, Brooklyn, New York, U.S.A., 30th October, 1906: 6 years. Filed 20th September, 1906. Recelpt No. 139,662.
Claim.-1. In a life saving apparatus the combination of a kite or other aerial device, a kite line attached to the kite and a second or trip line adapted in conjunction with the kite line to lower the kite.
2. In a life saving apparatus the combination of a kite or other aerial device, a kite line connected to the kite, a second or trip line attached to the kite for the purpose of tripping or throwing the kite, both lines being controlled from the ship and adapted in conjunction with each other to lower the kite when desired.
3. In a life saving apparatus the combination of a kite, a \(k i t e\) une connected hereto, a reel box contalning a folding reel trame carrying reels upon one of which is wound the said kite line, a second or trip line attached to the kite and carried by said kite line and wound upon a reel in aald reel box, and a cord connecting said kite line and said trip line to each other, the cord being of a lower breaking atrength than the kite line or trip line.
4. In a life saving apparatus the combination of a kite, a kite line attached thereto, a block secured to the rigging through which block the kite line is rove, a second or trip line carried by said kite line and connected to the kite, a cord of lower breaking strength than the two sald lines and connecting said kite line and gaid trip line, and suspension hanks upon said kite line for carrying said trip line.
5. In a life eaving apparatus the combination of a kite, a kite line attached thereto, a block secured to the rigging through which blook the kite line is rove, a second or trip line carried by suld kite line and attached to the bottom of
the kite, a cord of lower breaking strength than the two said lines and connecting them to each other near the kite whereby the cord is snapped and the kite tripped and thrown to the ground when the trip line is held back.

No. 101,848. Water Feed Mechanism for Boilers.
Apparcil d'alimentation d'eau pour chaudidres.


Walter Andrew Moffat, Denver, Colorado, U S.A., 30th October, 1906 ; 6 years. Filed 9th October, 1905. Receipt No. 129,079.
Claim.-1. In a steam boller water feed the comblnation with the boiler, of a feed water receptacle, a feed water pipe connecting said receptacle and boiler and having a valve, a steam pipe leading from the boiler into the feed water receptacle and opening above the water line thereln, a valve for sald steam pine, and means whereby eald valves are simultaneously onerated.
2. In a steam boiler water feed the combination with the boller and its safety valve of a fced water receptacle. a feed water pipe connecting the water space of said receptacle with the water space of the boller, a steam pipe leading from the safety valve into said feed water receptacle and opening atave the high water line therein, a valve in sald feed water pipe, and means operated by the safety valve to actuate the valve in the feed water pipe.
3. In a steam boiler water feed the combination with the briler, of a feed water receptacle, a feed plpe connecting the water space of the said receptacle with the water space of the boiler. a steam plpe leading from the boiler into the feed water receptacle, a heating coll within the water space of said receptacle forming a continuation of sald steam pipe and opening above the high water line therein, and valve for controlling the said steam plipe and feed pipe.
4. In a steam boiler water feed the combination with the boller and its smoke stack. of a feed water receptacle surrounding the smoke stack, a feed pipe connecting the water space of sald receptacle with the water space of the boller, a steam plpe leading from the boller into the feed water receptacle, a heating coil within the water space of said receptacle forming a continuation of said steam plpe and openIng above the high water line therein, and valves for controlling said steam pipe and feed pipe.
5. In a steam boller water feed the combination with the boller and its stack, of a feed water receptacle having a flue passage therethrough and adapted to form an intermediate section of the stack. a feed water pipe connecting said receptacle and boiler, a steam pipe leading from the boiler into the feed water receptacle, a heating coll within the water space of sald receptacle surrounding the fiue passage thereof and opening above the high water line therein, the sald coil fcrming a continuation of said steam pipe, valves for controlling the steam pipe and feed pipe, and means whereby said valves are operated by the steam pressure within the boller,
6. In a steam boller water feed the combination with the boller, its safety valve and lever controlling the same, of a feed water receptacle, a feed water pipe connecting said receptacle with the boiler, a steam pipe leading from the safety valve into the feed water receptacle and opening above the high water line therein, a valve in the feed water plpe connected to the lever of the safety valve, a float within the boller connected to said lever and adapted when not sustained by the water within the boiler to actuate said lever by gravity and open the feed valve.
7. In a steam boiler water feed the comblnation with the boiler. its safety valve and lever for controlling the same, of a peed water receptacle, a feed water pipe connecting said receptacle with the boller, a steam pipe leading from the
safety valve into the feed water receptacle and opening above the high water line therein, a valve in the feed water pipe connected to the lever of the safety valve, and means for operating said lever manually.
8. In a steam boier water feed the combination with the boiler and its safety valve, of a feed water receptacle having a feed water pipe connecting the same and the boiler, a steam plpe leading from the safety valve into the feed water re\(c \in p t a c l e\) above the high water line thereln, and a safety valve for controlling the steam pressure within said receptacle.
9. In a steam boller water feed the combination with the boiler, of a feed water receptacle, a feed water pipe connecting said receptacle and said boller, a steam pipe leading from the boiler into the feed water receptacle and opening above the high water line therein, a valve for said steam pipe, an engine steam pipe communicating with the boiler and with said steam pipe, means for alternately cutting off said communications whereby steam for the engine may be taken from the water feed receptacle when the pressure therein is equal to or greater than that in the boller.
10. In a steam boller water feed the combination with the boiler and its safety valve, of a feed water receptacle, a feed water pipe connecting said receptacle and boller, a steam pipe leading from the safety valve into the feed water receptacle and opening therein above the high water line thereof, an engine steam pipe having communication with said steam pipe and with the boiler, a check valve for closing said communication with the steam plpe under the pressure direct from the boller, a valve for closing communication between the engine steam pipe and the boiler, a float within the feed water receptacle, and means actuated by said float and connected to the latter valve to close the same.
11. In a steam boiler water feed the combination with the boller and its safety valve, of a feed water receptacle wholly located above the boiler, a feed water pipe connecting said receptacle and boiler and having a valve, a steam pipe leading from the safety valve into the feed water receptacle and opening above the water line therein, and a heating coil within the water space of said receptacle and forming a continuation of the said. steam pipe.
12. In a steam boiler water feed the combination with the boiler and the smoke stack, of a feed water receptacle through which the smoke stack passes, a feed water pipe connecting said receptacle with the boiler, a valve in the feed water pipe, a steam pipe connecting the boller with said receptacle and opening above the high water line therein, a heating coil forming a part of said steam pipe, a valve in the steam pipe and means to operate both valves simultaneously and automatically.
13. In a steam boiler water feed the combination with the boller, of a feed water receptacle. a feed water pipe connecting said receptacle and boiler, a steam pipe leading from the boiler and opening into said receptacle above the high water line therein. a heating coll within said receptacle forming a continuation of said steam pipe, a water supply pipe opening into said receptacle, a valve in said supply pipe, a float within said receptacle. and means operated by said float to open and close the valve of the water supply pipe.
14. The combination with the feed water receptacle. of a water supnly pipe, a valve therein. a pinion mounted on the stem of the valve, a vertically movable yoke having one limb outside the receptacle and having a rack to engage the pinion and the other limb slidably projected into said recentarle and a float on the latter limb within the recentacle.
15. In a steam boller water feed the combination with the holler. of a feed water receptacle, a feed water pipe connecting sadd recentacle and boiler. a steam pipe leading from the boiler into the feed water recentacle and opening above the high water line therein. a supply dipe having a valve adapted to close the same by steam pressure within said receptacle, a second valve in said supply pipe. means for onening and rlosing said valve and a float within the receptacle for actuating said valve operating means.

\section*{No. 101,849. Rescue Broy. Bouéc de sauvetage.}

Jerusha C. Quarterman. Titusville, Florida, U.S.A., 30th October, 1906; 6 years. Filed 5th September, 1906. Receipt No. 139,283.
Claim. - 1 . A rescue buoy consisting of an inflated ring body, a netting surrounding said body, loops extending from the netting and forming a plurality of series of hand holds in addition to those provided by the netting, and a tow rope attacked to the ring, said tow rope being provided with an enclosed wire strand whereby to prevent said tow rope from becoming tangled.
2. A rescue buoy consisting of an inflated ring body, a netting encircling said body, a stay rope secured to the netting and peripherally encircling the said body, a marginal rope formed in a series of loops, said rope being attached to the stay rope between the loops, a second marginal rope formed
in a series of shorter loops. said loops crossing the spaces between the longer loops, the second rope forming the

shorter loops being also secured to said stay rope between the loops.
3. \(\Lambda\) rescue buoy consisting of an inflated ring body, a netting surrounding said body, a stay rope secured to the netting and peripherally surrounding said body, a marginal rope formed in a series of loops, which marginal rope between the loops is attached to the stay rope. a second marginal rope formed in a series of shorter loops which cross the spaces between the longer loops, the second rope having the shorter loops therein being also secured to sald stay rope, a ring secured to said stay rope, and a tow rope attached to said ring, the tow rope being provided with an enclosed wirt sirand whereby to prevent the tow rope from becoming tangled with itself.

No. 101,850. Wrapper Cord Knotter and Cutter. Fil ì cnvelopper, noucur et couteau.


John E. Quinn, Lime Springs, Iowa, U.S.A., 30th October, 1906;
6 years. Filed 7th September, 1906. Receipt No. 139,320.
claim.-1. In an implement of the class described, a casing, a shaft mounted therein and carrying at one end a cord knotter and at its other end a miter gear, a second shaft carrying a pinion and a miter gear meshing with that of the first shaft, a third shaft carrying a pinion and a comblned tension device and knife, and means for simultaneously driving both pinions.
2. In a device of the class described, a casing, a shaft nounted therein and carrying at one end a knotter and at its other end a miter gear, a second shaft carrying a pinion and a miter gear meshing with that of the first shaft, a third shaft carrying a pinion of greater size than that of the second shaft and a combined tension device and knife, and a rack bar engaging the two pinions.
3. In an implement of the class described the combination with a handle, of a casing provided in its side and both ends with a cord guide, a shaft journalled in the casing and carry ing at one end a cord knotter arranged in the line of the cord guide and at its other end a miter gear, a second shaft carrying a pinion and a miter gear meshing with that of the first shaft, a third shaft carrying a pinion and a combined tension device and knife, a rack bar projecting transversely through the casing and engaging the pinions, and a spring pressed arm for actuating the rack bar.
4. In an implement of the class described the combination with a handle, of a casing provided in its side and both ends with a cord guide, a shaft mounted within the casing and carrying at one end a cord knotter arranged in the line of the gulde and at its other end a miter gear, a second shaft carrying a pinion and a miter gear meshing with that of the first shaft, a third shaft carrying a pinion and a combined tension device and knife provided with a cord engaging beak,
stationary members disposed on each side of the tension device and co-acting therewith, and a rack bar engaging the pinions.
5. In an implement of the class described the combination with a handle, of a casing secured thereto and provided with a lateral cord guide, frame members secured within the casing, a pair of shafts journalled in the frame, and carrying intermeshing miter gears, a knotter carried by one of the shafts, a pinion carried by the other shaft, a third shaft carrying a pinion and a combined tension device and knife a rack bar meshing with the two pinions, and a spring pressed arm for actuating the rack.

No. 101,851. Lawn Mower. Faucheuse de pelouse.


John H. Seip, Peckville, Pennsylvania, U.S.A., 30th October, 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,628.
Claim.-1. The combination with a frame having a finger bar and a pair of branches extending rearwardly therefrom, said branches having a cross connection therebetween, of a reciprocating cutter bar on the finger bar, having a socket in the top, a lever pivoted on the cross connection between the branches and having a head fitting in the socket, a hand crank and crank disc mounted on the frame and having gearirg therebetween, and a tumbling rod located between said branches and connecting the crank disc and the lever.
2. The combination with a frame comprising a finger bar, branches extending rearwardly therefrom and united at a reck, a bandle connected to and offset on one side of the neck, a bearing frame offset on the other side from the neck, a crank shaft and gear mounted on said frame, a shaft mounted on a bearing on the neck and having at one end a pinion meshing with the gear aud at the other end a crank disc, a cutter bar on the finger bar, a lever pivoted between sajd branches and engaging the cutter bar, and a tumbling rod connecting the lever and crank disc and osclllating between said branches.

No. 101,852. Hay Rake and Loader.
Rateau d foin et monte-charge.


Lewis Shultz, La Harpe, Illinots, U.S.A., 30th October, 1906; 6 years. Filed 29th May, 1906. Recelpt No. 136,373.
Claim.-1. In a device of the class described, an inclined frame, an approximately horizontal frame connected therewith and having meaus for the attachment of draft, an axle supported for rotation, wheels upon sald axle, a rock shaft constituting a rake head supported for oscillation between said axle and the lower end of the inclined frame, curved rake teeth connected with said rake head and extending in
oferative position around the lower end of the inclined frame, transverse shafts journalled in the upper and lower ends of said inclined frame, sprocket wheels upon said shafts, an endless slatted carrier mounted upon said sprocket wheels, iransverse braces connecting the side members of the inclined frame between the upper and lower leads of the carrier, longitudinal floor slats mounted upon said transverse braces, transverse braces supported by the frame and above the upper lead of the endless carrier, longitudinal resilient compression bars supported by and connected with the under sides of said braces and disposed intercurrently with relation to the floor slats and the lower ends of said resilient bars being extended between and in rear of the curved rake teeth, sald compression bars co-operating with the rake teeth to convey material gathered by the latter between the upper lead of the carrier and said compression bars.

No. 101,853. Method of Converting Energy.
Méthode de convertir l'énergic.


Adolf Vogt, 149 Tulse Hill, Surrey, England, 30th October,
1906; 6 years. Filed 18th May, 1906. Receipt No. 136,050.
Claim.-1. A method of converting the chemical energy of fuel into the kinetic energy of a moving fluid and consisting ir burning the fuel by air under pressure and allowing the hot compressed fluid thus produced to expand and to pass through a regenerator whereby substantially the whole or a part of the sensible heat which the fluid still contains is recovered, substantially as described.
2. In a method of converting the chemical energy of fuel into the kinetic energy of a moving fluid and consisting in burning the fuel by air under pressure and allowing the hot compressed fluid thus produced to expand and to pass through a regenerator, causing the fluid that issues through the regenerator to pass through an injector, substantlally as and for the purpose set forth.
3. In a method of converting the chemical energy of fuel into the kinetic energy of a moving fluid and consisting in burning the fuel by air under pressure and allawing the hot campressed fluid thus produced to expand and to pass through a regenerator, causing a fluid to pass around the regenerator and subsequently to enter the combustion chamber, substantially as and for the purpose set forth.
4. In an apparatus for converting the chemical energy of fuel into the kinetic energy of a moving fluid and consisting in burning the fuel by air under pressure and allowing the hot compressed fluid thus produced to expand and to pass through a regenerator, the combination of a gas generator or other fuel supply, a combustion chamber having one or more nozzles for the expansive escape of gas and a regenerator whereinto the said nozzle or nozzles open, substantially as described.
6. In combination a compressor, a gas generator or other fuel supply, a combustion chamber, arrangements for distriand consisting in burning the fuel by air under pressure and allowing the hot compressed fluid thus produced to expand and to pass through a regenerator, an air compressor arranged to supply air under pressure to the generator or other fuel supply and to the combustion chamber directly or through the regenerator, substantially as described.
6. In combination, a compressor, a gas generator or other fuel supply, a combustion chamber, arangements for distributing air from the compressor to the generator or other fuel supply and the combustion chamber, a regenerator, an expansion nozzle or nozzles opening from the combustion chamber into the regenerator, an arrangement for passing fluid through the regenerator to other parts of the apparatus, a motor operated by the fluld that expands through the nozzle or nozzles, and suitably governed devices for controlling the said arrangement for distributing air and passing fluid, substantially as described.

No. 101,854. Bow Facing Oar. Ramcs.


Jacob William Wagner, Garrett, and Henry Bhenk, Ceder, both in Indiana, U.S.A., 30th October, 1906; 6 years. Filed 28th September, 1906. Receipt No. 139,870.
Claim.-1. In a bow facing oar the combination of an upright bracket provided at its ends with open socket bearings and at its central portion with laterally apertured lugs, a horizontal plate pivotally mounted in the bearings and lugs of said bracket, and provided upon its outer free end with a pivoted stirrup or gulde, and a two-part car whose handla section is fulcrumed near the inner edge of the said plate, and whose blade section is slidably mounted in the said guide and is pivotally connected at its inner end to the said handle section, all substantially as described.
2. The combination in a bow facing oar of an upright bracket having open socket bearings at its ends, and provided with laterally apertured lugs at its central portion, a horizontal plate resting in the socket bearings, and having an apertured lug wh!ch extends between the before-mentioned lugs, and a removable bolt extending through all of said lugs, and a two-part oar connected with the horizontal plate and supported thereby. whose handle section is fulcrumed near the inner edge of the said plate, and whose blade section is slidably mounted in the said guide, and is pivotally connected at its inner end to the said handle section, all substantially as described.
10. 101,855. Golf Oap. Chapeau de golfe.


Warren C. Ogllvie and James C. Coulson, Truro, Nova Scotla, Canada, 30th October. 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,667.
Cuim.-1. As an article of manufacture a golf cap with a llexible shield extending part way round and permanently attached to the front part of the interior of said cap, substantially as described and set forth.

\section*{170. 101,856. Windrow.}

Lonis Franzmeier. Newton. Wisconsin, U.S.A., 30th October, 1:006; 6 years. Filed 20th August, 1406. Recelpt No. 138,867.
finim.-1. A windrower comprlsing a bar for attachment to the rear of the thater bar of a mowing machine, slats havling their forward ends fastened to the bar first aforesaid and ruarardly extended on a horizontal plane below the same,
ho whermost slat being the shortest, the others of gradually

Increasing length, the longest crossed on the next two, the lallor being rearwardly divergent from one another and all

of them having forwardly bowed rear ends, and a plate surmounting the horizontal portions of the crossed slats.
2. A windrower comprising a bar for attachment to the rear of the finger bar of a mowing machine, slats having thelr forward ends fastened to the bar first aforesald and rearwardly extended on a horizontal plane below the same. the outermost slat being the shortest and rearwardly divergent from the one next outermost. the others of gradually increasIng length, the longrst crossed on the next two, the latter being rearwardly divergent from one another and all of them having forwardly bowed rear ends, and a plate surmounting the horizontal portions of the crossed slats.
No. 101,857. Wind Instrument. Instrument d pent.


Albert O. Paulson, Sharon, North Dakota, U.S.A., 30th October, 1906; 6 years. Fiked 3rd July, 1906 . Receipt No. 137,487.
Claim.-1. In a wind instrument, a plurality of piston valves, provided with both curved and transverse ports, adjustable to alter the lengths of the wind passage, there being the same number of reverse turns in all positions of the valves.
2. In a wind instrument, piston valves, each having a curred port corresponding to one of the alides, and provided with transverse ports, which are connected in the wind passage when the curved ports are moved out of communication therewith.
3. In a wind instrument, a cylinder, a ported plunger arranged therein, and a finger actuated stem disconnected from the plunger and serving as an operating means thereof.
4. In a wind instrument, a cylinder having a pivoted end member. a plunger arranged within the cylinder, a plunger elevating spring, and a finger actuated stem independent of said plunger.
5. In a wind insirument, a pair of tuning slides, of different lengths, means fir controlling the slides to permit simulianeous adjustment, and a valve having ports through which ctither slide may be connected in the wind paseage.
6. A wind instrument having valves provided with curved ports, said curved ports being adapted to conduct the wind from an upper to a lower tube, substantially as described.
-. In a wind instrument. a plurality of valves provided with both curved and transverse ports, said ports being alapte 1 to conduct the wind from an upper to a lower cube, ald valvers being adjustable to alter the lengths of the wind passage, there being the same number of reverse turne in all positions of the valves.

No. 101,858. Fruit Picking Bag.
Sac à ramasser les fruits.


James Utterback, Honeoye Falls, New York, U.S.A.. 30th October, 1906; 6 years. Filed 5th October, 1906. Receipt No 140,063 .
Claim.-1. A fruit picking bag having a closed top and a peir of mouths one of which is disposed at the front and the other at one side of the bag.
2. A fruit picking bag having a closed top, an open bottom and means for closing the same, and a pair of mouths one of which is disposed in front and the other at one side of the bag.
3. A frult picking bag having a pair of mouths arranged one in front and one at the side of the upper portion thereof, and means for holding the mouths open and permitting them to yield to pressure.
4. A frult picking bag having its upper end closed and its lower end open, a gathering cord combined with the lower end and carrying a catch, and means carried by the upper portion of the bag to be engaged by the catch thus to hold the lower portion closed.
5. A fruit picking bag having a closed top, a pair of mouths one of which is disposed at the side and the other at the tront of the upper portion thereof, keepers combined with the upper portion of the bag, and suspenders secured to the keepers.

No. 101,859. Fruit Gatherer. Jaffet.


James M. Chritton, Rockyford, Colorado, U.S.A., 30th October, 1906 ; 6 years. Filed 26th March, 1906. Receipt No. \(134,295\).
Claim.-1. In a device of the class described, a split receiver having its adjacent edges bent to form laterally extending flanges, and cutting blades carried by said flanges.
2. In a device of the class described, a split receiver provided with inwardly extending flanges, cutting blades secured to said flanges and a spring secured to the receiver and encircling the same.
3. In a device of the class described, a split receiver provided with inwardly extending flanges, cutting blades secured thereto, and a pin or rivet passing through said fingers at the bottom of the receiver and engaging the cutting blades

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4. In a device of the class described, a split receiver formed of a single plece of spring metal the opposite ends of which are bent to form laterally extending fianges, vertically disposed cutting blades secured to sald flanges, and a pin passing through said flanges and cutting blades and forming a pivotal connection for both.
5. In a device of the class described, a split receiver havin: is adjacent longitudinal edges bent inwardly and provided with cutting blades.
6. In a device of the class described, a split receiver provided with a laterally projecting flange and having its adjacent longitudinal edges bent inwardly and provided with cutting blades, and a fruit containing receptacle engaging the annular flange of the receiver.

No. 101,860. Vehicle Wheel. Roue de voiture.


Marcellus. Bunker, Woburn, Massachusetts, U.S.A., 30th October, 1906; 6 years. Filed 15th August, 1906. Receipt No. 138,704.
Claim.-1. A vehicle wheel comprising in its construction a rim, a series of blocks adapted to slide radially to said wheel, the outer end of each of said blocks respectively projecting outwardly beyond the periphery of said rim, each of sald blocks having a radial post in the interior thereof surrounded by an annular recess, a series of radial pins each projecting into a recess in its respective post, a spiral spring located in each of said annular recesses encircling said post and acting to move its respective block outwardly, and means to limit the extent of said outward movement.
2. A vehicle wheel comprising in its construction a rim, a series of blocks adapted to slide radially to said wheel, the outer end of each of said blocks respectively projecting outwardly beyond the periphery of said rim, each of said blocks having a radial post in the interior thereof surrounded by an annular recess, a series of radial pins each adapted to guide its respective block in its radially sliding movement, a spiral spring located in each of said annular recesses and acting to move its respective block outwardly, and means to limit the extent of sald outward movement.
3. A vehicle wheel comprising in its construction a rim, a series of blocks adapted to slide radially to said wheel, the outer end of each of said blocks respectively projecting outFardly beyond the periphery of said rim, each of said blocks having a radial post in the interior thereof surrounded by an annular recess, a series of radial pins, cach fast to said rim and projecting into a recess in its respective post, a spiral spring located in each of said annular recesses and acting to move its respective block outwardly, and means to limit the extent of sald outward movement.
4. A vehicle wheel comprising in its construction a rim, a series of blocks adapted to slide radially to sald wheel, the outer end of each of said blocks respectively projecting wardly beyond the periphery of said rim, each of said blocks having a radial post in the interior thereof surrounded by an annular recess, a series of radial pins, each fast to said rim, and projecting into a recess in its respective post, a spiral spring located in each of said annular recesses and acting to move its respective block outwardly, and a cross pin fast to said pin and projecting into a slot provided in sald post.

No. 101,861. Wheel. Roue.


Charles F. Morohn, Milwaukee, Wisconsin, U.S.A., 30th October, 1906; 6 years. Filed 6th September. 1906. Recelpt No. 139,302.
Claim.-1. In a wheel the combination of a wheel body, a box adapted to recelve an axle, a pneumatic tube surrounding the box and resting against the wheel body, an annulus of resilient or springy material interposed between the box and the pneumatic tube, and rings of cushloning material disposed at opposite sides of the annulus and surrounding and extend-
ing radially from the box, the wheel body and the sald riags of cushioning material being so relatively arranged that the latter do not bear on the former sxcept when undue weight \(1: 3\) imposed on the box.
2. A wheel comprising a body containing a case baving side walls provided with central circular openings, a bor arranged in the case and having rings of resillent material es tending beyond the outer side and arranged in the same planes as the side walls of the case and loosely occupying the openings in said side walls, an inflatable tube surrounding the box and arranged in and against the case, and an annulus of resilient or springy material surrounding the box and interposed between the same and the inflatable tube.
3. A wheel comprising a body containing a case having gide walls in which are central circular openings and also having a circular wall and apertures therein, a box arranged in the case and having rings of resilient material extending beyond its outer side and arranged in the same planes as the side walls of the case and loosely occupying the openings in said side walls, an Inflatable tube surrounding the box and arranged in and against the case and having teats disposed in the apertures in the circular wall thereof. in combination with an axle occupying the box and having threaded portions. threaded discs mounted on the threaded portions of the axle and disposed at opposite sides of the case of the wheel, and anti-friction balls interposed between said discs and the ends of the box.
4. A wheel comprising a body containing a 'case, a box arranged in the case, an inflatable tube surrounding the box and arranged in and against the case, and an annulus of resilient or springy material surrounding the box and interposed between the same and the inflatable tube, in combination with an axle occupying the box, and discs fixed on the axle at opposite sides of the case of the wheel.
5. A wheel comprising a body containing a case having side walls provided with central circular openings, a box arranged in the case and having rings of resilient material extending beyond its outer side and arranged in the same planes as the side walls of the case and loosely occupying the openings in said side walls, an inflatable tube surroundigg the box and arranged in and against the case, and an annulus of resilient or springy material surrounding and held to the box and interposed between the same and the inflatable tube, in combination with an axle occupying the box, and discs fixed on the axle at opposite sides of the case of the
wheel.

\section*{TRADE-MARKS}

Registered during the months of August, September and October, 1906, at the Department of Agriculcure - Copyright and Trade-Mark Branch.
11136. THE CRESCENT MANUFACTURING COMPANY, Seattle, Washington, U.S.A., Baking Powder. Word and representation: "Crescent." 1st August, 1906.
11137. The J. B. WILLIAMS COMPANY, Glastonbury, Connecticut, U.S.A. Soap, especially Shaving and Tollet Soap. Word: "Yankee." 1st August, 1906.
11138. MACKENZIE, CROWE \& COMPANY, LIMITED, Bridgetown, Nova Scotia. Larrigans. Words : "Lumber King," representation of a Lumberman with Axe on shoulder, and name and address of Registrants. 1st August, 1906.
11139. C. L. BLACK. St. Davids. Ont. Canned or Bottled Fruits and Vegetables. Label re "The Old Mill Brand." 1st August. 1906.
11140. THE SOVEREIGN PERFUMES, LIMITED. Toronto. Ont. Hedrub. Cold Creams, Massage Creams. Lotions, Soaps. Shampoos. Tollet Powders. Perfumes. Tollet Waters. Colognes. Hair preparations, etc. Word : "Adonis" and representation of an Owl resting on a stump. 1st August, 1906.
11141. BRITISH-AMERICAN TOBACCO COMPANY. LIMITED. Cecil Chambers, 86 Strand. London. England. Tobacco in all forms excent Cigars. Label re "Cremo." 2nd August. 1906.
11148. W. McNALLY \& COMPANY, Montreal. Que. Cement. Word : "Empire." 2nd August, 1906.
11143. ALMA EMILE PELISSIER. Trading as THE CLERICAL SHOE MANUFACTURING COMPANY, Montreal, Que. Shoes. Word: "Clerical" and representation of a shoe in a circle. 2nd August. 1906.
11144. LUDWIG SENSBURG. Munchen. Germany. General Trade Mark. Word : "Sahir." 2nd August, 1906.
11145. THE G. A. HOSMER COMPANY. Buffalo. New York. U.S.A. Preparations for Cleaning and Polishing Wood and Metal Polished Surfaces. Word : "Furniture Veneer." 3rd August, 1906.
11146. THE B. HOUDE COMPANY, LIMITED, Quebec. Que. Tobacco. Word : "Swoboda," representation of the Austrian Eagle, and words: "Tyton Turecki, Nadzwycza Jr., Aromatyczny." 3rd August, 1906.
11147. RODOLPHE BRUNET, Montreal, Que. Concrete composition used in making plastic structures. Word : "Emeretique." 3rd August. 1906.
11148. COIGNET \& CIE.. Paris, France. Une Gelatine Alimentaire en poudre. Label re "Coignet's Crystalline Gelatine Powder" avec facsimile de la slgnature des Registrants. 3 aont 1906.
11149. THE UNITED STATES PLAYING CARD COMPANY. East Norwood. Cincinnati, Ohio. U.S.A. Playing Cards. Ornamental panel with circular flelds near each corner bearing representations of a rider seated on a bicycle. 3rd August, 1906.
11150. THE UNITED STATES PLAYING CARD COMPANY. East Norwood, Cincinnati. Ohio. U.S.A. Playing Cards. Representations of Acorns and Oak Leaves surrounded by a border of representations of Bicycles and Bicycle Wheels. 3rd August, 1906.
11151. LA PUBLICATE GENERALE COSMOS, LIMITEE, Montreal, Que. A Therapeutical Apparatus. Representation of two hands operating a vibratory massage. and words: "The Perfect Health With the Perfect Vibrator," "La Sants Parfalte par le Masseur Santé Parfaite." 4th August. 1906.
11152. WILLIAM A. LEACF, Cincinnati. Ohio. U.S.A. Medicines. Label re " Virgin Oil of Pine." 7th August. 1906.
11153. THE EMPIRE TOBACCO COMPANY, LIMITED, Montreal. Que, Tobaccos, Cigars and Cigarettes. Word: "Pacifc." 7th August, 1906.
11154. THE EMPIRE TOBACCO COMPANY. LIMITED, Montreal, Que. Tobaccos. Cigars and Cigarettes. Word: "Sterling." 7th August. 1906.
11155. THE PURE GOLD MANUFACTURING COMPANY. LIMITED. Toronto. Ont. General Trade Mark. Words: "Pure Gold" and representation of a large foundry ladle with metal flowing therefrom. 7th August. 1906.
11156. FREDERICK SCHUTZE. London. England. An Appllance for wear whin swimming or bathing. Words: "Father Neptune's Safc-Float "' and representation of Father Neptune. 7th August, 1906.
11157. LOUIS M. PARK, Minneapolis, Minnesota, U.S.A. Spring Water. * Word: "Hiawatha." Sth August. 1906.
11158. JAMES HENRY STEDMAN, 125 New North Road, London, England. Medicine. Label with words: "Doctor Stedman's Teething Powders" above representations of gum lancets bearing words: "Gum Lancet." 8th August. 1906.
11159. NEW IBERIA EXTRACT OF TABASCO PEPPER COMPANY. LIMITED. New Iberia. Louisiana. U.S.^ Extract of Tabasco Pepper and Catsup. Conventional representation of a Heart in green colour. 8th August, 1906.
11160. F. W. BIRD \& SON. East Walpole. Massachusetts. U.S.A.. and Hamilton. Ontario. Canada. Paper. Word: "Parold" on maple leaf placed against a roll of paper supporting a Beaver. 8th August. 1906.
11161. HYGIENIC FOOD COMPANY. Battle Creek. Michigan. U.S.A. Prepared Cereal Breakfast Foods. Representation maple leaf bearing word :" Mapl-Flake." Sth August. 1906.
11162. A. E. McKENZIE COMPANY, LIMITED. Brandon, Manitoba. Seeds. Words: "Brandon Seed House." 9th August. 1906.
11163. A. E. McKENZIE COMPANY, LIMITED. Brandon. Manitoba. Plants. Trees. Shrubs and Bulbs. Words : "Brandon Nursery." 9th August. 1906.
11164. A. E. McKENZIE COMPANY. LIMITED. Brandon. Manitoba. Seeds, Plants. Flowers and Cut Flowers. Words: "Brandon Greenhouses." 9th August. 1906.
11165. ABEL MORRALL, LIMITED, Clive Works, Edward Street, Redditch, England. Toilet Pins. Word : "Mulberry." 9th August. 1906.
11166. THE C. E. MCKEEN COMPANY, Quebec, Que. Boots and Shoes. Words : "The Great West Shoe." 9th August. 1906.
11167. J. U. LALONDE \& EDOUARD SENECAL, Montreal, Que. Une Crême à Massage. Etiquette portant photogravure d'une Femme et mots : "Pompadour Massage Cream." 9 aoat 1906.
11168. SWIFT. COPLAND \& COMPANY, Montreal, Que. Hats. Caps and Furs. Word: " Royalty." 10th August. 1906.
11169. STUDEBAKER AUTOMOBILE COMPANY, South Bend, Indiana, U.S.A. Automohiles. Word: "Studebaker" in script. 10th August. 1906.
11170. STUDEBAKER BROS. MANUFACTURING COMPANY. South Bend, Indiana, U.S.A. Vehicles. Word: "Studebaker" arranged in a reversed curve. 10th. August, 1906.
11171. STUDEBAKER BROS. MANUFACTURING COMPANY, South Bend, Indiana, U.S.A. Vehicles. Word:"Studebaker" in script. 10th August, 1906.
11172. THE GURNEY FOUNDRY COMPANY. LIMITED. Toronto, Ont. Stoves. Ranges. Boilers. Radiators and Furnaces. Word : "Oxford." 11th August. 1906.
11173. DAVID BROWN \& SON, LIMITED, Donaghmore. Ireland. Soaps. Soap Powders. Candles. Deterzents and Laundry Preparations and Goods. Words : "McClinton's Soap" and signature of John McClinton. 11th August. innf.
11174. DAVID BROWN \& SON, LIMITED, Donaghmore, Ireland. Soaps, Soad Powders. Candles, Detergents and Laundry Preparations and Goods. Word: "Colleen." 11th August. 1906.
11175. (COUNTESS) OTTILIE VON FABER-CASTELL. Trading as A. W. FABER. Stein. near Nuremberg. Emplre of Germany and 149 Queen Victoria Street, London, England. Lead
Pencils. Coloured Pencils. Pencils with movable leads and Copying or lnk Pencils. Word : "Castell" between representations of a Battlement or Turret of a Castle. 11th August. 1906.
11176. SOCIETE ANONYME " LE FERMENT." No. 77 rue Denfert-Rocher-
eau. Paris. France. Produits Pharmaceutiques, Fwoieniques et Alimentaire. Etiquette en forme d'une losange portant mot: " Lactobacilline," etc. 11 aoat 1906.
11177. ERNEST V. MORGAN, Cleveland, Ohio, U.S.A. Purimachos Cements and Powder. Word : "Purimachos" across a Ball transfixed by a Pin. 13th August, 1906.
11178. THOMAS L. HUNT AND ELLA HOGARTH. London. Ont. Compound Toilet Powder for the removal of Stains, \&c. Word : "Toiletta." 13th August. 1906.
11179. THE GORE LACE SHOE COMPANY. Haverhill. Massachusetts. U.S.A. Boots and Shoes. Circular figure having a serles of crescent shaped figures tangentially arranged thereon and enclosing the words: "Gore Lace" written across the representation of a shoe. 13th August, 1906.
11180. JAMES SAUNDERS \& COMPANY. LIMITED, 15 Charlotte Street, Fitzroy Square, London, England. Whiskey. Label re "Saunders's Celebrated Scotch Malt Whiskey," and representation of a Triangle with letter: "B." 13th August, 1906.
11181. GERSTENDORFER BROS., New York, N.Y., U.S.A. Paints, Enamels and Varnishes. Label re "Star Enamel" and represa:itation of a woman in the act of enameling an articie. 13th August, 1906.
11182. DAVID BROWN \& SON, LIMITED, Donaghmore, Ireland. Soaps, Soap Powders, Candles, Detergents and Laundry Proparations and Goods. Word : "Hibernia." 14th Augu:to 1906.
11183. THE ORRINE COMPANY, Washington, D.C., U.S.A. Medical Sompounds, particularly for the cure of alcoholic and drug habits. Word : "Orrine." 14th August, 1906.
11184. GEORGE PAYNE \& COMPANY, LIMITED, Queen Elizabeth Street, Tower Bridge, London, England. Substances used as food or as ingredients in food, such as Tea, Coffee, Cocoa, Chocolate, Spices, etc. Label re "Hova" and representation of a Ceylon Tea garden with Cingalese woman holding basket, etc. 14th August, 1906.
11185. THE N. K. FAIRBANK COMPANY, Chicago, Illinois, U.S.A. Washing Powder. Label re "Fairbank's Gold Dust Washing Powder."14th August, 1906.
11186. BENJAMIN A. GOULD, Trading as CANADIAN MILK PRODUCTS, Toronto, Ont. Bread. Words: "White Clover." 14th August, 19)f.
11187. THE SAWYER \& MASSEY COMPANY, LIMITED, Hamilton, Ont. Grain Separators or Threshing Machines. Words: "The Great West." I5th August, 1906.
11188. WM. E. HOOPER \& SONS COMPANY. Baltimore, Maryland, U.S.A. Cotton Duck, Yarn, Rope. Wick, Twine, Sash Cord and other Cotton Fabrics. Word: "Hooperwood." 15th August, 1906.
11189. COMEAU \& SHEEHAN, St. John, New Brunswick. Rye Whiskey. Label re "Colonial" and representation of the Canadian Parliament Buildings at Ottawa. 15th August, 1906.
11190. WILLIAM J. O'LEARY \& REID McMANUS, Trading as THE AUTO SWITCH COMPANY, Montreal, Que. Electric Switches. Word : "Auto." 15th August, 1906.
11191. THE MORGAN CRUCIBLE COMPANY, LIMITED, Battersea Works. Battersea, London, England. Plumbago. Words: "Morgan's Plumbago" on representation of Flames. 15th August, 1906
11192. WILLIAM CROFT \& SONS, Toronto, Ont. Fishing Baits. Word : "Star," and representation of a spoon, part of which has a silver and part a gold appearance. 16th August, 1906.
11193. THE AMERICAN TOBACCO COMPANY OF CANADA, LIMITED, Montreal, Que. Tobacco in all forms, except Leaf Tobacco. Label re " Social Mixture." 16th August, 1906.
11194. THE B. HOUDE COMPANY, LIMITED, Quebec, Que. Tobacco in all forms. Label re "Sweet Comfort" and representation of a young man smoking. 16th August, 1906.
11195. THE B. HOUDE COMPANY, LIMITED, Quebec, Que. Tobaccos, Cigars and Cigarettes. Label re "Mon Aml." 16th August. 1906.
11196. EDWARD HENRY HORWOOD, New York, Borough of Manhattan, N.Y., U.S.A. General Trade Mark. Words: "Little Beauty." 16th August, 1906.
11197. EMANUEL SOLOMON, Montreal, Que. Tobacco and Cigarettes. Word: "Federal" and representation of a Harp. 17th August. 1906.
11198. THE SEAMLESS RUBBER COMPANY, New Haven, Connecticut, U.S.A. Fine Rubber Goods and Rubber Sundries, including Attachment Sets. Word: "Qualitair." 17th August, 1906.
11199. ROBERT SCHNEIDER, Berlin, Kingdom of Prussia, Empire of Germany. Remedy for Tuberculous and Catarrhal Complaints and Lamps for use therewith. Word : "Sanosin." 17th August, 1906.
11200. THE MURRAY SHOE COMPANY. LIMITED, London, Ont. Boots and Shoes. Words : "The Derby Shoe" on a Shield. 18th tugust, 1906.
11201. THE DOMINION CARRIAGE COMPANY, LIMITED, Toronto, Ont. Carriages and Vehicles. Words : "Maple Leaf Line" and representation of a Maple Leaf. 24th August, 1906.
11202. J. G. MONNET \& CIE., faisant le commerce sous la raison SOCIETE DES PROPRIETAIRES VINICOLES DE COGNAC, Cognac, France. Eaux-de-vie de Cognac. Etiquette portant la representation de l'Eglise et de la Cour de Saint-Pierre de Rome, et les mots: "St-Plerre de Rome," etc. 29 aout 1906.
11203. WALTER SPENCER \& COMPANY, LIMITED, Crescent Steel Works, Sheffleld, England. Steel, and Taps, Dies and Chisels made therefrom. Word : "Crescent." 31st August, 1906.
11204. WALTER SPENCER \& COMPANY, LIMITED. Crescent Steel Works, Sheffield, England. Steel and Tools made therefrom, including Files, Saws, Hammers, Taps and Dies, Chisels, etc. Word : "Velos." 31st August, 1906.
11205. WALTER SPENCER \& COMPANY. LIMITED. Crescent Steel Works. Sheffield. England. Steel and Iron, and Tools made therefrom. including Files, Saws. Hammers. Spanners, Taps and Dies, Chisels. etc. Representation of Three Crescents interwoven one with the other. 31st August. 1906.
11206. E. \& S. CURRIE, LIMITED, Toronto, Ont. Neck Ties and Cravats. Word : "Empire." 5th September, 1906.
11207. SWIFT \& COMPANY, Chicago. Illinols, U.S.A. Oleaginous Food Substance. Label re "Cremol." 5th September, 1906.
11208. SWIFT \& COMPANY, Chicago, Ilinois, U.S.A. Lard Substitute. Label re "Cotosuet." 5th September, 1906.
11209. SWIFT \& COMPANY, Chicago, Illínois, U.S.A. Lard. Label re "Silver Leaf" and representation of two silver leaves. 5th September, 1906.
11210. SWIFT \& COMPANY, Chicago, Illinois, U.S.A. Edible Oils. Label re "Wisdom" and representation of an Owl with the moon for a background. 5th September, 1906.
11211. SWIFT \& COMPANY, Chicago, Illinois, U.S.A. Lard Substitute. Label re "Jewel." 5th September, 1906.
11212. SWIFT \& COMPANY, Chicago, nlinols, U.S.A. Packing House Products. Words: "Swift's Premium." 5 th September. 1906.
11213. EDWARD LAURANCE, Toronto, Ont. Medicinal Preparations and Proprietary Medicines. Letters and words: "M. D. Malto Diastase Liquidife." 7th September, 1906.
11214. D. F. TAYLOR \& COMPANY, LIMITED, Birmingham, Eingland. Pins. Oblong background of fancy sorolls enclosing an oval bearing words: "Edelsten \& Williams's Queen's Own Solid Headed Pins, London," and representation of ten pins of graduated sizes. 8th September, 1906.
11215. ALEXANDER ARCHIBALD ALLAN, Trading as A. A. ALIAAN \& COMPANY, Toronto, Ont. Hard and Soft Felt Hats. Word: "Wakefleld." 10th September, 1906.
11216. JESSIE EMMA PRESTON, Toronto, Ont. Gold, SHiver and Glass Polish. Words: "The Favorite." 10th September, 1906.
11217. W. E. CHALCRAFT \& COMPANY, LIMITED, Toronto, Ont. Men's Clothing, Suits and Overcoats. Words: "The Broadway Brand." 10th September, 1906. on a stove. 13th September, 1906.
11219. THE TORONTO BEDDING COMPANY. LIMITED, Toronto, Ont. Woven Wire Spring Mattresses. Words: "Vermin Proof." 15th September, 1906.
11220. THE TORONTO BEDDING COMPANY, LIMITED, Toronto, Ont. Bedsteads, Cots, Bed Springs, Mattresses and Pillows. Word : "Ideal." 15th September, 1906.
11221. THE TORONTO BEDDING COMPANY, LIMITED. Toronto, Ont. Mattresses (whether filled or woven wire) and Springs. Word: "Hygienic." 15th September, 1906.
11222. PUDDY BROS., LIMITED, Toronto, Ont. Bacons. Cookel Meats, Sausages, Lard, etc. Oval label re "Canada's Pride" and representation of a Sheaf of Wheat. 18th September, 1906.
11223. THE TOWNSEND GRACE COMPANY, Baltimore, Maryland, U.S.A. Hats and Caps. An elliptical figure in and around which are arranged the name, words, etc.: "Townsend Grace Co. Highest Grade, New York, Baltimore, U.S.A." 19th September, 1906.
11224. THE SHAWINIGAN CARBIDE COMPANY, LIMITED, Montreal, Que. Carbide of Calcium. Letter : "S." 19th September, 1906.
11225. FOLEY, LOCK \& LARSON, Winnipeg, Man. Candy. Label re "Cinderella Chocolates," and representation of Cinderella and Prince. 19th September, 1906.
11226. FOLEY, LOCK \& LARSON, Winnipeg, Man. Candy. Label re "Superba Chocolates," and representation of two butterfies and a padlock. 19th September, 1906.
11227. C. HAROLD REICH, 66 Leigham Vale. Streatham. London. England. Lubricating Ofls, Word : "Express." 21st September, 1906.
11228. GEORGE FRIEDRICH ZARFASS, Toronto, Ont. Corn Meal Bread. Word : "Constitution." 21st September, 1906.
11229. WARDEN KING \& SON, LIMITED, Montreal, Que. Steam and Hot Water Bollers. Word : "Viking." 22nd September, 1906.
11230. A. HERBERT WOOLLEY \& COMPANY, Castle Road. The Boulevard, Nottingham, England. Silk Hair Nets. Word: "Odin." 22nd September, 1906.
11231. SLATER, RODGER \& COMPANY, LIMITED, 5 West Scotland Street, Glasgow, Scotland. Spirits. Word : "Autocrat.". 22nd September, 1906.
11232. GANONG BROTHERS, LIMITED, St. Stephen, New Brunswick. Confectioneries. Word : "Alakuma." 22nd September, 1906.

H233. ADJUTOR DUSSAULT, Québec, Que. Tabac à Fumer at à Chiquer, Cigares et Cigarettes. Mots : "Petit Rubis," et representation dun Rubis. 22 septembre 1906.
11234. LABORATORIO DI BILOGIA APPLICATA, Juinto al Mare, near Genoa. Italy. Medicine for the Cure of Hiccough. Rectangular label, green ground printed in yellow, bearing words: "Laboratorio di Biologia Applicata, Quinto al Mare, 'Sic,' Nuovo Rimedio contro la Tosse Asinina." 25th September, 1906.
11235. THE AMERICAN TOBACCO COMPANY OF CANADA, LIMITED, Montreal, Que. Tobacco, Cigarettes and Snuff. Words: "Great West" and representation of a Wheat Field, otc. 25 th September, 1906.
11236. THE GLOGE IRON WORKS COMPANY, Menomonie, Wisconsin, U.S.A. Oil Engines. Words: "The White Oil Engine" on representation of a Globe. 25th September, 1906.
11237. THE THOMAS G. PLANT COMPANY, Boston, Massachusetts, U.S.A. Boots and Shoes. Representation full length figure of Queen Louise descending a Flight of Steps. 25th September, 1906.
11238. THE GILLETTE SAFETY RAZOR COMPANY, Boston, Massaschusetts, U.S.A. Razors and Razor Blades. Portrait of King C. Gillette, and facsimile signature. 25th September, 1906.
11239. GEORGE VALIANT, Toronto. Ont. Footwear, Ventilators and other parts of Footwear. Word: "Footfanner." 25th Sep. tember, 1906.
11240. EDWIN IRVING, Toronto, Ont. Electric Incandescent Lamps. Word: "Gem." 26th September, 1906.
11241. THE MASON \& RISCH PIANO COMPANY, LIMITED, Toronto, Ont. Planos. Words : "The Classic Plano." 26th September, 1906.
11242. THE OLD BLEACH LINEN COMPANY, LIMITED, Randalstown, County Antrim, Ireland. Linen Goods of all kinds. Words : "Old Bleach." 27 th September, 1906.
11243. THE L. E. WATERMAN COMPANY, New York, N.Y., U.S.A. Pencils and Pens, particularly Fountain Pens. Word: "Clip." 27th September, 1906.
11244. THE MAPLE LEAF RUBBER COMPANY, LIMITED, Port Dalhousie, Ont. Shoes. Coined word: "No-wate" and Agure: " 8 " in a circle. 27th September, 1906.
11245. SARAH OPPENHEIM, 181 Decatur Street, New York, N.Y., U.S.A. Clothing : such as Blouses or Waists, Skirts, Trousers or Pants. Word : " Justrite." 27th September, 1906.
11246. DEBENHAMS, LIMITED. 91 Wimpole Street, London, W., England. Cloths and Stuffs of Wool, Worsted or Hair. Words : "Atlantic Serge" and representation of sea and shore with woman looking out to sea. 27th September, 1906.
11247. ARGYLL MOTORS, LIMITED, Argyll Works, Alexandria by Glasgow. Scotland. Motor Cars. Word : "Argyll." 27th September, 1906.
11848. POPE MANUFACTURING COMPANY, Hartford, Connecticut, U.S.A. Self-propelled Vehicles, other than Bicycles and Tricycles, and parts of self-propelled vehicles. Word : " Hartford." 28th September, 1906
11249. POPE MANUFACTURING COMPANY, Hartford, Connecticut, U.S.A. Self-propelled Vehicles, other than Blcycles and Tricycles, and parts of self-propelled vehicles. Word : "Tribune." 28th September. 1906.
11250. D. R. BRADLEY \& SON, New York, (Borough of Manhattan). N.Y.. U.S.A. Perfumery, Extracts, Cologne, Tollet Waters, Sachet Powders, Toilet Powders and Toilet Soap. Words: " Morning Dew." 29th September, 1906.
11251. D. R. BRADLEY \& SON, New York (Borough of Manhattan). N.Y., U.S.A. Perfumery, Extracts, Cologne, Toilet Waters, Sachet Powders, Toilet Powders and Tollet Soap. Word: "Vesta." 29th September. 1906.
11252. D. R. BRADLEY \& SON, New York (Borough of Manhattan), N.Y., U.S.A. Perfumery, Extracts, Cologne, Toilet Waters, Sachet Powders, Tollet Powders and Tollet Soap. Word: "Woodland." 29th September, 1906.
11253. THE UNITED PAINT COMPANY, Rexton, New Brunswick. Paints. Label re " Gold Coin." 29th September, 1906.
11254. CANADIAN OIL COMPANY, LIMITED, Toronto, Ont. Cylinder Oll. Words: "Maple Leap" and representation of a maple leaf. 29th September, 1906.
11255. LEONCE BOURGET, Montreal, Que. Vin Mousseux Canadien en bouteilles. Nom : "Champagnette Grand Mousseaux de Pure Canadian Wine." 1 octobre 1906.
11256. PORT NELSON CANNING AND SALTING COMPANY, LIMITED, Vancouver, British Columbia. Canned Salmon. Label re " Fuschia Brand." 1st October, 1906.
11257. FARWELL \& RHINES, Watertown, New York, U.S.A. Flour and other Cercals and Products. Word : "Cresco." 1st October, 1906.
11258. CURTICE BROTHERS COMPANY. Rochester, New York, U.S.A. Packaged Groceries. Words : "Blue Label." 1st October, 1906.
11259. THE WHITE MANUFACTURING COMPANY, LIMITED, Ottawa, Ont. Clothing of all kinds for Men, Women and Children. Words: "The Whiteco Brand" in a white diamond enclosed in a blue and red circle. 1st October, 1906.
11260. JOHN TREBILCOCK, Toronto, Ont. Cigars, Cigarettes and Tobaccos. Words : " Peter Pan." 2nd October, 1906.
11261. THE BREDIN BREAD COMPANY, LIMITED, Toronto, Ont. Bread. Words : " Bredin's Cream Bread" and representation of Cow. 2nd October, 1906.

11262 EDWARD A. MORRIS, Vanceuver, British Columbla. Tobacea, Cigars, etc. Vignotte pertrait of the Registrant surmounted by the wards : "In Morits I Trust." 2nd October, 1906

11263 WALLACR DAWSON \& COMPANY, Montreal, Que. Medicinog. Words: "Dewson's Celery Pills" the letters being formed of stalks of celery. 2ad October, 1906.
11264. THD GRANBY RUBBER COMPANY, LIMITED, Granby, Que. Footwear. Word: "Broncho." 2nd October, 1906.
11265. J. J. McLAUGHLIN, LIMITRD, Toronta, Ont. Beverages, Syrups, otc. Label " "Tona-Cola." 3rd October, 1906.
11266. THE EMPIRE TOBACCO COMPANY, LIMITED, Montreal, Que. Tobaccos, Cigars and Clgarettes. Word : "Bully." 3rd October, 1906.
11267. THE STANDARD SOAP COMPANY, Berkeley, County of Alamada, California, U.S.A. Sosp. Word : "Gasene.". 3rd October, 1906.
11268. J. ADELARD LAURION, Joliette, Que. Un Medicament. Nom : "Dys-pep-tel-ine." 3 octobre 1906.

1120\% ERANUEL M. KALLMETER, Hamifton, Ont. Clothing: Coats, Veats, Trousers and Overcoats. Word : " Style-Crait." 4th October, 1906.
11270. BORIGHT \& SAFFORD, Sutton, Que. Soap for cleaning hands. Word : " Skat." 4th October, 1206.
11271. DAVID MORTON, SENIOR \& ROBERT MOBTON, Hamilton, Ont. Soap. Label re "Buster Brown" and his dog, "Tige." 4th Octaber, 1906.
11272. JOSEPH WARD, Montreal, Que. General Trade Mark. Words : " White Frost." 4th October. 1906.
11875. TEAE BRACKMAN-KER MIMING COMPANY, UMITED, Victoria, Britiah Columbia. Geperal Trade Mariz. Letters : "B \& K"A 5 th October, 1906.
11274. HOLDEN \& COMPANY, Montreal, Que. Pharmacoutical Preparations containing Malt Extracts. Word : "Barlex." 5th October, 1008
11278. JOEN WYITH \& BROTHER, INCORPORATED, Philadelphia, Pennsylvania, U.S.A. Medicino far Dygpepsia, etc. Word : "Liquenzyme." 5th October, 1904
11276. DOHN WYETH \& RRONHMR, INCORPORATED. Phatadohbia. Pemasylvanis, U.S.A. Emulsions. Word : "Sevetol." 5th Octeber, 190.
11277. NATLONAL DRUG \& CHPMLCAL COMPANY OF CANADA, LIMITED Montreal, Que. Cbamicals, Pharmaceutical Preparations, Chomical Mixtures, spices and Bating Powder. Word: "NA-DRU-CO" surmounting a shield bearing a cross and initials : " N. D. \& C. Co." 6th October, 1906.
11278. THE INTBRNATIONAL VARNISH COMPANY, HIMITED, Toronto, Ont. Paints and Painters' Supplies. Words: "Marine Spar." 6th October, 1906.
11279. THE CROWN CORK AND STEFL COMPANY, Baltimore, Maryland U.S.A., and Toronto, Ontario, Canada. Artificial Cork. Letters : "N P" in monagram. ©th October, 1906.
1189. ANFERIC SALTS, LMITTED, 379 Strand, London, England. General Trade Mark. Word : "Anturic." 6ti October, 1906.
11281. NATIONAL DRUG \& CHEMICAL COMPANY OF CANADA, LIMITED, Moatreal, Que. Washing Powder. Words: " National Washiag Powder." 6th October, 1906.
11282. MARIE LOUISE AMELIA CARON. Wife of J. A. Landry, Montreal, Que. Soap. Label re "Liberty." 8th October, 1906. (Assigned to the Wool and Cotton Drysalters' Company, Limited.)
1320. MARIE LOUIGE AMPLIA CARON, Wife of J. A. Landry, Montreal, Que. Soap. Label re "The Engineer's Companioa-Tar Soap," and representation of Red Crass with ward: "Antiseptic." 8th October, 1906. (Asalgned to the Wool and Cotton Drysalters' Company Limited).
11234. MARE LOUISE AMELIA CARON, Wife of J. A. Landry, Moptreal, Que. Soap. Label re "Mother's Favorite Saap" and representation of a woman washing a child. 8th Octabar, 1506. (Assigned to the Wool and Cotton Drysalters' Compary, Limited.)
11285. MAX GOLDSTEIN, Winnipeg, Manitoba. Clothing for Men. Words : " Fashion-Attire-Tailoring. Made by Manitoba Clothing Co., Ltd., 550 Main St., Winnipeg, Man." arranged in oblong figure. 8th October, 1906.
11286. CONTINENTAL CAOUTCHOUC COMPANY, New York, Borough of Manhattan, N.Y., U.S.A. Pneumatic Tires. Words: "Continental Pneumatic " between representations of a prancing horse in circle. 9th October, 1906. (Assigned to the Continental-Caoutchouc and Gutta-percha Company, of Hanover, Germany).
11287. CONTINENTAL CAOUTCHOUC COMPANY, New York, Borough of Manhattan, N.Y., U.S.A. India Rubber Goods. Representation of a Prancing Horse in center of concentric circles having initials : C. C. \& G. P. Co. H." between. 9th October, 1906. (Assigned to the Continental Caoutchouc and Gutta-percha Company of Hanover, Germany).
11288. GORDON MANUFACTURING COMPANY, Augusta, Maine, U.S.A Suspenders and Hose Supporters. Word: "Gordon" in script. 9th October, 1906.
11289. GORDON MANUFACTURING COMPANY, Augusta, Maine, U.S.A. Suspenders and Hose Supporters. Word: "Gordon" In circle surmounted by a Maltese Cross. 9th October, 1906.
11290. A. C. A. NOLET. Scheidam, Holland. Gin and Spirits. Label of keystone contour, re "The Real". and heraldic device: Bull rampant, etc. 9th October, 1906.
11291. TAYLOR BROTHERS COMPANY (INCORPORATED), Battle Creek, Michigan, U.S.A. Chocolate Chips. Words: "Honey Comb." 10th October, 1906.
11292. St. MONGO MANUFACTURING COMPANY, 191 Broomloan Road, Govan, Glasgow, Scotland. Golf Balls. Word : "Colonel." 10th October, 1906.
11293. MARIE LOUISE AMELIA CARON, Epouse de Joseph Anselme Landry. Montreal, Que. Un Parium ( Eau de Floride.) Etiquette re "Florida Water Parfumerie Royale d'Egypte, Montreal," aussi celle sur le col marquee: "Caron Landry" et deux vignettes representant Pyramide et Palmiers. 10 octobre 1906.
11294. METCALFE MILLING COMPANY, LIMITED, Portage la Prairie, Manitoba. Oats and Barley and products thereof. Representation of a Red Star on white ground enclosed by a blue circle bearing name and address of Registrants. 10th October, 1906.
11296. THE COLUMBIA FLOURING MILLS COMPANY, LIMITED, Enderby British Columbia. Flour. Word: "Columbine" and representation of the flower. 11th October, 1906.
11295. THE COLUMBIA FLOURING MILLS COMPANY, LIMITED, Enderby, British Columbia. Flour. Word : "Cosmos" and representation of a wreath of the flowers and follage. Ilth October, 1906.
11297. THE COLUMBIA FLOURING MILLS COMPANY, LIMITED, Enderby, British Columbla. Flour. Word : " Premier" on shield. 11th October, 1906.
11298. JOHN KENNETH McINNIS. Regina, Saskatchewan. Newspaper. Name: " Die Deutsche Rundschau." 11th October, 1906.
11299. FRANK W. MERRILL. Toronto, Ont. Chewing Gum, Confectionery and Biscuits. Words: "Buster Brown" between pictures of a boy and a dog. 11th October, 1906. (Assigned to Merrill Medicial Co.)
11300. THE CHIPMAN HOLTON KNITTING COMPANY OF HAMILTON LIMITED. Hamilton, Ont. Hosiery. Labels re "The Bull Dog Stocking." 12th October, 1906.
11301. THE NORTHERN SHIRT COMPANY, LIMITED, Winnipeg, Man. Overalls, Shirts, Collars, Cuffs, Smocks, Canvas Covers, Tents, Tarpaulins, etc., etc. Red letter: " \(\mathbf{N}\) " in a circle having lines radiating from its circumference to the sides of a triangle described about the same. 12th October, 1906.
11302. POND'S EXTRACT COMPANY, New York, N.Y., U.S.A. Medical Compounds. Diamond-shaped figure arranged within a rectangular figure formed by the duplicated words : " Pond's Extract," connected at the sides, and surmounting a landscape. 12th October, 1906.
11303. J. J. ZOCK \& COMPANY, LIMITED, Toronto, Ont. Articles of Gold and Silver. Representation of a Horseshoe with the letter: " Z " inside the same. 12th October, 1906.
11304. BICKFQRD, SMITH \& COMPANY, LIMITED, Tuckingmill, Cornwall, England. Fuse, or other apparatus used in blasting operations. Words: "White Jacket" and representation of a Sallor. 12th October, 1906.
11305. MCINTYRE SON \& COMPANY, LIMITED, Montreal, Que. Linens. Words : "Crown Linens" surmounting the representatation of a Crown. 13th October, 1906.
11306. THE COLUMBIA FLOURING MILLS COMPANY, LIMITED, Enderby, British Columbia. Flour. Word: "Clematis" and representation of a wreath of clematis. 13th October, 1906.
11307. THE COLUMBIA FLOURING MILLS COMPANY, LIMITED, Enderby. British Columbia. Flour. Word : "Palisade" and pictorial representation. 13th October, 1906.
11308. THE MURRAY SHOE COMPANY, LIMITED, London, Ont. Boots and Shoes. Words: "The Hub" and representation of the hub of a wheel. 13th October, 1906.
11309. DR. PAQUET \& LEBLANC, Hull, Que. Mineral Water. Label having representation of the Canadian Flag surmounted by words: "Russell Mineral and Medical Water." 13th October, 1906.
11310. R. J. WHITLA \& COMPANY, LIMITED, Winnipeg, Manitoba. Printed Cottons. Letters and word : "P P Brand" enclosed in oval figure. 15th October, 1906.
11311. POSTUM CEREAL COMPANY, LIMITED, Battle Creek, Michigan, U.S.A., Prepared Cereal Foods. Words: "Elijah's Manna." 15th October, 1906.
11312. VICTORINE PAGEAU, Ottawa, Ont. General Trade Mark. Words : " La Moska." 15th October, 1906.
11313. DEUTSCHE WOFFEN-NUD MUNITIONSFABRIKEN, 43-44 Dorotheenstrasse, Berlin, Germany. General Trade Mark. Word: " Parabellum." 15th October, 1906.
11314. ILLUMINATED SIGN COMPANY, Winnipeg, Manitoba. Signs Word : "White-Light." 15th October, 1906.
11315. MARITIME NAIL COMPANY, LIMITED, St. John. New Brunswick. Horse Nails. Word: " Peerless." 16th October, 1906.
11316. MARITIME NAIL COMPANY, LIMITED, St. John, New Brunswick. Horse Nails. Word: "Monarch." 16th October, 1906.
11317. MARITIME NAIL COMPANY, LIMITED, St. John, New Brunswick. Horse Nails. Words: "New Monarch." 16th October, 1906.
11318. F. CINZANO \& CIE., Turin, Italy. Vermouth. Label with red and gold border bearing medals and scroll work and printed matter in white space in center, oblong band bearing words: "Cinzano Turin" and crescent bearing word : "Italy." 16th October, 1906.
11319. OREGON NURSERY COMPANY, LIMITED, Salem, Oregon, U.S.A. Nursery Stock. Word : "Miracle." 16th October, 1906.
11320. THOMAS KERFOOT \& COMPANY, Bardsley Valve Mills, Ashton-under-Lyne, Lancashire, England. Confectionery, Perfumery, Tollet Articles and Soaps. Words: " Sweet Lips." 17 th October, 1906.
11321. THE SINGER MANUFACTURING COMPANY, Elizabeth, New Jersey, U.S.A. Sewing Machines and Sewing Machine Attachments and Supplies. Letter: " \(S\) " in connection with the representation of a lady seated at a sewing machine. 17th October, 1906.
11322. THE AEROCAR COMPANY, Detroit, Michigan. U.S.A. Automobiles and their parts. Word : "Aerocar." 17th October, 1906.
11323. SPEINCER SEEDLESS APPLE COMPANY OF TORONTO, LIMITED, Toronto, Ont. Apple Trees, Cuttings, Buds, etc. Words: "Spencer Seedless" and representation of an apple with star thereon. 17th October, 1906.
11324. EDWARD H. WAGNER. New York, N.Y.. U.S.A. Small Fireworke for producing, rapidly repeating explosions. Words: "Son of a Gun." 17 th October, 1906.
11325. ALBERT SAMUEL LALIBERTE, Williamstown. Massachusetts. U.S.A Paints, Oils, Stains, Washes, Varnish and Liquid Preservative Compounds for Wood and Iron. Word : "Posto"" arranged parallel with sides and horizontally in center of a diamond-shaped figure. 19th October, 1906.
11326. THE OAKVILLE FRUIT GROWERS, LIMITED, Oakville, Ont. Apples and other Fruit. Representation of an Oak Leal bearing letters: "O.F.G." 19th October, 1906.
11827. MUTUAL TRADING OOMPANY, New York, N.Y., UR.A. Wringert. Word : " Metropolitan." 19th October, 1906.
11328. THE CHAMPION MEDICINE COMPANY, LMMYED, Yarmouth, Nova Scotia. Proprietary Medicine. Label re " Champion Linlment " and representation of at Armoured Knight on horseback. 19th October, 1906.
11329. WILLIAM H. MOORE. Toronto, Ont. Publication. Words : "The Bulletin." 19th October, 1906.
11890. J. MGORES SONS, Denton, Ensland. Men's Fats. Words : "The Tween Hat " In circle. 20th October, 1906.
11831. GLARE BROTFIORS COMPANY, LIMITED, PTESton, Ont. Stotes, Ranges and Farmaces. Word: "Peninsular." 20th October, 1906.
11882. NORMAN CLIFFFORD ROLPH, Toronto, Ont. Boots, Magartaes, PeModicals, etc. Words : "The Canadian Pottery \& Glass Gazette." 20th October, 1906.
14883. THEE M. B. BROWN COMPANY, LIMITED, Montreal, Que. Watches and Jewellery. Word : "Deftance" and the representation of a Bull Dog. 20th October, 1906.
11334. THE M. S. BROWN COMPANY, LIMITED, Montreal, Que. Watches and Jewellery. Words: "The Challenge" and the representation of a Deer. 20th October, 1906.
11335. THE BRITIBH-AMBRICAN TOBACOO COMPANT, LIMITEBD, Cooll Chambers, 86 Strand, Lo\#den, England. Tobacco. Label re "Old Judge" and representation Judge's Head in circle. 22nd October, 1906.
11336. WILLIAM CROFT SONS, Toronto, Ont. Smotang Pipes. Words : " Bonnie Briar." 22nd October, 1906.
11387. ARTHUR HOROWITR. Berlin, Germany. A Remody against Infectious Diseages and a Dry Aatiseptic. Word: "Jodofan." 22nd October, 1906.
11338. ARTHUR FOROWITZ, Berlim, Germany. A Remedy for Rachitis and Scrofula and a Nutriment. Word: "Visvit." 22nd October, 1906.
11339. THE J. D. KING COMPANY. LIMITED. Toronto. Ont. Boots and ghoes. Word : " Socorro." 2ind October, 186.
11340. J. ADELARD LAURION, Jollette. Que. Un Medicament. Nom : "DI-VI-NA." 28 ectobre 1906.
11341. H. CORBY DISTILLERY COMPANY, LIMITED, Belleville, Ont. All Svirituous Liquors. Words : "Old Oak." 23rd October, 1906.
11842. H. CORBY DISTILLERY COMPANY. LIMITED. Belleville. Ont. All spirituous Liqwors. Werd: "Mijectic." 23rd October, 1906.
11848. FREDERICK EUGENE BOUGALL, Montreal. Que. A Montely Miestrated Pubication. Woras: "Cansditn Pictorlal." 23rd October, 1906.
1184. ERLE B. BAVACE, Toronto, Ont. Yeast. Words: " Rellance Yeast." 28r1 October, 1806.
11345. RICHARD HEMSLEY, Montreal, Que. Gold, Silver and Plated Jewellery, Silverware, spoons, etc. Inithals : "R.fr." in okine igure with doretalied ends. 24th October, 1906.
11846. CONTINENTAL CAOUTCHOUC COMPANY, New York. Borough of Manhattan. N.Y.. U.8.A. India Rabber Goods. Word : "Contlnental." 24th October, 1906. (Assigned to the Contirental Caoutchouc and Qutta-perche Ookplens, it Hanover, Germany).
11047. ThE LEMON BUTTER COMPANY, Winniper. Man. A Preparathen of egge, butter, lemon, sugar, etc.. for table use. Oval rabel, white and gold, " Lenron Better." 24 th October, 1906.
11348. JACOB F. BERINGER. Picton. Ont. Camined Cora. Peons and Buane. Labels ne "8ugar and Cream." 24th October, 1906.
11349. THE E. B. EDDY COMPANY, LIMITED. Hull, Que. Matches. Pink, Dlact and White colvaring on matches. 24th Ooteber, sime

118\%. GRACE BROTHERS COMPANY, LIMITED, 144 Leadenhall Street. London, R. C., Dngiart. Tea. Word: "Ratanpuro." 25th October, 1906.
1181. FRANK EUETACE WILKINS BOWEN. 6 Newonetle mireot, Parmesdon street, Lowtion, Eagland. Explosives. Word: "Megadyne." 25th October, 1966.
11352. JOFN D. MOODIE, Trading as THE PEBRLESS UNDERWEAR COMPANY, Hamilton, Ont. Underwear. Word: "Peerless." 25th October, 1906.
11253. BAILLLE-LEMAIRE \& FILS, Paris, Frazioe. Optical Goods. Words : "Lemaire Fabt.-Paris" and conventional representation of two bees arranged in circtiar device. 25th October, 1906.
11854. Charles letournead, montreal, Que. Ean de Tollette. Representation d'une Chute d'eau, des Sapins et le profil de deux montagnes dans an cerche, ot mota: "\$upertor Water Co.. Montreal, Que." 25 octobre 1906.
11355. THE BRITISH-AMERICAN TOBACCO COMPANY, LIMITED, Cecll Chambers, 86 Strand, London, W.C., England. Tobacco. Words: "Player's Nary cat " on representation of a Life Buoy enclosing head of Sailor with word : "Hero" on his cap. 26th October, 1906.
11866. THE BRITISH-AMERICAN TOBACCO COMPANY, LIMITED, Cood Chambers, 86 Strand, London. W.C., England. Tobacco. Label re "Ogden's Guinea Gold" and reprowentation of a number of gold colns. 26th Octobet. 1906.
1355. THE BRITISH-AMERICAN TOBACCO COMPANY, LIMITED, Cecll Chambers, 88 Strand, London, W.C., Enstame Tobeect. Label re "Smith's Glaggow Smoking Mixture" and representation of the obverse and reverse eldes of a gold medal. 26th October, 1906.
11258. THE BRITYSH-AMERICAN TOBACCO COMPANY. LAMITED, COCH Chambers, 86 Strand, London, W.C., England. Tobacco. Label re "Old English Curve Cut," etc., enclosed in ornamental border. 26th October, 1906.
11359. THE BRITISH-AMERICAN TOBACCO COMPANY, LIMITED, Cecil Ctsmbers, 86 Strand, London. W.C., Lempland. Tobaeet. Words: "Spear Head" and figures of two women, one carrying a spear head and the other a bow and arrow. 26th October, 1906.
11300. CANADIAN UNITED MILLING OOMPANY, LIMITED, Montreal, Que. Flour. Oval enolosing words:' "Cascapedia Brand" and monogram of letters: "C.U.M." 27th October, 1906.
11581. APENTA ACTTENGESELLSCHAFT, Buda-Pest, Hungary. Mineral Water. Rectangular label bearing words: "Apenta Splits Sparkifng" and representation of am egs printed in red. 27th October, 1996.
11362. APENTA ACTIENGESELLSCHAFT, Buda-Pest. Hungary. Mineral Water. Oval label re "Natural Apenta Carbonated," etc. 27th October, 1906.
11368. Dr. HEsS \& CLARK, Ashland, Ohlo, U.S.A. Stook Food. Fourpanel label re "Dr. Hess Stock Food." and representation of farm stock standing on scales. 29th October, 1906.
11364. KAZOO SUSPENDER COMPANY, Kalamazoo, Michtgan. U.s.A. Combination Hose Supporters and Suspenders, Hose Supporters and Suspenders. Word : " Kazoo." 29th October, 1906.
11365. WOLVERINE SUSPENDER COMPANY. Kalamazoo, Michigan, U.S.A. Comblnation Hose Supporters and Suspenders. Hose Supporters and Suspenders. Word : "Wolvertne." zgth October, 1906.
11360. TORONTO AND BELLEVILLE ROLLING MILLS. LIMITED, Belleville. Ont. Horseshoes. Representation of a Bell bearing the letter: " D." 29th October, 1908.
11367. THE TILLSON COMPANY, LIMITED, Tillsonburg. Ont. Flour. Circular label bearing words: "Our Oentury-2Ath Oentury Canada's Century," and wreath of maple leaves and wheat heads partly enclosing a picture of a man standing on a globe showing outlines of a map of Canada, etc. 29th October, 1908.
11368. ISAAC BLOMENSTIEL, Hamilton, Ont. Cigars. Word: "Senator." 30th October, 1906.
11369. THE WOOL \& COTTON DRYSALTERS COMPANY, LIMITED, Monttreal, Que. Soap. Oval enclosing words: "Empress of Britain." 30th October, 1906.
11876. JUAN DE DIOS TEJADA, New York City, N.Y., U.S.A. Acetylene Gas Generators. Word: "Astral." 30th October, 1906.
11871. JOSEPH A. TILTON, St. John, New Brunswick. Mour. Words: " More Bread and Better Bread." 30th October, 1906.
11872. HENRY ARNDT HAGEN, Berlin, Ont. General Trade Mark. Word : "Hagen." 30th October, 1906.
11373. GASTON H. HUGHES, Montreal, Que. Remede: "Albert's Gout and Rheumatism Remedy." Mot : "Albert's" et 10 motiocramme des lettres: "A.E.F." 81 octobre 1906.
11374. WILLIAM BOHEMIER, Montreal, Que. Shoe Polishes. Word : "Bohmen," representation of a man shaving, a woman holding an uplifted shoe and an oval panel enclosing a can. 31st October, 1906.
11375. THE OREGON NURSERY COMPANY, LIMITED, Salem, Oregon, U.S.A. Nursery Stock, including Fruit Trees, Buds and Scions thereof. Word: "Orenco." 31st October. 1906.
11376. THE NORTHWESTERN KNITTING COMPANY, MInneapolis, Minnesota, U.S.A. Underwear. Words: "The Munsing." 31st October, 1906.
11377. WILHELM ERNEST. Hanover, Kingdom of Prussia, Empire of Germany. Medicinal and Pharmaceutical preparations. Word : "Anusol." 31st October, 1906.

\section*{INDUSTRIAL DESIGNS}

Registered during the months of August, September and October, 1906, at the Department of Agriculture-Copyright and Trade-Mark \(\varepsilon_{\text {Branch }}\).
2466. MRS. IAN MacGILLIVRAY, Vancouver, British Columbia. Form of Letterette Paper, comblning letter paper and envelope in one. 11th August, 1906.
2467. CATHERINE McPHAIL, Alvinston. Ont. Sheet Metal Portable Bath Tub. 20th August, 1906.
2468. THE MOFFAT STOVE COMPANY OF WESTON, LIMITED, Weston, Ont. Cooking Range. 20th August, 1906.
2469. THE MOFFAT STOVE COMPANY OF WESTON, LIMITED, Weston, Ont. Cooking Range. 20th August, 1906.
2470. ELIAS EMAD, Montreal, Que. A Cornucopia-shaped Receptacle of Pastry. 22nd August, 1906.
2471. MARK RIDEOUT, Glace Bay, Nova Scotia. A Curved and gharpened Blade. 22nd August, 1906.
2472. HUGH B. MORRIS, Montreal, Que. An Electrical Reflector. 5th September, 1906.
2473. ADOLPHE LOUIS CARON, Montreal, Que. Emblem consisting of a Shield divided into four sections containing a heart, fleur-de-1ys, cross and monogram: "M.A."" surmounted by motto: "Per Marlam ad Jesum." 7th September, 1906.
2474. RICHARD HEMSLEY, Montreal, Que. Ornamentation re Fleurs-delys for Pocket Knife or other similar article. 8th September, 1906.
2475. RICHARD HEMSLEY, Montreal, Que. Handle of Spoon, Fork or similar article with Shield surmounted by mural crown and beaver at the end. 8th September, 1906.
2476. RICHARD HEMSLEY. Montreal, Que. Ornamentation re Maple Leaves for Pocket Knife or other similar article. 8th September, 1906.
2477. THE GURNEY FOUNDRY COMPANY, LIMITED, Toronto, Ont. Cook Stove. 8th September, 1906.
2478. THE D. MOORE COMPANY, LIMITED, Hamllton, Ont. Steel Range. 8th September, 1996.
2479. LUCIA E. TATE, Toronto, Ont. Pattern for remodelling and repairing socks and stockings. 21st September, 1906.
2480. HONORE LEGER, Ottawa, Ont, Un Ecusson National Canadien. 1 octobre 1906.
2481. YOSHIZO TSUBOI, Toronto, Ont. A Chinese Lantern. 3rd October, 1906.
2482. THEATRICAL MECHANICAL ASSOCIATION, Toronto, Ont. Sofa Cushion Top, representation of a woman surmounted by a bell and a beaver and drapery of Canadian and American Flags, etc. 3rd October, 1906.
2483. CANADIAN PROMOTION COMPANY, Winnipeg, Man. Book Cover, re representation of two wheat sheaves abutting each other. 13th October, 1906.
2484. RODEN BROTHERS, Toronto. Ont. Brooch in the form of a Snowshoe with a bow near the toe end. 23rd October. 1906.
2485. RICHARD HEMSLEY, Montreal, Que. Cover, Tod or Lid for a box in the shape of a circle consisting of segments representing stones surrounding the word: "Jewels." 29th October, 1906.
2486. RICHARD HEMSLEY, Montreal, Que. Cover, Top or Lid for a box. in the form of a double circle, ornamented with dots, surrounding the word : "Studs." 29th October, 1906.
2487. RICHARD HEMSLEY, Montreal, Que. Cover, Top or Lid for a box, in the form of a double circle, ornamented with dots, surrounding a leaf. 29th October, 1906.
2488. ELECTRICAL MACHINERY COMPANY OF TORONTO, Toronto, Ont. Frame for a Dynamo or Electric Motor. 29th October, 1906.

\section*{COPYRIGHTS}

Entered during the months of Augast, September and October, 1906, at the Department of Agriculture Copyright and Trade-Mark Branch.
17461. AGREEMENT. (Blank form or chart.) Charles Louis Corin and Frederick William Gretton, Toronto, Ont., 1st August, 1906.
17462. PROPOSITION. (Blank form or chart.) Charles Louis Corin and Frederick William Gretton, Toronto, Ont. 1st August, 1906.
17463. THE WESTMINSTER. Augusit, 1906. (Book.) The Westminster Company, Limited, Toronto, Ont., 2nd August, 1906.
17464. THE PANORAMIC VIEW OF GUELPH. (Photograph.) The Panoramic Camera Company of Canada, Toronto, Ont., 2nd August, 1906.
17465. THE POST OFFICE SQUARE, GUELPH. (Photograph.) The Panaramic Camera Company of Canada, Toronto, Ont., 2nd August, 1906.
17466. PANORAMIC VIEW OF QUEBEC. (Photograph.) The Panoramic Camera Company, Toronto, Ont., 2nd August, 1906.
17467. MAIN BUILDING, PARLIAMENT BUILDINGS, OTTAWA. (Photograph.) The Panoramic Camera Company of Canada, Toronto, Ont., 2nd August, 1906.
17468. CANADIAN NATIONAL EXHIBITION, FROM FORESTER'S ARCH. (Photograph.) The Panoramic Camera Company of Canada, Toronto, Ont., 2nd August, 1906.
17469. GENERAL VIEW OF CANADIAN NATIONAL EX'HIBITION. (Photograph.) The Panoramic Camera Company of Canada, Toronto Ont., 2nd August, 1906.
17470. COLLEGE CHUMS. (Song.) Words by Vincent Bryan Music by Gertrude Hoffman. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 3rd August, 1906.
17471. I AIN'T GOING BACK TO BALTIMO' NO MO'. (Song.) Words and Music by Shepard N. Edmonds. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 3rd August, 1906.
17472. VALUE OF FOUNDATION. Sermon by Rev. Frank De Witt Talmage, Los Angeles, California, U.S.A., 5th August, 1906. Frederick Diver, Toronto, Ont., 4th August, 1906.
17473. ST. THOMAS CITY DIRECTORY. 1906. The Union Publishing Company of Ingersoll, Ingersoll, Ont., 4th August. 1906.
17474. IF I ONLY HAD THE NERVE. (Song.) Words and Music by Vincent Bryan. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 4th August, 1906.
17475. REDEMPTION. (Roman.) Par Rodolphe Girard. Illustrations par Georges Delfosse. (Livre.) Rudolphe Girard, Ottawa, Ont., 7 annt 1906.
17476. THE LAY OF THE LAST MINSTREL. By SIr Walter Scott. Edited with notes by John C. Saul, M.A. (Book.) Morang \& Company, Limited, Toronto, Ont., 7th August, 1906.
17477. SELECTIONS FROM THE NATURE POETS. Edited with Notes by Andrew Stevenson, B.A. (Book.) Morang \& Company, Limited, Taronto, Ont., 7th August, 1906.
17478. THE ADMINISTRATOR MARCH. Two-Step. By Adam Blatz. The John Church Company, Cincinnat1, Ohio, U.S.A., 7th August, 1906.
17479. AMONGST THE HEATHEN OF CANADA, which is now being published Jreliminarily in separate articles in the "Haileyburian," of Halleybury, Ontario. (Book.) C. C. Farr, Haileybury, Ont., 7th Auguat, 1906.
17480. CARTE MURALE, \(36^{\prime \prime} \times 24^{\prime \prime}\). FRACTIONS I. B. Lippens, Montréal, Que., 7 aont 1906.
17481. CARTE MURALE \(36^{\prime \prime} \times 24^{\prime \prime}\). FRACTIONS II. B. Lippens, Montrधal, Que., 7 aont 1906.
17482. PREMIERES LECONS DE LECTURE. (Carte.) B. Lippens, Montreal, Que., 7 aoat 1906.
17482. TABLE DE MULTIPLICATION, AVEC DESSIN ET ALPHABET ECRIT. (Carte.) Marie Joséphine Proulx. Montr夭al, Que., 7 aout 1906.
17484. OFFICIAL TELEFHONE DIRECTORY. MEDICINE HAT. August, 1906. The Bell Telephone Company of Canada, Limited, Montreal, Que., 7th Augast, 1906.
17485. FT'S A LONG WAY BAOK TO DEAR OLD MOTHER'S KNEE. (Song.) Words by Alfred Bryan. Music by Halsey K. Mohr. Lew Docketader Peblishing Compeny, New Tork, N.T., U.S.A.. U.S.A., 10th August, 1906.
17486. SWEET JULIENNE. (Song.) Words and Music by Jean C. Havez, Low Dockstader Publishing Company, Nev York, N.Y., 10th August, 1906.
17487. I KNOW I'M NOT YOUR FIRST SWEETHEART BUT LET ME BE YOUR LAST. Song. Words by Will. A. Heelan. Mesic y Rd. Rosenbeurn, jr. Lew Dectetsder Publishing Company, New York, N.Y., U.S.A., 10th August, 1906.
17488. DO NOT FORGET THE OLD DAYS. Song. Words and Music by Jean C. Havez. Lew Docketader Publishing Company, New York, N.Y., U.S.A., 10th August, 1906.
17489. ROLI, ROLL ON. (Imagiae You're a Railread Train.) Song. Words and Music by Geo. A. Norton. Lew Dockstader Publishing Company, New York, N.Y., U.S.A., 10 th Auguet, 1906 .
17490. SHOVELLIN' COAL. Song. Words and Music by Jean C. Havez. Lew Dockstader Publishtig Company, New Tork, N.Y., U.S.A., 10th August, 1906.
17491. TIME HAS BROUGHT NO CHANGES TO MY HEART. Song. Words by Gee. A. Nonton. Muste by Geollrey O'Hara. Law Doekstader Publishigg Compeny, Now York, N.Y., U.S.A., 10th August, 1906.
17492. I'D RATHER BE A LAMP-POST IN NEW YORY. Soec. Whats by Sam Lowis. Music by Joel P Coria. Lew Dockstader Publishing Company, New York, N.Y., U.S.A., 10th August. 1906.
17493. TORONTO FALL AND WINTBR CATALOGUE, NO. 77, 1906-7. The T. Eaton Compary, Limited, Toronto, Ont., 11th August, 1906.
17494. PASTOR'S FAMILY RECORD CARD. Joha Geerge Whiten, Toronto, Ont., 11th August. 1906.
17495. THE LORD'S SUPPER. By George C. Pidgeon, D.D. (Beok.) The Muesen Book Company, Lleited, Taronto, Ont., 11th August, 1908.
17488. OFFICEAL TELEPHONE DIRDCTORY, MONTREAL AND SURURBS, AUGUST, 1906. The Bell Telephone Company of Canada, Limited, Montreal, Que. 13th August, 1906.
17497. CANADIAN MUSIOAL BURRAU, 1906-7. (Boak.) Wilham Campbell, Toronte, Ont., 14th August, 1906.
17498. DIKECTORY 1906, NEW WESTMINSTER CITY AND THE MUNBCLPALITIES OF THE FRASER VALLEY, 1906. James Davis Taylor, New Westminster, B.C., 14th August, 1906.
17499. AS THE MORNING CLOUD. Serman by Rev. Frank De Witt Talmage, Los Angeles, California, U.S.A., 12th August, 1906. F. Diver, Toronto, Ont., 14th August, 1906.
17500. HARMSWORTH SELLF-EDUCATOR MAGAZINE. 16th Augwet, 194. No. 18. The Amalgamated Press, Limited, London, England, \(14 t h\) August, 1906.
17504. THE MASTER BAKER. (Book.) Gumey Fowndry Company, Limited, Toroato, Ont., 14th August, 1906.
17502. THE OXFORD HOT WATER BOILER. (Book.) Gurney Foundry Compeny, Limited, Toronto, Ont., 15th August, 1206.
17508. STRONGHRART. Intermesso Two-step. By Will. E. Dulmage. Sam. Fox Pablishłag Conapany, Cleveland, Ohio, U.S.A., 15th August, 1906.
17504. OXYDONOR IS MADE FOR SELF TREATMENT-IT FILLS THE WHOLE SYSTEM WITH OXYGEN FROM THE AIR. (Circukr.) Dr. H. Sanche and Company, Montreal, que., 15th August, 1906.
17505. DIGBY, N.S., No. 19. (Photographic view.) Ralph N. Harris, Beaver River, N.S., 15th August, 1906.
17506. DIGBY, N.S., No. 21. (Photographic view.) Ralph N. Harris, Bear River, N.S., 15th August, 1906.
17507. LA SAINTE FACE DE JESUS. (Image.) Marie Eugene Prevost, Montreal, Que., 17th aont, 1906.
17508. ONE WHOM JESUS LOVED. Sermon by Rev. Frank De Witt Talmalge, Los Angeles, Cal., U.S.A., 19th August,, 1906. F. Diver, Toronto, Ont., 17th August, 1906.
17509. HUMILITY. By Henry T. Claghorn. (Poem.) Henry T. Claghorn, Philadelphia, Penn., U.S.A., 17th August, 1906.
17510. THE ENGINEERING JOURNAL OF CANADA. August, 1906. (Book.) Archd. W. Smith and Partners, Limited, 36-38 Lombard St., Toronto, Ont., 17th August, 1906.
17511. MOTOR BOAT, YACHT AND SAILING SKIFF RULES AND RACING SCHEDULES OF ALL CLUBS ON LAKE ONTARIO. 1906. (Book.) George Henry Learnerd, Toronto, Ont., 17th August, 1906.
17512. ILLUSTRATED CATALOGUE OF LINOTYPE PARTS AND SUPPLIES. 1906. Canadian-American Linotype Corporation, Limited, Toronto, Ont., 17th August, 1906.
17513. THE DOMINION COMMERCIAL TRAVELLERS' GUIDE, 1906. (Book.) H. W. Wadsworth, Montreal, Que., 18th August, 1906.
17514. OFFICIAL TELEPHONE DIRECTORY, DISTRICT OF ALGOMA, AUGUST, 1906. The Bell Telephone Company of Canada, Limited, Montreal, Que., 18th August, 1906.
17515. THE VINE CLAD COTTAGE. Words by G. F. Gould. Music by G. T. Veale. George F. Gould, Toronto, Ont., 18th August, 1906.
17516. THE WINNIPEG CATALOGUE No. 6, 1906-7. (Book.) The T. Eaton Company, Limited, Toronto, Ont., 18th August, 1906.
17517. CASSAR AND VIRGIL. For Junior Matriculation. Edited with Introduction, Notes, Exercises and Vocabularies. By E. W. Hagarty, B.A., (Book.) Morang \& Company, Limited, Toronto, Ont., 18th August, 1906.
17518. THE BEARS AND THE OVERALLS. (Pictuce.) The White Manufacturing Company, Limited, Ottiswa, Ont., 20th August, 1906.
17519. LAKE SUPERIOR CORPORATION INDUSTRIES. (1) (Photograph.) G. N. Bartlett, Sault Ste. Marie, Ont., 20th August, 1906.
17520. BIRD'S EYE VIEW OF SHIP CANAL, SAULT STE. MARIE, ONTARIO, WITH STEAMER 'NORTHWEST' IN FOREGROUND. (2) (Photograph.) G. N. Bartlett, Sault Ste. Marie, Ont., 20th August, 1906.
17521. STEAMER ' NORTHWEST' IN LOW WATER IN CANADIAN SHIP CANAL. (3) (Photograph.) G. N. Bartlett, Sault Ste. Marie, Ont., 20th August, 1906.
17522. BIRD'S EYE VIEW OF THE AMERICAN LOCKS, SAULT STE. MARIE, MICHIGAN. (4) (Photograph.) G. N. Bartlett, Sault Ste. Marie, Ont., 20th August, 1906.
17523. THE SELF CHECKING NOTE AND ACCOUNT SHEET '(Blank Form.) Benjamin James Lawson, Amherst, N.S., 20th August, 1906.
17524. STONEY LAKE REGATTA. (Photograph.) R. M. Roy, Peterborough, Ont., 21st August, 1906.
17525. THE CATHOLIC CONFESSIONAL AND THE SACRAMENT OF PENANCE. By Rev. Albert McKeon, S.T.L. (Book.) Rev. Albert John McKeon, Saint Columban, Ont., 22nd August, 1906.
17526. CAMP NIAGARA, WITH A HISTORIOAL SKETCH OF NIAGARA-ON-THE-LAKE AND NIAGARA CAMP. By Lieut.-Col. E. Crulckshank, F.R.S.C. (Book.) F. H. Leslie, Niagara Ont., 23rd August, 1906.
17527. ELEMENTARY MECHANICS. By F. W. Merchant, M.A., D.Pæd. (Book.) The Copp, Clark Company, Limited, Toronto, Ont., 24th August, 1906.
17528. BAHAMIAN FOLK LORE. By James Fitz-James. Illustrations by H.A.P. (Book.) Mary Alice Peck, Montreal. Que., 24th August, 1906.
17529. THE TREASURE OF HEAVEN: A ROMANCE OF RICHES. By Marie Corelli, Stratford-on-Avon, England, 24th August, 1906.
17530. DISGUISED BLESSINGS. Sermon by Rev. Frank De Witt Talmage, Los Angeles, California, U.S.A., 26th August, 1906. (Book.) Frederick Diver, Toronto, Ont., 24th August, 1906.
17531. THE CANADIAN MAGAZINE, SEPTEMBER, 1906. (Book.) Ontario Publishing Company, Limited. Toronto, Ont., 25th August, 1906.
17532. TORONTO FROM THE ROOF OF THE TRADERS BANK BUILDING. (Picture.) Globe Printing Company, Toronto, Ont., 25th August, 1906.
17533. REGISTRE D'INSCRIPTION ET D'APPEL A L'USAGE DES eColes. Par J. N. Miller. (Cahier.) La Compagnle J. A. Langlais \& Fils, Québec, Que., 27 aoat 1906.
17534. TUG-OF-WAR. (Picture.) C. W. Faulkner \& Company, Limited, London, England, 27th August, 1906.
17535. MOON'S COMMERCIAL DICTATION BOOK. William Thomas Moon, Montreal, Que., 27th August, 1906.
17536. WILLIAM J. SHERRING, WINNER OF THE MARATHON RACE, 1906. (Photo.) Alexander McKenze Cunningham, Hamilton, Ont., 27th August, 1906.
17537. WON'T YOU COME OVER TO MY HOUSE. Song. Words by Harry Williams. Music by Egbert Van Alstyne. Jerome \(H\). Remick \& Company, New York, N.Y., U.S.A., 28th August, 1906.
17538. IOLA. Song. Words by James O'Dea. Music by Chas. L. Johnson. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 28th August 1906.
17539. CAMP MEETING TIME. (Song.) Words by Harry Williams. Music by Egbert Van Alstyne. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 2Sth August, 1906.
17540. SHERBROOKE DIRECTORY FOR 1906-7. (Livne.) Joseph Plerre Royer, Sherbrooke, Que., 28th August, 1906.
17541. MATRICULATION LATIN. By Adam Carruthers, M.A., and J. C. Robertson, M.A. (Book.) W. J. Gage \& Company, Limited, Toronto, Ont., 28th August, 1906.
17542. DIGBY WHARVES. (Photo.) Paul Yates, Digby, Nova Scotia, 28th August, 1906.
17543. DIGBY GAP FROM BATTERY POINT. (Photo.) Paul Yates, Digby, Nova Scotia, 28th August, 1906.
17544. THE DIGBY TIDES. (Photo.) Paul Yates, Digby, Nova Scotia, 28th August, 1906.
17545. DIGBY FROM PIER. (Photo.) Paul Yates, Digby, Nova Scotia, 28th August, 1906.
17546. DIGBY PIER. (Photo.) Paul Yates, Digby, Nova Scotia, 28th August, 1906.
17547. DIGBY FROM BEN LOMOND. (Photo.) Paul Yates, Digby, Nova Scotia, 28th August, 1906.
17548. DIGBY BASIN AND JOGGIN. (Photo.) Paul Yates, Digby, Nova Scotia, 28th August 1906.
17549. 'PRINCE RUPERT,' 'GEORGE L.' AND 'ALTON.' (Photq) Paul Yates, Digby, Nova Scotia, 28th August, 1906.
17550. 'THE GEORGE L.' (Photo.) Paul Yates, Digby, Nova Scotia, 28th August, 1906.
17551. GUIDE TO PRACTICAL PENMANSHIP. By W. A. McIntyre, B.A. (Book.) The Copp, Clark Company, Limited, Toronto, Ont., 28th August, 1906.
17552. THE HARDWARE MONTHLY OF CANADA, AUGUST, 1906. Archd. W. Smith \& Partners, Limited, Toronto, Ont., 29th August, 1906.
17558. BRITISH BOWLERS. (Photo.) The Galbraith Photo Company, Toronto, Ont., 29th August, 1906.
17554. THE NATURE STUDY COURSE. By Sidney Silcox, B.A., D.Pæd., and O. J. Stevenson, M.A., D.Pæd. (Book.) Morang \& Company, Limited, Toronto, Ont., 30th August, 1906.
17555. AS YOU LIKE IT. (Shakespeare.) Edited with Notes by J. Van Every, B.A. (Book.) Morang \& Company, Limited, Toronto, Ont., 30th August, 1906.
17556. MEMORIAL CARD. (Card.) George Brown, Toronto, Ont., 30th August, 1906.
17557. ANNAP. BASIN. (Photo. No. 3.) Ralph N. Harris, Bear River, Nova Scotia, 30th August, 1906.
17558. D.A.R. BLUENOSE. (Photo. No. 4.) Ralph N. Harris, Bear River, Nova Scotia, 30th August, 1906.
17559. B. R. BRIDGE. (Photo. No. 6.) Ralph N. Harris, Bear River, Nova Scotia, 30th August, 1906.
17560. HARMSWORTH SELF-EDUCATOR MAGAZINE, 30TH AUGUST, 1906. (No. 19.) The Amalgamated Press, Limited, London, England, 31st August, 1906.
17561. THE WESTMINSTER, SEPTEMBER, 1906. (Magazine.) The Westminster Company, Limited, Toronto, Ont., 1st September, 1906.
17562. NEW FIRST LATIN READER. By John Henderson. M.A.. and \(R\). A. Little, B.A. (Book.) The Copp, Clark Company, Limited, Toronto, Ont., 1st September, 1906.
17563. I'M GOING RIGHT BACK TO CHICAGO. (Song.) Words by Harry Williams. Music by Egbert Van Alstyne. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 4th September, 1906.
17564. TWO LITTLE SAILOR BOYS. (Song.) Words by Edward Madden. Music by Dolly Jardon. Jerome H Remick \& Company, New York, N.Y., U.S.A., 4th September, 1906.
17565. SALLY. (Song.) Words by Harry Williams. Music by Egbert Van Alstyne. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 4th September. 1906.
17566. TORONTO FROM THE TOP OF THE TRADERS BANK BUILDING. (Photo.) Wm T. Freeland, Toronto, Ont., 4th September, 1906.
17567. COMPTABILITE AGRICOLE ET DOMESTIQUE. Par Prof. O. E. Dallaire. (Ldvre.) La Compagnie J. A. Langlais \& Fils. Québec, Qué., 4 septembre, 1906.
17568. NELSON, BRITISH COLUMBIA. (Photo.) Allan M. C. Lean, Nelson, British Columbia, 4th September, 1906.

17569 TENNYSON-SELECT POEMS. (Literature, 1907.) Edited with Introduction and Notes, by W. J. Alexander, Ph.D. (Book.) The Copp, Clarke Company, Limited, Toronto., Ont., 4th September, 1906.
17570. ELEVATIONS POETIQUES. Volume I. Par L'Abbe F. B. BurqueL'Abbé F. X. Burque, Quebec, Que., 4 septembre 1906.
17571. A SCHEME FOR QUALITATIVE ANALYSIS, PART I, INORGANIC. (Chart). Julian Leo Kendall, Morden, Manitoba, 4th September, 1906.
17572. VIAMEDE STONY LAKE. (Photo.) Robert M. Roy, Peterborough, Ont., 4th September, 1906.
17573. ONTARIO DIGEST, 1901-1905. Volume V. Compiled by Edwin Bell, LL.B. The Law Society of Upper Canada, Toronto, Ont., 5th September, 1906.
17574. KEEP ON PRAYING. Male Quartette. Words by F. W. Vandersloot. Music by Mabel F. Gohl. Arranged by Lee Orean Smith. Vandersloot Music Publishing Company, Williamspont, Pennsylvania, U.S.A., 5th September, 1906.
17575. I'M WISE. (Song.) Words by Harry Williams. Music by Egbert Van Alstyne. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 6th September, 1906.
17576. BREATH OF THE ROSE. (Waltz.) By Nellie M. Stokes. Jerome H. Remick \& Company, New Yark, N.Y., U.S.A., 6th September, 1906.
17577. POEMS OF ALFRED TENNYSON. Edited with Introduction and Notes. By Frdeerick Henry Sykes, M.A., Ph.D. W. J. Gage \& Company, Limited, Toronto, Ont., 6th September, 1906.
17578. MONTREAL HUNT MAP OF THE ISLAND OF MONTREAL AND DISTRICT. (Map.) Chas. S. J. Phillips, Montreal, Que., 7th September, 1906.
17579. MONEY A PUBLIC TRUST. Sermon by Rev. Frank De Witt Talmage, Los Angeles, California, U.S.A., 2nd September, 1906. (Book.) Frederick Diver, Toronto, Ont., 8th September, 1906.
17580. SHAKESPEARE'S JULIUS CESAR. Edited with Notes. By F. C. Colbeck, B.A. Morang \& Company, Limited, Toronto, Ont., 8th September, 1906.
17581. THE LOVER'S WALK, WOODROWE, LAKE HURON, SARNIA. (Photo.) J. S. Thom, Sarnia, Ont., 10th September, 1906.
17582. THE COMING OF SPRING, MOUTH OF ST. CLAIR. (Photo.). J. S. Thom, Sarnia, Ont., 10th September, 1906.
17583. SIX MONTHS IN EUROPE AND THE ORIENT. By James Carter. (Book.) James Carter, St. Johns, Newfoundland, 11th September, 1906.
17584. GREENWUOD-PHEENIX. (Photo.) Duncan C. McRae, Greenwood, British Columbia, 11th September, 1906.
17585. PRISONERS. By Mary Cholmondeley. (Book.) The Copp, Clark Company, Limited, Toronto, Ont., 11th September, 1906.
17586. AN OMNIPRESENT POOR. Sermon by Rev. Frank De Witt Talmage, Los Angeles, Callfornia, U.S.A., 9th September, 1906. (Book.) Frederick Diver, Toronto, Ont., 11th September, 1906.
17587. THE LAST, WEST. By Anson A. Gard. (Book.) Anson A. Gard, Ottawa, Ont., 13th September, 1906.
17588. JANE CABLE. By George Barr McCutcheon. Illustrations in colour by Harrison Fisher. (Book.) William Briggs, Toronto, Ont., 13th September, 1906.
17589. GHAMMAIRE ELEMENTAIRE. Par E. Robert, C.S.V. (Livre.) Clercs de Saint-Viateur, Saint-Louis, (Mile End), Montreal, Qué., 14 septembre 1906.
17590. NOUVELLE GRAMMAIRE COMPLETE. Par E. Robent, C.S.V. (Livre.) Clercs de Saint Viateur, Saint Louis (Mile End), Montreal, Qué., 14 septembre, 1906.
17591. CURRECT FALL STYLES. (Piotures.) The Lowndes Company, Limited, Toronto, Ont., 14th September, 1906.
17592. FIRST, SECOND AND THIRD CLASS HISTORY. Published in "The Canadian Teacher," and "School and Home," both of Toronto, Ont. (Temporary Copyright.) Emily P. Weaver, Toronto, Ont., 14th September, 1906.
17593. PEMBROKE FROM ALLUMETTE ISLAND. (Photo.) M. E. O'Gorman, Pembroke, Ont., 14th September, 1906.
17594. THE TORONTO CIVIC SONG. (Song.) Words by W. H. Adams. Music by J. Agar Stokes. William Harry Adams, Norwood, Ont., 14 th September, 1906.
17595. TAKING A WISE STEP. (Book.) Henry W. Tisdall, Toronto, Ont., 14th September. 1906.
17596. NEED ALL ROUND DUTY. Sermon by Rev. Frank De Witt Talmage, Los Angeles, California, U.S.A., 16th September, 1906. (Book.) Frederick Diver, Toranto, Ont., 16th September, 1906.
17597. FIGURE READING; OR, RAPIDITY IN THE SIMPLE RULES. By P. McIntosh. (Book.) P. McIntosh, Toronto, Ont., 15th September, 1906.
17598. A TYPICAL CANADIAN WINTER SCENE. (Post card.) Alfred W. Bell, Montreal, Que., 15th September, 1906.
17699. THE RNGINEERING JOURNAL OF CANADA, SEPTGMBER, 1906. Archd. W. Smith \& Partners, Limited, Toronto, Ont., 15th September, 1906.
17600. MANUEL DE DROIT COMMERCIAL. Par Mathieu A. Bernard. Deuxieme edition. Entlerement revisee et corrigee par J. F. St. Cyr, avocat, Wilfrid John Wilson et Theophile Lafleur, Montréal, Qué., 15 septembre 1906.
17601. BABY BLUE. (Song.) Words by S. N. Walton. Music by John B. Lowitz. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 17 th September, 1906.
17602. IN THE VAN; OR, THE BUILDERS. By Price-Brown. (Eric Bohn.) Illustrated by F. H. Bridgen, O.S.A. (Book.) PriceBrown, Toronto, Ont., 17th September, 1906.
17603. THE NEW COOK BOOK. By The Ladies of Toronto and other Cities and Towns. Edited by Grace E. Denison. The Rose Publishing Company, Toronto, Ont., 18th September, 1.06 .
17604. MAPLE LAND, A SONG OF CANADA. (Song.) Words by Victor: Lauriston. Music by George Hahn. Victor Lauriston, Chatham, Ont., 18th September, 1906.
17605. THE SONGS OF THE GODS. (Poem.) Published in " The Canadian Graphic," Toronto, Ont. (Temporary Copyright.) Captain Robert C. Cockerill, Toronto, Ont., 18th September, 1906.
17606. PANORAMA OF DIGBY, NOVA SCOTIA, FROM TOWN LODGE. (Photo. No. 30.) Ralph N. Harris, Bear River, Nova Scotia, 19th September, 1906.
17607. BEAR RIVER, NOVA SCOTIA. (Photo. No. 31.) Ralph N. Harris, Bear River, Nova Scotia, 19th September, 1906.
17608. DIGBY, NOVA SCOTIA. (Photo. No. 32.) Ralph N. Harris, Bear River, Nova Scotia, 19th September, 1906.
17609. PANORAMA. OF ANNAPOLIS BASIN, FROM SMITH'S COVE (Photo. No. 33.) Ralph N. Harris, Bear River, Nova Scotia, 19th September, 1906.
17610. PANORAMA OF DIGBY, NOVA SCOTIA, FROM THE HILL TOP. (Photo. No. 34.) Ralph N. Harris, Bear River, Nove Scotia, 19th September, 1906.
17611. DIGBY, NOYA SCOTIA. (Photo. No. 35.) Ralph N. Harris, Bear River, Nova Scotia, 19th September, 1906.
17612. DIGBY, NOVA SCOTIA. (Photo. No. 36.) Ralph N. Harris, Bear River. Nova Scotia, 19th September, 1906.
17613. BATTERY POINT, DIGBY, NOVA SCOTIA. (Photo. No. 37.) Ralph N. Harris, Bear River, Nova Scotia, 19th September, 1906.
17614. CANADIAN CRIMINAL CASES. Volume \(X\). (Annotated.) Edited by W. J. Tremeear. R. R. Cromarty, Toronto, Ont., 20th September, 1906.
17615. ANYBODY BUT YOU. (Song.) Words and Music by Jean C. Havez. Lew Dockstuder, New York, N.Y., U.S.A., 20th September, 1906.
17616. COME NOW ! SKIDDOO ! SKIDDOO ! SKIDDOO! March and TwoStep. Words and Music by Frederic Zeigen. Metropolitan Publishing Company, Detrolt, Michigan, U.S.A., 20th September, 1906.
17617. FLOOR PLANS OF 'AN APARTMENT HOUSE. vo. 1. Merrill's Finance Company, Vancouver. British Columbla, 20th September, 1906.
17618. FLOOR PLANS OF AN APARTMENT HOUSE. No. 2. Merrill's Finance Company, Vancouver, British Columbia, 20th September, 1906.
17619. THE PUBLIC SCHOOL ARITHMETIC AND MENSURATION. Revised Edition. Canada Publishing Company, Limited, Toronto, Ont., 21st September, 1906.
17620. DOWN IN THE EVERGLADE. (Song.) Words by Harry Williams. Music by Egbert Van Alstyne, Jerome H. Remick \& Company, New York, N.Y., U.S.A., 21st September, 1906.
17621. HARMSWORTH SELF EDUCATOR MAGAZINE, 13TH SEPTEMBER, 1906. (No. 20.) The Amalgamated Press, Limited, London, England, 21st September, 1906.
17622. COURSE OF PRIMARY GEOGRAPHY. By Maria Anna Charron. (Book.) Maria Anna Charron, Ottawa, Ont., 22nd September, 1906.
17623. BLACK RIVER SCHUTE. (Photo.) M. E. O'Gorman, Pembroke, Ont., 25th September, 1906.
17624. BLACK RIVER FALLS. (Photo.) M. E. O'Gorman, Pembroke, Ont., 25th September, 1906.
17625. STEAMER AS SEEN FROM PETEWAWA. (Photo.) M. E. O'Gorman, Pembroke, Ont., 25th September, 1906.
17626. THE WONDROUS CROSS. (Bacred Song.) Words by Isaac Watts. Music by John Adamson. Whaley, Royce \& Company, Limited, Toronto, On.t., 26th September, 1906.
17627. THE HARDWARE MONTHLY OF OANADA, VOLUME VI. NO. 5. September, 1906. Archd. W. Smith Partners, Limited. Toronto, Ont., 28th Septeraber, 1906.
17628. CHARITY BALL. Waltzes. By F. H. Losey. Op. 215. Vandersloot Music Publishing Company, Williamsport, Pennsylvania, U.S.A., 28th September, 1906.
17629. BALDWIN COMMANDERY. March and Two-Step. By Harry J. Lincoln. Vandersloot Music Publishing Company, Williamsport, Pennsylvania, U.S.A., 28th September, 1906.
17630. LOVELL'S MONTREAL DIRECTORY, 1906-1907. John Lovell \& Son, Limited. Montreal, Que., 28th September, 1906.
17631. FOR THOU ART HOLY. Anthem. By Albert Nordheimer. (Music.) The Nordheimer Piano and Music Company, Limited, Toronto, Ont., 28th September, 1906.
17632. G. E. M. Five-Step. By Myrtle de Long. Myrtle de Long, Ottawa, Onit., 28th September, 1906.
17633. HANDBOOK OF CANADIAN LITERATURE. (English.) By Archibald MacMurchy. M.A. Archibild MacMurchy, Toronto, Ont., 29th September, 1906.
17634. O JESU SAVIOUR. (Sacred Song.) Words by Donald A. Fraser. Music by Mendelssohn. Harry H. Sparks, Toronto, Ont., 29th September, 1906.
17635. TO YOU IS BORN A SAVIOUR. (Sacred Song..) Words and Music by Norman Lambly. Harry H. Sparks, Toronto, Ont., 29th September, 1906.
17636. WHEN YOU DREAM ! DREAM ! (Waltz Song.) Words and Music by Chas. E. Wellinger. Harry H. Sparks, Toronto, Ont., 29th September, 1906.
17637. JUST FOR A LITTLE WHILE. (Song.) Words and Music by Harry Herbert. Harry H. Sparks, Toronto, Ont., 29th September, 1906.
17638. SOUTHERN AIRS. (Medley.) Arranged by W. H. Hodgins. W. H. Hodgins, Toronto, Ont., 29th September, 1906.
17639. OUR OWN WALTZES. By W. H. Hodgins. W. H. Hodgins, Toronto, Ont., 29th September, 1906.
17640. THE CANADIAN MAGAZINE. OCTOBER, 1906. The Ontario Publishing Company, Limited, Toronto, Ont., 29th September, 1906.
17641. OFFICIAL TELEPHONE DIRECTORY. MANITOBA AND SASKATCHEWAN, SEPTEMBER, 1906. The Bell Telephone Company of Canada, Limited, Montreal, Que., 29th September, 1906.
17642. SYLVIA. Valse Caprice. By Chauncey Haines. Jerome F. Remick \& Company, Detroit, Michigan, U.S.A., 1st October, 1906.
17643. MARY ANN, I'D LIKE TO BE YOUR MAN. Song. Words by Mae Sheehy. Music by Al. W. Brown. Will Rossiter, Chicago, Illinois, U.S.A., 1st October, 1906.
17644. IN THE SILENT DEEP. Song. By Tom Farrel. Will Rossiter, Chicago, Illinols, U.S.A., 1st October, 1906.
17645. THE TOILERS OF THE SEA. Song. By Tom Farrel. Will Rossiter, Chlcago, Illinois, U.S.A., 1st October, 1906.
17646. THE SOUSA-SWING. March and Two-Step. By Chas. B. Brown. Will Rossiter, Chicago, Illinois, U.S.A., 1st October, 1906.
17647. LITTLE GIRLIE. YOU HAVE CAUGHT MY EYE. Words by Harold Attridge. Music by Chas. E. Mullen. Will Rossiter, Chicago, Illínois, U.S.A., 1st October, 1906.
17648. YE OLDE MILL STREAM. By Geo. L. Spaulding. Will Rossiter, Chicago, Illinois, U.S.A., 1st October, 1906.
17649. MY IRISH GIRL. Words by Harry Williams. Music by Egbert Van Alstyne. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 2nd October, 1906.
17650. THOSE ARE THINGS THAT HAPPEN EVERY DAY. Words by Harry Williams. Music by Egbert Van Alstyne. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 2nd October, 1906.
17651. THE UNION OF THE BLUE AND THE GRAY. Words by Harry Williams. Music by Egbert Van Alstyne. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 2nd October, 1906.
17652. TATTERS. Characteristic March and Two-Step. By Chas. Cohen. Sam Fox Publishing Company, Cleveland, Ohio, U.S.A., 2nd October. 1906.
17653. SHENANDOAH. American Intermezzo Patrol. By Victor Bendel. Sam Fox Publishing Company, Cleveland, Ohio, U.S.A., 2nd October, 1906.
17654. YE OLDE MILL. A Reverie. By Fred. W. Adams. Sam Fox Publishing Company, Cleveland, Ohio, U.S.A., 2nd October, 1906.

17655 MORREY'S DIRECTORY, 1906 : CARLETON, DUNDAS, GLENGARRY, GRENVILLE, LANARK, LEEDS, PRESCOTT, RENFREW, RUSSELL, STORMONT COUNTIES AND BEDFORD TOWNSHIP. Union Publishing Company of Ingersoll, Ingersoll, Ont., 2nd October, 1906.
17656. THE UP-TO-DATE PHRENOLOGICAL CHART. Harry Charles Kemp, Guelph, Ont., 2nd October, 1906.
17657. A ROSE. (Waltz Song.) Words and Music by Syble Straymore. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 3rd October, 1906.
17658. PUCK OF POOK'S HILL. By Rudyard Kipling. (Book.) Rudyard Kipling, London, England, 3rd October, 1906.
17659. HARMSWORTH SELF-EDUCATOR MAGAZINE. No. 21. 27th September, 1906. The Amalgamated Press, Limited, London, England, 4th October, 1906.
17660. THE WILBUR WALTZES. Valse Brillante. By Lottic Burke Ware. Lottie Burke Ware, Montreal, Que., 5th October, 1906.
17661. CHECKERS. March and Two-Step. By Geo. Lewis. Whaley, Royce \& Company, Limited, Toronto, Ont., 6th October, 1906.
17662. LES PIRATES DU GOLFE ST. LAURENT. (Suite d'un Drame au Labrador.) Publié dans "Le Monde Illustré Album Universel," Montréal, Que. (Droit Temporaire d'Auteur.) Dr. V. Eugene Dick, Ste-Anne de Beaupre, Qué., 6 octobre 1906.
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17671. HYACINTH AND BLUE BELL. (Music.) Jerome H. Remick \& Company, New York, N.Y., U.S.A., 10th October, 1906.
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17683. THE CORRECT DOUBLE-BREASTED COAT. (Illustration.) The Lowndes Company, Limited, Toronto, Ont., 15th October, 1906.
17684. EARL GREY PARTY AT BIG TREE, STANLEY PARK. (Photo.) Fricke \& Schenck, Vancouver, B.C., 15th October, 1906.
17685. EZILDA WRECK, No. 1. (Photo.) William G. Gillespie, Sudbury, Ont., 15th October, 1906.
17885. AZILDA WRECK, No. 1. (Photo.) William G. Gillespie, Sudbury, Ont., 15th Oc̣tober, 1906.
17687. AZILDA WRECK, No. 8. (Photn) William G. Gillespie, Sudbury, Ont., 15th October, 1906.
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17691. NAPANEE. (Song.) Words by Will S. Genaro. Music by W. R. Williams. Will Rossiter, Chicago, Illinois, U.S.A., 16th October, 1906.
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17711. HEART LAKE HUNTING CLUB, PEMBROKE, ONT. (Photo.) M. Edward O'Gorman, Pembroke, Ont., 26th October, 1906.
17712. OISEAU CREEK, NEAR OISEAU ROCK. (Photo.) M. Edward O'Gorman, Pembroke, Ont., 26th October, 1906.
17713. WINDSOR ISLAND, UP THE OTTAWA RIVER. (Photo!) M. Edward O'Gorman, Pembroke, Ont., 26th October, 1906.
17714. VIEWS OF PEMBROKE AND THE UPPER OTTAWA. M. EdWard O'Gorman, Pembroke, Ont., 26th October, 1906.
17715. HITTING THE BULL'S EYE. (Picture.) William Rowe Lewis, Winnipeg, Man., 27th October, 1906.
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17731. I'M LOOKING FOR A SWEETHEART WHO IS JUST LIKE YOU : OR, I WANT A GIRL WHO'S ALWAWS SQUARE. (Song.) Words by Will Toland. Music by Harry W. Robinson. Will Rossiter, Chicago, Illinois, U.S.A., 31st October, 1906.
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\section*{NOTICE.}

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\section*{INVENTIONS PATENTED.}

SOTP.-Patents are granted for 18 years. The term of years for which the fee has been pald, in given after the date of the patent.

No. 101,862. Charn. Baratte.


William Wood Mellor and Frederic Nevile Baildon, assignee of half of the interest, Liverpool. England, 6th November, 1906; 6 years. Filed 8th October, 1906. Recelpt No. 140,143.
Claim. - 1. In apparatus for the separation of butter from cream or milk, in which a rotary wheel, drum or the like is employed, and revolves with a container or vessel, the construction of such container or vessel with openings such as referred to, through which air is freely admitted to and allowed to circulate through the vessel or container, as set forth.
2. In apparatus for the separation of butter from cream or milk, wherein such cream or milk is carried through air on the periphery of a wheel or drum, the construction of the centainer or vessel with air inlets at each side about the axis of the wheel or drum, and internal shelves or flanges projecting inwards from sald inlets, substantially as herein set forth for the purposes specified.
3. In apparatus for the separation of butter from cream or milk, of the kind herein referred to, comprising a lower part \(l\) constituting substantially half of same, and an upper cover, as \(r\), of similar form, fitting on the top of \(b\), and having air inlets 8 in its sides, substantially as set forth.
4. In apparatus for the separation of butter from cream or milk, of the kind herein referred to, the rotary wheel or device being mounted on an axle carried on a frame, hinged in supports parallel with same, whereby said wheel can be moved out of the milk or cream container of the apparatus by swinging said frame up, substantially as and for the pur poses described.
5. In apparatus for the separation of butter from cream or milk of the kind herein referred to, a lower container of hinged towards one end of same, and a swinging frame if carrying a wheel \(o\) drum \(e\) having hinged supports at the opposite side of the apparatus to the container hinge, whereby the said wheel or drum in belng moved out of the apparatus is swung in one direction, and the container \(b\) is swung in tipping it in the opposite direction, as set forth.
6. In apparatus for the separation of butter from cream or milk of the kind herein referred to, the arrangement of the rotary wheel or like device, in relation to the contalner, so that its periphery at the point nearest the bottom of the milk or cream container, is disposed in close proximity to same, and further from the ends of same, as set forth.
7. In apparatus for the separation of butter from cream or milk, a rotary wheel or barrel constructed particularly as herein set forth with reference to the drawings.

No. 101,863. Pulley Block. Poulie.


Frank W. Carter and Henry E. Mills, assignee of a half interest, both of San Diego. California, U.S.A., 6 th November, 1906; 6 years. Filed 17th October, 1906. Receipt No. 140,403.
Claim.-1. In an automatic safety pulley block the combination with a pulley block having a pivot and provided with curved slots arranged eccentrically in relation to sald pivot, of a cable sheave mounted on said pivot, a bodily shiftable or displaceable choke sheave adapted to bear on the cable, a lifter, a pivot for the choke sheave which passes through the slots and is connected to the lifter whereby the choke sheave may shift bodily, and means for holding the lifter with the choke sheave out of choking position.
2. In an automatic safety pulley block the combination with a pulley block having a cable sheave pivot and a cam surface disposed eccentrically to said pivot, of a cable sheave on said pivot, a bodily shiftable or displaceable choke sheave having means co-operating with the cam surface, and a combined lifter and choke breaker co-operating with sald choke sheave for shifting said choke sheave bodily and adapted for fulcruming on the pulley block.
3. In an automatic safety pulley block the combination with a pulley block having a cable sheave pivot and a cam surface arranged eccentrically to said pivot and also provided with slots of corresponding contour to the cam surface, of a cable sheave on sald pivot, a choke sheave adapted to bear on the cam surface and the cable, a combined lifter and choke breaker adapted for fulcruming on the pulley block, and a pivotal connection between the lifter and the choke sheave, said pivotal connection passing through the slots aforesaid.
4. In an automatic safety pulley block the combination with a pulley block having a cable sheave pivot or fulcrum and provided with a cam surface eccentrically arranged in relation to said pivot, of a lifter, a choke sheave connectel to said lifter and adapted to be wedged or crowded against the cable by the cam surface, and a catch for holding the lifter raised with the choke sheave out of operative contact with the cable.
5. In an automatic safety pulley block the combination with a pulley block having a cable sheave pivot or fulcrum and provided with a cam surface arranged eccentrically to said plvot or fulcrum, of a lifter having legs which straddle the pulley block and which is provided with a handle, a choke sheave connected to and lying between the legs of the lifter and adapted to be wedged or urged against the cable by the cam surface aforesaid, and a catch on the pulley block to engage the lifter and hold it and the choke sheave raised with the latter out of operative contact with the cable.

No. 101,864. Ohurn. Baratte.


John R. McConnell, Marysville, and John Kllburn, Fredericton, each an assignee of a fourth interest, and George W. Robertson, Marysville, assignee of a half interest all in New Brunswick, Canada, 6th November, 1906: 6 years. Filed 11th October, 1906. Receipt No. 140.214.
Claim.-1. A churn comprising base members, uprights and braces on the base members, transverse braces secured to the uprights, hinged stop members on the transverse braces, and a rockable receptacle carried on the uprights and provided with filing and decanting openings.
2. A churn comprising base members, uprights and braces on the base members, transverse braces secured to the uprights, a plurality of separately operable hinged stop members on the transverse braces. and a rockable receptacle carried on the uprights and provided with filling and decanting openings.
3. A churn comprising base members, uprights and braces on the base members. transverse braces secured to the uprighte hinged stop members on the transverse braces, a rockable receptacle carried on the uprights and provided with flling and decanting openings, and a single piece slotted partition removably disposed in the receptacle.

No. 101,865. Fulerwm. Porte.
The Simplex Rallway Appliance Company of Canada, Montreal, Quebec, assignee of Carl Edward Bauer, Hammond, Indiana, U.S.A., 6th November, 1906; 6 years. Filed 11th July, 1906. Receipt No. 137,690.
Claim.-1. In combination with a brake beam, a fulcrum comprising an open sided clip adapted to fit over the beam and provided with projecting inner edges, a headed king post adapted to int such clip and securing means interposed between the said inner edges and the head of the king post.
2. In combination with a brake beam. a fulcrum comprising an open sided clip adapted to fit over the beam and provided with profecting inner edges, a headed king post adapted to revolubly int such clip and securing means interposed betownen the said inner edges and the head of the king post.
3. In combination with a brake beam, a fulcrum comprising an open-sided clip adapted to fit over the beam and provided

with projecting inner edges, a headed king post adapted to fit such clip, securing means interposed between the said inner edges and the head of the king post, and through holding means to secure the clip to the beam and hold the said securing means in place.
4. In combination, a supporting means \(U\)-shaped in section, a king post provided with a head fitting the supporting means, which head is shaped to be partially revoluble in the supporting means but to be positively stopped at a certaln point, by the engagement of the head with the sides of the supporting means, and means for securing the bead against longitudinal movement in the supporting means.
5. In combination a supporting means U-shaped in cross section, a king post provided with a head engaging the supporting means, which head has a short diameter fitting the inside width of the supporting means and a long diameter whereby the post will be positively stopped after a certain amount of revolution, and means for securing the bead against longitudinal movement in the supporting means.
6. In combination, a supporting means \(\mathbf{U}\)-shaped in cross section, a king post provided with a head fitting the supporting means, which head is a pointed oval with the short diameter approximately fitting the inside width of the supporting means, and means for securing the head in the supporting means against longitudinal movement.
7. In combination with a trussed brake beam, and opensided clip for the beam provided with inner projecting edses, a king post supporting member having an open-sided recess to engage the truss, a king post provided with a head engaging the clip and a bottom portion engaging the supportmas. member, and holding means interposed between the projecting edges of the clip and the head of the king post.
8. In combination with a trussed brake beam, an opensided clip for the beam provided with inner projecting edges. a king post supporting member having an open-sided recess to engage the truss, a king post provided with a head rotat. ably engaging the cllp and a bottom portion engaging the supporting member, and holding means interposed between the projecting edges of the clip and the head of the king post 9. In combination, a brake beam \(\mathbf{U}\)-shaped in cross section, an open-sided clip therefor, and a king post revolubly supported therein and provided with a head having stops adapted to engage the sides of the beam and limit the movement of revolution.
10. In combination, a brake beam \(U\)-shaped in cross section, and open-sided clip therefor, and a king post revolubly sup. ported therein and provided with a pointed oval head adapred in certain positions to be positively engaged by the sides of the beam whereby the post is positloned rotatively.

\section*{No. 101,866. Crane for Wagome. Cheore de wapon.}

Theobald M. Hackett, Albany, New York, U.S.A., 6th November, 1906; 6 years. Flled 29th August, 1906. Recelpt No. 139,065.
Claim.-1. A crane device for wagons and vehicles consist ing of a tubular member in operative connection with the vehicle aranged when swung to describe a portion of the arc oi a circle at least. a second tubular member arranged to act telescopically with the first-named tubular member, means for holding the second member securely in connection wilu and at a predetermined point with the first-mamed tubular member, a lever pivotally attached to sald second member and practically inclosed thereby when the lever is in its
inoperative position, all arranged and operating to lift objects, substantially as described.

2. A crane device for vehicles consisting of a member in cperative connection with the vehicle and arranged to swing into a practically vertical and into a practically horizontal position at will, and having means to secure the member in elther position, an extension piece for the member arranged to be made fast thereto automatically at will, a lever in operative connection with the extension piece and lying within the same when the lever is in its inoperative position, sub stantially as described.
3. A crane device consisting of a member arranged to swing into a practically vertical and into a practically horizontal position at will, and having means to secure the member in either position, an extension piece for the member arranged to be made fast thereto automatically at will, a lever in operative connection with the extension piece and lying within the same when the lever is in its inoperative position, substantially as described.

\section*{No. 101,867. Temperature Regulator. Régulateur de température.}

Thomas C. X. A. Berget, Paris, France, 6th November, 1906 6 years. Filed 12th October, 1906. Receipt No. 140,243
Claim.-1. Improved means for regulating the temperature inslde vehicles consisting in utilizing for this regulation the cold created by the expansion of a liquified or compressed gas contained in a reservoir, the gas outlet valve from which is controlled by a self regulating thermostat which opens the expansion valve so soon as the temperature exceeds a given limit and closes it so soon as the temperature has been brought back to the required value, substantially as described.
2. In an arrangement such as covered by claim 1, a self regulating thermostat connected to the doors of the vehicle in such a manner that it is confined, and consequently closes the expangion valve, so soon as the doors of the vehicle are opened.
3. An arrangement for regulating the temperature of vehicles, substantially as described.

\section*{No. 101,868. Temperature Regulator. Régulateur de température.}

Thomas C. X. A. Berget, Paris, France, 6th November, 1906; 6 years. Filed 12th October, 1906. Receipt No. 140,244 .
Claim.-1. In an arrangement such as that which forms the cbject of my application for a patent of even date herewith the employment of an electric current as intermediary between the self regulating thermostat and the expansion valve, substantially as described.
2. In an arrangement such as covered by claim 1, introducing an interval in the displacement of the electric contacts in such a manner as to give steadiness to the regulation.
3. An arrangement such as covered by claims 1 and 2 in which a valve actuated by means of an electro-magnet of which the current is contiolled by contacts and a ring actuted by stops with an interval between them and carried by the rod of a liquid thermometer or a Bourdon tube ther-
mostat, substantially as described and illustrated in the drawings.

4. Means for regulating the temperature in vehicles, substantially as described and illustrated in the drawings.

No. 101,869. Tenperature Regriater. Régulatewr de tempórature.


Fritz Kaeferle, Hanover, Germany, 6th November, 1906; 6 years. Filed 10th September, 1906. Receipt No. 189,389. Claim.-1. In an electro-magnetícally operated temperature regulating apparatus the combination of a two-seated valve, and an electro-magnet, substantially as set forth.
2. In an electro-magnetically operated temperature regulating apparatus, the comblnation of a two-seated valve firmly connected with the armature of an electro-magnet, and an electro-magnet placed outside the chamber containing the valve and the armature connected with the latter, the arrangement being such that the lines of force due to said electro-magnet act directly on said armature carrying the double seated valve through the partition by which the elec-tro-magnet is separated from the valve chamber, substantially as set forth.

No. 101,870. Tram Car Eafety Defice.

\section*{Appareil de sûreté pour tramioays.}

Hermann Deleré and Heinrich Leygraf, co-inventors, both of Marxloh, Ruhrort, Germany, 6th November, 1906; 6 years. Filed 8th October, 1906. Receipt No. 140,132.
Claim.-Safety device for tram cars, comprising in combination a catching irame A normallye held in inoperative position, a protecting netting \(B\) between said frame \(A\), two ejecting devices \(C\) fixed to the tram car and connected to aafd catching trame \(A\) and adapted to bring, when ejected the
latter instantaneously into its operative position, and an actuating device 1 ) adapted to be operated by the tram con-

ductor and thus to effect the ejection of the ejecting devices C, substantially as described and shown.

\section*{No. 101,871. Heating Furnace.}

Fournaise de chauffage.


Jullus F. Adams and F. O. Adams, co-inventors, both of A1legheny, Pennsylvania, U.S.A., 6th November. 1906; 6 years. Filed 16th October, 1906. Receipt No. 140,357.
Claim.-1. The combination of a combustion chamber, a fume drum above the combustion chamber, fume tubes connecting said chamber and drum, and air pipes extending through the tubes and drum.
2. The combination of a vertically open combustion chamber, a vertically open fume drum above the combustion chamber, fume tubes connecting the chamber and drum, the vertical openings in the chamber and drum affording frec circulation of air, and alr pipes extending through both the chamber and drum.
3. The combination of a combustion chamber. flue tubes rising therefrom, a gas burner within the combustion chamber having vertical passages in line with the flue tubes, and air circulating pipes extending through the combustion chamber, the burner passages and said tubes.
4. The combination of a combustion chamber, fume tubes rising therefrom, a fume drum into the bottom of which sald tubes open, and air circulating pipes extending through the combustion chamber and through said tubes and drum.
5. The combination of a combustion chamber, upwardly tapering tubes rising therefrom, a fume drum into the lower end of which the tubes open. and air circulating pipes exfending through the fume tubes and drum, said plpes being of such slze as not to wholly close the fume tubes.
6. The combination of a combustion chamber, fume tubes rising therefrom. a fume drum into the lower end of which the tubes open. a gas burner within the combustion chamber
and formed with vertical passages in line with the fume tubes, and air circulating pipes extending through the combustion chamber and the burner and through the fume tubes and drum.
7. The combination of a combustion chamber, a lume drum above the chamber and open from top to bottom for the circulation of air, fume tubes rising from and connecting the combustion chamber with the drum, and air circulating plpes extending through the tubes and through the inclosed portions of the drum.
8. The combination of a combustion chamber in form of a hollow square, a gas burner section in each side thereof, fume tubes rising from each side of the chamber, a fume drum into the lower end of which the tubes open, and air circulating pipes extending through the tubes and through the drum.
9. Improved heating apparatus comprising a combustion chamber, a fume drum above the chamber, a plurality of relatively small upwardly tapering fume tubes rising from the said chamber and communicating with the drum, and gas burning means within the chamber.
10. Improved heating apparatus comprising a combustion chamber of tube-like form extending around or inclosing a vertically open air space, a fume drum above the combustion chamber, the drum having an alr passage formed therethrough from top to bottom which is in line with the air space around which the combustion chamber extends, a plurality of upwardly tapering fume tubes connecting the chamber and drum, and gas burning means within said chamber.

No. 101,872. Nut Lock. Aırêtc-écrou.


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Peter Emil Bagge, Moline, Illinois, U.S.A., 6th November, 1906; 6 years. Filed 10th October. 1906. Receipt No. 140,181.
Claim.-1. A lock nut having end sections b \(b^{1}\) internally screw-threaded and connecting pillars or posts \(c c\) the inner faces of which are screw threaded, the height of the pillars being approximately equal to the thickness of the sections b \(b^{1}\).
2. A lock nut comprising end sections \(\delta, b^{2}\), and a plurality of connecting posts or pillars \(c\), both said sections and the pillars being internally screw threaded to engage with a bolt, and the cross sectional area of the pillars or connecting parts being materially less than the cross sectional area of the end section \(b\) and \(b^{1}\) and the height of such pillars being approximately equal to the thickness of the end sections, substantlally as set forth.
3. A lock nut comprising the internally screw-threaded end sections \(b, b^{1}\), and the connecting pillars or posts \(c\). the latter being screw threaded and distorted, substantially as set forth.
4. A lock nut having end sections \(b\). \(b^{2}\), and the connecting ports or pillars \(c\), said parts being internally screw threaded and the said end parts being turned, about the axis of the nut relative to each other, whereby the connecting pillars or posts are twisted and distorted, substantially as set forth.
5. A lock nut comprising end sections separated from each other by spaces \(c\), and he pillars or posts connecting the ead sectlons of the nut and of less sectional area than the area of the nuts, the said connecting pillars or posts being distorted by a turning of one of the end sections of the nut relative to the other, whereby they are caused to engage with and blad upon the screw threads of the belt to which the nut may be applied, substantially as set forth.

No. 101,873. Pad for Horee Oollara.
Bourrelet de collier de cheval.


Delmont S. Brown, Watertown, New York, U.S.A., 6th November, 1906; 6 years. Filed 12th October, 1906. Receipt No. 140,258.
Clatm.-1. A horse collor provided with a pad comprising a sheet of fabric material having upon one face thereof a layer of curled hair, portions of the hair throughout the extent of the layer being passed through the fabric material whereby to secure the hair to the fabric, said layer being relatively thick along the longitudinal center and gradually diminishing in thickness toward the edges thereof, the edges of the fabric material beling secured between the edges of the face and back of the collar and the layer of hair being between the face and the filling of the collar.
2. A horse collar provided with a pad comprising a sheet of fabric material having on one of the faces thereof a layer of hair, said layer being secured to the fabric throughout the extent of the layer, said layer being relatively thick along its longitudinal center and gradually diminishing in thickness toward the edges thereof, the edges of the fabric material being secured between the edges of the face and back of the collar, and the layer of hair being between the face and the flling of the collar.
3. A horse collor provided with a pad comprising a sheet of fabric material having upon one face thereof a layer of hair, portions of the hair throughout the extent of the layer being passed through the fabric material whereby to secure the hair to the fabric, said pad being arranged between the face and the fllling of the collar.
4. A pad for horse collars comprising a sheet of fabric material having upon one face thereof a layer of cushioning material, portions of said material throughout the extent of the layer being passed through the fabric material whereby to secure said material to the fabric.
5. A pad for horse collors comprising a sheet of fabric material having upon one of the faces thereof a layer of hair, portions of the hair throughout the extent of the layer being passed through the fabric material whereby to secure the hair to the fabric, the edges of the sheet of fabric material being extended beyond the layer of hair to form a means whereby to attach the pad to the collar.

\section*{No. 101,874. Flour Sifter. Tamis d fleur.}

Carl A. Carlson, Underwood, North Dakota, U.S.A., 6tn November, 1906 ; 6 years. Filed 16th October, 1906. Receipt No. 140,351.
Claim.-1 A flour sifter comprising a flour receptacle with a hemisphere sieve in its lower portion and an agitator having wings moving near the inner surface of the sieve, said sleve having in its bottom a fixed integral reservoir for the sifting.
2. A flour sifter comprising a receptacle with a hemispheric sieve in its lower portion and an agitator having wings moving near the inner surface of the sieve, said sieve having in its bottom a fixed integral reservoir for the sifting, some of said wings being \(U\)-shaped or \(V\)-shaped so as as to gather the siftings speedily into the pit.
3. A flour sifter comprising a vessel or receptacle, a sieve therein and agitator above the sieve, a shaft fixed in the agitator and journalled in the sides of the vessel, a handle or hand hold on the receptacle, a spring pressed lever fulcrumed within operative reach of the fingers of the hand holding handle and operative connection between said spring and finger actuated lever and the shaft of the agitator, said operative connection consisting of a ratchet wheel fixed on
the end of the shaft and two spring pressed pawls pivotally carried by the finger operated lever and engaging opposite

edges of the wheel and operating alternately to keep the wheel in practically constant rotation.
4. A flour sifter comprising a vessel or receptacle, a sieve therein and agitator above the sieve, a shaft fixed in the agitator and journalled in the sides of the vessel, a handle or hand hold on the receptacle, a spring pressed lever fulcrumed within operative reach of the flingers of the hand holding the handle, and operative connection between said spring and finger actuated lever and the shaft of the agitator, said operative connection consisting of a ratchet wheel fixed on the end of the shaft and two spring pressed pawls pivotally carried by the finger operated lever and engaging opposite edges of the wheel and operating alternately to keep the wheel in practically constant rotation, said pawls having the guiding arms 15 straddling the edge of the wheel for the purpose set forth.

No. 101,875. Grain Drill. Semoir en ligne.


Frank E. Davis, La Crosse, Wisconsin, U.S.A., 6th November, \(1906 ; 6\) years. Filed 15th October, 1906. Receipt No. 140,299 .
Claim.-1. In a grain drill the combination of an independent drag bar pivoted at its front end so it will be free to swing vertically, a furrow opening disc set at an angle with respect to the line of draft and supported by the rear portion of the drag bar, and means independent of the other drag bars for angularly adjusting the drag bar about its front end to vary the angularity of the drag bar to vary the line of travel.
2. In a grain drill the combination of an independent drag bar, pivotal connection at its front end which leaves the bar free to swing vertically, a furrow opener sustained by the rear portion of the drag bar, and means independent of the other drag bars for varying the angularity of the drag bar about the pivot around which the drag bar swings vertically and whereby the line of travel of the opener can be varied.
3. In a grain drill the combination of an independent drag bar, a pivotal connection at its front end which leaves the bar free to swing vertically, a furrow opening disc sustained by the rear portion of the drag bar, and means independent of the other drag bars for varying the angularity of the drag bar about the pivot around which the drag bar swings vertically, and whereby the line of travel of the disc may be varied.
4. In a grain drill the combination of an independent drag bar, a fixed support to which the drag bar is pivotally connected at its front end so it can swing vertically, a furrow opener sustained by the rear portion of said drag bar and an adjustable connection between the drag bar and the support and independent of the other drag bars by which the angularity of the drag bar can be varied to vary the line of travel of the opener.
5. In a grain drill the combination of an independent drag bar, a fixed support to which the drag bar is pivotally connected at its front end so it can swing vertically, a furrow opening disc sustained by the rear portion of the drag bar at an angle with respect to the line of draft, and an adjustable connection between the drag bar and the support whereby the angularity of the drag bar can be varied to vary the line of travel of the disc.
6. In a grain drill the combination of an independent drag bar comprising two members laterally disposed with respect to each other, means whereby the drag bar can be pivotally connected to a support to swing vertically, a furrow opener sustained by the drag bar, and means adjustably connecting the members of the drag bar and whereby the line of travel of the opener can be varied.
7. In a grain drill the combination of an independent drag bar comprising two members laterally disposed with respect to each other, means for pivotally connecting the drag bar to a support so it will be free to swing vertically, a furrow onening disc sustained by the drag bar, and an adjustable connection between the members whereby the drag bar can be adjusted to vary the line of travel of the opener.
8. In a grain drill the combination of a drag bar provided with means at its front end whereby it can be pivotally connected to a support to swing vertically, a furrow opener sustained by the rear portion of the drag bar, a brace momber and an adjustable connection between the brace member and a drag bar whereby the line of travel of the opener can be varind.
9. In a grain drill the combination of a drag bar nrovided with means at its front end whereby it can be pivotally connected to a supnort to swing verticallv, a furrow opening disc sustained by the rear nortion of the drag bar. a brace member and an adjustable connection between the brace member and the drag bar whorebv the angularity of the drag bar can be varied to vary the line of travel of the dise.
10. In a grain drill the combination of \(n\) drag bar comprising two members adanted to be pivotally connected to \(a\) sunport and adiustably secured so the draz har can be adfusted aneularlv. and a furrow noener suctained he the dras bar and whereby the line of travel of the onener can be varied.
11. In a graln drill the combination of a drag bar comprising two members adanted to be pivotally connected to a supnort and adjustably secured together so the angularity of the drag bar can be varied. and a furrow opening dise supnorted by sald drag bar and whereby the line of travel of the dise can be varied.
12. In a grain drill the combination of a drag bar comorisline two members adanted to be nivotally connected to a sunnort and adjustably secured tocether so the angularity of the drag bar can be varied. a furrow opening dise and a sced boot, sald disc and boot being supported by said drag bar.
13. In a grain drill the combination of a bar provided with means whereby it can be pivotally connected to a support. a brace also provided with means whereby it can be pivot. ally connected to a support, an adjustable connection between sald brace and said bar whereby the angularity of the bar can be varied, and a furrow opener sustained by said bar.
14. In a grain drill the combination of a bar provided with means whereby it can be pivotally connected to a support. a brace also provided with means whereby it can be pivotally connected to a support, a bolt and sint connection between said brace and said bar whereby the angularlty of the bar can be varied. a furrow opener and a geed boot sustained by sald bar.
15. In a grain drill the combination of a drag bar, a disc. a boot having a channel therein extended to deliver the seed into tha furrow, and a scouring blade secured to the boot and extending upwardly from the toe of the boot on the outer sille thercof.
1is. In a gram drill the combination of a drag bar. a disc. a boot having a cbannel therein extended to conduct seed
into the furrow, and a blade secured to the boot and comprising a strip extending upwardly from the toe of the boot on the outer side thereof and a scraper extending upwardly and forwardly from the toe.
17. In a grain drill the combination of a drag bar, a disc, a boot having a channel therein extended to deliver seed into the furrow and having a wall at the side adjacent the disc and the lower portion of its outer side open, and a scouring blade extending upwardly from the tee of the boot and on the outer side of said opening.
18. In a grain drill the combination of a drag bar, a disc, a boot having a channel therein extended to deliver seed into the furrow, and having an enclosing wall at the side of the disc and the lower portion of its outer side open, and a blade comprising a strip extending upwardly from the toe of the boot and on the outer side thereof and a scraper strip extending upwardly and forwardly from the boot.
19. In a grain drill the combination of a disc, a bracket 1:: which the disc is journalled, a single drag bar to which said bracket is secured, and arranged at one side of the disc. and a seed boot at the other side of the disc, said bar haring an integral portion extending rearwardly of the bracket, and to which the boot is secured.
20. In a grain drill the combination of a concaro-convex disr, a bracket in which the disc is journalled. a single drag bar to which sald bracket is secured. and arranged at the concave side of the disc, and a seed boot at the convex side of the disc, sald bar having an Integral portion extending rearpardly of the brarket, and to which the boot is secured.
21. In a grain drill the combination of a concavo-coavex disc. a bracket in which the disc is journalled, a single drag bar to whtch said bracket is secured, and arranged at the concave side of the disc. a seed boot at the conver side of the disc, said bar having a portion extending rearwardly of the bracket and to which the boot is seoured. and a scouring blade secured to the outer side of the boot and having a forwardly and upwardly extending scraper strip.
22. In a grain drill the combination of a concavo-convex disc, a drag bar whereby the disc is sustained. said draf bar being arranged at the concave side of the disc. and having an integral portion bent into the concarity of the d!sc. and a seed boot gustained by said drag bar.
23. In a grain drill the combination of a concavo-convex disc. a bracket in which the disc is journalled, a drag bar to which sald bracket is secured arranged at the concave sid? of the disc and having an integral portion thereof bent irto the concavity of the disc and extended rearwardly of the bracket, and a seed boot secured to the rear end of gald bar.
24. In a grain drill the combination with a dras bar. of a disc, a hanger in which the disc is journalled secured to the drag bar. said drag bar being arranged at the concave side of the dise and having its rear integral portion bent uowardly, and a seed boot arranged at the other side of the lise and securer to the upwardly extending portion of the drag bar.
25. In a grain drill the combination of a concavo-convex disc, a bracket in which the dise is journalled, a drag bar to which sald bracket is secured arranged at the concave side of the disc and having an integral portion thereaf beat into the concavity of the disc and having also its rear end extended upwardly. and a seed boot on the convex slde of the disc and spcured to the rear pad of the drag bar.
2f. In a grain drill the combination of a drag bar. a disc and a bearing for said disc comprising a bracket having a wall with a central opening therein and a recess at each side of said wall. a stud having a lange fiting in one of said recesses and extending through said opening and haring a reduced portion, and a collar around said reduced partion and lying in the other recess. said stud being secured to revolve with the disc and having a shoulder, said collar fitting between said shoulder and the disc.
27. In a grain drill the combination of a drag bar a disc. and a bearing comprising a bracket secured to the dras bar. a stud journalled in sald bracket and having a non-circular portion extending into a central opening in the disc, and a collar adjacent the disc and fitting around sald portion. s.i." 'aving an annular rib fitting into a correspondiag groove in the bracket.
28. In a grain drill the combination of a draz bar. a diac and a bearing comprising a bracket secured to the drag bar. a stud journalled in said bracket and having a non-circular portion extending into a central opening in the disc, a collar alijacent the dise and fitting around said portlon, said collar having an annular rib fitting into a corresponding groow in the brarket, and a tie bolt securing the stud, collar and dise together.
29. In a grain drill the combiation of a drag bar. a disc. ard a bearing comprising a bracket and having a pecess at rach ind and a wall having an opeaias therein. atud having a flange fitting into one of said recesses and its central partion fitilag in said opening and having a mancircular
end, and a shoulder, and a collar held between said shoulder and the disc and having an annular rib lying in a groove in said wall.
30. In a grain drill the combination of a drag bar, a disc. a bearing bracket secured to the drag bar and having a recess at each end, and a wall having a central opening therein, a stud having a flange fitting into one of said recesses and its central portion extending through said opening and having a shoulder thereon, a collar held between said shoulder and the disc and having an annular rib fitting in a groove in sald wall, said collar having an annular groove into which a portion of said wall is extended.
31. In a drill the combination of a drag bar, a disc, and a bearing comprising a bracket, a stud journalled in said bracket and secured to revolve with the disc, a plate secured to the bracket and closing the bearing recess at one side of the pracket, and a packing between the plate and the bracket.
32. In a grain drill the combination of a drag bar, a disc, a bearing bracket adjacent the concave side of said disc and having a central opening therein, an enlarged recess at each end thereof, a stud extending through said opening having a flange fitting in one of said recesses and secured to revolve with the disc, a collar secured to revolve with the stud and fitting in the recess adjacent the disc, and a plate secured to the bracket and closing the opening at one end of the bracket.
33. In a grain drill the combination of a drag bar, disc, a bearing bracket adjacent the concave side of the disc having a central opening therein, and an enlarged recess at each end thereof, a stud having a flange fitting in one of said recesses and secured to the disc, a shoulder on said stud, a collar secured to revolve with the stud and adjacent the concave side of the disc and fitting into the other recess and having an annular rib fitting into a corresponding groove in the bracket, and a plate secured to the bracket and closing the bearing recess at one side of the bracket.
34. In a grain drill the combination of a drag bar, a disc, and a bearing comprising a bracket secured to the drag bar, a stud journalled in said bracket, an oil duct formed in the bracket and having an enlarged portion formed in the bracket and leading to the bearing surface therein, a closure for the oil duct and a cotter pin extending into said duct and impinging against the wall of said duct to frictionally secure the closure.
35. In a grain drill the combination of a drag bar, a disc, a bearing bracket secured to the drag bar, a stud secured to revolve with said disc and journalled in said bracket, an oil duct in the side of that portion of the bracket which lies adjacent the drag bar and a packing between the drag bar and the bracket.
36. In a grain drill the combination of a drag bar, a disc, a bearing bracket secured to the drag bar, a stud secured to revolve with the disc and journalled in said bracket which lies adjacent the drag bar, said drag bar being secured to the bracket at the side, thereof, and to extend across the open side of the oil duct.

\section*{1.e. 101,876. Nnt Lock. Arrête-écrou.}

Noah Howell, Baxter, Arkansas, U.S.A., 6th November, 1906; 6 years. Filed 8th October, 1906. Receipt No. 140,152.
Claim.-1. In a nut lock the combination of a bolt, a nut co-operating therewith, an inner washer member provided with an opeaing, meańs for preventing the inner washer member from turning, an outer washer provided with a tongue which passes through the opening in the inner washer, and fits against the inner face of said washer, and means for securing an interlocking connection between the nut and the outer washer member.
2. In a nut lock the combination of a bolt, a nut co-operating therewith, an inner washer member provided with an opening, means for preventing said inner washer from turning. an outer washer having a tongue which passes through the opening in the inner washer, said outer washer being 3lso provided with an elongated bolt recelving opening, and means for securing an interlocking connection between the outer washer and the nut.
3. In a nut lock the combination of a bolt, a nut co-operating therewith, an inner washer provided with an opening. means for preventing the inner washer from turning, an outer washer having a tongue which passes through the opening in the inner washer and fits against the inner face of said washer, said outer washer being also provided with an elongated bolt recejving opening, and means for securing an interlocking connection between the outer washer and the nut.
4. In a aut lock the combination of a bolt, a nut co-operating therewith, an inner washer provided with an opening. means for preventing the inner washer from turning, an outer washer havfag a tongue which passes through the opening in the inner washer and fits against the inner face
of sald washer, said outer washer being also provided with an elongated bolt receiving opening and a tongue projecting

from the outer washer member and bent outwardly against a side of the nut.

No. 101,877. Gate Por Elievatore.
Barrière d'ascenseur.


William D. Kehl, Reading , Pennsylvania. U.S.A., 6th November, \(1906 ; 6\) years. Filed 8 th October, 1906. Receipt No. 140.131 .
Claim.-1. In a safety gate mechanism for elevators, a gate operating arm pivotally mounted on the shaft frame adjacent to a landing, a curved spring lever also mounted upon said shaft frame in the plane of said pivoted arm and having an inclined inner surface upon which the free end of sald pivoted arm operatively rides and a contact device carried by he car and adapted to press upon the outer surface of sald spring lever in passing and to thereby operate said gate arm, substantially as set forth.
2. In a safety gate mechanism for elevators, a gate operating arm pivotally mounted on the shaft frame adjacent to a landing. a curved spring lever also mounted upon said shaft frame in the plane of sald pivoted arm and having its inner surface adapted to form an operating incline having a start-

Ing extension for the free end of the same, and a contact device carried by the car and adapted to press upon the outer surface of said spring lever in passing and thereby operate said gate arm, substantially as set forth.
3. In a safety gate mechanism for elevators, a gate operating arm pivotally mounted on the shaft frame adjacent to a landing, a curved spring lever also mounted upon said shaft in the plane of said pivoted arm having an inclined inner surface forming a track upon which the free end of said plvoted arm rides and oppositely inclined above and below the pivotal mounting of said arm and a contact plece carried by the car and adapted to successively press upon the oppositely inclined outer surfaces of said spring lever in passing either up or down and thereby reversely operate said gate arm, substantially as set forth.

No. 101,878. Radiator. Calorifère.


Thomas J. Kehoe, Dayton, Ohlo, U.S.A., 6th November, 1906; 6 years. Filed 16th October, 1906. Recelpt No. 140,349. Claim.-1. In a radiator, two tanks, a series of flat hollow sections arranged between the tanks, each section having connection at its respective ends with the adjacent tank and affording communication therethrough from one tank to the other, and a number of radiating plates, one in connection with each side of each section, and each plate having numerous protruding tongues which extend into the spaces between sald sections.
2. In a radiator, two tanks having a common support. and a multiplicity of fiat hollow sections arranged between the tanks, each section having connection at its respective ends with the adjacent tank and affording communication therethrough from one tank to the other, the sides of each ection having in connection therewith numerous tongues which protrude from the corresponding sides thereof.
3. In a radiator, a multiplicity of flat hollow sections two tanks, one having connection with the upper ends of said sections, and the other with the opposite ends thereof, each section affording communication therethrough from one tank to the other, and radiating plates in connection with the respective sides of said sections, each plate having numerous portions thereof pressed outwardly so as to protrude from the general plane of its surface.
4. In a radiator, two tanks having a common support and a multiplicity of flat hollow sections arranged between the tanks and each affording communication therethrough between said tanks, and with their respective front and rear edges ranging in common planes, the said edges of sald sections each being reinforced by forming the same with a lad seam.
5. In a radiator, a multiplicity of fiat hollow sections two tanks, one having connection with the upper ends of sald sections and the other with the opposite ends thereof, each section affording communication therethrough from one tank to the other, radiating plates in connection with the respective sides of said sections, and suitable pipe connections, one with each of sald tanks.
6. In a radiator, two tanks having a common support, a multiplicity of flat hollow sections arranged between the tanks and each affording communication therethrough between said tanks, and numerous tongues protruding externally from the flat sides of sald sections which extend into the spaces upon elther side of the corresponding section.

No. 101,879. Rubber Footwear. Chaussure de caoutchouc.


Peter MacAllister MacKaskie, Tonopah, Nevada, U.S.A.. 6th November, 1906; 6 years. Filed 8th October, 1906. Recelpt No. 140,122.
Claim.-1. In a rubber boot or shoe, exteriorly formed ventilating pockets located at the foot section and extending up to the body section, an auxiliary lining located in the body section and having series of ventilating chambers formed therein, extending to the upper portion of the body and being closed at their bottom and open at the top and provided with series of apertures communlcating with the interior of the body, the said pockets being likewise provided with communications with the foot section and with sundry of the chambers in the body section.
2. In a rubber boot or shoe, exteriorly formed ventilating pockets located at the foot section and extending up to the body section, the body section having serles of ventilating chambers formed therein, extending to the upper portion of the body and being closed at their bottom and open af the top, and provided with series of apertures communleating with the interior of the body, the said pockets being likewise provided with communications with the foot section. and with sundry of the chambers in the body section.
No. 101,880. Car Compler. Attelage de chars.


James E. Nisbet, Jacksonville, Alabama, U.S.A., 6th November, 1906; 6 years. Filed 16th October, 1906. Receipt No. 140,336 .
Claim.-1. In car couplings, a drawbar body, a coupling hook pivoted at each side of said body, one hook facing upward and the other downward, a stud projecting downward from each hook near its pivot, springs between these studs and fixtures to the aforesaid body actuating the hooks topard engagement, a reversing lever pivoted to a ixture of the car, connecting rods between the said studs and the respective ends of the reversing lever and means for connecting the lever with motive power, substantially as described.
2. In car couplings, a drawbar body, a coupling hook piroted at each side of the body, one hook facing upward and the other downward, an alr pipe attached vertically to the side of each coupling hook, the end of one of the said pipes being tapered to enter and the other to receive a corresponding pipe, the pipes on two corresponding hooks being located to engage each other when the hooks engage.
3. In car couplings, drawbars, coupling hooks pivoted thereon, pipes adapted to be coupled together and attached to the hooks, valves in the pipes, a crank arm for each valve and a brace pivoted to the hook to engage the crank pin of the corresponding valve.
4. In car couplings, coupling hooks hung to engage each other, pipes attached to the hooks and adapted to be coupled by the act of coupling the hooks, valves for the pipes, each valve having a crank arm with the crank pin in line of the car's travel and a brace on the hook opposite to each crank, the brace being adapted to receive and guide the crank pin.
No. '101,881. Combustion Apparatua. Appareil de combustion.


William H. Ricker, Cambridge, Massachusetts, U.S.A., 6th November, 1906; 6 years. Filed 10th October, 1906. Receipt No. 140,196 .
Claim.-1. In a furnace or heater the combination of a fire pot, means for admitting air to the upper part of said firepot, a conduit extending into said firepot and communicating therewith through a plurality of openings, a chamber communicating with said pot and said conduit, and means within said chamber to cause some of the heated gases to be drawn directly from said firepot through perforations in said casing into said chamber and then forced again therefrom into said firepot through said conduit.
2. In a furnace or heater the combination of a firepot, means for admitting air to the upper part of said firepot, a conduit extending into said firepot and communicating thereWith through a plurality of openings, air passages surrounding said firepot and communicating therewith through a plurality of perforations, a fan chamber communicating with said air passages, said conduit and through perforations in the casing thereof directly with the firepot, and a fan therein adapted to indraw the heated gases from the firepot and the heated air from the air passages and force them thoroughly mixed through said condult into said firepot.
3. In a furnace or heater the combination of a firepot, means for admitting air to the upper part of said firepot, a conduit extending lengthwise of said firepot and communicating therewith through a plurality of openings, a casing provided with a plurality of perforations communicating with the interior of said firepot, and means located within said casing for indrawing air and gases through said perforations and forcing same through sald conduit into said frepot.
4. In a furnace or heater the combination of a firepot, means for admitting air to the upper part of said firepot, a conduit extending lengthwise of said firepot and communicating therewith through a plurality of openings, a casing provided with a plurality of perforations communicating with the interior of said firepot, a side inlet to said casing for the admission of air thereto, and means located within said casing for indrawing air and gases through said perforations and forcing the same through said conduit into said frepot.
5. In a furnace or heater the combination of a firepot, means for admitting air to the upper part of said firepot, a conduit extending lengthwise of said firepot and communicating therewith through a plurality of openings. a casing provided with a plurality of perforations communicating with the interior of said firepot, a side inlet to said casing for the admission of air thereto, a water jacket for said casing, and means located within said casing for indrawing

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air and gases through said perforations and forcing the same through said conduit into said firepot.
6. In a furnace or heater the combination of a firepot, means for admitting air to the upper part of said firepot, a conduit extending lengthwise of said firepot and communicating therewith through a plurality of openings, side air chambers provided with inlets communicating with said firepot, and means for drawing air and gases from said firepot into said chambers and forcing them therefrom through the openings in sajd condult in the bottom of said firepot into the same.
7. In a furnace or heater the combination of a firepot, an air chamber above said firepot, means for admitting air thereto, a perforated conduit beneath said firepot, and a fan for drawing the air from said chamber above the fuel in the firepot and in contact with the gases therefrom into said conduit to be forced therefrom into said firepot again.
8. In a furnace or heater the combination of a firepot, an air chamber above said firepot, means for admitting air thereto, means for regulating the admission of said air, a perforated conduit beneath said firepot, and a fan for drawing the air from said chamber above the fuel in the firepot and in contact with the gases therefrom into said conduit to be forced therefrom into said firepot again.
9. In a furnace or heater the combination of a firepot, a conduit extending into said firepot and communicating therewith through a plurality of perforations, air passages surrounding said flrepot and communicating therewith through a plurality of openings, an air chamber above said firepot, means for admitting air thereto, and means for indrawing the air from said chamber and products of combustion from said firepot through said passages and forcing them into the firepot again through said conduit.

\section*{No. 101,882. Fish Dressing Machine.}

Machine à préparer le poisson.


Edmund Augustine Smith, Seattle, Washington, U.S.A., 6th November, 1906 ; 6 years. Filed 17 th October, 1906. Receipt No. 140,375.
Claim.-1. In a fish dressing machine the combination with a carrier supported for movement, of means operated automatically during movement of the carrier for feeding the fish bodies, and meansl on the carrier for removing the bodies from said first means and holding the same to movement with the carrier.
2. In a fish dressing machine the combination with a carrier supported for movement, of means supported for movement toward and from the carrier for feeding the bodies, mechanism automatically set for operating said means, and means on the carrier for removing the bodies from said first means and holding the same to movement with the carrier.
3. In a flsh dressing machine, a carrier supported for rotating means for feeding a fish body to said carrier, means for operating said first means, and means on the carrier for removing the fish body from said first means and holding the same to movement with the carrier.
4. In a fish dressing machine, a carrier supported for movement, a feeding means mounted for movement toward and from said carrier means on the carrier for removing a body from said feeding means, and mechanism for operating sald feeding means controlled by a body arranged thereon to be fed.
5. In a fish dressing machine, a carrier supported for movement, a body feeding means mounted for movement toward and from said carrier, means on the carrier for removing a body from said feeding means, and mechanism for operating said feeding means set to operate by a body to be fed.
6. In a flsh dressing machine, a carrier supported for movement, a feeding means mounted for movement toward and from said carrier, means on the carrier for removing a body from said feeding means, normally inactive mechanism for operating said feeding means, and means controlled by a fish body arranged on the feeding means for setting said mechanism so that it will operate.
7. In a fish dressing machine, a carrier supported for movement, a feeding device supported for movement toward and from sald carrier, means on the carrier for removing a body from said feeding means, normally inactive mechanism for operating said device, and means for setting said mechanism so that it will operate, including a member arranged to be engaged by a body being inserted into said device.
8. In a fish dressing machine, a carrier supported for movement, a feeding device comprising a head supported to slide and provided with opposing grippers, means on the carrier for removing the body from between the grippers on said head and holding it to movement with the carrier, and means for operating said feeding device.
9. In a fish dressing machine, a carrier supported for movement, a feeding device comprising a head supported for movement toward and from said carrier and provided with forwardly converging yielding grippers, means on the carrier for removing a body from between the grippers on said head and holding it to movement with the carrier, and means for operating said feeding device.
10. In a fish dressing machine, a carrier supported for movement, a feeding device supported for movement toward and from sald carrier, means on the carrier removing the body from said feeding device, means for operating sald feeding device, and movable means for limiting the movement of a body being inserted in said device, said last means being normally secured against movement and related to said feeding device to be released during movement thereof.
11. In a flsh dressing machine, a carrier supported for movement, means supported to slide toward and from said carrier, grippers on said means for holding a body, gates arranged to limit the movement of a body being inserted between said grippers, said gates being normally secured against movement, and means on the carrier for removing the first body from said first means and holding the same to movement with the carrier.
12. In a fish dressing machine, a carrier supported for movement, a feeding device supported for movement toward and from said carrier, a feed regulating device in advance of said feeding device to limit the movement of a body being positioned on said feeding device, said last-named device being normally secured and arraneed to be moved from the path of said ferding device during the movement thereof, means for operating said feeding device, and means on the carrier for removing a body from said feeding device.
13. In a fish dressing machine, a carrier supported for retation, means rotatable with said carrier provided with a plurality of spaced projections, a body feeding device supported for movement toward and from sald carrier, means on the carrier for removing a body from the feeding device, and mechanism for operating said feeding device including a wiper arranged for engagement with the projections on sald rotatable means.
14. In a fish dressing machine, a carrier supported for rotation, a feeding device supported for movement toward and from said carrier, means on the carrier for removing a body from said feeding device, a rotatable element provided with spaced projections, mechanism for operating said device including a wiper, and means for moving sald wiper into and out of the path of the projections on said rotatable element.
15. In a fish dressing machine, a carrier supported for rotallon, a body feeding device supported for movement toward and from said carrier, means on the carrier for removing a body from said feeding device, mechanism connceted to the feeding device to operate the same, and means movable with the carrler for operating said mechanism.
16. In a fish dressing machine, a carrier supported for rotation, a body feeding device supported for movement toward and from said carrier. means on the carrier for gripping the body fed by said device, a means movable with the carrier and provided with spaced projections, mechanism for operating said device including a momber movable into and out of the path of the projections on said last means, and means controlled from the feeding device for setting sald member so that sald mechanism will be operated.
17. In a fish dressing machine, a carrier supported for rotation, a feed device supported for movement toward and from said carrier and being yieldingly held in retracted position, means for moving sald device toward the carrier, and means on the carrier for removing a body from said device.
18. In a fish dressing machine, a carrier supported for movement, a means slidably supported for movement toward and from said carrier for ferding a body into said last mrans consisting of gates, arms on said gates engaged by said fref means to prevent movement of the gates, means
for operating said fecd means, and means on the carrier tor gripping a body fed by sald feed means.
19. In a fish dressing machine, a carrier supported for rolation, means on the carrior for holding a body, a feed way extending at an angle to sald carrier, and spring presscl guide members supported above said feed way and consisting of segmental plates arranged to have a body on said rarrier moved therebetween, the lower end portion of said plates being curved outwardly.
20. In a fish dressing machine, a carrier comprising a hub and outwardly projecting arm on said hub, a seat for a nish body projecting from the outer end portion of said arm and gripping devices on said arm projecting on opposite sides of raid seat.
21. In a fish dressing machine, a carrier comprising a hub, an outwardly projecting arm on said hub, a seat for a fish body pivoted on the outer end of said arm, and means for securing said seat from movement.
22. In a fish dressing machine, a carrier provided with a seat for a fish body, gripping devices on opposite sides of said soat and yielding guards adapted to engage the fish body to hold the same from movement with said gripping device.
\(\because 3\). In a fish dressing machine, a carrier provided with a seat for a fish body, opposite pairs of gripping devices arranged to grip the body on said seat and yielding guards arranged at opposite sides of said seat between soid gripping devices.
24. In a tish dressing machine, a cutting device and guides for supporting a fish body to be fed to sald device, sald guides being spaced for the reception of a fln of the fish body therebetween and provided with means to cause the fish body to move upwardly on said guides as it is fed.
25. In a fish dressing machine, a cutting device and guldes for supporting a tish body to be fed to said cutting device, said guides being spaced for the reception of a fin of the fish body therebetween and provided with inclined portions asranged for co-action to efiect straightening of the fin disposed between said guides during movement of the fish body.
26. In a fish dressing machine, a cutting device and spaced guides for supporting a fish body to be fed to said cutting device, said guides having the contiguous edges of their forward ends converged and provided with upwardly inclined surfaces on opposite sides of said converging edge portions.
27 . In a fish dressing machine, a cutting device and concaved guides for supporting a body to be fed to said cuttlog device, said guides being spaced for reception of a fin of the fish body therebetween and provided at their forward end portions with upwardly inclined surfaces disposed in the path of the fish body, the contiguous edge portions of said guides adjacent said inclined surfaces being converged.
28. In a fish dressing machine, a cutting device, spaced guides for supporting a fish body to be fed to said cuttinz device having forwardly converged contiguous edges and upwardly inclined surfaces on opposite sides thereof and a guard having an upwardly inclined upper surface disposed beneath the converging edge portions of said guides.
29. In a fish dressing machine, a carrier supported for movement and provided with a seat and a device supported so as to be immovable with the carrier for centering a fish body on said seat, said device comprising opposite members connected to have equal lateral movement when a fish body is moved therebetween.
30. In a fish dressing machine, a carrier supported for movement and provided with a seat and a device for centering a fish body on said seat comprising members swingingly supportod on means immovable with the carrier, toothed bodies tixed on said members, said bodies being in mesh, and means on the lower portions of said members arranged to have the fish body pass therebetween.
31. In a fish dressing machine, a feedway, a carrier morable at an angle thercto and provided with a seat, gripping means on opposite sides of said seat, and means engaging the fish body as it moves upwardly with the carrier for forcing it into said rest.
:32. In a fish dressing machine, a revoluble carrier provided with a seat, means for supporting said carrier, a feed way extonding at an ancle to said carrier and yieldingly pressed membres ior centering a fish body as it moves to its seat on the carricr. said members being supported on a fixed part above said recd way and having thelr lower portions flared oul wardly.
33. In a fish dressing machine, a carrier supported for movement. means on the carrier for holding a body. a cutter secured to a fixed part and having a heel arranged in the path of travel of a body mounted in said means. the cutting cdge of the cutter being arranged above and in advance of said heel, and a guard for the cutting cdge of said cuttedisposed in front thereof for engagement with the fish body. 34. In a fish dressing machine. a carrier supported for movement. means on the carrier for holding a body. a cutting device secured to a fixed part and arranged in the path
of travel of a body mounted in said means and a rotary guard for the cutting device arranged to engage the first body in advance of said cutting device.
35. In a fish dressing machine, a carrier supported for movement, means on the carrier for holding a body, a cutter secured to a fixed part and having a heel arranged in the path of travel of a body mounted in said means, the cutting edge of the cutter being arranged above and in advance of said heel, and a guard for said cutter, said guard being supported for rotation to engage the fish body in advance of the cutting edge of said cutter
36. In a fish dressing machine, a carrier supported for movement, means on the carrier for holding a body, a cutting device secured to a fixed part and arranged in the path of a body mounted on said means, fin guides projecting forwardly of said cutting device and a guard for said cutting device arranged above said fin guides for engagement with the fish body
37. In a fish dressing machine, a carrier supported for movement, means on the carrier for holding a body, a fin cutter secured to a fixed part, means for guiding the fins to said cutter, and means for removing severed fins from about said cutter.
38. In a fish dressing machine, a carrier supported for movement, means on the carrier for holding a body, a fin cutter supported in the path of the carrier, means for supporting the fins severed by said cutter, and means for removing fins from said last means
39. In a fish dressing machine, a carrier supported for movement, means on the carrier for holding a body, a fin cutter supported in the path of the carrier, fin guides projecting forwardly of said cutter, a plate on one of said guides for supporting the fins severed by said cutter, and means for removing fins from said plate.
40. In a fish dressing machine, a carrier supported for movement, means on the carrier for holding a body, a fin cutter supported in the path of the carrier and rotatable means for removing severed fins from about said cutter.
41. In a fish dressing machine, a carrier on said frame for movement, a head supported on said frame and disposed in the path of said carrier, a cutting means mounted for ortation on said head and fin guides supported on said head for bodily movement toward and from one another.
42. In a fish dressing machine, a frame, a carrier supported on said frame for movement, a head supported on said frame and disposed in the path of said carrier, a cutting means mounted on said head for rotation and fin guides having curved stems slidably engaged with said head.
43. In a fish dressing machine, a frame, a carrier supported thereon for movement, means on the carrier for holding a body, a splitter arranged in the path of said carrier, means swingingly connected with the frame for supporting said splitter, and shoes on opposite sides of said splitter swingingly connected to said last means
44. In a fish dressing machine, a main frame, a carrier supported thereon for movement, means on the carrier for holding a body, a frame swingingly supported on said main frame, a splitter supported by said last frame, a yieldingly pressed means connected with said last frame for independent movement toward and from the carrier, and shoes on said last means disposed to engage the fish body to regulate the depth of cut of said splitter.
45. In a fish dressing machine, a frame, a carrier supported thereon for movement, a splitter supported on said frame for movement toward and from the carrier, a body entering device supported to the rear of said splitter, a spreader arranged between said splitter and body entering device, the rear portion of said spreader having outwardly flared portions arranged on opposite sides of said body entering device, and means on the forward portion of said spreader related to said splitter, for the purpose specified.
46. In a fish dressing machine, a frame, a carrier supported thereon for rotation, a splitter supported for movement toward and from the carrier, a body entering device supported to the rear of said splitter, and means supported from the frame and extending from the splitter to said body entering device and arranged to enter the fish through the cut made by the splitter.
47. In a fish dressing machine, a frame, a carrier supported thereon for movement on said carrier for holding a body, a splitter supported on said frame, and a presser arranged forwardly of the splitter and being supported for movement toward and from the same.
48. In a fish dressing machine, a frame, a carrier supported thereon for movement, means on said carrier for holding a body, a splitter supported on said frame for movement toward and from said carrier, and a presser arranged forwardly of said splitter and being supported for movement independently thereof.
49. In a fish dressing machine, a frame, a carrier supported thereon for movement, means on said carrier for holding a body, a splitter supported on said frame and a presser sup-
ported for movement toward and from said splitter and being arranged to engage a body in advance thereof
50. In a fish dressing machine, a carrier supported for movement, means thereon for holding a body and an entrail dislodging device comprising co-acting rotatable members supported in the path of said carrier to enter the fish body.
51. In a fish dressing machine, a carrier supported for movement, means thereon for holding a body and entrail disloging device supported in the path of said carrier comprising co-acting angularly disposed rotatable members having opposing gripping portions.
52. In a fish dressing machine, a carrier supported for movement, means thereon for holding a body, a body entering device supported in the path of said carrier for movement toward and from the same comprising co-acting rotatable gripping members and means for rotating said gripping members.
53. In a fish dressing machine, a frame, a carrier supported thereon for movement, means on the carrier for holding a body, a hanger swingingly supported on said frame, a coacting body entering grippers rotatably supported on said hanger in the path of said carrier and means to rotate said grippers.
54. In a fish dressing machine, a carrier supported for movement, means thereon for holding a body, a bracket supported for swinging, co-acting grippers rotatably mounted in said bracket, the axes of said grippers being at an angle to the axis of swing of said brackets, means to rotate said grippers and means to swing said bracket.
55. In a fish dressing machine, a carrier supported for movement, means thereon for holding a body, co-acting rotatable angularly disposed grippers, means swingingly supported in the path of said carrier on which said grippers are mounted for rotation, and means to automatically swing said last means during movement of the carrier.
56. In a fish dressing machine, a carrier supported for movement, means thereon for holding a body, co-acting rotatable angularly disposed grippers having meshing teeth arranged in the path of said carrier, a support for said grippers, means on which said support is swingingly mounted, means to rotate said grippers, and means to swing said last means during movement of the carrier.
57. In a fish dressing machine, a carrier supported for movement, means thereon for holding a body, a rotatable body entering scraper supported in the path of said carrier, and rotatable means at opposite sides of said scraper for drawing the fish body thereover.
58. In a fish dressing machine, a carrier supported for movement, means thereon for holding a body, a body entering scraper supported in the path of said carrier, and rotatable means on opposite sides of said scraper between which the fish passes, the opposing sides of said last means moving toward the scraper, as specified.

No. 101,883. Planter. Plantoir.


Judah N. Taylor, Los Angeles, California, U.S.A., 6th November, \(1906 ; 6\) years. Filed 16th October, 1906. Receipt No. 140,341 .
Claim.-1. A roller having a seed chamber therein, a dropsing slide adapted to deliver seed through the periphery of said roller, an arm operatively connected with said slide, said arm extending across an end of said roller and moving therewith, and stationary operating means for said arm carried by said frame.
2. A roller having a seed chamber therein, a dropping slide acapted to deliver seed through the periphery of said roller
and an arm operatively connected with said slide, sald arm extending across an end of said roller and moving therewith, and antomatic operating means for said arm.
3. In combination a frame, a roller having a seeding chamber therein, and a dropping device adapted to deliver seed through the periphery of said roller, said dropping device including an operating arm extending across the end ot said roller and piroted thereto and a bevelled lug mounted on the frame in the path of sald arm to operate the same.
4. A roller having a seed chamber thercin, a soed valve in the periphery of said roller. a plunger having a pocket adapted to receive seed from said valve, said plunger being provided with a movable jaw to discharge teeth therefrom, a pivoted arm extrinding across the end of said roller and moving therewith, a frame, and a bevelled lug mounted on said frame in the path of said lever to swing the same.
5. In a planter. a roller having a sced chamber therein and a dropping device at one end, said roller baving peripheral walls increasing in thickness from the end at which the dropping device is located toward the other end.
6. A planter provided with a roller having a seed chamber therein. and a seed dropping device for discharging seed from one end of said chamber, said chamber bring of greater interior diameter at the end where the seed drophing device is located than at the other end.
7. In a planter, a roller having a seed chamber therein, a sted valve in the periphery of said roller, a plunger havink a pocket therein adapted to receive seed from said valve, an arm carried by said roller and pivoted thereto, said arm being adapted to move sald valve and open said plunger, a frame, and means carried by said irame for actuating said arm.
8. In a planter, a roller having a seed chamber therein, a seed valve in the periphery of said roller, a plunger having a nocket therein adapted to receive seed from said valve, an arm carried by said roller and pivoted thereto, said arm being adapted to move said valve and open said plunger, a frame, and a bevelled lug carried by said frame for actuating said arm.
9. In a planter, a roller having a seed chamber therein, a sced valve in the periphery of said roller, a plunger having a pocket therein adapted to receive the seed from said valve, an arm carried by said roller and pivoted thereto, said ar'm being adaptord to move said valve and open said plunfrer, a bevelled bracket hinged to said frame and means for swinging said bracket into and out of the path of said arm.
10. In a planter. a roller having a seed chamber therein, a seed valve in the periphery of said roller, a plunger having a pocket therein adapted to receive seed frgm said valve, an arm carried by sald roller and pivoted thereto, said aim being adapted to move said valve and open said plunger, a frame, means carried by sald frame for actuating said arm in one direction. and resilient means for restoring said valve and plunger to the normal position.
11. In a planter, a frame, a supporting shaft thercior and a roller mounted on said shaft provided with a seed chaml. \(口\) therein and inclosed by said frame, a dropipng devico adapted to dellver seed from sald roller, an arm extending across. moving with and pivoted to sald roller to operate said device. bevelled bracket mounted on the end of sald irame above the shaft and means extending inwardly from the top of the roller for moving said brackets into and out of the path of said arm.
12. In a planter, a frame, a supporting shaft therefor, a pair of rollers on sald shaft provided with seed chamber: therein and inclosed by said frame, a dropping device adapted to dellver seed from each roller, an arm extending across and moving with and plvoted to each roller to operate said device, bevelled brackets mounted on each end of said frame above the shaft, and means extending inwardly over the top of each roller for moving said brackets into and out of the paths of said arms.
13. In a planter, a frame, a supporting shaft therefor, a roller mounted on said shaft having a serd chamber therein. a seed dropping device adapted to deliver seed through the periphery of said roller. satid device comprising a dropping slide and arm for operating the same, and a plunger adapted to recoive seed from sald slide and provided with a movable jaw and arm for operating the same, an arm extending across the end of the roller pivoted thereto and moving therewith, said last-namod arm being connected with satil flrit-named arms to simultatheously operate the same, and a lug mounted on the irame in the path of the arm which extends across the end of the roller to operate the same.
14. In a planter, a frame, a supporting shaft therofor, a reller mounter on sadi shaft having a seed chatmber therein a zeed dropplng ellde in the periphory of satil roller. sald cllde having a slot, therethroumh. a portion of which is adaptcd to form a send pockot, a block atjustable along said slot t) Increase and diminish the slze of sild pocket, a hollow
rod extending to the end of the roller for operating the slide, an adjusting rod extending from the block through sald hollow rod to the end of the roller for adjusting said block, an adjusting nut inside said hollow rod and having a screw-threaded engagement with said adjusting rod and accessable at the end of the roller, and means for automatically reciprocating said hollow rod.

No. 101,884. Carrier and Dumping Devico.
Transport et appareil a bascule.


Martin J. Sylstad and Carl G. Rude, both of Sacred Heart. Minnesota, U.S.A., 6th November, 1906: 6 years. Filed 16th October, 1906. Recelpt No. 140,339.
Claim.-1. In a device of the class described, a track. a stop on the track, a carrier capable of longitudinal movement of the track, a pivotally mounted carrier box forming a portion of the carrier, a mechanism for locking the carrier box in an upright position, and means designed io be engaged by the stop for releasing the mechanism which folds the carrier box in an upright position for returning the box to its point of starting away from the stop.
2. In a device of the class described, an inclined track, a carrier capable of longitudinal movement of the track, a carrier box forming a part of the carrier, a stop on the track, a mechanism for securing the carrier box in an upright position relative to the carrier, means designed to engage the stop on the track for releasing the mechanism for holding the carrier in an upright position and allowing it to dump and to force the carrier back to its polnt of starting.
3. In a device of the class described, an inclined track. a carrier capable of longitudinal movement of the track. a carrier box forming a part of the carrier, an adjustable stop on the track, a mechanism for securing the carrier box in an upright position relative to the carrier. and means designed to engage the stop on the track for releasing the mechanism for bolding the carrier in an upright position and allowing it to dump and to force the carrier back to its point of starting.
4. In a device of the class described, an Incllned track, a carrier capable of longitudinal movement of the track. a carrier box forming part of the carrier, a stop on the track. a mechanism for securing the carrier box in an upright position relatlve to the carrier, and spring actuated means designed to engage the stop on the track for releasing the mechanism for holding the carrier in an upright position and allowing it to dump and to force the carrier back to its point of starting.
5. In a device of the class described, an Inclined track, ، carrier capable of longltudinal movement of the track. a carrier box forming a part of the carrier, an adjustable stop on the track, a mechanism for securing the carrier box In an upright position relative to the carrier, and spring actuated means designed to engage the stop on the track for releasing the mechanism for holding the carrier in an upright position and allowing it to dump and to force the carrier back to its point of starting.
6. In a device of the class described, a track, a stop on the track, a carrier capable of longltudinal movement of the track, a pivotally mounted carrier box forming a portion of the carrier, a mechanism for locking the carrier box In an upright position, means designed to be engaged by the stop for holding the carrier box in an upright position and for returning the box to its point of starting away from the stop. and means for retaining the carrier at lis inner limit of movement.
7. In a device of the class described, an inclined track, a stop near one end of the track, pulleys mounted on the track, a carrier support connecting the pulleys, hanger bars connected with the carrier support, a carrier box pivoted between the hangers and nearer its bottom portion than its top portion, a substantially semi-circular plate having a series of openings therein, a pin designed to pass through an opening in one of the hangers and into one of the openings in the semi-circular plate, aa spring actuated lever for maintaining the pin at its inner limit of movement, said lever designed to be engaged by the stop for taking advantage of the momentum of the carrier sliding from its inner limit to its outer limit of movement and return the same to its inner limit of movement.
8. In a device of the class described, a track, a stop on the track, a carrier capable of longitudinal movement of the track, a pivotally mounted carrier box forming a portion of the carrier, a mechanism for locking the carrier box in an upright position, means for holding the box in an upright position, a plvotally mounted forked lever connected with the said means, the forked portion thereof extending on each side of the track, and a spring for normally holding the lever away from the support to which it is pivoted, for the purposes stated.

\section*{No. 101,885. Apparatus for Burning Cement. Appareil d bruller le ciment.}


The Combustion Utilities Company, New York City, assignee of Byron E. Eldred, Bronxville, New York, U.S.A., 6th November, \(1906 ; 6\) years. Filed 7th August, 1906. Receipt No. 138,466.
Claim.-1. The herein described process of burning cement which consists in producing in operative relation to the cement forming material a region of relatively low temperature combustion suited to the calcination of the material and a distinct region of relatively high temperature combustion suited to the sintering thereof.
2. The herein described process of burning cement which consists in producing in operative relation to the cement forming material in successive portions of a stream of the material, a region of relatively low temperature combustion suited to the calcination of the material, and a distinct region of relatively high temperature combustion suited to the sintering thereof.
3. Process of burning Portland cement which consists in calcining the lime in the material with a slow burning voluminous flame so regulated as not to sinter the material.
4. Process of burning cement by successive steps which consists in first calcining the material with a slow burning flame artificially inflated with products of combustion added to the suply current of the fire and later sintering the material with a higher temperature.
5. The described method of preparing cement material for clinkering which consists in driving off the gasifiable portions from material containing lime and fusible ingredients in proportion to make Portland cement, without substantially fusing said fusible ingredients.
6. The herein described process of burning cement which consists in performing substantially the whole of the calcining of the material at one time and substantially the whole of the sintering of the calcined material at a different time.
7. The herein described process of burning cement which consists in performing substantially the whole of the calcining and substantially the whole of the sintering of a stream of cement material as distinct steps in successive sec!ions of said stream.
8. The herein described process of burning cement which consists in producing a slow burning voluminous flame in operative relation to the cement forming material and locally intensifying the activity of said flame in a desired region.
9. The herein described process of burning cement which consists in producing a slow burning voluminous flame in operative relation to the cement forming material to calcine the lime in said material and locally intensifying the activity of said flame by a transverse jet of air directed toward the material to effect the final sintering.
10. The herein described process of burning cement which consists in calcining the lime in the material with a slow burning voluminous flame applied in a substantlally unobstructed space, and sintering the material by the action of a flame intensifying pressure jet.
11. The herein described process of burning cement which consists in causing the cement forming material to travel through the furnace, causing a slow burning voluminous flame to travel in operative relation to and in the opposite direction to the material and producing a local intensified combustion in the vicinity of the root of the flame.
12. Process of treating cement material which consists in decarbonizing the lime therein with a long, slow burning flame produced by means of a blast of previously unignited fuel in suspension together with air and a gaseous diluent. 13. Process of making cement in a kiln or furnace which consists in calcining the material with an artificially inflated flame of retarded combustion produced by means of a blast of prevlously unignited fuel together with air and a volume of gaseous diluent equivalent to a modicum of the total waste kiln gases.
14. Process of making cement which consists in calcining the material with a blast flame containing powdered coal in suspension together with air and products of combustion.
15. Process of burning cement material which consists in calcining the lime with an artificially inflated or retarded impinging blast flame.
16. Process of burning cement material which consists in calcining the same in a reverberative chamber with an impinging slow burning flame produced with a blast containing powdered coal in suspension together with air and gaseous products of combustion.
17. The process of applying a powdered fuel blast flame to the calcination of cement material in a rotating refractory llned chamber, which consists in inflating the flame with products of combustion introduced with the blast and causing said flame to substantially fill the cross section of the working chamber.
18. Process of burning cement which consists in applying thereto a blast flame of previously unignited fuel sufficiently hot to calcine the lime in the cement material but not hot enough to complete the sintering.
19. Process of making cement which consists in feeding the material in a stream and passing over the same a diffuse slow burning blast flame of concentrated fuel in suspension so regulated so as to calcine the lime but not fuse the clinker.
20. Process of burning cement which consists in applying a blast flame of previously unignited fuel so regulated as to calcine but not fuse the material and subsequently fusing to the clinker condition with a high temperature heating agent.
21. Process of making cement which consists if feeding the material in a stream, passing over the same a diffuse slow burning blast flame of concentrated fuel in suspension so regulated as to calcine the lime but not fuse the clinker, and producing an adjacent higher temperature which fuses the clinker.
22. Process of burning cement which consists in calcining the lime in the cement forming material with a flame produced by means of a blast of previously unignited fuel in suspension together with air and products of combustion and sintering the hot calcined material with the adjacent flame of higher temperature.
23. Process of burning cement which consists in calcining the lime in the cement forming material with a flame produced by means of a blast of previously unignited fuel in suspension together with air and a diluent, and localizing the combustion of a distinct portion of said blast with a gaseous jet to produce a sintering temperature.
24. Process of making cement which consists in calcining the lime in the cement material with a relatively cool flame produced with a blast of previously unignoted fuel, air and products of combustion and producing a local sintering temperature with an auxiliary gaseous jet acting on a portion of the blast and directed toward the material.
25. Process of making cement which consists in calcining the lime in the cement material with a relatively cool flame produced with a blast of powdered fuel, air and products of combustion, and sintering the material with a local high temperature produced by acting on a partial section of sald blast with a transverse jet of air at a higher pressure than that of the blast.
26. Process of sintering cement which consists in acting thereon with an impinging flame of fusing temperature containing powdered fuel in suspension together with an added volume of gaseous products of combustion and driven against the material by means of a high pressure jet.
27. Procesis of making cement clinkers which consists In acting on calcined cement forming material with a blast thame of powdered fuel and gaseous diluent oncentrated with a high pressure jet of alr.
28. Process of burning cement which consists in passing a stream of material through a furnace, calcining the body of sait stram with a blast flame of previously unignited fuel travelling oppositely to the material and so regulated as not to fuse the same and producing a local fusing temperature near the exit of said material from the furnace.

2:. Process of burning ccment which consists in acting on a progressing stream of cement material with a powdered fuel blast flame travelling oppositely to the material and renderd slow burning by dilution so as to calcine the material and acting on the calcined portion of the stream near its terminus with a local high temperature caused by intunsifying a portion of the blast.

3U. A cement burning furnace comprising a reverberative chamber having provision for advancing the material along its floor or hearth, a seat of combustion or propagation of the flame, connections enterior to said seat for deriving a supply of diluent fixed gas for retarding combustion, an air supply inlet for supporting combustion so disposid as to oporate under forced draft, and means for artificially propelling the draft current for the flame.
31. A cement burning furnace comprising a reverberative chamber having provision for advancing the material along its floor or hearth, a scat of combustion of propagation of the flame, a flue for discharging the products of combustion, a return conduit for products of combustion branching from flue and leading to said seat, a draft accelerator in said conduit, and an inlet located to supply air for supporting combustion under forced draft.
32. A cement burning furnace comprising a reverbarative chamber having grovision for advancing the material along its floor or hearth, a seat of combustion or propagation of the fiame, a flue for discharging the products of combustion, a return conduit for products of combustion branching from said flue and leading to said seat, a fan blower in said conduit, an air inlet. to the condult on the suction side of the fan, and means for varying the relative proportions of air products of combustion in the fan current.
33. A cement burning furnace comprising a rotary inclined combustion chamber having at one end a stack and device for supplying the chamber with cement material, and at the other end a seat of combustion propagation of the flame. and connections for supplying underforced draft through said seat, air for supporting the combustion of the flame and a diluent gas for retarding said combustion.
34. A cement burning furnace comprising a rotary inclined combustion chamber through which the material is caused to travel, a seat of combustion at one end thereof, a conduit leading to said seat and having connection at its receiving end with a source of gascous diluent. draft accelerating means for said diluent and the air supply. whereby a forcible flame current is projected from said seat into the combustion chamber, and an air supply inlet on the suction side of sald means.
35. Appratus for burning cement comprising a hearth for supporting the coment material, means to supply the material to said hearth, a seat of combustion arranged for the profection of a flame over said hearth. means to supply powdered fuel anterior to said seat. means to sumbly and propel a blast current to drive the fucl and connections for driving a volume of neutral nroducts of combustion as a compgnent of said blast current.
36. A rement burning furnace comprising a reverberative roofed combustion chamber having a hearth for supporting the rement material. a blast nozzle directed thereinto. fuel ferding and air supply connertions to said nozzle. connections from a furnace for supplying products of combuction to the nozzle as an ingerdient of the blast current and pressure blact producing means.
37. A cement burning furnaer comprising a long reverberative combustion chamber whose floor constitutes a hearth for the sunnort of the materials. fuel let deviers at one end of sald chamber directed longitudinally therothrough. connections for supnlying to sald jet divied unignited fuel. air to supnort combustion and a fixed diluent gas to retard combustion, and propelling means in sald connections whereby the air and diluent gas act to drive the fuel.
38. A cement hurning furnare comprising a hearth having provision for advancing the cement material therealone. means to supply a flame current of entrained fuel over the hearth and a jet nozale directed toward the hearth and commanding a portion only of said current.
:3. A cement burning furnace comprising a combustion chamber to contain the cement materal under treatment. a blast nozzle dirocted therrinto, means for feeding powered furl to said nozale. means for supplying a propelling blast -urrent therethrough, a jot nozzle commanding said blast currint and directed at an angle to the axis of the blast
nozzle, and means for supplying pressure fluld to said jet nozzle.
40. Apparatus for burning coment comprising a hearth having provision for feeding the material therealong. a seat of combustion from which a flame is projected over the hearth, means for supplying air and a flame retarding diluent to sald seat, an auxiliary jet nozzle commanding the dilute fuel current, and means to supply pressure fluld to said nozzle.
41. A cement burning furnace comprising a reverberativ. chamber having a provision for advancing the material therethrough, means for projerting a substantially axial flame through sald chamber, and a jet nozzle directed at an angle to the chamber axis toward the foor of the chamber near the material discharging end.
42. A cement burning furnace comprising an inclined rotary combustion and material feeding chamber having a stack at the higher end, blast devices at the lower end for forribly projecting a fuel carrying flame current longitudinally of the chamber, and a jet nozzle at the lower end commanding the flame current and directed downwardly toward the foor of the chamber.
43. Process of treating incandescing substances which consists in passing thereover a long inflated impinging flame produced with a blast of preexisting concentrated fuel together with a supporter of combustion and diluent products of rombustion.
44. Process of treating materials disposed in a layer on the hearth of a reverberative chamber which consists in subjecting the same to a superincumbent flame produced by a blast containing previously unignited fuel and a supporter of combustion and modifled by diluent gaseous producta of combustion.
45. Process of treating incandescent material in a reverberative chamber which consists in subjecting the same to a long slow burning flame produced with a blast of powdered coal in suspension together with air and a modicum of the gaseous products of combustion.
46. Process of heating incandescing materiala disnoarl nh the hearth of a reverberative chamber which consiste in subiecting the materials to an impinging slow burning diffusc flame produced with a blast of powdered coal containing a volume of burned out gases equivalent to a modicum of the total gascous nenducta of combustion.
47. Process of apnlying heat to mineral sollis or other material on a hearth which consists in subjecting the same to a superincumbent long voluminous. slow burning and re. latively cool flame produced with a blast of powdered coal and ncutral products of combustion together with air. and intenalfying the combustion of a portion of said blast in a restricted region with an auxiliary jet of alr directed toward the materials.
48. A process of treating materlala which conciats in fact. ing the same in a stream. subjecting one sertion of asit. stream to a relatively low temperature flame nroduced with a blast of previously unignited fuel. and subierting another arction to a re'atively higher temperature produced by a concentrating jet.

No. 101,886. Process of Electrically Wolding Tarbine Blades.

\section*{Procédé électrique à souder les ailes des turbines.}


Subastian Ziani de Ferrantl, London, Fngland, fith November. 1!06; 6 years. Filed 23rd May, 1905. Recelpt No. \(1: 5\). 4:6.
Plaim.-1. Process for the attachment of turbine blades • thrir rarriers, consisting in so adjusting the volume of nut in the carrior in the neighborhood of the point of attor mrut that, on heating locally, said blade and sald carrier
rise to approximately the same temperature and welding the blades to said carriers so prepared, as set forth.
2. Process for the attachment of turbine blades to their carriers, consisting in so adjusting the volume of metal in the carrier in the neighborhood of the point of attachment, that on heating locally, said blade and said carrier rise to approximately the same temperature and electrically welding the blades to said carriers so prepared, as set forth.
3. Process for the attachment of turbine blades to their carriers, consisting in so removing metal from the carrier in the neighbourhood of the point of attachment that on heating locally said blade and said carrler rise to approximately the same temperature and electrically welding the blades to said carriers so prepared, as set forth.
4. Process for attachment of turbine blade to their carriers, consisting of so grooving the carrier in the neighbourhood of the point of attachment that on heating locally, said blade and said carrier rise to approximately the same temperature and electrically welding the blades to said carriers s, prepared, as set forth.
5. A bladed turbine element comprising in combination a blade carrying element, the volume of which in the neighbourhood of the point of attachment of the blades has been so adjusted as to retard the flow of heat away from said point of attachment together with blades welded to said carrying elements, as set forth.
6. A bladed turbine element, comprising in combination a blade carrying element, the volume of which in the neighbcurhood of the point of attachment of the blades has been so adjusted as to retard the flow of heat away from sald point of attachment together with blades electrically welded to said carrying elements, as set forth.
7. A bladed turbine element, from which metal has been \(r \in m o v e d\) in the neighbourhood of the point of attachment of the blades so as to retard the flow of heat away from said point of attachment together with blades welded to said carrying elemelits, as set forth.
8. A bladed turbine comprising in combination a blade carrying element grooved in the neighborhood of the point of attachment of the blades so as to retard the flow of heat away from said point of attachment together with blades welded to said carrying elements, as set forth.

No. 101,887. Joist Ranger. Support de solive.


Frederick L. Heughes, Rochester, New York, U.S.A., 6th November. 1906; 6 years. Filed 4th October, 1906. Receipt No. 140,023 .
Claim.-1. A double joist hanger comprising two bent straps adapted to go over the beam, with depending legs, and stirrups each having a supporting shelf with angle-iron sides made integral with said shelf with rivets, bolts, screws or pins connecting said angle-iron sides to said supporting straps, substantially as described.
2. A double joist hanger comprising two supporting straps each composed of a flat piece of metal bent to fit the beam, and each provided with depending legs, a pair of stirrups, one on each side, each provided with a supporting shelf, an upwardly projecting rib integral with said shelf, and flanges projecting laterally from said ribs, with rivets, bolts, screws or pins securing said flanges to said depending legs substantially as described.
3. A joist hanger comprising two bent straps adapted to go over a beam, with depending legs, and a stirrup having a supporting shelf with angle-iron sides integral therewith,
and rivets, bolts, screws or pins connecting said angle-iron sides to said supporting straps.
4. In a hanger the combination of straps bent to fit a beam a stirrup connecting the lower ends of said straps together. said stirrup being formed of angle-iron with a notch cut out of one leg and then bent at right angles at each end of the notch, and means for securing said stirrups to said straps, substantially as described.

No. 101,888. Etch Powdering Machine.
Machine à saupoudrer les gravures d l'eau forte.


Lewis Edward Levy, Philadelphia, Pennsylvania, U.S.A., 6th November, 1906; 6 years. Filed 17th September, 1906. Receipt No. 139,589.

Claim.-1. In a machine for the purpose set forth, the combination of powder applying, powder packing and powder fusing instrumentalities arranged in operative succession.
2. In a machine for the purpose set forth, the combination of power applying, powder packing, powder fusing and plate cooling inst mentallties arranged in operative succession.
3. In a machine for the purpose set forth, the combination of powder placing, powder packing, plate clearing, piate heating and plate cooling instrumentalities.
4. An apparatus for applying etch powder to plates having a design thereon to prepare the same for etching, consisting of mechanically operated means for applying etch powder upon the surface of the plate and in the lines or depressions which form the design, and a plurality of brushes mounted and operated to engage the powder surface of the plate and place the etch powder against the sldes of the lines or depressions therein.
5. In a machine for preparing a plate having a design thereon for etching, means for moving the plate from the front to the rear end of the machine, a hopper or receptacle for etch powder, means for taking etch powder from the hopper or receptacle and applying the same to the surface of the plate, a plurality of powder placing and packing brushes which engage the powder cover surface of the plate to place the etch powder against the sides of the lines or depressions of the design on or in the plate, and means for heating the plate to fix the etch powder where placed by the powder applying means and the powder placing and packing brushes.
6. In a machine for powdering plates prior to etching, a plate carrier comprising side chains and a plate engaging cross bar, means for applying powder upon the surface of the plate, and a plurality of powder placing and packing brushes, the brushes being driven in an opposite direction from the direction of travel of the plate.
7. In a machine constructed to place etch powder against the sides of a design in or on a plate, the combination of means for placing etch powder upon the plate, a plurality of brushes constructed and actuated to pack the powder against those parts of the design that it is desired to protect, and a fan that produces a draft of air which will remove from the plate such particles of etch powder that have not been packed against those parts of the design which it is requisite to protect.
8. In a machine for the purpose set forth, a travelling plate carrier, a hopper for etch powder, means for taking etch powder from the hopper and placing the same upon a plate as the plate is moved beneath the hopper by the plate carrier. the povder applying means being adjustable to and from the plate and means for varying the quantity of etch powder fed upon the plate.
9. An etch powdering machine baving powder applying meaus, a plurality of powder placing and packing brushes, a casing for the powder placing and packing brushes, curved plates within the casing with which the brushes engage and a fan located in a casing which communicates with the casing for the brushes.
10. In a machine for preparing a plate for etching, the combination of plate carriers, a hopper for etch powder, means for taking powder from the hopper and placing the same upon the surface of a plate, powder placing and packing brushes which engage the plate as it is moved beneath such brushes, a series of chains upon which the plate is placed by the plate carriers and a furnace through which the plate is carried by the series of chains to fuse the powder upon the plate.
11. In a machine for the purpose set forth, a table, endless plate carriers, plate powdering means, an opening through the table that is spanned by bars, a source of heat below the bars and a casing above the source of heat that is adapted to be swung upward.
12. In a machine for the purpose set forth, the combination with means for placing and means for fusing etch powder upon a plate, of a plate receiving table beyond the plate powdering and the powder fusing means, a blower and air directing spouts connected with the blower and positioned adjacent to one end of the plate receiving table.
13. In a machine for preparing a plate having thereon a design for etching, a series of plate carriers, means for placing etch powder against the sides of the lines or depressions that form the design on the plate, a furnace through which the powdered plate is carried, a fuel supply pipe connected with burner pipes of the furnace, a mechanically operated valve for said fuel supply pipe, means for turning the valve so that fuel will be supplied to the burners when a plate enters the furnace and will be cut off therefrom when a plate leaves the furnace.
14. In an etch powdering machine, the combination with plate carlers, powder applying means, a furnace and plate cooling means beyond the furnace, of a driven shaft having thereon a mutilated gear wheel, a trip for a belt shifter, d cam, a gear for driving such shaft and means for driving the plate carriers, means for manually placing such shaft In operative connection with a driven shaft, a gas supply plpe for the furnace having a valve that is turned by the mutilated gear wheel to admit fuel to the burner pipes of the furnace when a plate enters the same and to cut off the fuel therefrom when a plate leaves the furnace, a belt shifter that is moved in one direction by a spring and is engaged by the trip to render idle the powder applying means when a plate has been carried beyond the same, a second belt shifter operated by a rock arm that engages the cam on the shaft to place in operation a blower when a plate has been carried beyond the furnace and is on the plate coollng table, substantially as shown.

No. 101,889. Building Block. Bloc de construction.


Frank McMurray Sawyer, Charlotte, North Carolina, U.S.A. 61h November. 1906; 6 years. Filed 1st October, 1906. Recript No. 139.423.
craim.-The hereln described building wall made up of bricks or blocks having three unbroken surfaces 2, 3, 3, the surfacis 3. 3, forming the inner and outer facing of the wall, and a recessed side forming feet 6, the lnner walls 4
of which are oblique and providing the inner wall or web 5, said blocks being placed in reverse order in each alternate layer to break joint and to provide vertical ventilating spaces 7 between the bricks and to form cross bracing webs in the corners of the wall, essentially as described.

No. 101,890. Mothod of Making Bifocal Lonson. Methode de faire des lentilles.

\section*{Fig. 1.}


Fig2



Fig. 5.
d


Fig7.


Fig 8
\(\mathrm{b}^{\mathrm{q}}\)
Fige.
Fig. 10.


101890


Albert James Bowers, Worcester, Massachusetts. U.S.A.. 6th November, 1906; 6 years. Filed 23rd June, 1906. Receipt No. 1:37.209.
Claim.--1. That improvement in the art of making a bifocal lens, which consists in providing a segment plece with a backing interposed between sald segment piece and the reciprocating block of a grinding machine, and in grinding the surface of said segment piece in a plane cutting the supporting surface of the backing, whereby the diameter of the segment is determined.
2. That improvement in the art of making a bifocal lens. which consists in grinding a sugment plece in a lens grinding machine when attached to a backing capable of being ground to correspond with the ground surface of sald segment piece.
3. That improvement in the art of making a bifocal lens. which consists in interposing a backing between the segment piece and the reciprocating block of a lens grinding machine, grinding the face of the lens in a plane cutting thy supporting surface of sald backing, whereby the segment piece is brought to a thin edge and of the desired diameter of the segment.
4. That improvement in the art of making a blfocal lens. which consists in attaching a segment plece to a backing interposed between the segment piece and the reciprocating block of a lens grinding machine, grinding the face of the segment plece to the desired diameter of the segment. and transferring the ground segment to the lens of an eyeglass.
5. That improvement in the art of making a bifocal lens. which consists if attaching a segment plece to a backins interposed between the segment piece and the reciprocating block of a lens grinding machine, grinding the segment piece to the desired diameter, reducing the diameter of the backing to the diameter of the segment and edge grinding th: segment while attached to sald backing.
6. The method of making a bifocal lens, consistine in brinding a segment piece while attached to a becking interposed between the segment piece and the reciprocation block of a lens grinding machine, reducing the diameter of the backing to the diameter of the segment, edge grinding the segment while attached to the backing. attaching a transfer piece to the ground fuce of said segment, remorio: the backing. attaching the segment to the lens of an eyeglass and removing the transfer plece.

\section*{No. 101,891. Manufacture of Gum Tragasol from Locust Bean Kernels. \\ Fabrication de gomme.}

Peter Cameron Douglas Castle, Bebington, Chester, England, 6th November, 1906; 6 years. Filed 23rd June, 1906. Receipt No. 137,189.
Claim.-1. The process of obtaining gum tragasol from the split locust kernels, which consists in steeping the sam? in water and a substance capable of rendering the colouring matter insoluble until the cotyledons have swelled out, gradually adding further water with heat and stirring, pressing out the gum solutlon.
2. The process of obtaining gum tragasol from the split locust kernels which consists in steeping the same in water and a substance capable of rendering the colouring matter insoluble until the cotyledons have swelled out, adding formalin and hot water and stirring until the materials are sufficiently cooked, and then pressing.
3. The process of obtaining gum tragasol from the split locust kernels which consists in steeping the same in water and a substance capable of rendering the colouring matter insoluble until the cotyledons have swelled out, gradually adding further water with heat and stirring, pressing out the gum solution and quickly cooling the gum with refriger. ation and agitation, separating any solid matters that may remain suspended and casking in the usual manner.
4. The process of obtaining gum tragasol from the split kernels, which consists in steeping the same in water and formalin untll the kernels have swelled up, separating the solution, adding further water with heat and stirring, then pressing and straining, substantially as described.
5. The process of obtaining gum tragasol from the split locust kernels which consists in steeping the same in water ard a substance capable of rendering the colouring matter insoluble until the cotyledons have swelled out, removing the husks, adding further water with heat, and stirring, and separating the solld matter, substantially as described.
6. The improvement in the process of obtaining gum tragasol, which consists in converting the colouring matter of the husks into an insoluble compound by means of formalin before proceeding to extract the gum.
7. The improvement in obtaining gum tragasol, which consists in treating the split beans with long continued soaking in water and formaldehyde (formalin) and afterwards extracting the gum from the cotyledons.
8. An improved article of manufacture. consisting of gum tragasol, characterized by it contalning a solution of formaldehyde and being clear of the colouring matters of the husk.
9. An improved article of manufacture, consisting of gum tragasol, characterized by it containing a solution of formaldehyde and being clear of the colouring matters of the busk and germ.
10. In the process of manufacturing gum tragasol, forming the hoppers and spouts of copper lined with tin.
11. The improvement in the process of manufacturing gum tragasol, which consists in refrigerating the gum with powerful agitation while cooling.
12. In the process of manufacturing gum tragasol, running the swelled kernals into bags made of milling silk preferably number 9 , supported inside and out by cotton or other very strong open net-work like bags, the combined bags being put into the presses with fluted spacing blocks between them, and gradually pressing.

No. 101,892. Oil Burner. Brûleur d'huile.


Milton A. Fesler, Berkeley, California, U.S.A., 6th November, 1906; 6 years. Flled 6th June, 1906. Recelpt No. 136,595.
Claim.-1. In a jet for oil burners the combination with a
nozzle having steam and oll passages therethrough, of a suit-11-3
able oil and steam supply, an adjustable cap valve fitting over said nozzle, a needle movable in said nozzle for the purpose set forth, and connections between said cap valve and needle whereby they are moved together in opposite directions to regulate the oil and steam supply, substantially as described.
2. In a jet for oll burners the combination with a nozzle laving steam and oil passages therethrough of a longitudinally adjustable cap valve fitting over said nozzle, a needle movable in said nozzle for the purpose set forth, and connections between said needle and cap valve whereby they are moved together in opposite directions, substantially as set forth.
3. In a jet for oll burners the combination with a nozzle having steam and oil pasages, of a longitudinally movable cap valve fitting over said nozzle, a needle movable in said nczzle for the purpose set forth, a regulating device, and connections between said device and the cap valve and needle whereby the latter are moved together in opposite directions when the regulating device is manipulated, substantlally as and for the purpose set forth.
4. In a jet for oil burners the combination with a nozzle, oi a longitudinally movable cap valve fitting over said nozzle, a needle movable in said nozzle, for the purpose set forth, a rockable arm pivotally secured to said jet and having connections with the valve or cap and needle whereby the cap and needle are moved together when the arm is rocked, and a regulating device so connected with said arm as to move the same upon the manipulation of said device, substantially as described.
5. In a jet for oll burners the combination with a nozzle, having a movable end portion, a slidable cap valve fitting over said nozzle, a needle movable in said nozzle, connections between the needle and cap valve whereby they are moved together and means carried by the cap for engaging the movable end portions of the nozzle to diminish the opening therein when desired, substantially as described.
6. In a jet for oil burners the combination with a nozzle having a movable end portion, a needle working in said nozzle for the purpose described, a slidable cap valve fitting over said nozzle and having an opening therein registering with the opening in the nozzle, a movable lip working in said cap valve and adapted to increase or diminish the size of the opening therein, means for operating said lip by the movement of the cap, means carried by the cap valve adapted to engage the movable portion of the nozzle for the purpose described, and connections between said needle and cap valve whereby they are moved together, substantially as and for the purpose set forth.
7. In a jet for oil burners the combination with oil and steam supplies, of a nozzle having steam and oil passages, ineans for controlling the admission of steam to the nozzle, a slidable cap valve fitting over said nozzle and operating to control the passages of oil through the nozzle and having an opening therein, a movable lip working in said cap valve and adapted to increase or diminish the size of the opening in said cap valve, and means for automatically operating said lip, substantially as described.
8. In a jet for oil burners the combination with suitable steam and oil supplies, of a nozzle having steam and oil passages therethrough, means for controlling the admission of steam to said nozzle, a cap valve fitting over said nozzle and operating to control the passage of oil through the nozzle, and having an opening therein, a movable lip working in said cap valve and adapted to increase or diminish the size of said opening, and means for operating said lip by the movement of the cap valve, substantially as described.
9. In a jet for oil burners the combination with a nozzle, having a movable end portion, means for controlling the admission of steam to said nozzle, a movable cap valve fitting over said nozzle and having an opening therein, a movable lip working in said cap valve and adapted to increase or diminish the size of the opening therein, means for operating said lip by the movement of the cap valve, means carried by said cap valve adapted to engage the movable portion of the nozzle. for the purpose described.
10. In a jet for oll burners the combination with a nozzle, of a movable cap valve fitting over said nozzle and having an opening therein for the passage of oil and steam, said cap valve operating to control the passage of oil through the nozzle, and means for automatically increasing or diminishing the size of the opening in the cap valve, substantially as described.
11. In a jet for oll burners the combination with a nozzle having steam and oil passages therethrough, of a movable cap valve having an opening therein for the passage of oil and steam, said cap valve operating to control the passage of oil through the nozzle, and means for increasing or diminising the size of the opening in the cap valve by the movement thereof on the nozzle, substantially as described.
12. In a jet for oil burners the combination with a nozzle having a movable end portion adapted to operate as des-
cribed of a cap valve fitting over sald nozzle and adapted to slide thereon and having therein an opening, means for increasing or diminishing the opening in the cap valve, and means carried by the cap adapted to operate upon the movable portion of the nozzle end to contract the opening therein, substantially as described.
13. In a jet for oil burners the combination with a nozzle having stean and oil passages therethrough, of a movablo cap valve fitting over said nozzle and having an opening therein for the passage of oll and steam, said cap valve operating primarily to control the passage of ofl through the nozzle, means carried by the nozzle and adapted to be engaged by the cap valve to diminish the size of the opening in said nozzle, and means for increasing or diminishing the opening in the cap valve, substantially as described.
14. In a jet for oil burners the combination with a nozzle having steam and oil passages therethrough, of suitable oil and steam supplies, an adjustable cap valve fitting over said nozzle, a needle movable in said nozzle for the purpose set forth, connections between said cap valve and needle whereby they are moved together to regulate the oil and stram supply, and means for adjusting both of said connections to determine the relative movement of the cap valve and needle, substantially as described.

No. 101,893. Electric Furnace for Tranaforming Pig Iron into Steel.
Fournaise électrique pour la transformation du fer en acier.


Gustave Gin, Paris, France, 6th November, 1906; 6 years. Filed 24th January, 1906. Receipt No. 132.290.
Claim.-1. In combination with a furnace a plurality of drains, a single or multiple electro-magnetic inductor provided with an exterior common core, and a primary coll wound thereon.
2 . In a furnace the combination comprising three parallel drains with double inductors and joinced at their ends, electro-magnetic inductors provided with cores, a circuit wound on one core and a primary circuit wound in opposite directions on the other two cores and adapted to generate in the central drain a current of double intensity to that generated in the two other drains.
magnetic inductors provided with cores. a circuit wound on one core and a primary circuit wound in opposite directions on the other two cores and adapted to gencrate in the contral drain a current of double intensity to that generated in the two other drains.

\section*{No. 101,894. Process of Developing the Fermontable Products of Grain.}

Procídé pour dévclopper les produits fermentablrs du grain
August Ferdinand Kniesche, Syracuse, New York, U.S.A., 6th
November, 1906; 6 years. Filed 23rd June, 1906. Receipt No. 137,218 .
Claim.-1. A process of developing the fermentable products in a grain mash, consisting of macerating malt meal in cool water until it has taken up the soluble parts of the malt, and then adding this mixture to a mash of cooked corn and uncooked rye meal and cooling the mash, substantially as specifled.
2. The process of the class described, consisting in preparing a mash of corn meal, cooking the same for a suffleient length of time at a boiling temperature of about \(212^{\circ}\) Fahronheit cooling this corn mash down to a tumperature of \(150^{\circ}\) Fahrenheit, and then stirring in uncooked dry rye meal and adding to this mesh a mixture formed by macerating malt meal in water at a temperature from \(50^{\circ}\) to \(80^{\circ}\) Fahrenheit. until the wator has extracted and taken up the diatiase and other soluble parts of the malt, then allowing the whole mixture to rest from one to two hours at a temperature of about \(142^{\circ}\) Fahrenheit to ennvert the contained starch into fermentable sugar, and then cooling the entire
mixture down to \(75^{\circ}\) to \(80^{\circ}\) Fahrenheit, substantially as specifled.
3. The process of developing the fermentable products in a grain mash consisting in macerating malt meal in water at a temperature of from \(50^{\circ}\) to \(80^{\circ}\) Fahreneit until the water has taken up the diastase and other soluble parts of the malt, then adding this preparation of malt and water to a mash formed by cooking the corn meal in water for a sumclent length of time to make a perfect starch paste, then stirring in dry rye meal into the cooked corn meal and water, allowing the whole mixture to rest for from one to two hours at a temperature of about \(142^{\circ}\) Fahrenheft. to convert the starch into fermentable sugar, and then cooling the mixture down to \(75^{\circ}\) Fahrenhelt, substantially as specified.

No. 101,895. Loose Leaf Binder.
Reliure à feuilles mobiles.


James Luther Hickok, and James Mackenzie, co-inventors. both of Winnipeg. Manitoba, Canada, 6th Novomber. 1506; 6 years. Filed 29th June, 1906. Receipt No. 13i.404. Claim.-1. In a binder the combination of upper and lower strips movable to and from each other, slotted end plates to the strips and means co-acting with the strips and end plates for expanding and contracting the strips, as and for the purpose specified.
2. In a binder the combination of upper and lower angle har sectioned strips movable to and from each other. lugs extending from the strips, slotted end plates to the strips. a rounded back with flanged ends, an operating rod extending through the slots and bearing in the flanged ends of the back, and means whereby upon the rotation of the rod the strips may be expanded or contracted, as and for the purpose specified.
3. In a binder the combination of upper and lower angle bar sectioned strips movable to and from each other. lug. extending from the strips, telescoping posts sccured to the strips and extending therebetween, slotted end plates to the strips, racks upon the upper face of the upper strip. racks dependent from the end plates of the lower strip. pinions in engagement with the racks. and means for rotating the pinions, as and for the purpose specifled.
4. In an expansible and contractible binder the combinalion of upper and lower strips, having opposing curved sides with vertically flanged edges, lugs extending outwardly from the vertical flanges, a cover hinged to the lugs, telescoping posts sceured within and extending between the flanges. slotted end plates to the strips, a curved back, a rod carrind by the back and within the slots, and means actuated by the rod to move the strips to and from each other, as and for the purpose sjecifled.
5. In an expansible and contractible binder the combination with the movable strips, having opposing curved sides with rertically flanged edges of a reinforcing strip extending longitudially with the flanged edge and on the inner face luzs winnding outwardly from the flange and bearing within the flange and the reinforcing strip, telescoping posts extending betwion the flanges and bearing within the lugs. and a pin passing transverscly across the reinforclag serip and anchoring the post to the lug. as and for the purposc speceitid.
6. In an expansible and contractible binder the combination of upper and lower strips, a curved back, overlapping end plates to the strips having similar oppositely disposed slots in the adjoining plates, a rotatable rod bearing within the back and extending through the slots, pinions disposed upon the rod and in proximity to he ends, racks in mesh with the pinions and secured to the upper strip, racks in mesh with the pinions and dependent from the end plates of the lower strip, and grooves extending within the upper racks, adapted to receive the end plates of the upper strip, as and for the purpose specified.
7. In a binder the combination with the slotted end plates of the expansible and contractible strips and the curved back, of a longitudinal centrally disposed rod extending withif the slots and bearing in the back, a squared free end to the rod extending through a perforation acting as a key hole formed in the back, pinions toward the extremities of the rod, and upper and lower racks in engagement with the pinions and so designed that upon the rotation of the rod the upper and lower strips may be expanded or contracted as and for the purpose specified.

No. 101,896. Device for Relief of Club-Foot, Etc. Appareil pour le soulagement des pieds bots.


William M. Scholl, Chicago, Illinols, U.S.A., 6th November, 1906; 6 years. Filed 28th June, 1906. Receipt No. 137,377.
Claim.-1. A foot support adapted to fit within a shoe comprising a sole plece shaped to conform to the arch of a foot, a metal plate secured thereunder, and a yielding bridge plece or plate extending thereunder across the arch and arranged to rest upon the shank of the shoe.
2. A foot support adapted to fit within a shoe, comprising an arched sole plece, an arched reinforcing metal plate thereunder, and a spring plate under said plate, bridged across the arch and having a projection extending sidewise from one edge and arranged to rest upon the shank of a shoe, and an arm extending from the other edge and bent up at the outer edge of the sole piece.

\section*{No. 101,897. Fyeglasg. Lunettes.}

William Henry Weaser, Pittsfield, Massachusetts, U.S.A., 6th November, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,244
Claim.-The herein described eyeglasses comprising the horizontally disposed spring having its end bent or coiled inwardly and extending forwardly, lens studs, each having an arm 11 bearing against the under side of the spring and having an upturned end disposed in one of the loops formed between the end and adjacent portion of the spring bridge
and secured to said end thercof, and nose guards each having an upwardly extending arm 17 secured between said up-

turned end of one of the lens studs and the adjacent end of the spring bridge, substantially as described.

No. 101,898. Safety Stop Valve. Soupape de sûreté.


Charles W. Nicholson and Frank Fiegle, assignee of a half interest, both of Roslyn, Washington, U.S.A., 6th November, 1906; 6 years. Filed 29th June, 1906. Receipt No. 137,391.
Claim.-1. The combination with a casing having a valve seat, of a reciprocable valve, means for moving the valve over and away from over the valve seat, and means for permitting the valve to drop upon the seat when directly thereabove.
2. The combination with the casing having a valve seat, of a reciprocable valve, a shaft journalled in the case, means whereby the rotation of the shaft will reciprocate the valve, and means for automatically rotating the shaft.
3. The combination with the casing having a valve seat. of a reciprocable valve, a shaft journalled in the case, means whereby the rotation of the shaft will reciprocate the valve means for automatically rotating the shaft means for restraining said rotation, and electro-magnetic means for releasing the restraining means.
4. The combination of a reciprocable valve, a pair of racks connected with the valve, a pair of pinions adapted to mesh with said racks, for reciprocating the valve, a shaft upon which sald pintons are mounted, a collar on the shaft between the pinions for keeping them apart, a valve casing in which said valve is mounted, a pair of studs mounted in opposite sides of the said valve casing and having bearings for said shaft, and means on said shaft for automatically closing said valve
5. The combination of a reciprocable valve having out wardly extending flanges, a slide having projections located between said flanges, whereby a reciprocating motion of the slide will be transmitted to the valve while the valve is free to move in a direction transverse to the reciprocating motion, a rack connected with said slide, and means for operating the rack and slide.
6. The combination of a reciprocable valve having outwardly extending flanges, and a slide located at the rear of said valve and having projections loosely fitting between said flanges.
7. The combination of a reciprocable valve having flanges spaced apart, a casing in which said valve is mounted. said casing having ways upon its sides, and a slide mounted on said ways and having projections extending between said flanges.
8. The combination of a reciprocating valve having outwardly extending flanges, a slide located at the raar of said valve and having projections loosely fitting between said flanges, wheels on which said valve is adapted to move, and a track for said wheels.
9. The combination of a valve casing having a seat. a pair of tracks located on opposite sides of said seat, and a valve for said seat, said valve having wheels adapted to travel on said track.
10. The combination of a valve casing having a seat, a pair of tracks located on opposite sides of said seat. and a valve for said seat, said valve having wherls adapted to travel on said track, the wheels located on one side of said seat having a wider face than those located on the othor. and the track having depressions for said wheels. said depressions corresponding in width to the width of the wheels.
11. The combination of a valve casing having a seat, tracks located adiacent to the seat and having depressions. and a valve having wheels adapted to enter said depressions.
No. 101,899. Centrifugal Liquid Separator.
Séparateur centrifuge de liquides.


Aktiebolaget Baltic-Scparator, Stockholm, assignee of J. V. M. Risberg. Kanalstrand, 3, Södertelje, Sweden, 6th Novvember. 1906; 6 years. Filed 27th June, 1906. Receipt No. 137,333.
Claim.-A liner for centrifugal liquid separators, consisting of conical plates adapted to slide into each other and provided with interposed pieces, ribs \(a\) or projections in the plate serving as distance means, which ribs extend from or substantially from the central opening of the plate to or substantially to the periphery of the same, characterized by the fact that openings \(e\) for the introduction of the liquid (the full milk) between the plates are provided immediately in front of the interposed pieces, \&c., with regard to the rotary direction of the centrifugal drum. substantially as described and for the purpose specifled.

No. 101,900. Hose Coupler. Joint de boyaus.


The Nelson and Morrison Manufacturing Company, assignee of Lewen R. Nelson, all of Boulder. Colorado, U.S:A.. 6 th November, 1906; 6 years. Filed 13th August, 1906. Recelpt No. 138,618.
Claim.-1. In a hose coupling, the combination of a coupling sleeve having an interiorly threaded portion, and an
interior shoulder adjacent the inner extremity of the thread"d portion, a packing washer engaging said shoulder and being wider on the shoulder engaging surface than upon its opposite surface, the wider portion of the washer having a relatively thin part projecting inwardly beyond the inner jeriphery of the thicker and narrower part, whereby the said thinner part is adapted to be acted on by the water flowing through the coupling.
2. The combination of a coupling sleeve having an interiorly threaded part, an unthreaded recessed part and an intermediate shoulder part, and a washer engaging the shoulder of the shoulder part and having its surface in direct contact with the shoulder, wider than its opposite surrace. its wider portion projecting Inwardly beyond the narrower portion, the interiorly projecting part belng relatively thin and extending into the waterway for the purpose set forth.
3. The combination of a coupling sleeve having an interiorly threaded part at one end, and a conical chamber at the other end, a cone-shaped head adapted to fit said chamber and having an exterior shoulder, the sleeve having a locking lug rigid therewith and adapted to engage the exterior shoulder of the head. and a spring actuated dog mounted on the sleeve and also adanted to engage the same shoulder. the lug and the dog co-operating to lock the parts together.
4. In a hose coupling. the combination of a sleeve having a threaded portion, an unthreaded recessed portion and an intermediate shouldered portion, two male members engaging respectively the threaded and unthreaded parts of the sleeve, a washer engaging the shoulder of the shouldered portion and having its shoulder engaging surface wider than the opposite surface, the wider portion of the washer having a relatively thin part on its inner periphery adapted to be acted on by the water passing through the hose. the lastnamed surface of the washer being engaged by the threaded male member, leaving a space between sald male member nnd the wider portion of the washer, the unthreaded male memher having an exterior shoumer, the sleeve having locking parts engaging the shoulder of the unthreaded male member.
5. The combination of a coupling sleeve having its opposite extremities respectively fashioned to receive twn metal members, one of which is provided with an exterior shoulder. the said sleeve having rigid lugs adapted to engage said shoulder, and a spring actuated dog mounted on the coupling sleeve. the latter being provided with guide lugs for the dng. said lugs being located at the extremity of the sleeve remote from the pivoted end of the dog, the locking ertremity of the dog being adapted to encage the said shoulder momber, the said rigid lugs of the sleeve and the locking dog co-operating to hold the parts in the assembled relatinn. substantially as described.
6. The combination of a coupling sleeve having a pair of apertured lugs at one extremity. a dog provided with an onening registering with the openings in the lugs of the sleeve. a pin passed through the registering openings of the lugs an dog, and an integral spring having a double portion engaging the dog at a suitable distance from the pin, the extremitles of the spring being colled around the pin, to give the spring sufficient tension to normally hold the dog in the locking position. the sleeve being provided with guide lurs for the dog, located at the extremity of the sleeve remote from the apertured lugs.
7. The combination of a coupling sleeve and a male member adapted to enter one extremitv of the sleeve and provided with an exterior shoulder. the sleeve having a rigid lug adapted to engage sald shoulder, and a spring actuated dog mounted on the sleeve and having a hook-shaned -ortremity also adapted to engage the shoulder of the shouldered member. the dor and rigld lug of the sleeve co-operating to hold the parts in the assembled relation, substantially as described.

\section*{No. 101,901. Hosiery Making Machino.}

\section*{Machine à faire de la bonneteric.}

The British Hosiery and Electrolytic Bleaching Company, London, assignee of Frank Taylor, Nottingham, both in England, 6th November, 1906; 6 years. Flled 25th September, 1906. Recelpt No. 139,783.
Claim.-1. A hosiery machine having latch needles, cams and means for throwing said needles in the knitting action, and means for throwing said cams out of action on the breakage of a yarn, substantially as described.
2. In a hosiery or knitting machine, the combination of ing the needles yarn feeders, a cam at each feeder for operatinoperative when and means for rendering any needle cam breaks, in order the yarn of the corresponding feeder breaks, in order to enable the needles to remain ldle when venting the needles where the break has accurred so prefor the purposes indicated.
3. In a hosiery or knitting machine, the combination of a plurality of yarn feciers, a cam at each feeder for operat-

ing the needles, and means whereby on the breakage of a yarn the corresponding needle cam is put out of operation and the needles are allowed to pass without lossing their loons and remain idle until the next yarn feeder is reached. for the purpose of preventing the formation of press-offs, substantially as described.
4. In a hosiery or knitting machine, the combination of a needle cam, means for moving such cam into or out of position to engage the needles, and means for causing the cam to assume its inoperative or idle position on the breakage of a yarn in order to enable the needles to pass without losing their loops and without stopping the machine, substantially as described.
5. In a hosiery or knitting machine having a plurality of feeders, the combination of a movable needle cam, a feeler arrangement for controlling the position of sald cam, a wedge-shaped piece for retaining the needle cam in its normal working position, and means for disengaging said wedge on the breakage of a yarn, substantially as described.

No. 101,902. Coiling Apparatus.
Appareil d rouler en serpentin.


The Iroquois Machine Company, New York City, assignee of James Alexander Horton, Providence, Rhode Island, both in the U.S.A., 6th November, 1906; 6 years. Filed 17th September, 1906. Receipt No. 129,543.
Claim.-1. A coiling apparatus comprising a rotary driver, ard a storing drum or reel normally in substantially axial alignment with the driver and rotative therewith, the drum having a swinging engagement with the driver.
2. A coiling apparatus comprising a rotary driver having a drum seat, and a storing drum hinged to the driver and normally bearing on said seat.
3. A coiling apparatus comprising a rotary driver, a storing drum or reel normally in substantially axial allgnment with the driver and rotative therewith. the drum having a
swinging engagement with the driver, and means for locking the drum or reel in its normal position.
4. A coiling apparatus comprising a rotary driver, a storing drum or reel rotative with the driver and having a swinging engagement therewith, a spring presed locking member pivoted to one of said parts, and a fixed locking member on the other part.
5. A coilling apparatus comprising a rotary driver, a storing drum or reel rotative with the driver and having a swingirg engagement therewith, a spring pressed latch pivoted to the driver and having an operating handle projecting below the base of the drum, and a fixed keeper for said latch on the drum.
6. A coiling apparatus comprising a rotary driver having a laterally projecting ear, a spring pressed latch pivoted to said ear, the driver having guides for said latch, and a drum or reel hinged to the driver and having a notched stud or kfeper adapted to engage said latch.
7. A coiling apparatus comprising a rotary driver having a seat, and a hinge member projecting outwardly from the seat, and a drum or reel having a base member formed to bear on said seat, and a hinge member engaged with the hinge member of the driver.

No. 101,903. Fancet. Fuusset.


William Angehr, Des Moines, Iowa, U.S.A., 6th November, 1906 ; 6 years. Filed 27th January, 1906. Receipt No. 132,349.
Claim.-1. In a faucet, a base having a tubular extension at its bottom, a valve seat fitted in its top, a chambered body piece fixed to the valve seat, a flanged ring fitted and fixed to the valve seat and the base, valve stem and a valve fixed to the lower end of the stem, a nut having a pointed extension on the valve stem below the valve, a tubular body piece fixed to the top of the valve seat and provided with bearings for the valve stem, packing in the top part of the body piece and means for normally retaining the valve stem elevated and the valve closed, arranged and combined, as shown and described for the purposes stated.
2. In a faucet, a base having a tubular extension at its bottom, a valve seat fitted in its top and a flange ring fitted and fixed to the valve seat and the base, a valve stem and a valve fixed to the lower end of the stem, a nut having a pointed extension on the valve stem below the valve, a tubular body piece connected with the valve seat, bearings for the valve stem in said body piece, packing above the upper bearing, a coil spring on the top end portion of the valve stem and a nut and washer on the stem and on top of said spring, and means for actuating the valve stem and valve, arranged and combined, as shown and described for the purposes stated.
3. In a faucet, a base having a tubular extension at its bottom, a valve seat fitted in its top and a flanged ring fitted and fixed to the valve seat and the base, a valve stem and a valve fixed to the lower end of the stem, a nut having a pointed extension on the valve stem below the valve, a tubular body piece connected with the valve seat, bearings for the valve stem in said body piece, packing above the upper bearing, a coil spring on the top end portion of the valve stem and a nut and washer on the stem and on top of said spring. a tubular extension on top of the body piece, a crank shaft mounted in said extension and bridle on the crank of the shaft and fixed to the top of the valve stem, arranged and combined, as shown and described for the purposes stated.
4. In a faucet, a base having a tubular extension at its bottom, a valve seat fitted in its top and a flanged ring fitted
ard fixed to the valve seat and the base, a valve stem and a valve fixed to the lower end of the stem, a nut having a pointed extension on the valve stem below the valve, a tubular body plece connected with the valve seat, bearings for the valve stem in said body piece, packing above the upper bearing, a coll spring on the top end portion of the valve stem and a nut and washer on the stem and on top of said spring, a tubular extension on top of the body piece, a crank shaft mounted in said extension and a bridle on the crank of the shaft and fixed to the top of the valve stem, a handle on the end of the shaft and a cap fitted over the top and the crank shaft, arranged and combined, as shown and described for the purposes stated.
5. A self closing faucet comprising a tubular extension at its bottom, a valve seat fitted in its top and a flanged ring fitted and fixed to the valve seat and the base, a valve stem and a valve fixed to the lower end of the stem, a nut hving a pointed extension on the valve stem below the valve, a tubular body piece connected with the valve seat bearings for the valve stem in said body piece, packing above the upper bearing. a coil spring on the top end portion of the valve stem and a nut and washer on the stem and on top of said spring, a tubular extension on top of the body piece, a crank shaft mounted in sald extension and a bridle on the crank of the shaft and fixed to the top of the valve stem, a handle on the end of the shaft and a cap fitted over the top and the crank shaft and means for restricting the downward motion of the crank of the shaft, arranged and combined, as shown and dtscribed for the purposes stated.

No. 101,904. Tobacco Pipe. Pipe à tabac.


Ardrew Paysen, Anadarko, Oklahoma Territory, U.S.A., 6th November, 1906: 6 years. Filed 27th September, 1906. Receipt No. 139,840.
Claim.-A tobacco pipe the bowl of which is cylindrical in form and composed of carthy material, said bowl being provided except at the bottom thereof with a thick covering of fbrous material, and said fibrous material being provided with a covering of thin paper.

No. 101,805. Sewer Pipe. Tuyau d'égout.
George Feltz and William Sherman East, both of Lima, Ohio, U.S.A., 6th November, 1906; 6 years. Filed 6th July, 1906. Recelpt No. 137,582 .
Claim.-1. A pipe section having lugs on the outer face thereof, said lugs having slots formed therethrough, and a bulk head abutting the extremity of said pipe and having a:ms passing through sald slots, and means for retaining said arm in said slots.
2. A plpe section comprising an upper section and a lower section jointed thereto. said pipe sections having lugs form-- 1 on the outer sille thereof with transverst slots, and a head abutting the extremity of said pipe section and having arme passing through said slots and pins passing through sald arms and engaging said lugs.
3. A pipe section comprising an upper section and a lowner spertion forinted thereto, a bulk head tormed in sections corrosponding to said upper and lower sec-- in in soctions corrcsponding to sald upper and lower secdions and ahutting the extremity of and pipe section, said pipe s.ection having lugs on the outer side thereof with Tslots therethrough, sald bulk head having arms on the inner
face thereof projecting through said slots and lying agains: the outer face of sald pipe section, and pins passing through

said arms and engaging the remote sides of said lugs to retain said bulk head.

No. 101,806. Hose Clamp. Agrafe de boyauc.


Juseph W. Adams, Pasadena, California, U.S.A., 6th November, 1906; 6 years. Filed 21st July, 1906. Receipt No. 138,012.
Claim.-1. A hose clamp comprising a hose embracing band provided with terminal studs, and a handle member provided with oppositely directed cam slots engaging the studs and so curved that both ends contact with the hose.
2. A hose clamp comprising a hose embracing band, provided with terminal studs, a guard member slidably mounted thereon and bridging the interval between the terminals and a handle member provided with oppositely directed cam slots and so curved that both ends contact with the hose.
3. A hose clamp embodying a flexible band carrying rigid studs, a handle engaging the studs to clamp the band upon the hose and means whereby the handle is held from a return movement of the hose.
4. A hose clamp embodying a flexible band, studs radially outstanding from the band adjacent the free ends, a handle engaging the studs to clamp the band upon the hose and means whereby the handle is held from a return movement by the hose.
5. A hase clamp embodying a flexible band, studs radially outstanding from the band adjacent the free ends, a handl. having ram slots engaging the studs to clamp the band upan the hose and means whereby the handle is held from a \(\quad \mathrm{m}\). turn movement by the hose.
6. A hose clamp embodying a flexible band. headed stil: \(=\) radially outstanding from the band adjacent the efree rnila handle having cam slots engaging the studs to clamp th. band upon the hose, and means whereby the handle is bell from a return movement by the hose.
7. A hose clamp embodying a flexible band provided with a circumferentially adjustable guard section, a handle for clamping the band upon the hose and relative to the guard section and means whereby the handle is held from a return movement by the hose.
8. A hose clamp embodying a flexible band provided with a circumferentially adjustable guard section, and headed studs radially outstanding from the band adjacent the ends connected with the guard section, a handle having eccentric cam slots engaging the studs to clamp band upon the hose and means whereby the handle is held from a return movement by the hose.
9. A hose clamp comprising a flat band and a lever having oppositely directed cam slots detachably engaging the ends of the band, said ends being incapable of independent lateral movement.
10. A hose clamp comprising a flat band having studs upon its end portions and a lever having oppositely directed cam slots constituting guides for the studs, the ends of said band being incapable of independent lateral movement.

No. 101,807. Wire Fence Maling Machine.
Machine d faire les clôtures de fl de fer.


Alfred William Burbury, Woodbury, Tasmania, Australia, 6th November, 1906; 6 years. Filed 7th September, 1906. Receipt No. 139,332 .
Claim.-1. The combination with a fencing standard or dropper of a clip formed of sheet metal which is bent into a ridge and having means in the ridge for holding a strand of a wire fence, and grips for securing the clip to the standard or dropper.
2. The combination with a fencing standard or dropper of a clip adapted to be locked thereon, the same consisting of a piece of sheet metal bent medially to form a ridge in which a hole is bored horizontally and an incision made about opposite to and obliquely with such hole, as specified.
3. The combination in a wire fence with the standards and croppers, of clips formed with a ridge in which is an oblique ircision, the interior portions of which are hollowed out as described, and additional clips having parallel or right angled incisions usable upon the top and bottom strands of the fence, and a tapered pin for locking the strands in said additional clips, as described.
4. The combination in a wire fence with the standards and droppers and clips as herein specified, of the tool for putting on or taking off said clips, same consisting of two parts pivotally attached, a claw upon one part that is slotted and two arms or horns on the other part, as described.
Ko. 101,908. Mitre Jack. Levier de boîte d onglet.
Daniel D. Cameron, San Francisco, California, U.S.A., 6th November, 1906; 6 years. Filed 4th September, 1906. Receipt No. 139,198.
Claim.-1. In a mitre jack, a bottom horizontal plate, a front vertical plate hinged to the bottom plate so that the two can be folded together or arranged at right angles to one another. folded legs for supporting the bottom plate, the front plate provided with an opening formed therethrough through which the work is adapted to extend, a fence adapted to be pivoted from either end of the opening, two vertical bolts passing through each end of the fence, one extending from the upper edge and one from the lower edge, means for retracting or protruding the ends of said bolts, a knife frame slidably mounter at the front of the front plate so as to slide longitudinally thereof. a vertically reciprocating knife rarried by said knife frame, the cutting edges of said knife being upon the lower side and inclined inward and downward toward the center, means for reciprocating said knife, and means for holding said knife in any position placed, as specified.
2. In a mitre jack, a bottom plate, a front plate hinged to the bottom plate, legs secured to the bothom plate, the front

plate provided with an opening formed through the same through which the material to be operated upon may pass, a tence against which the material is adapted to rast, means for pivoting said fence in either end of the opening, means for securing said fence in any position placed, a knife frame provided with a dovetail tongue upon the rearward side thereof, the front plate provided with a longitudinal dovetail groove in the front side thereo! in which the tongue is adapted to slide, a vertically reciprocating knife carried by the knife frame, the cutting edges of said knife being at the lower end thereof upon both sides and being inclined downward and Inward toward the center, a lever pivoted at one end to the knife, the upper edge of the front plate being provided with notches, a pawl pivoted to the back of the knife framo adepted to be swung over in either direction to engage the notches so as to hold the knife frame against pressure from either side, as specified.
No. 101,909. Device for Controlling a Smpely of Water.
Appareil d̀ contrôler l'approvisionnement de l'eau.


Robert Greig Kennedy, Largo Fife, Scotland, 6th November, 1906; 6 years. Filed 25th July, 1906. Receipt No. 138,144. Claim.-1. In devices for controlling water supply and in combination, an inlet, a movable cylinder forming a sluice for said inlet, means for balancing said cylinder, an outlet, and means for controlling the movement of the cylinder to keep constant and indicate the amount of the water supply.
2. In devices for controlling water supply, and in combination, an inlet pipe, a movable cylinder forming a sluice for said inlet, means for balancing said cylinder, an outlet, and means carried by the cylinder for controlling the movement of same to keep constant the water supply.
3. In devices for controlling water supply, and in combination, a pipe having an inlet on the supply side and an outlet on the outfall side, a movable cylinder forming a sluice for regulating the amount of inlet water from a given maximum to zero, means for balancing the cylinder, and means for controlling the movement of the cylinder to keep constant the water supply.
4. In devices for controlling water supply and in combinatín, an inlet pipe, an outer movable open-ended cylinder forming a sluice for said inlet, an inner movable open-ended cylinder rigidly connected thereto, means for balancing said cylinder, an outlet, and means carried by said inner cylinder for controlling the movement of the latter and the outer cylinder to keep constant the water supply.
5. In devices for controlling water supply and in combination, an inlet pipe, a movable cylinder forming a sluice for said inlet, means for balancing said cylinder comprising a weighted body, a fulcrumed lever attached thereto and to said cylinder, means for adjusting the weight of said weighted body, an outlet, and means in connection with said cylinder whereby the movement of the latter is controlled to keep constant the water supply.
6. In devices for controlling water supply and in combination, an inlet pipe, a movable cylinder forming a sluice for said inlet, means for balancing said cylinder, a dash pot in connection with said means, an outlet, and means in connection with the cylinder whereby the movement of the latter is controlled to keep constant the water supply.
7. In devices for controlling water supply and in combination an inlet pipe, an outer open-ended cylinder forming a sluice for said inlet, an inner open-ended cylinder rigidly connected thereto, means for balancing said cylinders, an outlet, and means comprising a cone frustum carried by an extension of said inner cylinder to project into said inlet pipe for controlling the movement of said cylinders to keep constant the water supply.
8. In devices for controlling water supply and in combination, an inlet plpe, a movable cylinder forming a sluice for said inlet, means for balancing said cylinder, an outlet, means for controlling the movement of said cylinder to keep constant the passage of water to said inlet, and means for locking said cylinder against movement in any desired position, and for releasing same when desired.
9. In devices for controlling water supply, and in combination, a regulating chamber comprising a lower box and an upper conical chamber, an inlet and outlet pipe having its inlet end in said chamber, a movable cylinder suspended in said chamber forming a sluice for said inlet. means for balancing said cylinder, and means connected with said cylinder whereby the movement of the latter is controlled to keep constant the water supply.
10. In devices for controlling water supply, and in combination, a regulating chamber, an inlet and outlet pipe having its inlet end in said regulating chamber, a movable cylinder suspended in said conical chamber forming a sluice for said inlet, means for balancing said cylinder whereby the movement of the latter is controlled to keep constant the water supply.
11. In devices for controlling water supply, and in combination, a regulating chamber comprising a lower box and an upper conical chamber, an inlet and outlet pipe having its inlet end in said regulating chamber, a movable cylinder suspended in said conical chamber forming a sluice for said inlet, means for balancing said cylinder, and means comprising an inner cylinder rigidly attached within said movable cylinder and projocting into said inlet pipe, and a cone fiustum carried by said inner cylinder for controlling the movement of both the inner and movable cylinders to keep cocstant the supply of wate.
12. In a device for controlling water supply, and in combination, a regulating chamber comprising a lower box and an upper conical chamber, an inlet and outlet pipe having its inlet end in said regulating chamber, a movable cylinder suspended in said conical chamber forming a sluice for said inlet, a separate cylindrical chamber adjacent to the regulating chamber, an adjustable balance weight located in said cylindrical chamber, a balanced lever connecting said balance weight and said movable cylinder, and means in connection with said movable cylinder for controlling the movement thereof to keep constant the supply of water.
13. In devices for controlling water supply, and in combination, a regulating chamber having an inlet on the supply side and an outlet on the outfall side, discharge notches, movable cylinders in connection with said chamber, means for balancing said cylinders. means for controlling the movement of said cylinders to keep constant the supply of water to the chamb \({ }^{2} \mathrm{r}\), an outfall pipe, and means for regulating the opening of said discharge notches, and means for gauging and indicating the amount of the water supply.
14. In devices for controlling water supply, and in combination, a regulating chamber, a supply inlet in said chamber, a movable cylinder adjacent said chamber forming
a sluice to close said inlet, a fulcrumed lever to which said movable cylinder is attached, a balance welght suspended from said lever, means for adjusting said weight, a dash pot device in connection therewith, a second balance lever attached to said balance weight, means attached to the second lever whereby the movement of the movable cylinder is controlled to keep constant the supply of water an outfall pipe acting in conjunction with said means notches acting in conjunction with said outiall pipe and means for regulating the amount of opening of said notches to regulate the supply of water therethrough.
No. 101,910. Method of Making Stitches.

\section*{Méthode de faire des points à l'aiguille.}


Fred. La Chapelle, Lynn, Massachusetts, U.S.A., 6th November, 1906; 6 years. Filed 24th September, 1906. Receipt No. 139,744.
Claim.-1. A sewed seam comprising a compound article or plece of work composed of two or more layers, a series of loops drawn through the work and connected at their bases by stretches of thread integral with the loops and bearing against one face of the work, loops encircling the bases of the first-mentioned loops, and stretches of an extra thread integral with the second-mentioned loops.
2. A sewed seam comprising a compound article or piece of work composed of two or more layers, a series of loops drawn through the work and connected at their bases by stretches of thread integral with .the loops and bearing against one face of the work, said loops being enchained on the other face of the work, loops encircling the bases of the first-mentioned loops, and stretches of an extra thread inuegral with the second-mentioned loops.
3. A method for forming a seam, consisting in forming a loop of an extra thread, inserting a hooked needle through the material and by said needle drawing a loop of a main or needle thread through said loop of extra thread and through the material.
4. A method for forming a chain stitch seam, consisting in repeatedly forming a loop of an extra thread, and drawing a loop of a main or needle thread through said loop of extra thread and through a previously formed loop of sald main or needle thread.
5. A method of making chain stitches consisting in forming a loop of an extra thread, drawing a loop of a main or needle thread through said loop of extra thread and through the materials, forming a second loop of said extra thread, and drawing a second loop of said main or needle threail through said second loop of extra thread, through sald materials and through the first loop of main or needle thread, substantially as described.

\section*{No. 101,911. Leather Sewing Machine.}

\section*{Machine a coudre le cuir.}

Fred La Chapelle, Lynn, Massachusetts, U.S.A., 6th November, 1906; 6 years. Filed 24th September, 1906. Receipt No. 139,745.
Claim.-1. In a shoe sewing machine, complemental stitch forming mechanism for successively forming loops of sewing thread, and means for forming about the bases of said loops other loops of an auxiliary or extra thread.
2. In a shoe sewing machine, complemental stitch forming mechanism including a hooked needle for successively forming loops of the sewing thread in combination with an auxiliary instrument for olling or looping on the side of the work away from the needle, a loop of an auxiliary or exthe work away from the needle, a loop of an auxilary through which the loop of the nedede thread is
thre drawn.
3. In a chain stitch shoe sewing machine, complemental stitch forming mechanism, including a hooked needle for
successively forming enchained loops of the sewing thread, in combination with an auxiliary instrument for forming
outside of the housing, a rope having at one end a weight and connected at its other end to the stem, guide pulleys for

the rope, a doorway in the housing and a door therein connected to the rope between the stem and the weight.

No. 101,913. Door Check and Closer. Arrête-porte.


George W. Mallory, Blenheim Kent, Ontario, Canada, 6th November, 1906; 6 years. Filed 23rd November, 1905. Recelpt No. 130,348.
Claim.-1. The combination of a casing, a movable member guided in said casing, means yieldingly connecting aaid member and casing, a pivoted dog carried by the movable member and means on the door adapted to trip the dos and co-operating therewith to close the door.
2. In a door check and closer the combination with a base or casing, of a movable member in said casing, a spring connecting said member and casing, a pivoted dog carried by the movable member to lock the same in one position against the action of the spring and a plate carried by the doar and adapted to trip the dog to close the door.
3. In a door check and closer the combination with a base or casing, of a member movable in said casing, a spring connecting said member and casing, a dog pivoted on the movable member and co-operating with the casing to lock said member in one position, fingers on said dog, and an aper tured plate carried by the door co-operating with said fingers to trip the dog.
4. In a door check and closer the combination of a supporting base or casing adapted to be secured to a door casing. a movable member in said casing, a pivoted dog carried by the movable member and co-operating with the casing to lock said member in one position, fingers on the dog, a plate carried by the dool co-operating with said Angers to trip the dog and a spring to return the parts to their normal position upon the release of the dog.
5. In a door check and closer the combination of a base plate formed with guides, a slide mounted ir said guides, a dog pivoted in said slide and adapted to engage the base plate, a spring connecting the slide and base plate and a plate on the door adapted to trip the dog.
6. In a door check and closer the cuinbination of a base plate formed with guldes, a slide mounted in said guides, a pivoted dog adapted to engage the base plate carried by said slide, a spring connecting the slide and base plate, and an apertured plate carried by the door co-operating with said dog to release the same and hold the door closed.
7. In a device of the character described the combination of a base plate formed with guides, a slide formed by doubling the metal upon itself arranged to travel in said guides, a spring connecting the slide and base plate, a dog pivoted in the slide and adapted to engage the base plate, to hold the spring under tension, an apertured plate carried by the door and fingers on the dog co-operating with said plate to trip the dog.
8. In a device of the character described the combination of a base plate formed with guides, an apertured slide formed by doubling the metal upon itself and with lateral flanges travelling in said guides, a dog formed with fingers pivoted in sald doubled over portion of the slide with one of its fingers projecting through said aperture, a shoulder on the dog co-operating with a lip on the base plate, a coil spring connecting the adjacent end of the base plate and slide and an apertured plate on the door co-operating with sald fingers to trip the dug.
9. In a device of the character described the combination of a base plate adapted to be secured to the door casing and formed with guides, an ear at one end and shoulders forming spurs at the opposite end of said plate, a lip intermediate said shoulders, a slide travelling in sald guides, a dog havIng a shoulder co-operating with sald lip pivoted on the slide, a spring connecting said sllde and ear, fingers on the dog and an apertured plate co-operating with sald fingers to trip the dog.
10. In a door check and closer the combination of a base plate adapted to be secured to the door casing and formed with guldes on opposite sides, an apertured ear at the end of said base plate and shoulders terminating in spurs adapted to be driven into the door jam at the opposite end, a lip intermediate said shoulders, an apertured slide formed by doubling the metal upon itself and with lateral flanges travelling in said guides, a dog pivoted in said doubled over portion of the slide and formed with fingers one of which projects through sald aperture, a shoulder on the dog cooperating with said lip. a coll spring connecting said slide and ear to retract the slide, stops to limit the return movement of the slide and an apertured plate carried by the door co-operating with said fingers to trip the dog.

No. 101,914. Door Catch. Arrete-porte.


George W. Mallory, Detroit, Michigan, U.S.A., 6th November. 1906; 6 years. Filed 27th April, 1906. Recelpt No. 135,322. Claim.-1. In a device of the character described the combination of a base plate adapted to be secured to a door casing, of a housing guided on said plate, a spring interposed between the rear wall of the housing and a shoulder on the base plate, a dog pivoted in the housing and co-operating with the base plate and a plate carrled by the door adapted to trip the dog.
2. In a device of the character described the combination \(0:\) a base plate formed with guides adapted to be secured to a door casing, of a housing movable in said guides, a wall on tho base plate, a coil spring interposed between said wall and the rear wall of the housing, a dog pivoted in the housing and co-operating with the base plate to lock the housing in one position, fingers on said dog and an apertured plate carried by the door co-operating with said fingers to trip the dog.
3. In a device of the character described the combination o' a basc plate formed with longitudinal guides, a housing firined with lateral flanges sliding in said guides, a spring for normally holding sald housing retracted, a dog formed with ingers pivoted in the housing, a shoulder on sald dog
co-operating with the base plate and an apertured plate on the door co-operating with said fingers to trip the dog.
4. In a device of the character described the combination of a base plate formed with guides, a housing formed with lateral flanges travelling in said guides, a dog pivoted in said housing, a shoulder on said dog co-operating with a lip on the buse plate, a coil spring within the housing for normally holding the same retracted, a lever for locking the housing in its retracted position and a plate on the door to trip the dog.
5. In a device of the character described the combination of a base plate formed with guides along its sides and stops at one end, shoulders terminating in spurs at its opposite end and a wall struck up from the base plate at its middle, a rousing movable in said guides, a coll spring interposed between said wall and the rear wall of the housing. a dog pivoted in the housing and co-operating with the base plate, fingers on said dog, an apertured plate carried by the door co-operating with sald fingers to trip the dog and a lever for lociking sald housing.
6. In a device of the character described the combination of a base plate formed with guides and a transverse wall struck up therefrom, a housing formed with lateral fanges travelling in said guides, a coil spring interposed between said wall and the rear wall of the housing having a slot formed therein, a dog pivoted in the housing on a transverse pin, a slotted lever projecting through said slot and loosely engaing sald pin, a finger piece and a locking lug on the free end of said lever co-operating with an aperture in the base plate to lock the housing in its retracted position and a lug in said slot frictionally engaging said lever.
7. In a device of the character described, a base plate, \(a\) movable member gulded on said plate, a dog formed with firgers plvoted in the movable member and adapted to hold said member in its projected position, a spring for holding said member in its retracted position, and an apertured plate co-operating with the fingers to trip the dog and formed with a curved base adapted to be secured to a door.

\section*{No. 101,915. Hydrant. Bornc-fontaine.}


Walter Scott Phelps, Muncie, Indiana, U.S.A., 6th November.
1906; 6 years. Filed 24th July, 1906. Recelpt No. 138,120.
Claim.-1. A hydrant including a valve box having a cham\(b \in r\) therein to receive from a supply pipe, a valve cylinder extending through the chamber and having long ports opening into the chamber and also relatively shorter ports opening into the main portion of the valve box exterior to the chamber, and a valve movable in the valve cyllader and haring two pistons spaced apart a distance approximately equal to the length of elther of the long ports.
2. A hydrant including a valve box having a chamber therein to receive from a supply pipe, a main valve cylinder extending through the chamber and having ports thereln. a basin at the bottom of the valve box, a draln valve cylinder attached to the bottom of the basin, a drain valve cylinder supported by bridges in the basin, and a main valve in the main valve cylinder and having a drain valve attached thereto and extending through one end into the other one of the drain valve cylinders.
3. A hydrant including a valve box having a main ralve therein and a basin below the valve, a drain valve attached to the main valve and having a bore therein and a lateral port to the bore, a drain valve cylinder in the basin, a drain valr. rylinder beneath the basin, a stand pipe attached to the valro box, a rotative shaft mounted in the wall of the stand pipn and carrying a crank pin, and operative connections between the main valve and the crank pin.
4. A hydrant including a valve box having a basin in the bottom thereof, a main valve cylinder in the valve box, a drain valve cylinder in the basin of the valve box, a drain valve cylinder beneath the basin of the valve box, a main valve in the main valve cylinder, a drain valve attached to the main valve and extending through one and into the other one of the drain valve cylinders, the drain valve being open when the main valve is closed and closed when the main valve is open, a standpipe attached to the valve box and having a receiving chamber therein, an alr chamber below the receiving chamber, an air chamber above the receiving chamber, a guide in the top of the standpipe, a valve rod attached to the main valve and extending into the guide, a rotative shaft mounted in the standpipe and carrying a crank pin, and a connecting rod pivotally connected to the crank pin and also with the valve rod.

No. 101,916. Valve. Soupape.


John Thomas Wilson, Jersey Shore, Pennsylvania, U.S.A., 6th November, 1906; 6 years. Filed 27th July, 1906. Receipt No. 138,194.
Claim.-1. The combination with a steam chest and a cylinder provided with a valve seat having steam inlet ports to the cylinder and an exhaust port, of a slide valve, a balance plate, and a pressure plate. packing strips being located between the balance plate and pressure plate to form two inclosed spaces, one at each side of the balance plate, and to exclude from steam pressure the central portion of the balance plate, and said balance plate having ports communicating with the said two inclosed spaces whereby steam may be admitted to and discharged from said inclosed spaces simultaneously with the admission of steam to and its discharge from the cylinder ports.
2. The combination with a steam chest having a removable cover and a cylinder provided with a valve seat having steam inlet ports to the cylinder, and an exhaust port, of a slide valve, a balance plate, a pressure plate, and bolts for holding the pressure plate relative to the removable cover, packing strips being located between the balance plate and pressure plate to form two inclosed spaces one at each side of the balance plate, and exclude from steam pressure the central portion of the balance plate, and said balance plate having ports communicating with the said two inclosed spaces whereby steam may be admitted to and discharged from said inclosed spaces simultaneously with the admission of steam to and its discharge from the cylinder.
3. The combination with a steam chest and a cylinder provided with a valve seat having steam inlet ports to the cylinder and an exhaust port, of a slide valve, a balance plate, and a pressure plate, packing strips 27 and 30 and all said strips being located between the balance plate and the pressure plate to form two inclosed spaces, one at each side of the balance plate and to exclude from steam pressure the central portion of the balance plate. and said balance plate having ports communicating with the said two inclosed spaces whereby upon the reciprocation of the slide valve steam may alternately be admitted to and discharged from said inclosed spaces.
4. The combination with a steam chest, and a cylinder provided with a valve seat having steam inlet ports to the cylinder and an exhaust port, of a slide valve, a balance plate, and a pressure plate, packing strips 27 and 30 being located between the balance plate and the pressure plate within channels formed within one of the sald plates, to form two inclosed spaces, one at each side of the balance plate, and to exclude from steam pressure the central portion of the balance plate, and said balance being provided with ports communicating with the sald two inclosed spaces, for the purpose set forth.
5. The combination with a steam chest, and a cylinder provided with a valve seat having steam inlet ports to the cylinder and an exhaust port, of a slide valve, a balance plate, and a pressure plate, packing strips 27 and 30 being located between the balance plate and the pressure plate and within channels formed in one of said plates, and openings for admitting steam to the backs of the two strips 27 and 30 being provided, and sald balance plate having ports communicating with each inclosed space formed at the sides of the balance plate by the sald packing strips. in substance as set forth.
6. The combination with a steam chest and a cylinder provided with a valve seat having steam inlet ports and an exhaust port, of a slide valve, a balance plate above said valve, and means for forming two inclosed spaces above the balance plate and for excluding from steam pressure the central portion of the balance plate, said means embracing end packing strips 27 . side packing strips 30 . and an element with a horizontal surface between which surface and the balance plate said packing strips are located, said balance plate being nrovided with ports communicating with the said two inclosed spaces, whereby upon the reciprocation of the valve steam may simultaneously be admitted to and discharged from a cylinder port and one of the inclosed spaces.

\section*{No. 101,917. Artificial Stome. Pierre artifotelle.}

The Lithographic Stone and Marble Company, London assignee of Thomas Matheson Thom, Cheshunt. Hertfordshire, both in England, 6th November, 1906; 6 years. Filed 13th July, 1906. Receipt No. 137,765.
Claim.-A process for producing artificial stone in imitation of natural building stone which consists in so crushIng fragments of natural stone and screening the crushed mass as to obtain the constituent granules as they occur in said natural stone, mixing said granules with line with or without colouring medium, slaking the mixture, moulding the same, drying the moulded blocks and finally indurating the latter with carbonic acid gas, substantially as described.

No. 101,918. Bust Snpporter. Support de buste.


Johannes Brec. Charlottenburg, Prussia, Germany, 6th November, 1906; 6 years. Filed 9th December, 1905. Receipt No. 130,850.
Claim.-1. Bust supporter with two back parts consisting of thin and stiff material applled to the female body, which back parts are combined to each other by elastic straps and also connected by elastic straps with the longside edges and with the two tips of the cages going across the shoulders, the cages enveloping the breasts, and connected by elastic straps with an elastic girdle which latter can be tightened and loosened.
2. Bust supporter with two back parts consisting of thin and stiff material applied to the female body, which back parts, combined to each other by elastic straps, which straps are kept apart by a bridge, are connected by elastic straps at the outside edges and upper edge with a horizontal support girdle for the breasts and at their lower edge with a girdle that can be tightened and loosened.

No. 101,919. Tooth Brash. Brosse d dents.


Lavitt Havelock Crowell, Hallfax. Nova Scotia, Canada, 6th November, 1906; 6 years. Filid 23rd January, 1906. Receipt No. 132.164.
Claim.-1. A tooth brush comprising a head and a handle, a shield removably disposed adjacent the head, and means for locking the shield in place.
2. A tooth brush comprising a head. a handle. a shield provided with an opening through which the handle may be inserted, and means for fllling the space between the handle and the walls of the opening
3. A tooth brush comprising a head, a handle, a shield provided with an opening through which the handle may be inserted, and resillent means for filling the space between the handle and the walls of the opening.
4. A tooth brush comprising a head, a handle, a shicld provided with a central opening through which the handle may be inserted, and a rubber gasket disposed in the opening and provided with fianges.
5. A tooth brush comprising a head, a handle in screwthreaded engagement with the head, and a shield carried by the handle.
6. A tooth brush comprising a head provided with an interiorly screw-threaded socket, a handle provided with a reduced end having exterior screw-threads and a shield carried by the handle
7. A tooth brush comprising a head having an interiorly screw-threaded socket. a handle having a reduced end leaving shoulders and having a portion of its reduced end provided with screw threads, and a shield provided with a central hub disposed on the non-screw-threaded portion of the reduced end of the handle and held in place by the shoulders.

No. 101,920. Apparatus for Distilling Fluid.
Appareil d distiller les tuides.


Josef Fischer, Vienna. Austria, 6th November. 1906; 6 years. Flled 26th July. 1905. Receipt No. 127,213.
Claim.-1. In an apparatus for the continuous distillation of fuids, a heater casing containing upright partitions spaced apart and connected with each other alternately at their tops and bottoms, and thereby forming a plurality of fluid chambers open at their tops and closed at their bottoms and alternating with heating chambers closed at their tops and open at their bottoms.
2. In an apparatus for continuous distribution of fulds. a heater casing containing upright partitions spaced apart and arranged parallel to each other, said partitions being connected with each other alternately at their tops and bottoms, and thereby forming a plurality of fluid chambers open at their tops and closed at their bottoms and alternating with heating chambers closed at their tops and open at their bottoms.
3. In an apparatus for continuous distillation of fluids, a heater casing containing upright partitions spaced apart and connccted with each other alternately at their tops and botoms and therrby forming a plurality of fluid chambers open at their tops and closed at their bottoms. sald fuid chambers connected by passages arranged in the direction of flow of the liquid, and alternating with heating chambers closed at their tops and open at their bottoms.
4. In an apparatus for continuous distillation of fluids. a heater casing containing upright partitions spaced apart and connected with each other alternately at their tops and bottoms and thereby forming a plurality of fluld chambers open at their tops and closed at their bottoms and alternating with heating chambers closed at their tops and open at their bottoms, in combination with a heating canal arranged underneath the partitions referred to and opening to the heating chambers mentioned.
5. In an apparatus for continuous distribution of fluids, a heater casing containing upright partitions spaced apart and ronnected with each other alternately at their tops and bottoms and thereby forming a plurality of fluid chambers open a their tops and closed at their bottoms and alternating with heating chambers closed at their tops and open at their bottoms, in combination with a neating canal arranged underneath the partitions referred to and opening to the heating chambers mentioned and with a vertical partition in said canal and extending upwardly into a heating chamber.
6. In an apparatus for continuous distribution of flulds. a heater casing contalning upright partitions spaced apart and connected with each other alternately at their tops and bottoms and thereby forming a plurality of fluid chambers open at their tops and closed at their bottoms and alternating with heating chambers closed at their tops and open at their bottoms, in combination with a heating canal arranged underneath the partitions referred to and opening to th. heating chambers mentioned, a discharge outlet for the fluid chambers and additional discharge outlets connectid with the bottoms of the aforesaid fluid chambers.
7. In an apparatus for continuous distillation of fluits. a heater casing containing upright partitions spaced apart an! connected with rach other alternately at their top and bottoms and thereby forming a plurality of fluid chambers op. f at their tops and closed at their bottoms and alternating with heating chambers closed at their tops and open at th. :1 bottoms, in combination with a heating canal arranged al the bottom of the apparatus and opening to the heating chambers mentioned. said fluid chambers extending downwardly into the heating canal.
8. In an apparatus for continuous distillation of fluids. a connected succession of -devices each comprising a heater casing contalning upright partitions spaced apart and connected with each other alternately at their tops and bottoms and thereby forming a plurality of fluid chambers open at thrir tops and closed at their bottoms and alternating with hrating chambers closed at their tops and open at their bottoms. in combination with a feed canal common to the several devices and with a discharge canal common to the several devices.

\section*{No. 101,921. Apparatng for Burning Powdered Fuel.}

\section*{Appareil d brîler le combustible en poudre.}

Robert Donald Hassan, Ottawa, Ontario, Canada, 6th November, 1906; 6 years. Flled 19th May, 1906. Receipt No. 136,081.
Claim.-1. In apparatus for burning powdered fuel the combination with the combustion chamber, a bridge wall at the rear thereof hi:ving an Inclined surface of a nozzle cxtending through the front wall of the combustion chamber. and inclined at such angle that the particles passing therethrough will impinge substantially normally on the bridge wall, an air supply connected to the nozzle, a fuel conveying pipe entering into said air supply pipe and means in said conveying pipe for regulating the passage of the fuel therethrough, as and for the purpose speclfed.
2. In apparatus for burning powdered fuel the combination with the combustion chamber, the air supply pipe leading thereto and the bin contalning the powdered fuel. of a conveying pipe extending from the bln to the air supply pipe. a spiral conveyer operating therein, a second fuel bin locsted above the first-mentioned bin, a passage connecting the two, means for closing and opening the passage, and a conducting pipe for the waste gases leading from the furnace to the second fuel bin, as and for the purpose specified.
3. In apparatus for burning powdered fuel the combination with the combustion chamber, a bridge wall at the rear

thereof having an inclined face, of a nozzle extending through the front wall of the combustion chamber and so inclined that the particles passing therethrough will impinge substantially normally in the bridge wall, an air supply pipe connected to said nozzle, a fuel bin, a conducting pipe leading from the fuel bin into the air supply pipe, a spiral conveyer operating therein, a second bin located above the first, a passageway between the two bins, means for opening and closing the same and a conducting pipe for the waste gases leading from the furnace to the second bin, as and for the purpose specified.
4. In apparatus for burning powdered fuel the combination with the furnace, apparatus for feeding the powdered fuel thereto and the receptacle containing the powdered fuel of a conducting pipe for the waste gases leading from the furnace to the receptacle containing the powdered fuel, as and for the purpose specified.

No. 101,922. Coiling Mechanism. for Flezible Condnctors.
Mécanisme à enrouler les conducteurs flexibles.

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Samuel Quincy and Charles Harrison, co-inventors, 136 Kentish Town Road, London, England, 6th November, 1906; 6 years. Filed 26th December, 1905. Receipt No. 131,300.
Claim.-1. Means for adjusting the effective length of a flexible connector adapted to conduct gas or other fluid or electricity from one place to another, wherein the connector is secured at one end and is colled upon a drum adapted to be held stationary, and is led away past a rotary winding device that is connected to the drum through the spring, the arrangement being such that when the connector is pulled, it will be unwound from the drum, and will rotate the winding device against the action of the spring, which will act to rotate the said winding device in the opposite direction, and wind the connector around the drum when the connector is relieved from the pull thereon.
2. Means for adjusting the effective length of a flexible connector, comprising a drum adapted to be fixed to a gas or other supply main. a flexible connector adapted to be secured at one end to the said main, and having its other end adapted to carry a desired fitting, a rotary part or winder adaptedto coil the connector on the drum, and between the drum and winder, a spring adapted to be wound up when the winder is rotated in one direction by a pull on the connector, and to rotate the winder so as to coil or wind the connector around the drum when the connector is relieved from weight. substantially as described.
3. Means for adjusting the effective length of a flexible connection in which the flexible connector passes from the stationary drum, through a hole or eye in the rotary winder which revolves adjacent to one end of the drum, a curved bridge piece or equivalent carried by the winder being provided for supporting and guiding the connector whilst being wound on the drum, substantially as described
4. Means for adjusting the effective length of a flexible connection, in which the drum is adapted to be supported vertically. and the rotary winder is located adjacent to the lower end of the drum, and has connected to and below it a centrally arranged eye through which the flexible connector is led by one or more suitable arranged guide pulleys, substantially as herein described.

\section*{No. 101,923. Sensitive Plate for Photography in Colonrs.}

Plaque sensitive pour la photographie.


Auguste Lumiere and Louis Lumlére, Lyons, France, 6th November, 1906; 6 years. Filed 21st May, 1906. Receipt No. 136,117 .
Claim.-1. A sensitive plate for colour photography comprising a layer of crushed coloured particles interposed between the sensitive coating and the support.
2. The herein described process consisting in placing a layer of coloured particles on a transparent support, then softening the particles, then subjecting the particles on the support to pressure to crush the particles and finally covering said layer with the sensitive layer.

No. 101,924. Mop Wringer. Essoreuse.


Willoughby Moffat, Hamilton. Ontario, Canada, 6th November, 1906 : 6 years. Filed 30th June, 1906. Receipt No. 137.448.

Claim.-1. In a mop wringer the combination with a receptacle, of a stationary roller journalled in brackets resting Lepon the top edge of said receptacle and provided with ears overhanging the side thereof which together with fastening means for lowering their lower portions hold them firmly in position, a spring controlled frame plvoted to the side of said rcceptacle and in which said movable roller has bearing and whereby said movable roller is brought into contact with said stationary roller so as to exert a downward pressure thereupon.
2. In a mop wringer the combination with a receptacle, of a statlonary roller journalled within said receptacle and at the top thereof, a frame constructed to operate outside of sald receptacle, brackets secured tothe outside of sald receptacle and provided with stub pins upon which said frame is journalled, a roller journalled in the upper end of sald frame a spring coiled around said stub pins and having its lower crd provided with a downward turn which engages with a horn sccured to or formed part of sald brackets, and the upper end of sald spring provided with a turned end which engages said frame in such a manner so that the force exerted by said spring will normally keep sald rollers apart, the said frame operating said movable roller so that it will be brought into contact with said stationary roller and press downward thereupon.
3. In a mop wringer the combination with a receptacle, of a stationary roller journalled within said receptacle and at the top thereof, a frame constructed to operate on the outside of said receptacle and comprising the member \(E\) shaped as shown which is secured to the lower end of the upright niember \(D\), a brace additionally securing sald members together, brackets secured to the outside of said receptacle and provided with stub pins upon which sald frame is journalled through the medium of said member \(D\), a roller journalled in the upper end of said frame, a spring colled around sald stub pins and having its lower end provided with a downward turn which engages with a horn secured to or formed part of said brackets, and the upper end of sald spring provided with a turned end which engages sald frame in such a manner so that the force exerted by sald spring will normally keep sald rollers apart, the sald frame operating said movable roller so that it will be brought into contact with said stationary roller and press downward thereupon.
4. In a mop wringer the combination with a receptacle, of a stationary roller journalled within sald receptacle and at the top thereof, brackets secured to sald receptacle in which sald roller is journalled, the ears provided with offset upper ends and secured to said receptacle and on the inner side thercof, mop guards supported from sald ears and sald brackets and so placed in relation to sald stationary roller as to prevent the mop from becoming entangled in the mechanism, a spring controlled frame pivoted to the side of said receptacle and in which said movable roller has bearing and uhereby said movable roller is brought into contact with said stationary roller so as to exert a downward pressure thereupon.

No. 101,925. Vacuum Machine. Muchinc à vide.


Albert Manvers and Henry Phlllips, co-inventors, both of Sydney, New South Wales, Australia, 6th November. 1906: 6 years. Filed 11th May, 1906. Receipt No. 135.793.
rlaim.-1. In apparatus for creating a vacuum, an outer casing adapted to be connected to the vessel to be exhausted. a tube in sections axially within the outer casing, such tube being adapted to be connected with a sultable water supply under pressure, collars connecting the adjacent sections of tube together, and perforations in the collars whereby communication is established between the interior of the the cas ing and the interlor of the tube, as specified.
2. In apparatus for creating a vacuum, an outer casing adapted to be connuched to the vessel to be exhausted, a tube in sections axially within the outer casing, such tube being adapted to be connccted with a suitable supply of water under pressure, and a perforated disc placed at the inner end of the first section of tube whereby the column of water in the tube may be split up into a number of smaller columns. as herein set forth.
3. In apparatus for ereating a vacuum, an outer casing her metically scaled against the outer air, means for connecting such casing with the vessel to be exhausted, a tube in sec tions axially placed within the outer casing, means for connecting the first section of the tube with a suitable supply of water under pressure, a perforated disc terminating the first
scction of the tube, collars to connect the adjacent sections of tube together, such collars having perforations whereby communication is established between the inside of the casing and the inside of the tube, all as and for the purposes spccified.
4. In apparatus for creating a vacuum, a hermetically s.aled outer casing, a tube in sections axially withla the casing, perforated collars for connecting together the sections of tube, a bulbous cover entirely covering the discharge end of the apparatus, such cover being screwed over the end of the outer casing, and a discharge or waste pipe leading from the bulbous cover, as and for the purposes hereln set forth.

No. 101,926. Brush. Brosse.


Melburn H. Tupper, Toledo Ontario, Canada, 6th November, 1906; 6 years. Filed 11th May, 1906. Receipt No. 135,823. Claim.-1. In a folding brush the combination with the rotatably supported brlstle bases and means for rotating the same. of means for locking the bases when in position with the bristles raised independent of the means used for raising them, as and for the purpose specified.
2. In a folding brush the combination with the casing. the bristle bases rotatably mounted therein and means for turning the bristle braces, of a sliding base and means thereon for locking the bristle braces with the bristles in their raised position, as and for the purpose specifled.
3. In a folding brush the combination with the casing. and bristle bases rotatably mounted therein having downwardly projecting portions, of means for rotating the bristin bases, a sliding base and means thereon for engaging said ciownwardly projecting portions with the bristles in their raised position, as and for the purpose specified.
4. In a folding brush the combination with the brisile bases, shafts mounted in the casing supporting the same. of means for rotating the shafts and means simultaneousiy operated with the rotation of the shaft for locking the bristle bases with the bristles in their raised position. as and for the purpose specified.
5. In a folding brush the combination with the casing and the bristle bases and shafts supporting the same mounted in the casing of cranks integral with the ends of the shafts, a sliding base having upwardly extending sldes engaging the ends of the cranks, and means for operating the sliding base to turn the cranks, as and for the purpose specified.
6. In a folding brush the combination with the casing and the bristle bases and shafts supporting the same mounted in the casing of cranks integral with the ends of the shafts. a sliding base having upwardly extending sides rngaging the ends of the cranks, means for operating the sliding base to turn the cranks and means for locking the bases with the bristles in their raised position, as and for he purposes specified.
7. In a folding brush the comblnation with the casing and the bristle bases of shafts mounted in the casing supporting the bristle bases, cranks integral with said shaft. a iliding base having upwardly extending sides engaging the nds of the cranks, a second sliding base, locking means hereon adapted to lock the bases when the bristles are in ihicir raised position and means for operating both bases. is and for the purpose specified.
8. In a folding brush the combination with the casing and the bristle bases, of shafts rotatably mounted in the casing supporting the bristle bases, cranks integral with the ends thercof, a sliding base having upwardly extending idies engaging the ends of the cranks. a second sllding base having raised portions thercon adapted to engage the edges of the bristle bases, and lock them in position. and an operating plate for the two sllding beses pivotalis
connected to each and extending through a slot in the upper base, as and for the purpose specified.
9. In a folding brush the combination with a plurality of parallel bristle bases having the bristles in each alternate row staggered with regard to each other and having a plurality of recesses in the edges of each base into which the bristles of the adjacent bases will fit when the bristles aro in a substantially horizontal position, as and for the purpose specified.
10. In a folding brush the combination with a plurality of parallel bristle bases having a plurality of projections in each forming between them recesses into which the bristles of the adjacent braces are adapted to extend when in their lowered position, of a sliding base having thereon upwardly extending projection's adapted to engage the projections on the bases and thus lock the bases when the bristles are in a raised position, as and for the purpose specified.
11. In a folding brush an improved bristle brace formed of a single blank of metal having a series of outwardly extending projections on each side designed to register each other when the blank is folded over, perforations in the projections of one side of sald blanks, and eyelets in said perforations through which the bristles are adapted to extend, as and for the purpose specifled.
12. In a folding brush an improved bristle base formed of a single blank of metal having a series of outwardly cxtending projections on each side designed to register with each other when the blank is folded over, perforations in the projections of one side of said blank, eyelets in said perforations through which the bristles are adapted to extend, and bars extending across the bottom of the eyelets and adapted to extend through the loops of the bristles, as and for the purpose sptcified.
13 In a folding brush an improved bristle base formed of a single blank of metal having a series of outwardly extending projections on each side designed to register with each other when the blank is folded over, perforations in the projections of one side of said blank, eyelets in said perforations, through which the bristles are adapted to extend, and tongues cut in the sides of the eyelets and bent across the same adapted to extend through the loops of the bristles extending through the eyelets, as and for the purpose specified.
14. In a folding brush the combination with the casing. the bristles rotatably mounted therein, of a sliding base and projections on the bristle bases adapted to be engaged by the sliding base to cause the movement of the same to rotate the bristle base, as and for the purpose specified.

No. 101,927. Pump. Pompe.


Basil Alfred Slade, 27 Charles Street, Berkley Square, Middlesex, England, 6th November, 1906; 6 years. Filed 7 th August, 1906. Receipt No. 138,475.
Claim.-1. The combination in a rotary motive power engine, of a cylinder \(a\), cylinder ends \(c, d\), bearings and stuffing boxes \(e, f\), shaft \(g\), radial pistons \(n\) having curved surfaces on their sides \(j\) and ends \(h^{1}, h^{2}\), radial diaphragms \(m\), radial chambers \(l\), recesses or enlargements \(n\), inlet passages 1, 1, and exhaust passages 2, 2, through the central part of the piston \(h\), projecting boss \(p\), cover \(q\), concentric recesses 3 and 4, inlet pipe 11, exhaust plpe 12, holes 5, 6; 7, from the recess 3 , and holes \(8,9,10\) from the recess 4 , cover \(r\) on cylinder end \(d\), central recess in cover \(r\), loose disc 19 in recess, passages \(13,14,15\) partly through cylinder end \(d\) opening at their outer parts through passages 17 into openings 22 in disc 19, of such shape that steam admitted into them is directed in one position of the disc 19 into one of the radial passages 18 and to one side of the diaphragm \(m\). and when the disc 19 is turned into the other of the parallel
radial passages 18, and to the other side of the diaphragms, the radial passages 18 passing to enlargements \(n\) on one or other side of the diaphragm \(m\) according to the position to which the disc 19 is turned, and means for turning the disc 19, all substantially as set forth.
2. In a rotary motive power engine having a cylinder, radial sliding diaphragm and a central driving shaft, the piston \(h\) having its outer ends \(h^{1}, h^{2}\) curved to fit in the cylinder and its sides \(j\) which connect the ends \(h^{1}, h^{2}\) curved to a much larger radius so as to leave spaces \(k k^{1}\) between them and the inside of the cylinder, packing at \(i, i\), in the ends \(h^{2}, h^{2}\) of the piston, and concentric passages 1,1 and 2, 2 through the body of the piston for the inlet and outlet of steam, the inlet passages 1,1 being at a greater radial distance from the center than the outlet passages 2,2 , substantially as set forth.
3. In a rotary motive power engine having a cylinder, a central driving shaft and revolving piston and radial sliding diaphragm, the combination with the sliding diaphragm of a concave sliding piece 23 pivoted by a pin 24 upon the rounded end of the sliding diaphragm \(m\), spring packing strips 26 and a radial passage 27 having lateral openings at its lower end each covered and uncovered alternately by the packing strips 26, substantially as set forth.
4. The reversing disc 19 having pairs of triangular shaped openings 22, their outer longer side concentric with the edge of the disc and their outer corners corresponding with the inner ends of the passages 18, and their inner corners corresponding with the opening 17 for the inlet of steam, substantially as set forth.
5. In a rotary engine the combination with the rotary plston, a casing enclosing the same, a driving shaft, of a plurality of radially sliding diaphragm, sliding bases pivoted to the diaphragms and contacting with the periphery of the piston, two steam passageways through each diaphragm and means operated by the rotation of the engine for alternatively opening each passageway, as and for the purpose specified.

No. 101,928. Spark Arrester. Arrête-étincelles.


Olof G. Sunden, Chicago, Illinios, U.S.A., 6th November, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,262.
Claim.-1. A device of the class described comprising an inner and an outer casing, and major and minor blades carried by said inner casing, said minor blades having their upper ends lying in substantially the same plane as the upper end of said major blade and having their lower ends terminating short of the lower ends of said major blades.
2. A device of the class described comprising an inner and an outer casing and major and minor deflector blades disposed upon the said casing, said major and minor blades being inclined at different angles with respect to each other.
3. device of the class described comprising an inner and an outer casing, and major and minor deflector blades carried by the said inner casing, said minor blades being disposed at an acute angle with respect to sald major blades.
4. A device of the class described comprising an inner and an outer casing and major and minor blades carried by said inner casing, sald minor blades being disposed at an acute angle with respect to said major blades and extending in the same general direction as the said major blades.
5. A device of the class described comprising an inner and an outer casing and deflector blades carried by said inner casing and having their deflector portions lying at an acute angle to the wall of said inner casing.

No. 101,929. Conpler for Converers.
Joint de transport.


Clemens Fohr von Bechtolsheim. Munich, Germany, 6th November. 1906; 6 years. Filed 29th November, 1905. Receipt No. 130,554 .
Claim.-1. A mechanism of the class described comprising a driving shaft, a traveller. a hoisting mechanism carrled by the traveller, a traveller shifting mechanism, and means for automatically throwing into operation one of sald mechanisms when the other is thrown out of operation.
2. A mechanism of the class described comprising a driv. ing shaft, a traveller, a hoisting mechanism carried by the traveller, a statlonary traveller shifting mechanism, and means operated by the traveller on its return to connect the hoisting mechanism to the driving shaft and throw the shifting mechanism out of connection with the driving shaft and movable to throw the shifting mechanism in and the hoisting mechanism out of connection with the driving shaft.
3. A mechanism of the class described comprising a driving shaft, a traveller, a hoisting mechanism carried by the traveller, a stationary traveller shifting mechanism, means operated by the traveller on Its return to connect the hoist ing mechanism to the driving shaft and throw the shifting mechanism out of connection with the driving shaft and movable to throw the shifting mechanism in and the hoisting mechanism out of connection with the driving shaft, and a brake acting on sald means to avoid shocks.
4. A mechanism of the class described comprising a driving shaft, a traveller. a hoisting merhanism carried by th? traveller. a stationary traveller shifting mechanism, means operated by the traveller on its return to connect the hoisting mechanism to the driving shaft and throw the shifting mechanism out of connection with the driving shaft and moved by the hoisting mechanism when the latter reaches a certain position, to effect a connection between the driving shaft and the shifting mechanism and break the connection between the drive shaft and the hoisting mechanism.
j. A mechanism of the class described comprising a driving shaft, a traveller, a hoisting mechanism carried by thr traveller, a traveller shifting mechanism. a coupling for -flecting connection between the hoisting mechanlsm and the driving shaft. a coupling for effecting connection between the shifting mechanism and the driving shaft. a connection buiwern the couplings embodying a releasable dethat, means for shifting one of said couplings upon the relatise of the detent. and means for restoring the latch operated by the traveller.
6. A merhanism of the class described comprising a driv. shaft. a traveller a hoisting mechanism carried by the traweller, a traveller shifiting mechanism, a coupling for efferting ronnection betworn the hoisting mechanism and the driving shaft, a coupling for effeciang connection between the shifting merhanism and the driving shaft, a connection betwonn the couplings embodying a releasable detent operati. 1 hy the hoisting mechanism when the latter reaches a certai: positfor, means for shifting one of said couplings upon th release of the detent, and means for restoring the latih operated by the traveller.
7. A mechanism comprising a driving shaft, a traveller. a hoisting mechanism carried by the traveller, a traveller shifting mechanism, a coupling for effecting connection between the shifting mechanism, means acting to effect said connection and a detent holding said means against action and operated by the hoisting mechanism when the latter reaches a certain position.
8. A mechanism comprising a driving shaft, a traveller. a !oisting mechanism carried by the traveller, a traveller shifting mechanism, a coupling for effecting connection between the shifting mechanism, means acting to effect said ronnection and a detent holding said means against action.

No. 101,930. Aerator. Aćrateur.


Bert H. Thomas, Miller's Station and William Knox Andrews, Mill Village, both in Pennsylvania, U.S.A., 6th November, 1906; 6 yeurs. Flled 27th June, 1906. Re ceipt No. 137,332.
Claim.-1. In a device of the class described the combinalion of a pair of tubes formed integral with each other, a collar adapted to rotate on sald tubes, said coslar being provided with means for attaching the device to a wilk can, one of said tubes having a lateral projection connected with a vertically disposed tube, and means for forcing air through said tubes, substantially as described.
2. In a device of the class described the combination of \(a\) pair of tubes, formed integral with each other, one of said tubes having a lateral projection connecting with a veriically disposed tube, sald vertically disposed tube being provided with a groove or way, adapted to slldably receive a convenient form of thermometer, said vertical tube being also provided at its lower end with apertures, substantially as described.

No. 101,931. Liquid Separator.
Néparateur de liquide.


Frank S. Smith and Ashley C. Smith, assignee of Ernest \(C^{\bullet}\) Pawley, all of Chicago. Illinois, U.S.A.. 6th November. 1906; 6 years. Flled 14th August, 1:06. Recelpt No. 138,679.
Claim.-1. In a centrifugal separating apparatus the comhination with the bowl, of a central stem having a recep tacle in its upper portion, and spraying pipes communlcatiag at their upper ends with sald receptacle and nxtending dowawardly alongside said stem.
2. In a centrifugal separating apparatus the combination with the bowl, of a central stem having a receptacle in its upper portion for the introduction of milk, spraying pipes fed from the receptacle and extending downwardly alongside said stem and having small spraying apertures on their outer sides and larger apertures on their inner sides.
3. Inl a centrifugal separating apparatus the combination with the bowl, of a central stem having a receptacle in its upper portion for the introduction of milk, spraying pipes fed from the receptacle and extending downwardly alongisde said stem, and conoldal discs detachably mounted on the spraying pipes and surrounding said stem at a distance therefrom.
4. In a centrifugal separating apparatus the combination with the bowl having in its upper portion an outlet for the cream and its bottom outlets for the milk, of a central stem having a receptacle in its upper portion and a conoldal base at its other end, spraying pipes communicating at their upper ends with said receptacle and extending downwardly alongside said stem at a distance therefrom, the lower ends of said pipes converging, and a serles of spaced apart conoidal discs detachably mounted on the spraying pipes and surrounding the central stem at a distance therefrom.

No. 101,932. Eleotric Fire Alarm.
Avertisseur électrique pour incendies.


The Pearson Fire Alarm, Limited, assignee of Alfred Henry MoNeil, both of London, England, 6th November, 1906 ; years. Filed 2nd January, 1906. Receipt No. 131,521.
Claim.-1. In an electrical fire alarm in which an electric circuit is completed at a predetermined temperature by the deflection of a thermal strip, a box or chamber having an opening in one of its sides, an insulated contact spring fixed inside the box and normally closing the said opening, an adjustable contact also mounted within the box in close proximity to the spring contact, a thermal strip fixed at its ends outside the box, and a plunger attached to the thermal strip and arranged to profect into the opening in the side of the box and to operate the contact spring, substantially as described.
2. In an electrical fire alarm in which an electric circuit is completed at a predetermined temperature by the deflection of a thermal strip, a box or chamber provided with stuffing boxes or glands at its ends and an opening in one side, an insulating slab or support fixed inside the box, contacts mounted on the insulating support, one of said contacts being adapted to close the opening in the side of the box, means for adjusting the other contact electric leads or conductors connected to the contacts and passing through the stuffing boxes, a thermal strip fixed at its ends outside the box, and a plunger on the strip adapted to enter the box through the opening in the side thereof and when the strip is deflected to the required degree to close the contacts and operate the alarm.

\section*{No. 101.933. Flne Cutter. Coupe-tubes.}

Daniel W. Amos and Charles H. Jones, co-inventors, both of Saxton, Pennsylvania, U.S.A., 6th November, 1906; 6 years. Filed 25th June, 1906. Recelpt No. 137,258.
Claim.-1. In a device of the character described, a tubular portion, the forward end of which is adapted to be inserted within the flue or tube to be cut, means for limiting the depth of the insertion, two ears extending upward from the tubular portion a distance apart, a lever pivoted between tie two pars and lying within the tubular portion, the tubular portion being slotted the length of the lever and in conformity to the shape of the same, a rotary cutting tool 11-5
journalled in the forward end of said lever and adapted to protrude beyond the periphery of the tubular portion, a

sleeve adapted to slide over the rearward end of the tubular portion, a cam lever pivoted intermediate of its two ends to the sleeve, the lower end of the cam lever being curved rearwardly and bearing against the upper surface of the rearward end of the cutting tool lever so that when the lower end of the cam lever is forced forward the rearward end of the lever will be depressed, a screw-threaded rod pivoted to the upper end of the cam lever, the other end of the rod pivoted between the ears extending upward from the tubular portion, an extension extending upward from the sleeve, nuts threaded upon the screw-threaded rod each side of said extension, and a wrench hold formed upon the outer end of the sleeve, as and for the purpose set forth.

No. 101,934. Box for Displaying Shirts, Etc.
Boîte à étalage pour chemises, etc.


Frederick George Campbell, Montreal, Quebec, Canada, 6th November, 1906 ; 6 years. Filed 1st August, 1906. Receipt No. 138,322 .
Claim.-1. In a device of the class described the combination of a box, a hinged cover therefor, a downwardly projecting flange on said cover, a prop hinged to the box and adapted to maintain said cover in elevated position, a hinged front for said box adapted to be engaged by the cover flange, a plurality of compartments within said box and flexible members for supporting the front in the same plane as the bottom of the box.
2. In a device of the class described the combination of a box, a plurality of transverse partitions within said box, a hinged cover therefor, a downwardly projecting flange at the front of the said cover, a prop pivoted to the box and adapted to maintain said cover in a partially elevated position, a transparent hinged front for said box adapted to be engaged by the cover flange, and flexible means for supporting the front in the same plane as the bottom of the box.

No. 101,935. Paper Perforating or Impressing Machine.
Machine d perforcr les tuyaux.


Cortland Carlton, Kansas City, Missouri, U.S.A., 6th November, 1906 ; 6 years. Filed 20th August, 1906. Receipt No. 138,847.
Claim.-1. In a paper perforating machine in combination with the rotating platen roll, feed rolls for delivering the paper thereto and an intermediate roll for supporting the paper in its passages from the delivery side of the feed rolls on to the platen roll.
2. In a paper perforating machine in combination with a platen roll and means for rotating it, feed rolls for delivering the paper thereto and an intermediate roll driven frictionally by the platen roll and frictionally driving the lower feed roll.
3. In a paper perforating machine in combination with the platen roll and means for rotating it, a roll mounted for frictional contact at its end portions only with the platen roll, and lower feel rolls for delivering the paper to the platen roll in frictional contact with said end portions only of staid intermediate roll.
4. In a paper perforating machine the combination with the platen roll, a lower feed roll for delivering the paper thereto, and a roll for transmitting rotation from the platen roll to the feed roll lodged between the two in frictional contact with both and springs pressing it yieldingly into said interval.
5. In a paper perforating machine in combination with a platen roll and means for rotating it, a lower feed roll for delivering the paper to the platen roll, an intermediate roll of greater diameter than the shortest distance between the platen roll and sald feed roll lodged between said two rolls above their point of nearest approach, springs attached to the frame and bearings for said intermediate roll connected to the ends of the springs respectively for pressing said intermediate roll toward the other two rolls.
6. In a paper periorating machine in combination with a platen roll and means for rotating it, a lower platen roll for delivering the paper thereto, an intermediate roll of greater diameter than the shortest distance between the platen roll and said feed roll lodged at its end portions upon both said rolls above the point of their nearest approach, spring pressed bearings for said intermediate roll, said roll being reduced in diameter between said end portions and annularly grooved, a paper stop bar mounted for movement toward and from said grooved roll having fingers taking into the grooves of the latter, and means for lifting and depressing sald bar.
7. In a paper perforating machine in combination with a platen roll and means for rotating it, a pair of feed rolls for delivering the paper to the platen roll, means for driving the lower of said feed rolls by connection with the platen roll, means for raising and lowering the upper feed roll to intermit the feed, an annularly grooved roller intermediate the lower feed roll and the platen roll adapteg to support the paper in passing from the former to the latter, a paper stop bar mounted for movement toward and from sald grooved roll having fingers adapted to enter the grooves of the latter at the depressed position of the bar, means for raising and lowering said feed bar and connections between sald means and the means for raising and lowering the upper feed roll for causing said roll and said bar to have reverse movement.
8. In a paper perforating machine in combination with a rotating platen, a lower feed roll and means for rotating it, an upper feed roll and bearings for the same movable to-
ward and from the lower roll, a paper stop bar mounted for up-and-down movement in the interval between the feed rolls on the one hand and the platen roll on the other hand. connections between the upper feed roll bearings and said stop bar for causing them to move oppositely, a cam rotatIng with the platen roll and means operated thereby for giving said upper feed roll and the stop bar such opposite movement.
9. In a perforating machine in combination with a platen roll, means for feeding the paper thereto, perforating or impressing dises and means for advancing them to or retracting them from the platen cylinder, cams for controlling the feeding devices and the impressing discs, said cams consistIng of discs mounted on the platen roll shaft. the feed controlling cam having the dise which controls the commence. ment of the feeding action fixed with respect to the shaft. two dises of the cam for controlling the perforating discs heing adiustable about the shaft. a graduated disc or dial plate non-rotatable on the shaft adjacent to said two cam discs respectively, and means for said cam discs for reading their position on the respectively adjacent graduated discs.
10. In a machine for the purpose indicated in combination with a platen roll, means for feeding the paper thereto, a cam for controlling said paper feeding means mounted on the platen roll shaft and having the part thereof which controls the commencement of the feed fixed with respect to the shaft, perforating or impressing rolls mounted for movenent toward and from the platen roll, means for operating them comprising a cam consisting of two dises mounted on the platen roll shaft adjustable thereabout for controlling resnectively the lifting and depressing of the perforating discs each having an index, two discs mounted non-rotatably on the shaft adiacent to sald cam discs respectively each having a graduated scale for indicating the nosition of the ram disc respectivelv, the zero point of the said scales being related to the fced controlling cam so as to correspond to the point at which the forward edge of the paper reaches the perforating disc.
11. In a machine for the purpose indicated, in combination with a platen cylinder, means for feeding the paper thereto comprising a cam on the platen roll shaft. perforating discs mounted for movement toward and from the platen roll, means for so operating said perforating discs at the line of compression comprising a cam consisting of two discs for controlling respectively the movement of the perforating discs toward and away from the platen cvilinder, said discs being adjacent to each other on the shaft and adjustable thereabout, dial plates on the shaft fixed relatively to the point of the feed controlling cam which controls the commencement of the feeding movement, said dial plates being adjacent to the two cam discs respectively, and means for clamping all said cam discs and dial plates rigidly together and holding them fixed to the shaft.
12. In a machine for the purpose indicated, in combination with a platen cylinder, a perforating disc co-operating therewith to impress the paper, a roll mounted for bearing against the platen cylinder beyond the perforating disc for holding the paper onto the cylinder after it is impressed by the disc.
13. In a machine for the purpose indicated, in combination with the platen cylinder, a perforating or impressing dise co-operating therewith to imprese the paper, a roll bearing upon the platen cylinder beyond the disc. and curlers mounted below the line of delivery of the paper past said roll at the opposite sides of the path of the sheet concave upwardly and toward each other oblique to the normal path of the edge of the sheet, and means for recelving the paper located beyond and lower than said curlers.
14. In a machine for the purpose indicated, in combination with a platen cylinder, the perforating or impressing disc co-operating therewith, a deffecting roller bearing upon the cylinder beyond the perforating discs, curlers mounted for lateral adjustment below the path of delivery of the paper from the under side of said roll, a receiving table mounted beyond and lower than the curlers, and adapted to be set inclined downward away from the curlers, lateral gauges and an end guage or paper stop mounted adjustably on such table.
15. In a machine for the purpose indicated, in combination with a platen cylinder, a perforating or impressing disc, a carriage in which the same is mounted, a rock shaft parallel with the axis of the cylinder on which said carriage is mounted, means for rocking the shaft to lift and lower the disc, the means for mounting the disc in the carriage comprising a lever in which the disc is journalled pivoted to the carriage, a spring reacting between the carriage and said lever for fieldingly holding the disc carrying end of the latter toward the cylinder, \({ }^{a}\) second lever pivoted to the carriage at the side of the
rock shaft toward the cylinder, a roll mounted in the free end of sald last-mentioned lever adapted to bear on the cylinder beyond the delivery side of the perforating disc, and a spring reacting on said lever arm to hold the roll yieldingly against the cylinder.
16. In a machine for the purpose indicated, in combination with a platen cylinder, a rock shaft mounted parallel to the axis thereof, means for rocking the shaft, a carriage mounted on the rock shaft for rocking therewith, a lever pivoted to the carriage and extending from its pivot past the shaft-toward the platen cylinder, a perforating disc mounted on the free end of the lever, a spring reacting between the lever and the carriage to press the disc upon the platen cylinder, a collar on the shaft, a second lever pivoted to the carriage on the side of the shaft toward the cylinder, a pressure roll mounted on the free end of the last-mentioned lever for bearing on the cylinder in the path of the perforating disc, a stop on the collar encountered by the disc carrying lever in opposition to the action of its spring, a spring reacting between the second lever and the collar for holding the latter onto the cylinder, and a second stop on the collar for limiting the action of such spring.
17. In a machine for the purpose indicated, in combination with a platen cylinder, a rock shaft mounted parallel to the axis thereof and means for rocking it, a carriage mounted on the rock shaft consisting of a collar or disc which is split radially and bolts for clamping it to the shaft, said collar being also forked or split trangversely to the shaft, a disc carrying lever pivoted in the transverse fork, and a perforating disc mounted in its free' end, a spring reacting against the lever to hold the disc toward the platen cylinder, a collar on the shaft within the transverse fork of the carriage having a stop for the disc carrying lever, a second lever pivoted in said fork outside of the shaft toward the cylinder, a pressure roll mounted in the free end of such lever, a spring reacting between said lever and collar for holifing the pressure roll onto the cylinder, the collar having a stop for the second lever at the opposite side of the fulcrum of the latter from the pressure roll.
18. In a machine. for the purpose indicated in combination with the platen cylinder and means co-operating therewith for perforating the paper, means for deflecting the paper from the cylinder and edge curlers mounted beyond the deflecting device in position for receiving the lateral edges of the paper. and means beyond the curlers for receiving the sheets delivered therefrom.
19. In a machine for the purpose indicated in combination with a platen on which the paper is supported during perforation, and means co-operating therewith for perforating the paper. means for advancing the paper from the supporting platen, a support for the paper on to which it is advanced comprising curlers in position to be encountered by the lateral edges of the paper in its advance and a receptacle for the paper beyond such support.
20. In a machine for the purpose indicated in combination with a platen on which the paper is supported during perforation. means co-operating therewith for perforating the paper, means for advancing the paper off from the platen, a transevrse bar and curlers mounted adjustably therueon in position to be encountered by the lateral edges of the paper as it is advanced off the platen and intermediate paper supporting fingers also adjustable longitudinally on the bar.

\section*{No. 101,836. Method of Purifying Gasen. Méthode de purifler le gaz.}

Albert Elsenhans, Ruttenscheid, near Essen-on-the-Ruhr, Germany, 6th November, \(1906 ;\); 6 years. Filed 18th April,
1906. Receipt No. 135,026 . 1906. Receipt No. 135,026.

Claim.-1. In gas purifying mechanism, a pair of opposed disc-like devices and mechanisms for rotating the same, a casing surrounding the sald parts, means for introducing gas to the space between them, and means for introducing a washing fluid to the same space, the said disc-like parts being provided with series of concentric annular walls arranged so that the walls of each disc-like part enter the annular spaces between the walls of the other and thesia Walls in their position act centrifugally on the gas, a liquid to thoroughly mix them and finally throw them outward against the said casing, substantially as set forth.
2. In a gas purifying mechanism, a pair of opposed disclike devices provided with means for admitting gas and purifylng fluid to the space between them and concentric series of annular walls in combination with an enclosing casing and means for rotating the said devices, the annular walls
of one device entering the annular spaces between the corresponding walls of the other and the annular walls of both

devices being cut away obliquely, substantially as and for the purpose set forth.
No. 101,937. Cash Cabinet. Cabinet d monnaie.


Thomas A. Ferris, Waxahachie, Texas, U.S.A., 6th November, 1906 ; 6 years. Filed 25th July, 1906. Receipt No. 138,158.
Claim.-1. In a device of the character described the combination of a receptacle, comprising a primary section having one side entirely open and a cover, a tray mounted therein, said tray projecting beyond the opened side end of said receptacle, and said cover adapted to partially inclose the ends and one of the sides of the tray.
2. In a device of the character described the combination of a receptacle, comprising a primary section provided with a base, back, and end portions, said end portions of varying widths throughout their length, trays mounted one above the other within said primary section, said trays projecting beyond the ends of said primary section, one of sald trays provided with an open iront and a cover pivotally secured to said primary section and adapted to enclose portions of the ends of each tray and one of their sides.
3. In a device of the character described the combination with a receptacle, comprising a primary section having one side entirely open and a similarly constructed auxiliary section pivotally secured thereto, a tray position within said primary section and partially projecting beyond the end portion of the same, and said auxiliary section adapted to enclose the projecting portion of said tray when in a closed position upon said primary section.
4. In a device of the character described the combination of a receptacle, said receptacle comprising a pair of simllarly constructed sections, each section comprising a back wall, sides secured thereto, said sides varying in width throughout their length, a lower tray mounted within said casing, comprising a receptacle provided with a plurality of parallel partitions, transverse partitions interposed between said parallel partitions forming a scalloped base portion in each of the compartments formed by said parallel partitions. an intermediate tray mounted within said casing and above said lower tray, comprising a receptacle provided with a compartment extending its entire length and with a plural-
ity of compartments provided with inclined floors, an upper tray comprising a receptacle provided with an opened side and with a plurality of pockets extending its entire width, and means for securing the sections of said receptacle in a closed position.
5. In a device of the character described the combination with a receptacle, comprising two sections, of a tray positioned within sald receptacle comprising a base, end and side walls secured to said base, parallel partitions spaced apart at varying widths within said tray forming compartments of different dimensions, each compartment provided with a scalloped floor.
6. In a mechanism of the class described, the combination with a receptacle, of a tray removably positioned therein comprising a base, end walls secured to said base, compara tively narrow sides secured to said end walls and base, parallel partitions positioned within said tray at different widths forming compartments therein, and the floor of each compartment provided with approximately V-shaped grooves.
7. A device of the character described, comprising a sec tional receptacle, a tray removably positioned therein, comprising end walls, comparatively narrow side walls secured to said end walls, parallel partitions positioned between said end and side walls, said partitions spaced apart at different widths, each compartment provided with a floor having approximately \(V\)-shaped grooves of varying depths formed therein, and one of the compartments having the grooved portion of its floor formed in a different horizontal plane from that in which the remaining floors are constructed.
8. In a device of the character described the combination of a sectional receptacle, comprising similarly constructed sections, trays positioned within said receptacle and partially extending beyond an end of one of the sections, one of said trays provided with an opened side and a plurality of pockets, a top secured upon said tray and partially inclosing said pockets, the other tray positioned within said receptacle provided with partitions forming compartments, each of said compartments provided with a scalloped floor.
9. In a device of the character described the combination with a primary and an auxiliary section pivotally connected. each of said sections similarly constructed, a plurality of trays, positioned within the primary section and extending beyond the end thereof, one of said trays provided with partitions forming compartments, said compartments having opened ends, and another of said trays provided with a narrow side portion and with a floor having approximately \(V\) shaped grooves.
10. A device of the character described comprising two similarly constructed pivotally connected sections, trays positioned within one of said sections and projecting beyond the ends thereof, one of said trays provided with comparatively narrow sides and with compartments, said compartments having scalloped floors of varying dimensions, and means for retaining said sections in a folded position.
11. In a device of the character described the combination of a primary section, said section provided with a pivotally connected cover, differently constructed trays positioned within said primary section and extending beyond the ends thereof, one of said trays provided with a floor having approximately V-shaped grooves formed therein, the cover adapted to partially inclose one end of each tray when closed upon said primary section, and) means for retaining said cover in a positive closed position.
12. A cash and currency cabinet, comprising two pivotally connected sections, trays removably positioned within said sections, one of said trays provided with a plurality of parallel partitions extending the entire width thereof, said partitions providing a plurality of compartments, said tray having an opened end, another tray provided with a transverse partition extending the entire width thereof, a longitudinal partition positioned within said tray, a plurality of transverse partitions connecting said longitudinal partition with the sides of said tray, another tray provided with comparatively narrow sides and a plurality of parallel partitions positioned within said tray, said partitions forming compartments therein, said compartments provided with floors having substantially \(V\)-shaped grooves of varying dimensions formed therein.
13. In a device of the character described the combination of a receptacle, comprising a base section and a cover, a partitioned tray mounted within the base section, said tray projecting beyond the opened end of said section, and said cover adapted to be closed upon said section for inclosing the projecting portion of the tray.
14. In a device of the class described, a tray provided with longitudinal partitions spaced apart at varying distances and producing compartments of different widths, and each compartment provided with a scalloped floor.
15. In a device of the character described a tray provided with parallel partitions spaced apart for producing compartments of different dimensions and said compartments provided with scalloped floors of different dimensions.

\section*{No. 101,938. Driving Mecluanism.}

Mécanisme de commande.


Frederick Kleinvogel, Newport, Kentucky, U.S.A., 6th Novvember, 1906; 6 years. Filed 14th August, 1906. Receipt No. 138,689.
Clain.-1. The combination with a frame, of a shaft carried by the frame and having at its ends crank arms provided with rollers, levers pivoted to the frame and engaging the rollers of the crank arms, treadle levers pivoted to the frame and connections interposed between the treadle levers and the crank engaging levers adapted to transmit power to the latter, bars pivoted to the frame and pivotally suspending the interposed connections, links pivoted to the crank engaging levers and pivotally connected to the interposed connections and links pivoted to the treadle levers and also pivoted to the interposed connections, substantially as described.
2. The combination with a frame, of a driven shaft mountad thereon, a driving shaft having at each end a crank arm provided with a roller, a fly wheel rotatably supported upon the frame, sprocket wheels and co-acting chains adapted to transmit action from the driving shaft to the driven shaft and to the fly wheel crank, operating levers pivoted to the frame and engaging by rolling contact the rollers of the crank arms, treadle levers pivoted to the frame, and connections interposed between the treadle levers and the crank engaging levers adapted to transmit power to the latler, bars pivoted to the frame and pivotally suspending the interposed connections, links pivoted to the crank engaging levers and pivotally connected to the interposed connections and links pivoted to treadle. levers and also pivoted to the interposed connections, substantially as described.

\section*{No. 101,939. Barber's Chair. Fauteuil de barbic's.}

Alfred Miller, Toronto, Ontario, Canada, 6th November, 1906; 6 years. Filed 17 th April, 1906. Receipt No. 134,974.
Claim.-1. The- combination with the head rest, of a roller located in front of the head rest, a cylinder hung from the rear of the head rest and carrying a roll of paper, the paper from which extends through a slot in the cylinder up over the head rest around the front roller and backwardly again underneath the upper layer of paper and down in front of the cylinder, as and for the purpose specified.
2. The combination with the headrest, of a roller located in front of the head rest, a cylinder hung from the rear of the head rest and carrying a roll of paper, the paper from which extends through a slot in the cylinder up over the head rest around the front roller and backwardly again underneath the upper layer of paper and down in front of the cylinder and a knife bar carried by the cylinder, as and for the purpose specified.
3. The combination with the head rest, of a roller located in front of the head rest, a paper carrying means located to the rear of the head rest, the paper of which extends up over the head rest around the front roller and backwardly again underneath the upper layer of paper and down in front of the paper carrying means, as and for the purpose specified.
4. The combination with the head rest, of a roller located in front of the head rest, a paper carrying means located to the rear of the head rest, the paper of which extends up over the head rest around the front roller and backwardly again in front of the paper carrying means, and means
located behind the head rest for severing the paper, as and for the purpose specified.

5. The combination with the head rest, of a roller located in front of the head rest and a roller hung from the rear of the head rest and carrying the roll of paper, the paper from which extends over the head rest around the front roller and backwardly again underneath the upper layer of paper and downwardly in front of the rear roller, as and for the purpose specified.

No. 101,840. Fastener for Aprons. Attache de tablier.
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Michael Joseph OConnor, Denver, Colorado, U.S.A., 6th November, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,072.
Claim.-1. A device of the character described, comprising a waist belt and a pair of clips each of which is mounted to slide on said belt independently of the other, said clips being provided with fingers adapted to engage the grommets of an apron.
2. A device of the character described, comprising a waist belt, and clips mounted to slide thereon and provided with means for automatically limiting the sliding movement to one direction, said clips being provided with fingers designed to take the grommets of an apron.
3. A device of the character described, comprising a waist belt, and clips mounted to sllde on said belt, said clips being provided with spring latch plates designed to permit the free movement of said clips in one direction only, and sald clips being also provided with fingers designed to take into the grommets of an apron.
4. A device of the character described, comprising a waist belt provided with a series of holes or eyes, and clips mounted to slide on said walst belt and each provided with a finger designed to take into the grommet of an apron, said clips comprising base piates each formed with an aperture and pivoted latch plates each having a bevelled lug designed to extend through the apertures and into the holes in the waist belt, as and for the purpose set forth.
5. A device of the character described comprising a waist belt, and a pair of clips adjustably mounted on said belt, said clips being movable independently of each other on the belt and being provided with means for engaging an apron.
6. A device of the character described, comprising a waist belt provided with apertures, and clips mounted to slide on said belt and provided with lugs adapted to enter said apertures to hold the clips at different adjusted positions on the belt, each clip being provided with means for holding an apron.
7. A device of the character described, comprising a waist belt provided with two series of apertures and a slot interposed between said series, and clips provided with retaining lugs engaging two longitudinal portions of the belt produced by said slots and provided with means for cngaging in said apertures, substantially as set forth.

No. 101,941. Flaz Retting Apparatus.
Appareil pour le rouissage du lin.


Charles Robert Rogers, South Melbourne, Victoria, Australia 6th November, 1906; 6 years. Filed 10th August, 1906. Receipt No. 138,574.
Claim.-1. My improved process of retting or degumming and subsequently cleaning and drying fibrous materials preparatory to obtaining the fibre therefrom, consisting in boiling the material to be treated in water to which has been added an emulsion of linseed oil, passing the material between a set of squeezing rollers and spraying same with water to which has been added an emulsion of linseed oil, and then spraying same with water alone while passing between other sets of rollers, and subsequently passing it over a drying table, as described.
2. The process of retting and degumming and subsequentiy cleaning and drying fibrous materials, which consists in boiling the material to be treated at about \(98^{\circ} \mathrm{C}\) in water to which has been added an emulsion of linseed oil, then removing the material from the bolling vat to a tank, divided into compartments, then passing the material between spring pressed squeezing rollers, and spraying the same with water to which has been added an emulsion of linseed oil, and then spraying the same with water alone while passing between other sets of rollers, and subsequently passing it over a steam heated drying table, substantially as described.
3. The process of retting and degumming fibrous materials, which consists in treating the material with heated water to which has been added an emulsion of linseed oll, substantially as specifled.
4. In apparatus as described, the combination with a tank 12 having three compartments, of the squeezing rollers 16,18 and 19 , conveying rollers 22 and 24 , means for operating sald rollers and regulating the pressure, and means for raising and spraying the contents of the compartments of said tank 12 on to the material as it enters between each set of the said rollers, substantially as herein described.
5. In apparatus as described, the combination with the longitudinal pipes 43 heated by steam from steam supply pipe 35 , of a tap 44 to control the amount of steam passing from said pipe 35, endless chains 45 provided with straps or laths 49, and means for transmitting motion to said endless chain. perforated pipes 38 in proximity to the squeezing rollers, the depending pipes 39 open at the bottom, and the injector 40, substantially as described and for the purpose specified.

No. 101,942. Razor. Rasoir.
Rollin Breed Fuller. Chicago. Illinios, U.S.A., 6th November, \(1906: 6\) years. Filed 17th October, 1906. Receipt No. 140.390.

Claim.-1. A safety razor comprising a guard leaf and handle leaf having pivotal connection and a blade clampingly secured against the inner surafce of the guard leaf, for the purpose set forth.
2. A safety razor comprising a guard leaf, a handle leaf and an interposed clamping leaf pivotally connected, and a
wardly extending cylinder being placed in communication by a duct or pasage, a rod pasing vertically through the

valve casing and through the cylinder at the bottom thereof and connected with the piston in the hydraulic cylinder, said rod being also provided below the partition in the valve casing with a valve adapted to close the port or passage in said partition and below said valve with a piston movable in the cylinder at the bottom of said valve casing and automatic devices in operative connection with sald rod for holding the same in a depressed position and holding said valve open.
2. In an automatic variable cut-off governor for steam pumps adapted to be connected to the water end of a pump and to the steam supply pipe of the same, a hydraulic cylinder and piston with one end of which the water delivery pipe is connected, a throttle valve for the steam supply pipe provided with an ancillary piston movable in a cylinder forming part of the steam valye casing. springs and weights for holding the steam and hydraulic piston in one position with the steam valve normally open, said piston being operated in one direction so as to close the steam valve by pressure in the water delivery pipe and in opposite direction by springs and weights, and an automatically operated condonsed watar drain valve placed in the steam supply pipe whereby said drain valve is held normally open when the governor closes the steam supply pipe.

No. 101,944. Controller for Electric Motors.
Contrôlcur pour moteurs f́lcctriqucs.

G. A. Edward Kohler and Franklin W. Kohler, assignee of Charles A. Dresser, all of Chicago, Illinols, U.S.A., 6th Charles A. Dresser, all of Chicago, Illinois, U.S.A., 6th
November, \(1906 ; 6\) years. Filed 4th October, 1904. Receipt No. 118,915 .
Claim.-1. A controlling device for motors comprising two sets of resistance contacts having resistances associated therewith, an intermediate neutral contact. a contact device adapted to be moved along said contacts, a solenoid for actuating said contact device, and a series of circult connections arranged so that when the contact device is moved in one direction from the neutral contact, the motor will run forward and when moved in the opposite direction from said dead or neutral contact the motor will be reversed, means for controlling said contact device from a distant point, and switches for changing the connections and solenoids for operating them.


Charles Palmer McMullen and William Elmer Nye, Wareham. Massachusetts, U.S.A.. 6th November, 1906 ; 6 years. Filed 7th July, 1906. Receipt No. 137.620.
Claim.-1. In an automatic variable cut-off governor for steam pumps adapted to be connected with the water end of a pump and with the steam supply pipe thereof, a hydraulic cylinder connected with the water dellvery pipe of the pump and provided with a piston, a valve casing arranged over sald cylinder and connected therewith and provided with oppositely arranged inlet and outlet ports. a steam pipe adapted to connect the inlet port with a steam supply, a steam pipe adapted to connect with the outlet port with the pump. said valve casing being also provided with a horizontally ranging partition having a central port or passage and with a downwardly extending cylinder, the outlet end of the valve casing and the bottom of the down-


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lade interposed urpose set forth.
3. A safety razor comprising a guard leaf, a handle leaf and an interposed clamping leaf pivotally joined together at one longitudinal edge, and means clampingly connecting the guard leaf and clamping leaf together at the end edges thereof, for the purpose set forth.
4. A safety razor comprising a guard leaf, a handle leaf plvotally joined to a longitudinal edge and having limited opening movement with relation thereto, an interposed pivoted clamping leaf having its end edges equipped with means for clampingly engaging the end edges of the guard leaf and a blade confined between the clamping leaf and guard leaf, for the purpose set forth.
5. In a safety razor the combnation of a guard leaf, a handle leaf and a clamping leaf having aligned pivot lugs, a common pivot for the leaves joining said lugs together, a blade interposed between the guard leaf and clamping leaf, and means clampingly securing the ends of the guard leaf and clamping leaf together, for the purpose set forth.
6. In a safety razor the combination of a handle leaf and guard leaf plyotally joined together at one longitudinal edge, a blade and blade clamping means carried by the end portions of the guard leaf, for the purpose set forth.
7. In a safety razor the combination of \(n\) handle leaf, guard leaf interposed clamping leaf having aligned pivot lugs at one longitudinal edge, a common connecting pivot for the leaves. a blade interposed between the clamping leaf and guard leaf, blade clamping means caspied by the end portions of the guard leaf, and clamping means carried by the end portions of the clamping leaf and engaging the ends of the guard leaf.
8. The combination of a guard leaf, clamping leat and handle leaf having common pivotal connection at one longitudinal edge, a blade and lug and notch connection between one of said two first-named leaves and the ends of the blade, for the purpose set forth.
9. The combination of a guard leaf, clamping leaf and handle leaf having common pivotal connection at one longitudinal edge, a blade. lugs carried by the end portions of the guard leaf received by notches in the ends of the blade and lugs carried by the end portions of the clamping leaf clampingly engaging the ends of the guard leaf, for the purpose set forth.

\section*{No. 101,943. Governor for Pumping Engines. Gouverneur pour pompes.}
2. A controlling device for motors comprising a solenoid, a core therefor provided with a contact device, a series of contacts along which said core is adapted to move, an intermediate point where said contact device normally stands when the motor is not running, and means for returning said contact device to said intermediate point when moved in rither direction therefrom.
3. A controlling device for motors comprising two sets of contacts, a contact device adapted to move therealong. a solenoid for moving it, an intermediate neutral contact or contacts engaged by said contact device when the motor is Idle, means controlled from a distant point for moving the contact device in one direction from the neutral contacts, and a separate means controlled from a distant point for moving the contact device in the other direction, whereby the contact device cannot be moved from one set of contacts to the other without being stopped at the neutral contacts, and switches for changing the connections and solenoids for operating them.
4. A controlling device for motors comprising a series of forward resistance contacts and a series of reversing resistance contacts, an intermediate neutral contact or contacts, a contact device normally associated with the neutral contacts, an electric magnetic device for controlling said contact device, two switches located at a distant point, one adapted when operated to cause the contact device to move to the neutral point and the other adapted when operated to move the contact device along the reversing contact.
5. A controlling device for motors comprising two sets of resistance contacts, one for starting the motor forward and the other for reversing 1 t , an intermediate neutral point, a solenoid provided with al core, a contact device associated with said core and adapted to be moved along said contacts. a stop device for the contact device, inoperative when the contact device is moving along the reverse contacts but adapted to stop the contact device at the neutral point, and suitable electro-magnetically controlled switches for chano ing the circuits.
6. A controlling device for motors comprising two sets of resistance contacts, one for starting the motor forward and the other for reversing it, an intermediate neutral point, a contact device adapted to move along said contacts, a controlling solenold therefor, a circuit controlling device in the motor circuit, a switch device controlled by said solenoid and adapted to cause the circuit controlling device to break the motor circuit when the contact device is moved toward the neutral point.
7. A circuit controlling device for motors comprising two sets of resistance contacts, one for starting the motor forward and the other for reversing it, a neutral point between said contacts, a contact device adapted to move along said contacts, an electro-magnetic controlling device therefor, two electrically controlled switches in the motor circuit, one adapted to be actuated when the contact is moved in one direction from the neutral point and the other adapted to be actuated when the contact is moved in the other direction from the neutral point.
8. A circuit controlling device for motors comprising two sets of resistance contacts, one for starting the motor forward and the other for reversing it, a neutral point between sald contacts, a contact device adapted to move along said contacts, an electro-magnetic controlling device therefor, two electrically controlled switches in the motor circuit, one adapted to be actuated when the contact is moved in one direction from the neutral point and the other adapted to be actuated when the contact is moved in the other direction from the neutral point, and a circuit controlling device associated with said contact device and adapted to control said switches.
9. A controlling device for motors comprising two sets of resistance contacts, one for starting the motor forward and the other for reversing it, an intermediate neutral point, a contact device adapted to be moved along said contacts, a controlling solenold therefor, two circuits associated with said solenoid, one adapted when closed to cause the contact device to move along the forward contacts and the other adapted when closed to cause the contact device to move along the reverse contacts.
10. A controlling device for motors comprising two sets of resistance contacts, one for starting the motor forward and the other for reversing it, an intermediate neutral point, a contact device adapted to be moved along said contacts, a controlling solenoid therefor, two circuits associated with said solenoid, one adapted when closed to cause the contact device to move along the forward contacts and the other adapted when closed to cause the contact device to move along the reverse contacts, two electrically operated switches in the motor circuit, one controlled by each of sald solenoid circuits.
11. A controlling device for motors comprising a series of resistance contacts, a movable device adapted to move therealong, a controlling solenoid for said movable device, a
switch in the motor circuit, a controlling switch at a distant point adapted when moved to cause the switch in the motor circuit to be opened and the solenold to be energized so as to move the movable device to its initial position, and suitable circuit connections between the various devices.
12. A contrblling device for motor comprising a series of resistance contacts with resistances associated therewith, a contact device adapted to move therealong so as to cut resistance into or out of the motor clrcuit, two circuits leading through said controlling solenoid, one adapted to be closed at a distant point, and the other normally closed when the current is turned on.
13. A controlling device for motors comprising a series of resistance contacts with resistances associated therewith, a contact device adapted to move therealong, a controlling solenoid for controlling said contact device, two circuits through said solenold, one normally open and the other normally closed, and means at a distant point for closing one of said circuits and for opening the other circuit.
14. A controlling device for motors comprising a series of resistance contacts with resistances associated therewith, a contact device adapted to move therealong, an electro-magnetic controlling device therefor, a series of electrically controlled switches adapted to be controlled from a distant point so as to vary the motor circuit through the said contacts and resistances to cause the armature to be rotated in either direction.

No. 101,945. Find Gate for Wagong.
Arvière-panneau pour zoagons.


Robert R. Tichenor and Andrew Johnson, both of Feeley, assignee of Plwtebus Walker, Wadena, all of Minnesota,
U.S.A., 6th November. 1906 ; 6 years. Filed 22nd August, 1906. Recelpt No. 138,908 .

Claim.-1. In a wagon the combination with the side boards 2 and the narrower top box 4, of the end gate formed in two sections 20 and 22 , one of said sections being provided at one end with a locking device arranged to engage with the top box and the side boards, substantially as described.
2. The combination in a wagon having side boards 2 and extension boards 4 of a less width than said side boards of the end board 20 having a width equal to that of the side boards 2 and the end board 22 of a width equal to that of the extension boards 4 , one end of said board 20 being provided with projecting hooks 23 adapted to enter slots 10 in the side board 2 and the opening 14 in the extension boards 4. the other end provided with movable hooks adapted to enter similar slots 10 in the side board 2 and opening 14 in the extension board 4, said hooks being adapted to be lock"d in position when so entered whereby the side boards and extension boards are severally locked to the end board.
3. The combination in a wagon of the side boards 2 and oxtension boards 4 , angle irons 8 with roughened inner siles and having slots 10 and angle irons 12 having opening 14. end boards 20 and 22 provided in the projecting hooks 23 and the levers 25 and 11, said lever 41 being provided with a hook end roughened and pivotally connected to swinging hinge 43 , which is also pivotally connected to the plate 37 through the lugs 39, substantially as described and for the purpose specified.

No. 101,946. Cable Conpling. Joint pour cables.


Dossert and Company, assignee of John Joseph Dossert, all of New York City, New York, U.S.A., 6th November, 1906; 6 years. Filed 23rd March, 1904. Receipt No. 113,778.
Claim.-A coupling for stranded electric cables having a covering of soft metal such as lead and provided with an internal insulating wrapping between the metal covering and the cable strands, the said coupling consisting of coupling members for the individual cable wires inclosed in a second independent gas and water tight coupling sleeve connecting the ends of the soft metal jacket, in combination with a ring 11 with a tapered edge inserted between the soft metal covering and the insulating covering. the arrangement being such that the coupling members are pushed upon the cable ends in such a way that they do not lie upon the outermost ends of the lead jacket and of the inserted ring. whereby a direct strain upon these parts by pressure is avoided.

Nio. 101,947. Clasp. Agrafe.


The Hercules Safety Clasp Cempany, assignee of Isaac Steinberg, all of Nashville, Tennessee. U.S.A., 6th November, 1906; 6 years. Filed 15th August. 1906. Receipt No. 138,722.
Claim.-1. In a clasp and in combination a casing provided with a horizontal slit at one end thereof. an arched spring secured at one end to the bottom of the casing adjacent to the slit, a hook on the rise of the arch adjacent to the slit, a button scoured to the rise of the arch adjacent to the free end of the spring and projecting through the upper face of the casing and a slide traversing the slit in the casing and provided with an opening to encage the hook.
2. In a clasp the combination of a casing provided with an opening at one of the ends thereof. an archid spring secured at ond end to the bottom of the casing adjucwnt to the openink. a slifle traversing the opening on the casing, means actuated by the spring to engage the slldr. and means without the casing for depressing the spring to release the enfaging means.

No. 101,948. Device for Producing Sound Signals in Water.
Appareil pour produire par le son des signeaux dans l'eak.

submarine Signal Company. Waterville, Maine, assignee of Horace Bigelow Gale, Boston, Massachusetts, U.S.A.. 6th November, 1906; 6 years. Filed 9th August, 1906. Receipt No. 138,053.
Claim.-1. In an apparatus for producing sound signals in water by which they are transmitted, the combination of a resonant body having a portion of its surface adapted to be exposed to contact with water, and a portion thereof shielded therefrom, and means whereby the resonant body may be excited to produce and transmit sound signals in the water, said means being located to act upon the shielded portion of said resonant body.
2. In an apparatus for producing sound vibrations in water by which they are transmitted, the combination of a resonant body adapted to be exposed upon the one side to contact with water, means for excluding water from the other side thereof, and means adapted to excite the resonant body located upon the side thereof from which water is to be excluded, whereby said resonant body will be caused to produce and transmit sound signels through the water.
3. In an apparatus for producing sound vibrations in water by which they are transmitted, the combination of a resonant body, the outside surface of which is adapted to be exposed to contact with water, means for exclullin' water from the inside surface thereof, and means for exciting the resonant body located to act upon the side thereof from which water is to be excluded.
4. In an apparatus for producing sound vibrations in water by which they are transmitted, the combination of a resonant case adapted to be immersed in water, and from the interior of which water is to be excluded, means enclosed in the case for exciting the resonant body to impart sound vibrations to the surrounding water, and means for operating the exciter from a point outside the case. as set forth.
5. In an apparatus for producing sound vibrations in water, by which they are to be transmitted, the combination of a resonant case immersed in water from the inside of which water is excluded, a striker adapted to strike against the inner surface thereof to cause the vibration of said case, means for operating said striker and means for causing the actuating of said striking operating means from a point outside the casing, as described.
6. In an apparatus for producing sound vibrations in water, by which they are transmitted, the combination of a closed metallic case, a striker enclosed in the said case and adapted to strike upon the inside surface thereof, electrical mechanism, enclosed in the case, for actuating the said striker, and a cable or insulated wire attached to the case and entering the same through a sealed opening whereby electrical power may be conveyed inside the case for operating the striker, thereby transmitting sound signals through the water, in which the case is immersed.
7. In an apparatus for producing sound vibrations in water, by which they are transmitted, the combination of a cylindrical metallic case, having a thickened portion forming a circumferential ring, a striker enclosed in the said case and adapted to strike the said ring, an electrical mechanism for actuating the striker, and a cable or insulated wire entering the case through a sealed opening whereby electrical impulses may be conveyed inside the case for operating the striker, substantially as set forth.
8. A water tight case, a portion of whlch is capable of exciting vibrations in water in contact with It, and means adapted within the case whereby the vibrating portion of said case may be set in motion, as described.
9. A water tight case capable of vibration and of transmitting vibrations to water in which such case is sub. merged, and means located within sald case whereby vi. brations may be set up in said case, as described.
10. A water tight case capable of transmitting vibrations to water in which such case is submerged and means located within said case whereby such vibrations may be excited, as get forth.
11. A water tight case capable of transmitting vibrations to water in which it is submerged, means located within said case whereby such vibrations may be excited, and mechanism located outside the case whereby said exciting means may be operated, as set forth.
12. A water tight case having two or more faces each capable of transmitting vibrations to water and each attuned differently from the other, said case being adapted to be submerged in water, said case being provided with means located therein whereby such vibrations may be excited, in combination with means located outside the case whereby sald exciting means may be operated.

No. 101,949. Air Brake for Antomobiles.
Frein à air pour automobiles.


The Kalisch Air Brake Company, assignee of Frederick Kalisch, all of St. Louis, Missouri, U.S.A., 6th November, 1906; 6 years. Flled 12th June, 1906. Recelpt No. 136,810.

Claim.-1. The combination with the engine of an automobile, of a friction pulley riding on the fly wheel of the engine, an air pump operated by the rotation of the friction pulley, a storage tank, a brake cylinder, tubular connections from the storage tank to the air pump and to the brake cylinder, and means whereby the pressure within the storage tank is utilized to automatically move the friction pulley into and out of engagement with the fly wheel of the engine, substantially as spectifed.
2. In an apparatus of the class described, a friction pulley mounted so as to move into engagement with the fly wheel of an engine, an air brake pump, driving mechanism from the friction pulley to the air pump, a storage tank, a brake cylinder, tubular connections from the air pump to the tank and from the tank, to the brake cylinder, a small cylinder connected to the storage tank, a spring actuating piston actuating therein, and suitable connections from the piston tc the friction pulley for moving the same into and from irictional engagement with the fly wheel of the engine, substantially as specifled.

\section*{No. 101,950. Wrench. Clé à écrou.}

Benjamin F. Nedrow and Hiram R. Andirews, Seattle, Washington, U.S.A., 6 th November, \(1906 ; 6\) years. Filed 18th September, 1906. Receipt No. 139,600.
Claim.-1. A wrench comprising a handle formed with a jaw, and a movable jaw, a U-shaped yoke straddling said handle and provided with teeth, pins on said movable jaw for engagement with the teeth of said yoke, and means to swing said yoke.
2. A wrench comprising a handle provided with a jaw, a frame secured to sald jaw, a second jaw pivoted in said frame, a yoke straddling said handle and being formed with teeth, pins on snid pivoted jaw for engagement with said teeth, and a tan le pivoted to said first handle, sald yoke, being pivoted to sald last handle.
3. A wrench comprising a handle provided with a fixed jaw, a movable jaw having a rearwardly extending portion, of pins secured to the rearwardly extending. portion of safd movable jaw, a handle pivoted to the first-named handle, a
toothed means pivoted to the last-named handle and hating its teeth engaging said pins, and resilient means for for-

mally holding the teeth of said means in engagement with said pins.

No. 101,951. Wrench. Clé à Ecrou.


Francis M. Straube, Boulder, Colorado, U.S.A., 6th Novethber, 1906; 6 years. Filed 19th October, 1906. Receipit No. 140,435.
Claim.-1. A wrench comprising the combination with a fixed jaw and a handle having a rack face, of a sliding jaw longitudinally movable on said handle, a threaded arm secured to said sliding jaw, an internaliy threaded collar on said threaded arm, said collar having external rings for cóoperating with the rack portion of the handle, means at the free end of the arm for locking the same with the hadmate and a spring device carried by the handle for engaging the free end of the arm to force it away from the hamofe, substantially as shown and described.
2. A wrench of the character stated comprising the combination with the flxed jaw and a handle having a rack portion, of a movable jaw longitudinally slidable on said handle, an arm pivotally secured to said slidable jaw, said arm comprising a head portion and a threaded shank, an internatly threaded collar on said threaded shank, said coltar havitg external rings for co-operating with the rack portion of the handle, a U-shaped locking pawl pivotally secured to the said threaded shank at its free end and adapted to lock over said handle and spring devices carried by the handle for en'gaging the arm to force it away from the handle, substan. tially as shown and described.
3. A wrench of the character stated comprisfing the combination with the fixed jaw and a handle having a rock portion, of a movable jaw longitudinally slidable on said handle, an arm pivotally secured to said slidable jaw, said arm comprising a head portion and a threaded shank, an internaily threaded collar on said shank, said collar having external

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rings for co-operating with the rack portion of the handle, s U-shaped locking pawl pivotally secured to the said threaded shank at its free end and adapted to lock over the said handle, said portion having a finger end and a locking spring secured to said pawl in sald finger end for locking with said handle, substantially as shown and described.
4. A wrench of the class described comprising the combination with a fixed jaw and a, handle integrally secured thereto, of a movable jaw longitudinally slidable on said handle, an arm pivotally secured to the sliding jaw, said arm and said sllding jaw having co-operating shoulders, a collar longitudinally adjustable on said arm, said collar having external rings for co-operating with the rack portion of the handie, a locking pawl pivotally secured to the free end of said arm for locking with said handle and a spring device carried by the handle for engaging the free end of the arm to force it away from the handle, substantially as described.
5. A wrench comprising the combination with a fixed jaw and a handle having a rack face and a grooved portion, of a sliding jaw longitudinally movable on said handle and a threaded arm pivotally secured to said sliding jaw, an internally threaded collar on sald threaded arm. said collar having external rings for co-operating with the rack portions of the handle, means at the free end of the arm for locking the same with the handle, said free end of the arm adapted to rest in the grooved portion of the handle and a spring in the grooved portion of the handle for engaging the free ent of the arm to force it away from the handle, substantially as shown and described.

No. 101,952. Gas Tank. Réservoir d gaz.


Percy C. Avery, Milwaukee, Wisconsin, U.S.A., 6th November, 1906; 6 years. Flled 22nd October. 1906. Receipt No. 140,491.
Claim.-1. An apparatus for storing and delivering gas having in combination a tank, a body of flbrous material flling the tank, a solvent of the gas to be stored with which the flbrous material is saturated, said solvent being supersaturated with the stored gas, the tank being provided with a comparatively small opening and a removable closure for said opening, the flbrous material aforesaid being arranged in the form of a strand.
2. An arparatus for storing and delivering gas having in combination a tank, a body of fibrous material filling the tank, a solvent of the gas to be stored with which the fibrous material is saturated, said solvent being supersaturated with the stored gas, the tank being provided with a comparatively small opening and a closure for said qpening. the fibrous material aforesaid being arranged in the form of a strand, one end of which is attached to said closure, substantially as described.
3. In an apparatus for storing and delivering gas the comblnation of a tank having a comparatively small opening. a valve device having a threaded portion occupying said opening, a body of fibrous material flling the tank, said fibrous material being arranged in the form of a strand and having one end attached to the valve device and a solvent of the gas to be stored with which solvent the fibrous material is saturated, said solvent belng supersaturated with the stored gas, substantially as described.
4. In an apparatus for storing and delivering gas the combination of a tank having an opening, an absorbent body flling the tank, a solvent of the gas to be stored with which the absorbent body is saturated, said solvent being supersaturated with the stored gas, a valve device closing said opening and a perforated tube extending from the valve device into the absorbent body, substantially as described.
6. In an apparatus for storing and dellvering gas having In combination a tank, having through one of its end walls a comparatively small openling, a removable closure for said opening. a body of fibrous material flling the tank, a solvent of the gas to be stored with which the flbrous material is saturated, sald solvent being supersaturated with the stored gas and the fibrous material being arranged in the form of a strand, substantially as described.

\section*{No. 101,953. Back for Eeats. Dos de fautoull.}


Archibald Conrad Clark, Lillington, North Carolina, U.B.A.
6th November, 1906; 6 years. Filed 1st September, 1906.
Receipt No. 139,169.
Claim.-1. A back support comprising side frames, means adjustably securing said frames together, clamps at the lower portion of the frames for attaching the frames to the seat, and braces extending forwardly from each frame.
2. A back support comprising side frames, means adjustably securing said irames together, clamps at the lower portion of the frames for attaching the frames to the seat, and adjustable braces extending forwardly from the outer end portion of each frame and having attaching means for securing same to the seat.
3. A back support for seats comprising side frames, each frame embodying horizontal and vertical bars, braces adjustably connecting the horizontal bars to each frame, clamps at the lower ends of the vertical bars of each prame, adjustable braces extending forwardly from the upper end portion of each frame, clamps at the outer ends of said braces, back rests for the frames, and rings and spring engaging members carried by each back rest to engage the vertical bars of the frames.

No. 101,954. Button. Bouton.


Richard H. A. D'Ally, Tiptonville, Tennessee, U.s.A., Gh November, 1906; 6 years. Filed 1st August, 1906. Receipt No. 138,326.
Claim.-1. The combination with a fabric, of plates disposed against opposite faces thereof and having aligning perforations, a staple passed through certain of the perforations and the fabric with their ends against one of the plates, and a wire having its central portion looped and its end portions passed also through perforations of the plates and through the fabric and having-their extremities bent against one of the plates.
2. In a button the combination with a plate having openings therethrough, of a wire having its central portion loopei and having portions bent to lle behind the loop and to extend bryond the latter, sald portions outwardly of the loop being bent to extend through the openings of the plate and said wire having end portions bent beyond the plate in opposite directions.

\section*{No. 101,955. Electric Motor. Noteur électrigme.}

Dugald Caleb Jackgon, Madison, Wisconsin, U.S.A.- 6th November. 1906; 6 years. Flled 6th October, 1902. Recelp: No. 99,572 .
Claim.-1. In an induction motor the combination with teid poles, of an armature provided with a normally short circuited induction motor winding, an auxiliary windiog also
provided upon the said arinature, a commutator in electrical connection with the said auxiliary winding, brushes adapted

for engagement with the sald commutator, a closed circuit eleotrically connecting the brushes, means for controlling the continuity of the circuit through the said brushes, means for varying the resistance between commutator segments of the said commutator, and supplemental field magnet coils applied to the fleld magnet included in the circuit uniting the said brushes for the purpose of increasing the amount of current passing through the said auxiliary winding, substantially as descrited.
2. In an induction motor the combination with field poles, of an armature provided with a normally short circuited induotion motor winding, an auxiliary winding also provided upon the said armature, a commutator in electrical connection with the said auxiliary winding, brushes adapted for engagement with the said commutator, a closed circuit electrically connecting the brushes, means for controlling the continuity of the circuit through the said brushes, and auxiliary resistance adapted for inclusion between adjacent commutator segments, substantially as described.
3. In an induction motor the combination with field poles, of an armature provided with a normally short circuited induction motor winding, an auxiliary winding also provided upon the said armature, a commutator in electrical connection with said auxiliary winding, brushes adapted for engagement with the said commutator, a closed circuit electrically connecting the brushes, means for controlling the continuity of the circuit through the said brushes, auxiliary resistance adapted for inclusion between adjacent commutator segments, and means for varying said resistance, substantially as described.
4. In an induction motor the combination with field poles, of an armature provided with a normally short circuited induction motor winding, an auxiliary winding also provided upon the said armature, a commutator in electrical connection with said auxiliary winding, a frame acting in cooperation with sald commutator and movable longitudinally thereof for including resistance between the commutator segments, brushes adapted for engagement with the said commutator, a closed circuit electrically connecting the brushes, and means for controlling the continuity of the circuit through the said brushes, substantially as described.
5. In an alternating current motor the combination with field magnets, of an armature therefor, a winding provided upon the sald armature, a commutator for sald winding, brushes adapted to engage the said commutator, a frame act Ing in connection with the said commutator and movable longitudinally thereof for including resistance between adjacent plates thereof, substantially as described.
6. In an alternating current motor the combination with field magnets, of an armature therefor, a winding provided upon the said armature, a commutator for sald winding. and means movable longitudinally of the said commutator and associated therewith for including a varying amount of resistance between adjacent plates of the said commutator, substantially as described.
7. In an alternating current motor the combination with feld magnets, of an armature therefor, a normally short circuited induction motor winding provided upon said armature, a second winding provided upon said armature, a commutator for said second winding. and means for including a varying resistance between adjacent plates of the said commutator. substantially as described.
8. In an alternating current motor the comoination with field magnets, of an armature therefor, a winding provided upon sald armature, a commutator for said winding, and means co-operatively associated with said commutator for including a varying amount of resistance between adjacent plates thereof. substantially as described.
9. In an alternating current motor the combination with a field winding, of an armature associated therewith having a winding, and means for including resistance in circuit between armature coils, substantially as described.
10. An alternating current motor, provided with field and armature portions, the armature portion being provided with a commutator, and resistances interposed between the armature coil connections with the commutator, substantially as described.
11. In an alternating current motor the comblnation with a field winding, of an armature associated therewith having a winding, means for including resistances in circuit beween armature coils, and means for varying said resistances, substantially as described.
12. In an alternating current motor the combination with the armature and field portions thereof, of a commutator for the armature having connections therewith, and resistances intervening between the connections of the armature with the commutator, each resistance forming with the corresponding armature coil a closed circuit, substantially as described.
18. In an alternating current motor the combination with field windings, of an armature winding therefor, terminals leading from intermediate positions around said winding. resistances interposed between said terminals, and means for varying said resistances. substantially as described.
14. In an induction motor the combination with field poles, of an armature provided with a normally short circuited induction motor winding, an auxiliary winding also provided upon the sald armature, a commutator in electrical cannection with the said auxiliary winding, brushes adapted for engagement with the said commutator, a closed circuit electrically connecting the brushes, means for controlling the continuity of the circuit through the said brushes, and supplemental field magnet coils applied to the feld magnet included in the circuit uniting the said brushes, substantially as described.
15. In an alternating current motor the combination with field magnets, of an armature therefor, a winding provided upon the said armature, a commutator for sald winding brushes adapted to engage the said commutator, and auxiliary resistances for inclusion between adjncent commutator segments, substantially as described.
16. An alternating current motor provided with field and armature portions, the armature portion being provided with a commutator and resistances bridging between commutator segments, substantially as described.
17. An alternating current motor provided with field and armature portions, the armature portion being provided with a commutator, and resistances bridging between the adjacent commutator segments, substantially as described.
18. An alternating current motor, provided with field and armature portions, the armature portion being provided with a commutator, and resistances bridging between suitable commutator segments, each reslstance being in parallel with an armature coll connecting between the segments, substantially as described.
19. An alternating current motor provided with field and armature portions, the armature portion being provided with a commutator, and resistances bridging between the adjacent commutator segments. each resistance being in parallel with the corresponding armature coil, substantially as described.
20. In an alternating current motor the combination with the armature and fleld portions thereof, of a commutator for the armature having connections therewith. and resistances intervening between the connections of the armature with the commutator, each resistance forming with the corresponding armature coll a closed circuit, the brushes bearing upon the commutator being directly united electrically, substantially as described.
21. In an alternating current motor the combination with the armature and field portions thereof. of a commutator for the armature having connections therewith, resistances intervening between the connections of the armature with the commutator, each resistance forming with the cor responding armature coll a closed circuit, the brushes bearing upon the commutator being directly united electrically, and a controller in association with the brushes to vary the torque of the armature, substantially as desrribed.
22. An alternating current dynamo electric machine, having its armature provided with a short circuited winding and a commutated winding, and having a field winding in circuit with the brushes upon the commutator of the commutated winding, substantially as described.
23. An alternating current dynamo electric machine, having its armature provided with a short circuited winding and a commutated winding, and having a field winding in series with the brushes upon the commutator of the commutated winding, substantially as described.
24. An alternating current dynamo electric machine having its armature provided with a short circuited and a commutated winding, and having a field winding adapted for serial connection with an external circuit, and an auxiliary or supplemental fleld winding in circuit with the brushes upon the commutator of the commutated winding, substantially as described.
25. An alternating current dynamo electric machine havIng its armature provided with a shore circuited, and a commutated winding, and having a fleld winding adapted for serial connection with an exteraal circult, and an auxiliary or supplemental field winding in series with the brushes upon the commutator of the commutated winding, substantially as described.
26. A dynamo electric machine having a commutated armature, the commutator of the armature having resistance directly interposed between the connections of the armature colls with the commutator, substantially as described.
27. A dynamo electric machine baving a commutated armature, the commutator of the armature being divided into gections of segments, and resistances directly bridged between the segments of the commutator so as to be interposed between the connections of the armature with the cammutator, substantially as described.
28. A single phase alternating current motor having a computated armature, the commutator of the armature belas divided into sections or segments, and resistances directly bridged between the eegments of the commutator 89 as to be interposed between the connections of the armature with the commutator, substantially as described
29. A single phase alternating current motor having a commutated armature, the commutator of the armature being divided into sections or segments, and resistances directly bridged between the segments of the commutator so as to be interposed between the connections of the armature with the commutator; substantially as described.
30. An alternating current dynamo electric machine havIng a commutated -armature, the commutator of the armature having resistance directly interposed between the connections of the armature colls with the commutator, substantially as described.
81. An alternating current dynamo electric machine havIng a commatated armature, the commutator of the armature being divided into sections or segments, and resistances directly bridged between the segments of the commutator so as to be interposed between the connections of the armature with the commutator, substantially as described.
32. A dynamo electric machine having a field winding and two armature windings, one being a short circuited winding and the other a commutated winding, the short circuited Winding having its colls electrically joined. substantially as described.
83. A dynamo electric machine having a commutated armature winding and resistances interposed between the connections of the armature coils with the commutator. each resistance being included in closed circult with the carresponding armature coll, while a commutator brush when bearing upon the commutator at a point between the connections of an armature coll and the commutator is brought into parallel relation with the corresponding resistance and also with the corresponding armature coll, substantially as described.
34. A dynamo electric machine, having a commutated armature winding, the commutator being in the form of a continuous conductor of high resistance, substantially as deacribed.

Fip. 191,086. Anspondor. Bretelles.


Thomas Gabriel Mason, Toronto, Ontario, Canada, 6th November, 1906: 6 years. Filed 29th August, 190e. Receipt No. 139.071 .
Claim.-1. In a suspender the combination of the straps having the fooped lower ends and the tabs having the looped upper ends and the circular coil extending through the loops of the straps and tube, as and for the purpose speciB. 4.
2. In a suspender the combination of the straps having the looped lower ends and the tabs having the looped upper ends and the circular coll extending through the loops of the straps and tabs, and having one end of the coll fitting and held in the opposite end, as and for the purpose spectfled.
3. In a suspender the combination of the straps having the detachable looped lower ends and the tabs having the detachable looped upper ends and the circular coll extending through the loops of the straps and tabs, and having one end of the coil fitting and held in the opposite end. as and for the purpose specified.
4. In a suspender, support or the like for wearing apparel, a coiled spring arranged in circular or ring form and having the ends fastened together and designed to connect the two members of the support, as and for the purpose specified.

No. 101,957. Truck. Camion.


Pitt Pray, St. Paul, Minnesota, U.S.A.. 6th November, 19wf; 6 years. Filed 20th June, 1906. Receipt No. 137.0:5.
Claim.-1. A device of the class set forth, consisting in comblnation with the bed of a truck, having a nose plece. of an extension frame journalled on the forward end of the body of said truck, having a palr of spring arms, and catch shoulders on the sides of sald truck between which said arms are adapted to impinge when said frame is turn--d down on the bed of sald truck, for the purposes spectfled.
2. A device of the class set forth consisting in combination with the bed of a truck, having a nose piece on it forward end, of an extension frame, having a pair of spring rams journalled on sald bed to frictionally engage said truck when said frame is in superior position and resting against said nose piece, and catches on said bed, betweea which said arms are adapted to impinge when said frame is turned down upon said bed, for the purposes specifed.
3. A device of the class set forth consisting in combination with the bed of a truck, having a nose on its forward end, of an extension frame adapted to rest against sald nose when in superior position and flat upon sald bed when depressed. a journal connection between said extension frame and the bed of said truck, a pair of shoulders. against which sald erame is adapted to implnge when in lowered position, and a pair of stops near the opposite end of said truck adapted to co-act whith said extension frame. for the purposes specifled.
4. A device of the class set forth consisting in cambination with the bed of a truck, having a nose on tis forward end, of an extension frame having a pair of spring arms and a bevelled face between said arms surface strips on the bed of said truck, having bevelled edses, and a journal connection between the arms of sald extension prame and the bed of said truck, the arms of said frame. When turned down, adapted to engage sald bevelled edges of said surfac: strips, for the purpose specified.
5. A device of the class set forth consisting. in combination with the bed of a truck, having a nose upon its forward end. of side bars. having surface strips 12 attached thercto and provided with bevelled edges 14 and a crossbar ac. ad extension frame, having spring arms 8 and 9 . journal connoctions between the ends of said arms and said slife bars. said arms adapted to engage sald bevelled edges when the axtension prame is turned down upon the bed of the track. stops 18 adjoining sald crossbar, and journal connections between sald stops and side bers, for the purposes apecifled.

Mo. 101,058. Electric Rallway.
Chemin de fer électrique.


Robert Cooke Sayer, 11 Ciyde Road, Redland, Bristol, Eng land, 6th November, 1906; 6 years. Filed 29th August, 1904. Receipt No. 118,067 .

Claim.-1. The improved system of eleotric regulation of steam, electric, or other pressure rallways and tramways for effecting the automatic and simultaneous control of all vehicles on the system, comprising an electric generator, a continuous feed rail or conductor connected with the generator, two series of gectional return conductors arranged with the continuous ends of adjacent conductors running alongside each other, a trolley or current collector on each vehicle or train of vehicles arranged to traverse the feed rail, contacts on the trolley or collector of each vehicle or train for connecting the sectional conductors of its particular section to complete the circuit to the generator, and means for insulating portions of the said sectional conductors from the contacts, such insulated parts being so arranged that the circuit is only complete so long as the vehicles remain on alternate adjacent contacting end parts of the sectional conductors.
2. The improved system of electric regulation of steam, electric or other pressure railways and tramways for effecting the automatic and simultaneous control of all vehicles on the system, comprising an electric generator, a continuous feed rail or conducior connected with the generator, two series of sectional return conductors aranged with the contiguous ends of adjacent conductors running alongside each other! gapped return conductors adjacent the generator to prevent short c!rcuiting thereto, a trolley or current collector on each vehicle or train of vehicles arranged to traverse the feed rail, contacts on the trolley or collector of each vehicle or train for connecting the sectional conductors of its particular section to complete the circuit to the generator, and means for insulating portions of the said sectional conductors from the contacts, such insulated parts being so arranged that the circuit is only complete so long as the vehicles remain on alternate adjacent contacting parts of the sectional conductors.
3. In a system of electric regulation for rallways and tramways as described, comprising an electric generator, a continuous feed rall or conductor connected with the generator, two series of sectional return conductors arranged with the contiguous ends of adjacent conductors running alongside each other. a trolles or current collector on each vehicle or train of vehicles arranged to traverse the feed rail, and contacts on the trolley or collector of each vehicle or train for connecting the sectional conductors of its particular section to complete the circuit to the generator, means for insulating the conductors consisting of a continuous flexible cover, adapted to be raised by the trolley or collector as it runs on the feed rail, an underpart of insulating material in the cover adapted to receive the return conductors and insulate the adjacent end portinns of the said conductors from each other, and also to insulate the intermediate portions of the ronductors from the trolley contacts.
4. In a system of electric regulation for rallways and tramways as described, comprising an electric generator, a continuous feed rail or conductor connected with the generator, two series of sectional return conductors arranged with the contiguous ends of adjacent conductors running alongside each other, a trolley or current collector on each vehicle or train of vehicles arranged to traverse the feed rail, and contacts on the trolley or collector of each vehicle or train for connecting the sectional conductors of its particular section to complete the circuit to the generator, means for insulatIng the conductors consisting of a continuous flexible cover, adapted to be raised by the trolley or collector as it runs on the feed rail, means for normally holding the cover down on
the feed rail, an underpart of insulating material in the cover adapted to receive the return conductors and insulate the adjacent end portions of the said conductors from each other, and also to insulate the intermediate portions of the conductors from the trolley contacts.

No. 101,959. Spring Terminal Clip.
Boucle d ressort.


John Schade, Jr., New York City, New York, U.S.A., 6th November, 1906 ; 6 years. Filed 14th November, 1904. Receipt No. 119,944.
Claim.-1. A fastening device for electrical conductors formed from a single piece of resilient metal and comprising two opposing normally separated members, one of said members being provided with a V-shaped retaining portion projecting towards the opposite member and adapted to co-act with said opposite member to firmly clamp a conductor when said members are forced into operative relationship.
2. A fastening device for electrical conductors formed from a single plece of resilient metal and comprising a flat body member, adapted to lie upon a base and be fastened thereto, an opposing spring memper situated opposite and normally separated from said body member, one of said members provided with a hook-shaped wire retaining portion projecting towards the opposite member and adapted to co-act with said opposite member to clamp a conductor in deflned position therein when said members are forced into operative relationship.
3. A fastaning device for electrical conductors formed from a single piece of resillent metal and comprising two opposing normally separated members provided with acute angled retaining portions projecting towards each other, with the angles in proximity so that when the members are forced together a conductor may be inserted in the angles of the angular portions and firmly gripped in defined position therein by the retractive force of at least one of the members.
4. A fastening device for electric conductors comprising a single piece of resilient metal having normally separated opposing members, one being provided with an inwardly projecting acute angled portion and the other with a hook-shaped retaining portion projecting towards the tirst member and adapted to co-act therewith, whereby when the members are forced together a conductor may be inserted in said hook-shaped retaining device, and firmly gripped in defined position therein by the retractive force of at least one of the members.
5. A fastening device for an electric conductor formed of a single piece of resilient metal, comprising a body member, a stationary resistant member projectind apward from the body member and having a hook portion at its upper end, and an opposing spring member projecting upwardly from the body member at the forward end of the body nember, then downwardly toward the resistant member and in proximity thereto, then upwardly away from the body member.
6. A fastening device for electrical conductors formed of a single plece of resilient metal, comprising a recessed portion shaped to form a body member adapted to be secured to a support, a resistant member adapted to engage a conductor projecting upwardly from the body member and an opposing spring member situated over and enclosing the resistant member.
7. A fastening device for electrical conductors, comprising a single piece of resilient metal looped on itself to form a spring and having one end bent in a reverse direction to the loop to form with the bend of the loop an angular retaining portion, and a hooked portion projecting from the opposite end of the loop towards the angular retaining portion, whereby when the spring is forced towards the hook a conductor may be inserted in the angle of the hook and firmly gripped in a defined position therein by the retractive force of the spring.
8. A fastening device for electrical conductors formed from a single piece of resilfent metal and comprising two
opposing normally separated members, one member being provided intermediate the length thereof with a hook-shaped retaining portion adapted to engage a conductor and adapted to co-operate with the opposing member to clamp the conductor when said members are forced into operative relatlonship.
9. A lastening device for electrical conductors formed from a single piece of resilient metal bent in the form of \(a \quad U\) and having a hooked portion adapted to engage a conductor and a slotted portion near to the bend of the U at opposite ends thereof and normally separated, but so situated that when the ends of the \(U\) are pressed together the slotted portion encloses the hooked portion to grip an inserted conductor in defined position, a finger piece being provided at a greater distance from the bend of the \(U\) than are the slotted and hooked portion for flexing the spring, by means of which finger plece an increased leverage is obtained, and the spring may be flexed by the exertion of less force than is exerted retractively on the conductor by the spring.
10. A fastening device for an electrical conductor formed of a single piece of resilient metal, comprising a slotted portion shaped to form a body member, and upwardly projecting and curved resistant member adapted to engage a conductor, and a spring member situated over and enclosing the resistant member.
11. A spring fastening device for electrical conductors formed of a single plece of resilient metal, comprising a slotted body portion, a projecting resistant member, adapted to engage a conductor. and a soring portion situated over and enclosing the resistant portion.
12. A fastening device for an electrical conductor comprising a body member and a spring member, one of said members being slotted centrally to form a projecting hook tongue adapted to co-act with the opposite member to clamp a conductor.
13. A fastening device for electrical conductors, comprising a single piece of resillent metal looped on itself to form a spring and having one end bent in a reverse direction to the loop to form with the bend of the loop an angular retaining portion, and a resistant portion projecting from the opposite end of the loop towards the tagular retaining portion. whereby when the spring is forced towards the resistant portion a conductor may be inserted between the resistant and retaining portions and firmly gripped in defined position to the retractive force of the spring.
14. A fastening devien for an electrical conductor. comprising a body member and a soring member. one of sald members being provided with a hook tongue cut nut of the body of the metal ans adapted to co-act with the opposite member to clamp a conducter.

No. 101,960. Farness Buckle.Boterle de harnais.


Ira Sellers, Edmonton, Alberta, Canada. 6th November, 1906; 6 years. Filed 9th August, 1906. Receipt No. 138,519.
Claim.-1. In a harness buckle, a plate provided with hooks and with an opening, and an insertible member disposed in the opening and provided with a hook.
2. In a harness buckle, a plate provided with hooks and with an opening, and an insertible rockable member disposed in the opening and provided with a houk.
3. In a harness buckle, a plate provided with hooks and with an opening, and an insertible rockable member disposed in the opening and provided with a hook and with means to prevent its rocking.
4. In a harness buckle, a plate provided with hooks adjacent one edge and provided with an opening adjacent its opposite edge, and an Insertible member member provided with a recess in which the wall of the opening is disposed and provided with a hook.
5. In a harness buckle. a plate provided with hooks adjacent one edge and provided with an opening adjacent its opposite edge. and an insertible member provided with a recess in which the wall of the opening is disposed and provided with a hook and provided with a guard lug.
6. In a harness buckle. a plate provided with means for attaching to a part of the harness, provided with an open-
ing, and provided with caulks on its under face, and an Insertible member provided with means for engaging the wall of the opening, and means for attaching to a part of the harness.
No. 101,961. Vacrum Cleaning Apparatue.
Apparell a mettoyer a olde.


Henry Sorensen, Copenhagen, Denmark, 6th November, 1906; 6 years. Flied 5th May, 1906. Receipt No. 135.577.
Claim.-1. In a vacuum cleaner system a dust separator so constructed that a dead zone is formed baneath the curre ntof air in the separator and the momentum which is given the dust or impurities can be utilized to separate said impurities from such current of air which is sucked through impurities from such curd deposit them in said dead zone. the vacuum chamber and deposit them in said dead zone.
2. A dust separator for vacuum cleaner systems situated In the conduit between the nozzle and the suction pump and so constructed that a dead zone is formed beneath the current of air in the separator and the momentum which is given the dust and impurities can be utilized to separate said impurities from suich current of air, which is sucked through the vacuum cleaner, and to deposit the dust and impurities in said dead zone.
3. In a separator for separating and collecting dust from vacuum cleaners the combination with the conduit between the nozzle and the suction pump, of a receptacle provided with a rinse hole, a perpendicular or downward slanting inlet pipe leading from the nozzle for air and dust, and an outlet pipe for air placed higher than the inlet thus allowing the air to be drawn upward whilst the momentum of dust and impurities will force them downwards.

No. 101,962. Fifth Wheel. Roue d'avant-train.


Ira Teeter, Chatham, Ontarto, Canada, 6th November. 1906 6 years. Flled 25th June, 1906. Recelpt No. 137,233.
Claim.-1. In a vehicle the combination of an axle, \(n\) afth wheel secured thereto comprising a cylindrical portion and a mutilated bead, a cap fitting on the fifth wheel and provided with an integral crossbar connected to the springs and a forked reach engaging extension, said cap beias chambered to receive the bead on the ifth wheel, and a forked brace extending from the reach forward and upward to the front of the cap.
2. In a vehicle the combination of an axle, a fift wheel secured thereto comprising a cylindrical portion and a mutilated bead, a cap fitting on the fifth wheel and provided with means to engage the springs and an extension to engage the double reach, said cap being chambered to recelve the bead of the fifth wheol, a plate extending below the axle and having a cylindrical extansion, a forked brace oxtending from the double reach forward and upward through a lug on the front of the cap and provided with a socket to recelve the extension on said plate, and a bolt extending through said plate and brace.

No. 101,963. Fifth Wheel. Rove d'avant-train.


James Harris Booth, Great South Road, Jumbunna, Victoria, Australia, 6th Noven.ber, 19n5; 6 years. Filed 13th September, 1906. Receipt No. 139,485.
Claim.-1. A turn coupling for the purpose speciffed, consisting of two rings, one fitting and working within the other and held together by a sliding lock bar, each coupling ring being provided with ears or lugs whereby the upper one may be secured to the vehicle frame, and the lower one to the fore carrlage or front axle bar, substantially as described and shown.
-2. A turn coupling for the purpose specifled, consisting of two coupling rings of angular section constructed to fit one within the other, the upper ring having a holed upper lug at one side and a holed lower lug at the other side, both designed to receive the end parts of a sliding lock bar of the form shown, and both rings being provided with ears or lugs by which they can be clamped or otherwise secured in position, substantially as described and shown.
3. A turn coupling for the purpose specifed, conslsting of two angular section rings designed to fit and rotate or work one within the other and each provided with ears or lugs by which they are secured in position combined with a two part sliding lock bar having a telescopic joint at its center and withend jaws to grip the two rings and take into a holed lug at one side and lie between jaws at other side of the upper ring, substantially as described and shown.

No. 101,964. Vehicle Tongue. Timon de voiture.


James Benton Harral, Evert, Arkansas, U.S.A., 6th November, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,720.
Claim.-1. A device of the character described formed from a strip of metal bent upon itself adjacent to its center to form the loop 3 and upper and lower arms 4, 5, the latter arm being doubled and bent to form the hooks 6 and projection 7, substantially as described.
2. The combination with a vehicle tongue or pole of the de vice 1 formed from a strip of metal bent upon itself adjacent tc its center to form the loop 3 and the substantially parallel upper and lower arms 4, 5, which respectively engage the upper and lower faces of the tongue, the lower arm. 5 having the hooks 6 and the projection 7 formed by folding and bending the same, as shown, and fastening bolts or the like passed through slining openings in sald arms and in said tongue, substantially as shown and described.

No. 101,965. Vehicle Body. Boîte de voiture.


Edwin George Hines, Drums, Pennsylvania, U.S.A., 6th November, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,153
Claim.-1. A support for vehicle bodies comprising a transverse member having a longitudinal groove or depression upon its upper face, standards projecting upwardly from the transverse member and located upon opposite sides of the vehicle body, a supporting bar slidably mounted between the standards and bearing the weight of the vehicle body, and spring members interposed between the base of the beforerentioned groove in the transverse member and the support ing bar.
2. A support for vehicle bodies comprising a transverse member having a longitudinal groove or depression upon its upper face, standards projecting upwardly upon opposite sides of the vehicle body and having their lower ends secured in the before-mentioned groove, a supporting bar slidably mounted between the standards and bearing the weight of the vehicle body, and spring members interposed between the supporting bar and the base of the before-mentioned groove if. the transverse member.
3. A support for vehicle bodies comprising a transverse member having a longitudinal groove or depression in its upper face, standards projecting upwardly from the transverse member and located upon opposite sides of the vehicle body, a supporting bar located between the standards and having its opposite ends formed with notches by means of which it is slidably mounted upon the said standards and spring members interposed between the supporting bar and the base of the longitudinal groove in the transverse member
4. A support for vehicle bodies comprising a transverse member having a longitudinal groove or depression in its upper face, standards projecting upwardly from the trans verse member and fitting upon opposite sides of the vehicle bcdy, a supporting bar slidably mounted between the stand ards and bearing the weight of the vehicle body, coll springs interposed between the supporting bar and the base of the longitudinal groove, plates to which ends of the coil springs are tastened, and means for securing the plates to the supporting bar and the transverse member respectively.
5. A support for vehicle bodies comprising a transverse member having a longitudinal groove or depression in its upper face, standards projecting upwardly from the trans verse member and located upon opposite sides of the vehicle body, a supporting bar slidably mounted between the standards and bearing the weight of the vehicle body, plates secured to the supporting bar and the transverse member respectively, and coll springs interposed between the trans\(v \in r s e\) member and the base of the longitudinal groove in the transverse member, said springs having thelr ends secured to the before-mentioned plates.
6. A support for vehicle bodies comprising a transverse member having a longitudinal groove in its upper face, standards projecting upwardly from the transverse member upon opposite sides of the vehicle body and having their lower ends secured in the groove, a supporting bar having its ends formed with notches which engage with, and by means of which it is slidably mounted upon the standards, discs sccured to the lower face of the supporting bar and the base of the longitudinal groove in the transverse member, and coll springs disposed in groups and having their opposite धnds secured to the before-mentioned plates by means of perforations therein.

No. 101,966. Vehicle Top. Souflet de voiture.
John M. Marmon, Zanesfleld, Ohio, U.S.A., 6th November, 1906; 6 years. Filed 19th June, 1906. Receipt No 137,068.
Claim.-1. The combination with a collapsable buggy top, of forwardly and rearwardly extending collapsable guides secured to the under face thereof, a curtain arranged to lie at times upon the guides, and at times to extend down-
wardly from the rearward edge of the top, means for holding the curtain yieldably in its last-named position, and

means for holding the curtain in its trst-named position against the action of the first-mentioned holding means. 2. The combination with a buggy top, of guides secured to the under face of the top, a curtain arranged to lie at times upon the guldes, and at times to extend downwardly from the rearward edge of the top, guldes for the slde edges of the curtain when in its last-named position, a rod secured to the rearward edge of the top, and a handle carried by the curtain and by which it may be moved from its last-named to its first-named position. sald handle being arranged for co-operation with the rod to prevent disengagement of the upper edge of the curtain from the rearward edge of the top.

No. 101,96\%. Curtain Holder for Vehicles.
Porte-rideau de voiture.


Cyrus W. Noble and Earl O. McHenry. co-Inventors, both of Hoytville, Ohio. U.S.A., 6th November, 1906; 6 years. Filed 22nd June, 1906. Receipt No. 137.154.
Claim.-1. In combination a carriage top embodying a plurality of bows, curtain holders arranged at opposite sides of the top, each curtain holder having permanent connection at one end with one of the bows of the top. the opposite end of each curtain holder having detachable connection with another of the bows of the ton, whereby said curtain holders may be lowered, and curtaine carried by said holders.
2. In combination a carriage top embodying a plurality of bows, a curtain holder pivotally connceted at one end with one bow, and detachably connected at its other end with a second bow, and a curtain carricd by said holder.
3. In combination a carriage top embodying front and rear bows, a curtain holder pivoted at one end to the upper end portion of the rear bow, means for detachably connectIng the front end of the curtain holder with the upper portion of the front bow, and a curtain carrled by said holder.
4. In combination a carriage top embodying front and rear bows, a curtain holder arrangel at the upper portion of the ton and connected with said front and rear bows. means admitting of lowering and holding said curtain holder in a lowered position, and a curtain caried by said holder.
5. In combination a carriage top embodying a plurality of bows, curtain holders arranged at opposite sides of the top, cach curtain holder having pivotal connection with the upper end of a side of the rear bow, a catch at the upper end of each side of the front bow adagted to co-act with the other end of the adjacent eurtain holder to hold the same in oberative postion, but admitting of lowering th, holdur to permit collapsing of the top. and catches arranged to congaze ends of the curtain holders after the same have bern lowered, and curtains carrled by said holders.
6. In combination a carriage top cmbodying a plurality of bows, a curtain holdir comprising a bar pivoted at one
end to one bow and detachably connected at its opposite end to a second bow, a curtain holder mounted upon sald bar, and a curtain carried by said holder.
7. In combination a carriage top embodying front and rear bows, a curtain holder comprising a bar pivoted at one end to the upper end portion of a side of the rear bow. means for detachably connecting the opposite end of said bar with the front bow, and means for detachably connecting said opposite end of the bar to the lower portion of the rear bow after said bar has been lowered.

No. 101,968. Fantener for Wason End Gates. Attache d'arrière-panneau de wagon.


Herschel A. Schermerhorn, Shabbona, Illinois, U.S.A., 6th November, 1906; 6 years. Filed 26th Junc, 1906. Receipt No. 137,305.
Claim.-1. In a fastening for wagon end gates, the combination with the sides of the body each provided with an opening near its rear end, of a bearing plate having an eccentrically located opening therein and secured to the outer surface of one of the sides over the opening in said side, an end gate located between said sides and a tie rod having a crank at one of its ends to engage the bearing plate, substantially as described.
2. In a fastening for wagon end gates, the combination with the sides of the body each provided with an openiag near its end, of a bearing plate having an elongated opening eccentrically arranged therein and secured to the outer surface of one of said sides over the opening therein, an and gate located between said sides, and a the rod haying a crank at one of its ends to engage the bearing plate and a crank handle at its other end, substantially as described.
3. In a fastening for wagon end gates, the combination with the sides of the body each provided with an opening near its rear end, of an apertured plate secured to the outer surface of one of the sides over the opening therein and having on its outer face an upright cam, an end gate located between said sides, and a tie rod having a crank at one of its ends and an obtuse angled crank handle at the other ad to engage said cam, substantially as described.
4. In a fastening for wagon end gates, the combination with the sides of the body each provided with an opening near its rear end, of a bearing plate having an opening eccentrically arranged therein and secured to the outer surface of one of said sides over the opening therein, an apertured plate secured to the outer surface of the other side over the opening therein and having on its outer face an upright cam, an end gate located between sald sides, and a tie rod having a crank at one of its ends to engage the bearing plate and an obtuse angled crank handle at its other end to engage the cam, substantially as described.

\section*{No. 101,969. End Gato for Wagon. Arricre-panneau de wagon.}

Frederic S. Converse, Lyons, New York. U.S.A., 6th November, 1906; 6 years. Filed 6th Junc, 1906. Receipt No. 136,593.
Claim.-1. In a latch for end gates, the combination with the gate hinged to the wagon body and having two studs brojecting from its side, of a latch proper pivoted to th. wagon body and having a notch adapted to engage the outis stud when the gate is closed, a hanger mounted on the sam: pivot and having notches adapted to engage the inner stud when the gate is open, and connections between the lation and hanger for ralsing the latter by the movement of the iormer but permitting a certain lost motion between then. 23 and for the purpose set forth.
2. In a latch for end gates, the comblation with the vate hinged to the wagon body and having two studs projueting from its side, of a latch proper pivoted to the wagon body and having a notch adapted to engage the outer siud when the gate is closed, a hanger mounted on the same
pivot and having notches adapted to engage the inner stud when the gate is open, and a lip on the latch standing

under the hanger for disengaging the hanger from its stud when the latch is raised but permitting lost motion when the latch is depressed.
3. In a latch for end gates, the combination with the gate hinged to the wagon body and having studs, of hangers having notches adapted to engage said studs, brackets to which said hangers are pivoted, and stops thereon for limiting the rise and fall of the hangers.
4. In a latch connecting two members, the combination With the latch proper pivoted to one member and having a projection adjacent its pivot, and a brace leading from said member to the outer end of the pivot and adapted to be engaged by said projection to support the latch, of a second member connected with the first, and a stud on this membcr adapted to engage the notch of the latch.

No. 101,970. Dump Wagon. Wagon de bascule.


Adam J. Koob, Cedar Rapids, Iowa, U.S.A., 6th November, 1906; 6 years. Filed 29th June, 1906. Receipt No. 137,401. Claim.-1. In a dump wagon, the body portion having hinged bottom leaves, and one or more shafts rotatively mounted and inclined to the transverse plane of the body and provided with lateral arms lextending beneath said leaves.
2. In a dump wagon, the body portion having hinged bottom leaves, and one or more shafts rotatively mounted and inclined to the transverse plane of the body and provided at one end with lateral arms extending beneath the leaves and with operating levers at the other ends.
3. In a dump wagon, the body portion having hinged bototm leaves, one or more shafts rotatively mounted and inclined to the transverse plane of the body and provided at one end with lateral arms extending beneath said leaves and with operating levers at the other ends and springs for extending into the paths of said lefers, and means under the control of the driver for operating said stop members.
4. In a dump wagon, the body portion having hinged bottom leaves, one or more shafts rotatively mounted and inclined to the transverse plane of the body and provided at one end with lateral arms extending beneath said leaves and with operating levers at the other ends, stop members movably disposed for extension into the path of said levers and provided with foot rests, and springs operating to hold said stop members yieldingly in operative position.
5. In a dump wagon, the body portion having spaced sides and hinged bottom leaves, shafts spaced apart and mounted for rotation upon said sides and inclined to the transverse plane of the body, arms extending at one end laterally from said shafts beneath said leaves, crank arms extending laterally from said shafts, connecting rods between the crank arms at each side of the body portion, and means for rotating said shafts.
6. In a dump wagon, the body portion having spaced sides and hinged bottom leaves, shafts spaced apart and mounted for rotation upon said sides and inclined to the transverse plane of the body, arms extending at one end laterally from 11-7
said shafts beneath said leaves, crank arms extending laterally from said shafts, connecting rods between the crank arms at each side of the body portion, and an operating lever connected to the other end of one of said shafts at each side.
7. In a dump wagon, the body portion having hinged bottom leaves, means operative from said body portion for opening and closing said leaves, the forward axle rotative beneath said body portion and brackets connected to said axle and extending rearwardly thereof for bearing against said leaves when depressed and passing beneath the same.

\section*{No. 101,971. Dumping Cart. Charrette d bascule.}


Herbert S. Long, Marion Ohio, U.S.A., 6th November, 1906;
6 years. Filed 29th June, 1906. Receipt No. 137,399.
Claim.-1. A tilting cant body, spindle bearing plates upon the ends of the same and having annular flanges, and draft rings supported for rotation by said flanges.
2. A tilting cart body, spindle bearing plates upon' the ends of the same and having annular grooved fianges, and draft rings supported for rotation by said grooved flanges.
3. A tilting cart body, spindle bearing plates upon the ends of the same said plates being provided with reinforcing arms connected with the cart body and with grooved flanges concentric with the spindles, and draft rings supported for rotation by said fianges.
4. A tiltable cart body having spindles and grooved flanges surrounding the same, in combination with draft rings supported for rotation by said grooved flanges, and draft members connected with said rings.
5. A tiltable cart body having spindles and grooved flanges surrounding the same, draft rings engaging said grooved flanges and having flanged supporting brackets, and draft members supported upon and connected with said bracketg.
6. A tiltable cart body having spindles and grooved flanges surrounding the same, draft rings engaging said grooved flanges, said rings comprising hingedly connected members, and draft members connected with the free ends of said draft rings and thereby securing the latter in position upon the grooved flanges.
7. A tiltable cart body having concentric spindles and flanges, rings engaging said flanges for rotation, said rings comprising hingedly connected members having reinforcements combining to form flanged shoulders, and draft members supported upon and connected with said flanged shoulders and thereby connecting the free ends of the hinge members constituting the rings.
8. A sheet metal cart body of approxlmately semi-cylindrical shape, spindle bearing plates having divergent arms secured upon the ends of said body, draft rings connected for rotation with said plates, and draft members connected with said rings.
9. A tiltable cart body, a forward extension member supported permanently upon the front side and the forward portlons of the ends of said body, and a rear extension member normally supported upon the rear side and the rear portions of the ends of said body and connected pivotally with the side members of the front extension member.
10. In a tiltable cart body, a permanently supported front extension member having sides connected with the ends of the cart body, a rear extension member connected pivotally with the front extension member and foldable over the latter, and means for supporting said rear extenhion member when thus folded.
11. A tiltable cart body having a permanently supported front extension, side brackets, and a rear extension member pivotally connected with said brackets and with the front extension member and foldable over the latter.
12. A tiltabla cart body, a front extension member supported permanently upon the same, upward extending brackets connected with the ends of the cart body, a rear extension member connected plyotally with said brackets and with
the front extension member and foldable over the latter, means for retaining said rear extension member against displacement when in normal positign upon the rear part of the cart body, and means for supporting said rear extension member in a forwardly folded position.
13. A tiltable cart body, a front extension member supported permanently upon the same, a rear extension member connected pivotally with and foldable over the front extension member. means for supporting the rear extension member in its forwardly folded position. and means for temporarily securing said member in said position.
14. A tiltable cart body, a rear extension member connecten pivotally therewith. means for tilting said cart body. and means for retaining it in a tilted position while being loaded. 15. A tiltable cart body, a front extension member permanently supported upon the same, a rear extension member connected pirotally with and foldable over the front extension member, means for supporting the rear extension member in its forwardly folded position, means for temporarily securing said member in said position. lever means for tilting the cart body, draft means connected with the latter, and means for securing the cart body in tilted position at various adjustments with relation to the draft means.

No. 101,972 . Garment Hanger. Accroche-vêtciment.


James Louis Muller, New Canaan, Connecticut. U.S.A.. 6th November, 1906; 6 years. Filed 29th August, 1906. Receipt No. \(139,085\).
Claim.-1. A hanger of the class described, consisting of a strip or plate adapted to be secured in a vertical position to a support and provided at its lower end with an outwardly extending arm and at its upper end with an outwardly extending member, a lock secured to the outwardly extending member at the upper end, a movable rod passing vertically through said lock and through said member and the lower end of which is adapted to operate in connection with said arm, a spring pressed device forming a part of said lock and normally bearing on said rod and adapted to be moved out of connection with said rod by a key, said rod and said spring pressed device being provided with ratchet teeth which are adapted to engage in the upward movement of said rod, and a spring for holding said rod in a raised position. substantially as shown and described. 2. A hanger of the class described, consisting of a strip or plate adapted to be secured in a vertical position to a support and provided at its lower end with an outwardly extending arm and at its upper end with an outwardly extending mentber, a lock secured to the outwardly extending member at the upper end, a movable rod passing vertically through said lock and through said member and the lower end of which is adapted to operate in connection with said arm, a spring pressed device forming a part of said lock and normally bearing on said rod and adapted to be moved out of connection with said rod by a key, said rod and sald spring pressed device being provided with ratchet teeth which are adapted to engage in the upward movement of said rod, a spring for holding said rod in a raised position, and means for moving sald rod downwardly, substantially as shown and described.
3. A hanger of the class described. consisting of a strip or plate adapted to be secured in a vertical position to a support and provided at its lower end with an outwardly extending arm and at its upper end with an outwardly extending member, a lock secured to the outwardly extending member at the upper end, a movable rod passing vertically through said lock and through said member and the lower end of which is adapted to operate in connection with said arm, a spring pressed device forming a part of said lock and normally bearing on said rod and adapted to be moved out. of connection with said rod by a key, sald rod and sald spring pressed device being provided with ratchet teeth which are adapted to engage in the upward movement of said rod, a spring for holding said rod in a
raised position, and means for moving said rod downwardly, consisting of a lever pivoted to said strip or plate and through which the lower end of said rod passes, substantially as shown and described.

No. 101,973. Garment Hanger. Acriocherritunt:


Jacob M. Stein, Washington, District of Columbia, U.S.A.. 6th November, 1906; 6 years. Filed 15th March, 1906. Receipt No. 133.925.
Claim.-1. A garment hanger comprising a body provided with a projection intermediate its ends, and a suspendin; hook secured to the body, the sides of the projection flaring downwardly from substantialiy a point to receive the neck of the garment below the apex of the projection and hold the said neck out of engagement with said hook. the ends of the body upon opposite sides of the projection having their upper faces directed downwardly upon substantially straight lines for co-operation with said projection to hold the garment in contact with said upper face portions throughout their lengths.
2. A garment hanger comprising a body provided with a projection intermesiat" its ends. and a suspending hook secured to the body, the sides of the projection flaring downwardly from substantially a point to receive the neck of the garment and hold the latter out of engagement with the suspending hook. the ends of the body upon opposite sides of the projection being directed downwardly upon substantially straight lines for co-operation with said projection to hold the garment in contact with said upper face portions throughout their lengths, and a covering fitted over the projection.
3. A garment hanger, comprising a body provided with a projection intermediate its ends, a suspending hopk securad to the body. and a covering fitted over said projection.

\section*{No. 101,974. Garment Supporter. \\ No. 101,974. Garment Supporter.}

Joseph William Schloss, New York City. New York, U.S.A.. 6th November, 1906; 6 years. Filed 20th July, 1906. Recelpt No. 138,002.
Claim.-1. A garment stiffener or fastener comprising a strip of resilient material having an incut portion at each end, whereby a hook is produced in the material.
2. A garment stiffener or fastener comprising a strip of resilient material having an incut portion at each end curved around and terminating in an eye, said incut portions having a restricted channel adjacent to the eye.
3. A garment stiffener or fastener comprising a strip of resilient material having an incut portion at each end. the entrance of which is rounded, said incut portion being curved around and terminating in an eye and having a reduced part or channel adjacent to said eye, the ends of sald stiffener being rounded adjacent to sald incut portions whereby a hook is formed at each end of the strip capable of being secured upon a loop or button of a fabric.


No．101，975．Machine for Preparing Cereals for Food．
Machine pour préparer les céréales pour nourriture．


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The Natural Food Company，assignee of Frederick Regnier， both of Niagara Falls，New York，U．S．A．， 13 th Nowmber， 1906： 6 years．Filed 28th March，1406．Receipt No． 134．357．
Claim．－1．In a shredding machine the combination with a pair of shredding rolls，one of which is provided with grooves，of vibratory needles of elastic character engaging said grooves，substantially as specified．
2．In a shredding machine the combination with a pair of shredding rolls，one of which is provided with grooves，of a bank of adjustable self cleaning discharging needles held un－ der elastic tension in engagement with the grooved roll，sub－ stantially as specified．
3．In a shredding machine the combination with a pair of shredding rolls，one of which is provided with grooves，of a bank of separate discharging needles in lateral contact with each other．substantially as specifled．
4．In a shredding machine the combination with a pair of shredding rolls，one of which is finished with a series of fine circumferential V－form grooves，a valved hopper above said rolls and a moving receiver below the same，of a bank of ad－ justable self cleaning discharging needles held under elastic tension in engagement with the grooved roll，and means for operating said rolls and receiver．substantially as specificd．
5．In a shredding machine the combination with a pair of shredding rolls，one of which is finished with a series of fine circumferential grooves，a valved hopper above said rolls， and a reciprocating receiver below the same，of a bank of separate discharging needles in lateral contact with each other．and a grooved clamp having curved bearing surfaces， whereby said discharging needles are held under clastic ten－ sion in engagement with the shredding roll grooves，substan－ tially as specified．

No．101，976．Bluing Package．I＇utuct de bleu．
The Sawyer Crystal Blue Company，assignee of Alvah \(W\) ． Holway，both of Boston．Massachusetts．U．S．A．，13th November，1906； 6 years．Filed 22nd October，1906．Re－ ceipt No．140，522．
Claim．－1．A bluing device comprising an imperforate re－ ceptacle，an imperforate cover therefor，having a stem or shank rigidly connected thereto and depending from its un－ der side，and a supply of bluing carricd by sald stem within the receptacle，the stem or shank being of a length to sup－ port the bluing clear of the bottom of the receptacle，the stem or shank being of a length to enable the cover to be grasped and used as a handle without liability of contact of the hluing supply with the fingers of the user．

2．A bluing device comprising an imperforate receptacle，an imperforate cover closely fitting one end thereof and having

a stem or shank rigldly connected thereto and extending within the receptacle，said stem or shank having an enlarged lower end and a filter bag of bluing secured to said shank With its lower portion clear of the bottom of the receptacle， the stem or shank being of a length to enable the cover to be grasped and used as a handle without liability of contact of the bluing supply with the fingers of the user．

No．101，977．Railway Joint Chair．
Coussinet de joint de rails．


William Boker Davis，Bolingbroke，Georgia，U．S．A．，13th November，1906； 6 years．Filed 19th October，1906．Re－ ceipt No．140，416．
Claim．－1．A rail joint comprising a box provided with a lengitudinal opening，abutting rail ends disposed within the opening，a fish－plate disposed within the opening and be－ tween the rail and the boxing，and means whereby a lateral movement of the fish－plate produces a clamping strain be－ tween the fish－plate and the box and between the fish－plate and the rall．
2．A rail joint comprising abutting rail ends，a flsh－plate spanning the foint and provided along its lower edge with an outturned flange wedge－shaped in cross section，and a box embracing the ralls and fish－plate and presenting a bearing surface for co－operation with the wedge－shaped flange．
3．A rail joint comprising abutting rail ends，a flsh－plate spanning the joint and provided along its longitudinal edges with out－turned flanges wedge－shaped in cross section，and a box embracing the rails and flsh－plate and presenting bear－ ing surfaces for co－operation with the wedges of the flanges． 4．A rail joint comprising abutting rail ends，a fish－plate spanning the joint and provided along its longitudinal edges with outturned flanges wedge－shaped in cross section，a box with a longitudinal opening embracing the ralls and fish－ plate and presenting bearing surfaces for co－operation with the wedges of the flanges，and means for moving the fish－ plate laterally within the box and into gripping contact with the rail and the bearing surfaces of the box．

No．101，978．Car Coupler．Attelage de chars．
Robert Abbott Hadfield，Sheffieid，England，13th November， 1906； 6 years．Filed 19th October，1906．Receipt No． 140，438．
C＇laim．－1．As a new article of manufacture，a manganese steel coupling knuckle of regulation size and form produced by casting it in the form in which it is to be used as a completed knuckle，and then toughening such knuckle．
2．As a new article of manufacture，a manganese steel coupling knuckle of regulation size and form produced by casting it in the form in which it is to be used and there－ upon toughening the knuckle by heating it and then cooling it．
3. As a new article of manufacture, a manganese steel coupling knuckle of regulation size and form produced by

casting it in the form in which it is to be used, gradually heating the knuckle after solidification up to a red heat, and then quickly to a predetermined temperature, and then cooling it rapidly, to toughen and harden the knuckle.
4. As a new article of manufacture, a manganese steel coupling knuckle of regulation size and form produced by casting it in the form in which it is to be used, gradually heating the knuckle after solidification up to a red heat, and then quickly to between \(900^{\circ} \mathrm{C}\) and \(1,000^{\circ} \mathrm{C}\), and then rapidly cooling the knuckle.
5. As a new article of manufacture, a cast manganese steel coupling knuckle having a hollow body portion and hook, whereby the thickness of the metal is so disposed that the knuckle can be toughened and hardened by heat treatment.
6. As a new article of manufacture, a cast manganese steel coupling knuckle having a body portion provided with parallel holes therethrough for the pivot pin and the draw bar connection respectively, and a hook, the body portion having a cavity formed in it communicating with one of the holes and the hook having a cavity communicating with the other hole.
7. As a new article of manufacture, a cast manganese steel coupling knuckle having a hollow body portion provided with an external recess at one end, and a hollow hook projecting from the body portion and.having an external recess in one side thereof, whereby the thickness of the metal is reduced to permit toughening and hardening of the knuckle by heat treatment.
8. As a new article of manufacture, a cast manganese steel coupling knuckle having a body portion having a hole therethrough and a cavity communicating with said hole and a hook extended from the body portion. the base of the hook having a pivot hole through it and the hook having a cavity formed in it communicating with such pivot hole

No. 101,979. Rall Brace. Etai de rails.


James F. Kelly, Galena, Illinols, U.S.A., 13th November, 1906; 6 years. Filed 23rd October, 1906. Receipt No. 140.542.

Claim.-1. A rail brace having a depending tongue at one end and a base portion at its other end, and means for fulcruming the brace between its ends to permit the tongue to be forced against the rall when the base portion is moved downward and secured.
2. The combination of a fixed block or casting. a rail brace fulcrumed thereon, bearing at one end against a rail and secured at its other end.
3. The combination of a block or casting to be secured on a rall base, a brace fulcrumed on said block or casting. a tongue on the inner end of the brace to engage the rall. and a base portion on the other end of the brace to be secured against movement.
4. The combination of a block or casting to be secured on a rail base, a brace fulcrumed on said block or casting.
a tongue on the inner end of the brace movably mounted between flanges on the block or casing, and a base portion on the outer end of the brace having openings ?. spikes to secure the same to a tie.
j. The combination of a block or casting to be secured on a rail base, an upright extension on the block or casting having spaced flanges on its inner face, a bra:e fulcrumed on the upper edge of the extension, a tongur on the brace movable in the flanges of the extension and when the outer base portion of the brace is forced down, ill bear tightly against the rail, and means for securing L. י nuter base portion of the brace to a tie.
6. The combination of a block or casting to be secured on a rail base, a brace fulcrumed on the block or extenslon, a depending tongue on the inner end of the bra?e to engage the rall web, a base portion on the outer end of the brace to be secured to a tie, and an enlargement on the brace to engage the wheel head or tread portion of the rail.

No. 101,980. Railway 8witoh signal.

\section*{Signal d'aiguille de chemin de fer.}


Anthony John Pieszak and Frank Harry Poole, both of Dunkirk, New York, U.S.A.. 13th November, 1906; 6 years. Filed 17th October, 1906. Recelpt No. 140,398.
Claim.-1. The combination of a railroad switch mechanism, a torpedo operating mechanism adapted to place a torpedo upon and remove it from the rallroad rail, a box enclosing the torpedo when it is withdrawn from the rail, a gate closing said box mechanism for operating said gate. and mechanism connecting sald switch mechanism and the torpedo and gate operating mechanism, substantially as and for the purpose set forth.
2. The combination of a rallway switch with a bell crank lever connccted with the operating mechanism of asif switch, a signal station located at a point distant from sald switch consisting of a bell crank lever, a slide bar pivotel to one arm thercof. a support for the pree end of said sllde bar, a torpedo removably attached to the free end of said bar, a danger signal light and target connected with and operated by said torpedo operating mechanism, and means for operatively connecting the bell crank lever at the switch with the bell crank lever at the signal station, substantially as and for the purpose set forth.
3. The combination of a railway switch mechanism. mectanism for operating the same, a signal station at a poin: distant from said switch consisting of a torpedo operatioe mechanism. means for operating the same, a box for supporting the free end thereof, a torpedo removably secured thereto. means opening and closing sald box when the iorpero moves forward and back, a danger signal light and target connected to said torpedo operating mechanism and operated theroby, and means for convecting the torped, ouerating mechanism with the switch operating mechanisin whereby the corpedo and signal mechanism are operated in unison with the switch. substantlally as and for the purpose set forth.

No. 101,981. Rail Joint. Joint de rail.


Henry A. Rhinelander, Freedom, Pennsylvania, U.S.A., 13th November, 1906; 6 years. Filed 19th October, 1906. Receipt No. 140,417 .
Claim.-1. In a rail joint the combination with rail sections and a tie, of a base plate, said base plate having a seat formed therein, flanges carried by the longitudinal edges of said plate, the ends of two of said flanges extending over said seat and adapted to engage the bases of sald ralls, a liner adapted to be mounted upon said seat, fish plates mounted upon the en of said plate between said flanges, and means to secur. said base plate and said fish plates in engagement with said tie and said rail sections, substantially as described.
2. In a rail joint the combination with rall sections and tie, of a base plate having a seat formed therein adapted to upport said rails, flanges carried by the longitudinal edges of said plate, a liner adapted to be mounted upon said seat and engaging one edge of the base of the rail, fish plates adapted to be mounted upon the ends of said base plate to engage said rail sections, and means to secure said fish plates and said base plate upon said tie.
3. In a rail joint the comblnation with rail sections, of a base plate having a seat formed therein adapted to support said rails, a liner adapted to be mounted within said seat and to bear against the base of the rail to retain said rails therein, two separable fish plates mounted upon the ends of said base plate, and means to secure said fish plates in engagement with said base plate, substanfially as described.
4. In a rail section the combination with a plate having a seat formed therein. flanges carried by the longitudinal edges of said plate, two fish plates adapted to be mounted upon the ends of said plate and between said flanges, said fish plates being separable from said first-named plate, and means to secure said fish plates in engagement with said plate, substantially as described.

No. 101,982. Stove Support. Support de poêles.


Charles W. Rowley, Geneva, New York, U.S.A., 13th November, 1906; 6 years. Filed 19th October, 1906. Receipt No. 140,422.
Claim.-1. In a stove support, in combination, a leg and a skirting having laterally extending tongues which lap the. joint on the front and back thereof, and a rib at the end of each tongue which fits behind a projection on the other.
2. In a stove support, in combination, a leg and a skirting. the abutting edges of which have each a tongue which laps: the joint on opposite faces or sides thereof, and a vertically extending rib at the end of the tongue of each, fitting within a groove in the other.
3. In a stove support, In combination, a skirting having ribs on the front and back thereof, and a leg having projecting tongues one of which laps the front of the skirting and the other the back, with ribs at the ends of the tongues engaging behind the ribs on the skirting.
4. In a stove support, in combination, a leg and a skirting, the back of the skirting having vertically extending ribs and horizontal ledges at the lower ends thereof, and the leg having lateral tongues extending behind the skirting and engageable with the aforesaid ribs and ledges, a shoulder on the back of the leg, and a lateral tongue extending from the skirting and behind the leg, and engageable with sald shoulder.
5. In a stove support, in combination, a leg and a skirting, the back of the skirting having vertically extending ribs and horizontal ledges at the lower ends thereof, and the leg having lateral tongues extending behind the skirting and engageable with the aforesaid ribs and ledges; the skirting and leg below the aforesaid tongues overlapping, and having interlocking ribs and grooves, shoulders on the back of the leg above the aforesaid tongue, and tongues extending from the skirting and behind the leg, and engageable with said shoulders.

No. 101,983. Stove. Poéle.


Clinton Almeron Case, Council Bluffs, Iowa, U.S.A., 13th November, 1906; 6 years. Filed 23rd October, 1906. Receipt No. 140,539.
Claim.-1. A stove comprising a drum, a firebox in said drum, a draft pipe in the drum, a damper arranged to control an opening from the drum to the draft pipe and said damper being adapted to close by gravity, a fuel door, and a link operatively connected to said door at one end, the other end of said link being formed with an elongated slot, there being provided a lug on said damper, said lug taking into said slot, whereby the opening of the door will open the damper, and whereby the closing of the door will allow the damper to close by gravity, and means for opening said damper independent of the door.
2. A stove comprising a drum, a firebox held at the upper end of said drum, whereby the lower portion of the drum constitutes a radiator, a draft pipe connected to the drum near the lower end thereof, a fuel door mounted at the upper end of the stove directly in communication with the upper end of the firebox, said door being provided with a draft opening and means for controlling the :ame, a branch pipe connected to the draft pipe at the - pper end of the stove, and onening into the upper end of the firebox, a damper controlling said branch pipe, a bracket secured to the fuel door, a link provided with one end curved sharply upwardly and connected to said bracket and provided in its other end with an elongated
slot, there being provided a lug on the damper on the branch pipe, said lug taking into said slot, whereby the opening of the door will likewise open the said damper, and means for opening said damper independently of the door.
3. A stove comprising a drum, a firebox held at the upper end of said drum, whereby the lower portion of the drum constitutes a radiator, a draft pipe connected to the drum near the lower end thereof, a fuel door mounted at the upper end of the firebox, said door being provided with a draft opening and means for controlling the same, a branch pipe connected to the draft pipe at the upper end of the stove, and opening into the upper end of the firebox, a damper controlling said branch pipe, a bracket secured to the fuel door, a link provided with one end curved sharply upwardly and connected to said bracket and provided in its other end with an elongated slot. there being provided a lug on the damper for the branch pipe, said lug taking into said slot, whereby the opening of the door will likewise open said damper, and a rod connected to said damper and slidably mounted through the branch pipe. whereby said damper may be opened independently of the door.
4. A stove comprising a drum, a firebox within said drum, a draft pipe for the drum, a fuel door at the upper end of the drum, a branch pipe connected to the draft pipe at the upper end of the drum and opening into the latter, a damper controlling said branch pipe, a bracket secured to the fuel door, a link provided with one end curved sharply upwardly and connected to said bracket and provided a lug on the damper for the branch pipe, said lug taking into said slot. as and for the purpose set forth.
5. A stove comprising a drum, a firebox in said drum, a draft pipe for the drum, a damper arranged to control one of the openings from the drum to the draft pipe and said damper being adapted to close by gravity, a fuel door. a link provided with one end curved sharply upwardly and operatively connected to said door the other end of said link being formed with an elongated slot, there being provided a lug on said damper. said lug taking into said slot, and means for opening said damper independently of the door.
6. A stove comprising a drum, a firebox in said drum, a draft pipe connected to the drum and provided with openings communicating therewith. a damper controlling one of said openings and arranged to be closed by gravity. a fuel door, means whereby the opening of the fuel door will effect the opening of said damper and whereby the closing of the fuel door will permit the damper to automatically close by gravity, and means for opening said damper independently of the door.
7. A stove comprising a drum, a firebox in said drum. a draft pipe connected to the drum at the lower end thereof and provided with a branch connecting it to the upper end of the drum, a fuel door for the upper end of the drum and damper for said branch pipe, said damper being arranged to close by gravity and provided on one edge with a lug, a link provided at one end with a slot. receiving said lug and operatively connected to the fuel door at its other end, for the purpose specified, and a rod 14 connected to the rear face of said damper and extendingly upwardly and sliding through the upper side of said branch pipe, as set forth.
8. In a stove provided with direct and indirect flues for the products of combustion and with a fuel door. the combination with a damper for said direct flue, said damper being held in its closed position by gravity, a slotted link or bar between said damper and said fuel door, said link or bar permitting movement of said damper independent of the fuel door, and means for manually operating said damper.

\section*{No. 101,984. Cultivator. Vulticatcur.}

Hans Anderson, Crystal, North Dakota. U.S.A., 13th November, 1906; 6 years. Filed 23rd October, 1906. Receipt No. 140,543.
Claim.-1. An implement such as described comprising a beam, wings pivotally attached to the beam, a leer mechanism for swinging sald wings, a blade carried by the beam, and blades pivotally attached at their forward ends to the farst said blade and connected at their rear portions with said wings.
wings.
2 . An implement such as described comprising a beam, wings pivotally attached to said beam, a lever mechanism for swinging said wings. a blade carried by the beam, and blades pivotally attached to their forward ends to the first said blade and being capable of adjustment into horizontal or inclined positions and being connected at their rear portions with said wings.
3. An implement such as described comprising a beam, nings pivotally attached to sald beam and carrying ploughs,
a blade carried by said beam, blades pivotally attached at their forward ends to the first said blade and being connected

at their rear portions to said wings and lever merhanism for operating said wings.

\section*{No. 101,985. Grain Cleaning Process.}

Procédé pour nettoyer le grain.


Frederick Stephen Blackmarr, Minneapolis, Minnesota, 13th November. 1906: 6 years. Filed 20th August, 1906. Receipt No. 138.842.
Claim.-1. Apparatus of the class set forth comprising a mixer for the grain, a liquid dissolving tank having meaus for feeding the liquid or solution to sald mixer, a dryer connected with the mixer composed of a column having air inlet and outlet ports, said outlet ports being larger than the inlet ports, a blower connected with the inlet ports, and means for charging the current of air issuing from said blower with ozone and passing it into said dryer.
2. Apparatus for treating grain comprising a mixer for d:mpening said grain having an inlet and outlet, a liquid supply tank connected with said mixer, a dryer with which the outlet of said mixer is connected and means for passing a current of air or other medium under pressure through and expanding i, \(n\) said dryer.
3. In combination with apparatus of the class set forth, an \(\therefore\) ir try r romprising a substantially vertical column provided with a grain outlet at its upper end, a grain outlet at its lower end and air ports at its sides adapted to receive a rurrent of air or other drying medium under pressure, sald l.crts being proportioned in size to admit the drying medium i:nder pressure and permit it to expand and freely pass out of said dryer.
4. Apparatus of the class set forth comprising in combination a suitable mixer for dampening grain, a tank for supplying liquid to said mixer provided with a connecting passageway and a valved inlet for liquid into the same, a dryer connected with said mixer provided with means for retarding the flow of grain therethrough, a blower sonnected with said dryer and an ozone generator connected with said blower.
5. The process of preparing grain for cleaning consisting or subjecting the grain to the combined action of ozone and a liquid applied to the grain having affinity to said ozone.
6. The process of preparing grain for cleaning, consisting of dampening the grain with a solution of salt and treating the dampened grain to the action of air charged with ozone.
7. The process of preparing grain for cleaning, consisting of subjecting the grain to the artion of dampening with a suspended solution of saline or other suitable substance and drying with a gaseous medium.
8. The process of preparing grain for cleaning consisting 0 : coating each berry with a deposit of sallne material and drying said deposit by a medium charged with ozone.
9. The process of coating grain for cleaning by applying a material in suspended solution and then drying the grain.
10. The process of coating grain for cleaning by applying a liquid and subsequently drying the grain by air charged with orone.
11. The process of coating grain for cleaning, consisting of dampening the grain and drying it by means of expanding air charged with ozone.

\section*{No. 101,986 . Radiator for Heat.}

Calorifère pour la chaleur.


William James Butroughs and William James Burroughs, Jr.. co-inventors, both of London, England, 13th November, 1906 ; 6 years. Filed 31st August., 1906. Receipt No. 139,137.
Claim.-1. A radiator, the coil or coils of which is or are rccessed to recelve a water tank or drawer, substantially as described.
2. In a radiator, a water tank or drawer arranged to be inserted into a recess inside the radiator coiles, substantially as described.

No. 101,987. Water Heater. Chauffeur d•cau.


Edward N. Collins, Los Angeles. California, U.S.A., 13th November, 1906 : 6 years. Filed 23nd October, 1906. Receipt No. 140,490.
Claim.-1. A gas water heater consisting of a burner having radial lines of jet outlets and raised water chambers disposed between said lines.
2. A gas water heater consisting of a burner having a gas chamber provided with radial lines, of jet outlets and raised water chambers disposed between said lines and ex\(t\) ending below the plane of the gas chamber.
3. A gas water heater consisting of a burner having a gas chamber, water chambers below the plane of the gas chamber, the latter being provided with radial lines of jet outlets, raised water chambers disposed between the said lines and communicating with the fater chambers below the gas chamber.

No. 101,988. Stone Paller. Arache-picirc.


Alfred Deschambault, Whitewood, Saskatchewan, Canada
13th November, 1906 ; 6 years. Filed 23 rd October, 1906.
Receipt No. 140,546.
Claim.-1. A stone puller comprising the combination of a central bar, side bars bolted to the central bar, sald side bars being bent outward and backward in diverging lines, and all of said bars being bent downward and forward to form tines. a draught attaching member secured on the central bar and a handle secured to the central bar.
2. As one puller comprising the combination of a central bar, side bars bolted to the central bar, said side bars bars being bent outward and backward in diverging lines, and all of said bars being bent downward and forward to form tines, a draught attaching member secured on the central bar and a bifurcated member riveted to the central bar and bent upward and formed into a handle.
3. A stone puller comprising the combination of a central bar, side bars bolted to the central bar, said side bars being bent outward and backward in diverging lines and all of said bars being bent downward and forward to form tines, a draught attaching member secured on the central bar, a handle secured to the central bar and a brace disposed through the tines below the handle.
4. In a stone puller the combination comprising a centra! bar. side bars removably secured to the central bar intermediate of its ends and all of said bars being bent to form tines, a draught attaching member secured to the central bar and a handle disposed centrally of the implement.

\section*{No. 101,989. Stop Cock for Air Brake System.} Robinet d'arrêt pour frein a air.


Samuel H. Dunning, Peterson, New Jersey, U.S.A., 13th November. 1906; 6 years. Filed 20th October, 1906. Receipt No. 140,464
Claim.-1. In an air brake system. a stop cock comprising the body portion formed with an integral shell, the rotating valve having a radial bolt receiving recess and a spring actuated key operative bolt arranged in sald shell in operative position to engage in said recess. substantially as described
2. In an air brake system, a stop cock comprising the body portion formed with an integral shell, the rocating valve having a radial bolt receiving recess a key operativ' bolt arranged in opposite walls of said shell in operative position to engage said recess and having within the shell. a shoulder and a spring interposed between one wall of said shell and the shoulder and soiled about said bolt. substantially as described.
3. In an air brake system, a stop cock comprising the body portion and the valve having a part thereof overhanging and disposed close to said body portion, said body portion having a port leading from the main port of ths stop cock to the valve bore and said valve having a port adapted to register with said first-named port and leading to the atmosphere through the surface of said overhanging part which is next adjacent to the body portion, substantially as described.

No. 101,890. Pneumatic Valve. Soupapc pneumatique.


George Patrick Finnigan, Greenc, New York, U.S.A., 13th November, 1906; 6 years. Filed 1st October, 1906. Receipt No. 139,963.
Claim.-1. In a pneumatic brake valve the combination of a pneumatic member provided with an aperture to be vented for the purpose of supplying air brakes, a fragile disc normally closing said aperture, a hammer for breaking said disc, mechanical means for restraining said hammer and electrically operated mechanism for releasing said restraining means.
2. In a pneumatic brake valve the combination of a hollow pneumatic member provided with an opening, a disc of glass disposed adjacent to said opening and having a convex conformity for the purpose of resisting air pressure, and means ior automatically breaking said disc so as to allow the free passage of air through said opening.
3. In a pneumatic brake valve the combination of a pneumatic member provided with an aperture to be vented for the purpose of applying air brakes, said aperture being normally closed, means controllable at will for adjusting the capacity of said aperture, and mechanism for sudden's opening said aperture to the full extent allowed, for when thus adjusted said mechanism being independent of said adjusting means.
4. In a pneumatic brake valve the combination of a pneumatic member to be vented for the purpose of applying air brakes, means for venting said pneumatic member, and mechanism adjustable by hand for controlling the facility with which said pneumatic member is vented, said mechanism being independent of said means for venting said member.
\(\overline{5}\). In a pneumatic brake valve the combination of a pneumatic member located upon a vehicle, means controllable by movements of said vehicle for venting said pneumatic member, and mechanism adjustable by hand for controlling the facility with which said pheumatic member is vented, said mechanism being independent of said means for venting said pneumatic member.
f. In a pneumatic brake valve the combination of a pneumatic member to be vented for the purpose of applying air brakes, said pneumatic member being nor:nally closed. means for opening said pheumatic member, and mechanism for controlling the facility with which said pneumatic membur is vented, satid mochanism being independent of said means for oprning said pneumatic member.
7. In a pneumatic brake valve the combination of a pneumatic member to be vented for the purpose of applying air brakes, electrically operated magnetic mechanism for venting said pneumatic member, and mechanism controllable at
will for adjusting the facility with which said pneumatic member is thus vented, said mechanism being independent of said means for venting said member.
8. n a pneumatic brake valve the combination of a hollow pneumatic member provided with a web and with apertures disposed within said web, a revoluble member provided with aportures and movable relatively to said web so as to canse sald apertures to partially register with each other, a cap connected with sald pneumatic member and provided with an opening, a glass closure member engaging said cap and normally obstructing the passage of air through said apertures and means for breaking said glass member.
9. In a pneumatic brake valve the combination of a pneumatic member provided with a brittle substance normally cobstructing the passage of air, a hammer for breaking said brittle substance thereby allowing the escape of air, lever inechanism for normally holding said hammer in a retracted position, and electric mechanism for automatically operating said lever mechanism so as to release said hammer.
10. In a pneumatic brake valve the combination of a pneumatic member provided with an opening, a glass disc disposed adjacent to said opening and normally closing the same, a hammer for breaking said glass disc, a spring connected with said hammer for forcing the same toward said disc, a lever provided with a dog for holding said hammer in a retracted position, a slide engaging said lever for the purpose of temporarlly holding the same in position to engage said hammer, a lever engaging said slide and free to nove the same, an armature connected with said lever, an electro-magnet connected with said armature, and means controllable automatically by movements of a vehicle for energizing said electro-magnet.
11. In a pneumatic brake valve the combination of a movable member for suddenly venting the train pipe, a lever temporarily engaging said movable member, a slide for holding said lever in a predetermined position, and mechanism controllable by an electro-magnet for actuating said slide so as to release said lever.

No. 101,991. Grate. Grille.


Oscar Eugene Halderman, Marion, Indiana, U.S.A., 13th November, 1906; 6 years. Filed 22nd October, 1906. Receipt No. 140.511 .
Claim.-1. The combination with a firebox, of a shaft lotatably supported thereon, a member having a recess and being fixed upon the shaft, curved grate bars carried by th: Shaft, and a door movable over the end of the shaft and cowierating with the recess to llmit the rotation of the shaft. 2. The combination with a firebox, of a shaft rotatably supported thereon, a member having a recess and being fixed upon the end of the shaft outside the firebox. curred grate bars carried by the shaft and a door hinged upon the firebox and having a projection to enter the recess.

No. 101,992. Broiler. Gril.
James John Jones, New York City, New York, U.S.A.. 13t. November, 1906; 6 years. Flled 19th October, 1906. Receipt No. 140,423.
Claim.-1. A broiler comprising a corrugated sheet meital , late having elongated longitudinally disposed openings in similar positions in each corrugation, the upper edge of -ach openings being out-turned to form a llp overhangiag said openings to prevent the escape therethrough of th. Heat juices in broiling.
2. A broiler comprising a corrugated sheet metal platr having elongated longitudinally disposed openings similarls paced in each corrugation, each opening being wider s: whe end than at the other and having its upper edgi ou'. iurned to form a lip overhanging said opening to preveat the escape therethrough of the meat juices in broling
3. A broller comprising a corrugated sheet metal bla: havfag elongated longltudinally disposed openings sim-

Harly placed in each corrugation. each opening being wider at one end than at the other and having its upper

edge and longer short edge out-turned to form lips, the upper lip overhanging said opening to prevent the escape therethrough of meat juices in broiling.
4. A broiler comprising a corrugated sheet metal plate having elongated longitudinally disposed openings similarly placed in each corrugation, each opening being wider at one end than at the other and having its upper and both short edges out-turned to form lips, the upper lip overhanging said opening to prevent the escape therethrough of the meat juices in broiling.
5. A broller comprising a corrugated sheet metal plate having elongated longitudinally disposed openings in similar positions in each corrugation, the upper edge of each opening being out-turned so as to form a lip inclined to the edge of the apices of the corrugated plate and overhanging sald opening to prevent the escape therethrough of the meat juices in brolling.
6. A broller comprising a corrugated sheet metal plate having elongated longitudinally disposed openings in similar positions in each corrugation, the upper edge of each opening being out-turned to form a lip overhanging the opening to catch the meat juices, a wire frame, and means for detachably connecting the sheet metal plate to the said irame.

No. 101,993. Boot and Shoe. Chaussure.


John Staunton King, Toronto, Ontario, Canada, 13th November, 1906; 6 years. Filed 20th October, 1906. Receipt No. 140,474.
Claim.-1. A boot or shoe having a recess formed in the insole, and a flling of soft resilient material suitably secured within the recess, as and for the purpose specified. 11-8
2. A boot or shoe having a recess formed in the ingole, and a filling of soft resilient material suitably secured within the recess of the forepart of the shoe, as and for the purpose specified.
3. A boot or shoe having a recess formed in the insole, thereof, the said recess having an overhanging edge, and a filling of soft resilient material suitably secured within the recess and beneath the overhanging edge thereof, as and for the purpose specified.
4. A boot or shoe having a recess formed in the insole thereof, said recess having an overhanging edge, a fllling of soft resilient material suitably gecured within the recess and beneath the overhanging edge thereof and a covering of thin leather designed to be secured around its edge to the under side of the overhanging side of the recess and to the filling, as and for the purpose specifled.
5. A boot or shoe having a recess formed in the insole, a filling of soft resilient material suitably secured within the recess and a covering of thin leather secured to such resilient material, as and for the purpose specified.

6 In a boot or shoe, the combination with the insole having a recess in the forepart thereof and a flling of soft resilient material for such process, of a cross strip extending between the sides of the insole and across the recess, as and for the purpose specified.

\section*{No. 101,894. Unloading Apparatus.}

Appareil d̀ décharger.


Jesse Earnest Knight, Park, Washington, U.S.A., 13th November, 1906; 6 years. Filed 17th October, 1906 Receipt No. 140,380 .
Claim.-1. In an unloading apparatus the combina:ion with a way adapted to have a vehicle moved along the same, of a swinging boom having its free end ©Jjacent to the way and adapted to move in an arc converging toward said way, lor the purpose specifled, a line in connection with said bnom, as elevated part to which the line is joined, and a weight at tached to the line intermediate its ends.
2. In an unloading apparatus the combination of \(a\) way adapted to have a vehicle moved along the same, a swinging boom having its free end juxtaposed to said way, the boom being adapted to have its free end moved through an a:c converging toward and intersecting said way, illine in connection with said boom, an elevated part with which the line is connected, and a weight attached to the line intermedlate its ends, for the purpose specified.
3. In an unloading apparatus the combination with a way adapted to have a vehicle moved along the same, of a swinging boom having its free end arranged to move in an arc converging toward the way, a rotary member carried by the free portion of the boom, and means for rotating the said member during the swinging of the boom, sald rotating member having spurs in its periphery adapted to engage the material unloaded.
4. In an unloading apparatus the combination with a way adapted to have a vehicle moved along the same, of a swinging boom having its free end arranged to move in an arc converging toward the way, a rotary member carried by the free portion of the boom, and means for rotating the said member during the swinging of the boom, said means for retating said member comprising a stationary rack, and a pinion carried by the boom and meshed with the rack and having connection with the rotary member.
5. In an unloading apparatus the combination with a way adapted to have a vehicle moved along the same, of a swinging boom having its free end arranged to move in an arc converging toward the way, a rotary unloading member the free portion of the boom and means for rotating said unloading member during the swinging of the boom.
6. In an unloading apparatus the combination with a way adapted to have a vehicle moved along the same, of a swinging boom having its free end arranged to move in an arc converging toward the way, a rotary unloading member car-
ried by the free portion of the beam and adapted to engage the load on the vehicle, means for connecting the boom with the vehicle, and means for rotating sald unloading member during the swinging of the boom.
i. In au untoadiug apparatus the combination with a way adapted to have a vehicte moved along the same, of a swingtug boom having its iree end arranged to move in an arc ccaverging toward the way, a rotary unloading member carried by the free portion of the boom and adapted to engage the load on the vehicle, means for connecting the boom with the vehicle, means for rotating said unloading member during the swingling of the boom, and means in connection with the boom tor automatically returning the same to a position removed from the way.
8. In an untoading apparatus the combination with a way and a venicle adapted to move over the same, of a boom wounted to swing its free end in an arc converging toward the way and to sweep over the floor of the vehicle to engage the load thereot, aud throw the same laterally from the vehicle.
y. In an unloading apparatus the combination with a way and a vehicie adaplea to muve over the sume, or a boom mounted to swing its iree end in an arc converging toward the way and to sweep over the Hoor of the vehicle to engage the load thereof, and throw the same laterally from the vehicle and means for connecting said free portion of the boom to the vehicle whereby to swing the boom througn the medium of the vehicle.
10. In an unloading apparatus the combination with a way and a venicte adapted to move over the same, of a boom mounted to swing 11 iree end in an arc converging toward the way and to sweep over the floor of the vehicle to engage the load thereot and throw the load laterally trom the vebicle, and a means for automatiaally returning the boom to Inactive position.
11. In an unloading apparatus the combination with a way and a vehicle adapted to move over the same, or a boom mounted to swing its free end in an arc converging toward the way and to sweep over the floor of the vehicle to engage the load thereol and throw the load laterally from the vehicle, means for connecting said irce portion of the boom to the vehicle whereby to swing the boom through the medium of the vehicle, and means for automatically returning the boom to its inactive position upon disconnection from the vehicle.

\section*{No. 101,995. Potato Digger. Arrache-patatcs.}


Joseph Moreau, St. Germain de Grantham, Quebec, Canada 18th November, 1906 ; 6 years. Filed 23rd October, 1906. Receipt No. 140,545.
Claim.-1. In a potato digger the combination comprising a pair of supporting wheels, separating drums secured to the whels and a digging member disposed between the drums.
2. In a potato digger the combination comprising a supmental member rockably supported on the axle, a digging member carried by the segmental member means for rocking the segmental member on the axle and rotatable separating drums carried on the wheels.
3. In a potato digger the combination comprising a supporting axle, wheels on the supporting axle, a segmental member provided with ears disposed on the supporting axle, a digging member carried by the segmental member, means for rocking the segmental member on thr axle, and rotatable separating drums carried by the wheels.
4. In a potato digger the comblation comprising a supporting axle. a pair of supporting wheels on the axle, a segmental member rockably supported on the axle and provided with upwardly extending outwardly flared wings on its opposite sides. a digging member carrled by the segmental member. means for rocking the segmental member on the axle and rotatable separating drums carried on tha whoels.
5. In a potato digger the combination comprising a sup porting axle, a pair of supporting wheels on the axic, a segmental member rockably supported on the axle and provided with wings on its opposite sides, a digging member carried by the segmental member and extending above the plane thereof to form channels on each side, means for rocking the segmental member on the axle and rotatable separating drums carried on the wheels.
6. In a potato digger the combination comprising a supporting axle, a pair of wheels carried on the axle, a seg mental member rockably supported on the axle, a digging member carried by the segmental member a draft veam pivoted to the digging member, a rockable depth regulatiay nember pivoted to the digging member, means for locking the rockable member against movement and rotatable separating drums carried on the wheels.
7. In a potato digger the combination comprising an axle, suporting wheels on the axle, a rockable segmental memver carried dy the axie, a digging member carried by the segmental member, a link rockabiy connected to thte digfing member, a roller on the link, a rod connected to tue ank, means for locking the rod against movement and drums fixed on the supporting wheels.
s. in a potato digger tue combination comprising an axle, suporting wheels on the axle, a rockable segmental memver carried by the axle, a digging member carried by the segmental member, a link rockably connected to the digging member, a roller on the hink a rod connected to the unk and provided with openings, handles carried by the segmental member, a pin carried by the handles and adapted to enter the openings and drums nixed to the supporf--ug wheels.
y. In a potato digger the combination comprising a supporting axie, a pair of wheels on the supporting axle, drums secured to the wheess, a segmental member rockady disposed on the axle, a digging member carried by the segnental member and provided with an opening, a dralt veam having a rear birurcated end disposed through the opening, a link disposed in the bifurcated end of the drast beam, a pin carried by the digging member and disposed through the biturcated end of the draft beam and the link, a roller carried by the iree end of the link means for lockIng the link against movement and handles secured to the segmental member and adapted to rock the segmental member and the digging member.
10. In a potato aisger the combination comprising a supporting axle, a pair of wheels on the supporting axle, a segmental member rockably disposed on the axle and provided with wings, the rear sides of which are curved, a digging member on the segmental member, means for rocking the segmental member to regulate the depth of the cut of the digging member and annular members secured to the wheels and provided with horizontal flanges having Hugers thereon.
11. In a potato digger the combination comprising a supporting axle, a pair of wheels carried by the supporting axle, a rockable segmental member carried by the supporting axle, a digging member carried by the segmental memver, means for rocking the segmental member, rings carrie by the wheels and separating drums carried by the wheels each comprising a vertical fiange riveted to said rings and a horizontal flange provided with slots to form inwardly projecting fingers.

No. 101,896. Check Eook. Crochet de fausse-rines.


Peter S. Peterson, Jamesville, Wisconsin, U.S.A., 13th November, 1906: 6 years. Filed 9th October, 1906. Receipt No. 140,160 .
Claim.-1. A check hook comprising a member and a hinged rein receiving member disposed opposite the axid member, and means for temporarily uniting the freo ents of said members and permitting the release of the hing 1 member when it is subjected to abnormal straln throug' the checkrein.
2. A check hook comprising a fixed member, a rein receiving member disposed opposite the fixed member and hiaged
thereto, said fixed member constructed to clamp the hinged member, normally hold it against movement and permit its release when subjected to abnormal strain through the checkrein.
3. A check hook comprising a fixed member, and a reln receiving hook disposed opposite the fixed member and hinged thereto, one of said members having a recess to receive the other member and normally hold the rein receiving hook until the latter is subjected to abnormal pulling strain through the checkrein.
4. A check hook comprising a fixed member, a rein receiving hook disposed opposite the fixed member and hinged thereto, and sald slit member slit to clamp the rein receiving end of the hook and release said hook when the latter is subjected to abnormal strain through the checkrein.
5. A check hook, comprising a fixed member, a rein receiving hook disposed opposite the fixed member and hinged thereto near one end and at such end constructed to overlap and rest on the base of the fixed member, said fixed member projecting upward at its rear end and slit longitudinally and having notches formed in opposite faces to recelve and hold the rein receiving free end of the hook and release said hook when the latter is subjected to abnormal strain through the checkrein.
6. A check hook comprising a fixed member constructed to be rigidly secured to a harness, a rein recelving hook disposed opposite the fixed member and hinged to the forward end thereof, the rear end of the fixed member, curved upward, slit longitudinally and flared, and having notches formed in opposite faces to receive and hold the free end of the rein receiving hook until the latter is subjected to undue strain through the checkrein.
7. A check hook comprising a fixed member, and a rein receiving hook member disposed opposite the fixed member and hinged thereto, one of said members having an opening to permit the passage transversely through it of the free end of the other member and retain the rein receiving hook member until it is subjected to undue strain through the checkrein.

No. 101,997. Movable Grate. Grille mobile.


Anders Borch Reck, 16 Christiansvej, Hellerup, Denmark, 13th November, 1906 ; 6 years. Filed 23rd October, 1906. Receipt No. 140,555.
Claim.-1. A grate consisting of movable parts which slope down against a narrow space separating the parts, the said parts being movable to-and-fro in a direction across the said narrow space.
2. A grate consisting of movable parts which slope down against a narrow space separating the parts, the said parts being movable to-and-fro in a direction across the said narrow space and being provided with teeth along the edges adjoining the said narrow space.
3. A grate consisting of movable parts which slope down against a narrow space separating the parts, the said parts being provided with teeth along the edges adjoining the said narrow spaces, and means for varying the limits of the movement of the movable parts of the grate.
4. A grate consisting of movable parts which slope down against a narrow space separating the parts, the said parts being provided with teeth along the edges adjoining the said narrow spaces and being movable by a handle to-and-fro In a direction across the said narrow space, the said handle belng provided with movable slide which strikes against a fixed stopper when left in its normal position on the handle, but passes the stopper when the movable slide is pushed back.

No. 101,998. Mail Deliverer. Appareil d livrer la malle.


Gordon Souther, Ludlow, Kentucky, U.S.A., 13th November, 1906; 6 years. Filed 23rd October, 1906. Receipt No. 140,538.
Claim.-1. In means for delivering mail the combination of a carriage adapted to receive the mall upon the exterior of the car and to deliver the same upon the interior of the car, means for holding the carrlage upon the exterior of the car in given position and to be overcome by the superior weight or force of the mail taken up by the carriage and to return the latter to normal position when relleved of the weight of the mail.
2. In means for delivering mail the combination of an inclined track having a portion arranged exterior to the car and a portion located upon the interior thereof, said track inclining towards the inner or delivery end, a carriage mounted to travel upon said track, and means for normally holding the carriage in given position to receive the mall from a station or point along the rallway and overcome by the weight of the mail so received and adapted to return the carriage to normal position after it has discharged the mall.
3. In means for delivering mail to a moving train the comhination of a track having portions arranged upon opposite sides of a portion of the car at one side of the door opening and curving around the jamb thereof. said track inclining from ita outer end downwardly towards its inner end, and a carriage arranged to travel upon said track around and through the door opening to carry mall from the outside of the car to the inside thereof.
4. In means for delfvering mall to a moving car the combination of an inclined track comprising end portions located upon opposite sides of a portion of the car at one side of the door opening, and an. Intermediate portion curving around a jamb of the door opening and connecting the inner and outer portions of the track. and a carriage adapted tc travel upon sald track and to receive and support the mall.
5 . In means for delivering mall of the character substanti lly as specified, the combination of a track, a carriage mounted to travel thereon. an engaging device, means for setting said engaging device. and a trip for releasing the indicating setting means to throw the latter into operative position.
6. In mail delivering mechanism of the character apecifled the combination of a track, a carriage adapted to travel thereon. an engaging device carried by sald carriage, means normally holding the engaging device out of operative position, setting mechanism for throwing the engaging device into working position and normallv held in restraint, and a trip mechanism for releasing the setting mechanism, whereby the engaging device is thrown into operative position.
7. In mall delivery mechanism the combination of a carrlage. an indicating device attached thereto and adapted to take up the mall and normally held out of the path of the mail. means for holding the carriage in normal position and adapted to throw the engaging device into operative position. and a trin mechanism for releasing the actuating means for the carriage and engaging device. whereby the latter is thrown into operative nosition to engage with and take up the mail to be delivered to the moving car.
8. In means for delivering mail from a moving car the comblnation of a carriage. an engaging device connected therewith and normally held out of action, actuating means for returning the carriage to normal position and having connection with said engaging device to throw it into operative position. a trin. and a stop pivotally connected with said trip and adanted to hold sald actuating means in restraint and when released to admit of the actuating means throwing the engaging device into operative position to take up the mall. which mall imparts automatic movement to the carriage and overcomes its actuating means.
9. In mechanism of the character specified the combination of a car provided with a self opening door, a catch for normally holding the door closed, a carriage adapted to recelve the mail to be delivered to the car, and means tripped by sald carriage to effect release of the door to admit of the carriage and mail passing through the opening closed thercby.
10. In means of the character specified the combination of a car provided with a self opening door, means for holding the door closed, a carriage, a trip adapted to be operated by the carriage to effect release of the door, and a trip mechanlsm for setting the carriage to take up mall from a given point or etation.
11. In means for delivering mail the combination of a crane adapted to swing under the influence of gravitative force resulting from the mall suspended therefrom, and means for returning sald crane to normal position and adapted to be overcome by the weight of the mail applied to the crane for dellvery.
12. In combination with a mail car, a crane applled thereto and adapted to swing through the door opening, and a buffer applied to and carried by the crane to form a stop and limit the outward swinging movement of the crane.
13. In a mail car the combination of a crane pivoted thereto and having its axis inclined to the perpendicular whereby the crane will automatically swing in one direction under the weight of the mall applied thereto for delivery, and means for returning the crane to normal position after release of the weight of the mail.
14. In a mail car the combination of a crane pivoted thereto to swing through the door opening, means for limiting the swinging mmovement of the crane in each direction, and means for imparting positive movement to sald crane both to swing it without and within the car.
15. In means for delivering mail, substantially as set forth, the combination of a swinging crane mounted upon the car, a lock device for holding the crane in a given position, a carriage, and means adapted to be tripped by the carriage to effect release of the crane to permit free movement thereof.
16. In mechanism of the character set forth, the combination of a self opening door, a swinging crane, lock devices for holding the door and crane in given position, a carriage, and means tripped by the carriage to effect release of both the door and crane.
17. In a mail car, the combination of a track curving around a jamb of the door opening and extending upon opposite sides of a portion of thte car, and a carriage adapted to travel upon said track and composed of sections joined to admit of flexing of the carriage when passing around the curved portion of the track.
18. In means for delivering mail the combination of a support for receiving mail to be delivered, a hook connected with the mall and spaced fingers extended from safd support to hold the said hook in given position.
19. In means for delivering mall the combination of a support, spaced spring fingers extended therefrom and a hook adapted to be received between sald fingers to be held in a given position thereby and having connection with the mail to be sustained by said support.

No. 101,999. Bmut Machine. Smut.


William H. Thompson, Fairmount, North Dakota, U.S.A., 18th November, 1906 ; 6 years. Filed 23rd October, 1906. Receipt No. 140,536.
Olatm.-1. In a machine of the character described th 3 combination of a frame work embodying said bars, a longitudinally vibrating inclined shoe, a transversely vibrating inclined sluice above side shoe and designed to discharge thereon, a grain hopper adapted to discharge on to the upper end of the sluice, means for actuating the sluice and shoe, means for spraying the grain as it passes down the sluice, the sluice being provided at its lower end with an apertured
plate, a chamber into which the apertures lead and sald chamber being provided with a lateral extension, and a spost secured to and projecting outwardly from one side bar of the frame wark and in which sald lateral extension loosely rests.
2. A machine of the character described comprising a irame work, a hopper mounted thereon, crossbars 4 secured to the side bars of the framework, an inclined sluice supported on said crossbars and mounted to slide thereon, a spray reservoir mounted in the framework above the sluice. the sluice being provided at its lower end with an apertured plate and a chamber into which the aperture of the plate leads, said chamber being provided with a lateral extension. a spout secured to and projecting outwardly from one side bar of the framework, the said lateral extension of the chamber resting in and adapted to slide in said spout. a reversely inclined shoe mounted in the framework or hangers pivotally supporting said shoe to swing longitudinally. means for swinging sald shoe, an arm 6 projecting latorally from the sluice and out beyond one side bar of the framework and a vertical shaft 8 mounted in a boxing in the outer side of one side bar of the framework. sald shaft being providef at end end with a crank operatively connected to the lateral arm 6 of the sluice and being provided at its other ent with a lateral secured to the under side of the said shoe, as and for the purpose set forth.
No. 102,000. Device for Unloading Gravel.
Apparefl d décharger le gractor.


Charley H. Williamson, Blissfield, Ohio, U.S.A., 13th November, 1906: 6 years. Filed 19th October, 1906. Receipt No. 140,486 .
Claim.-1. The combination of a car provided in its bottom with a central discharge openig and two spaced apart laterally adjustable ploughs designed to be drawn over the bottom of the car on opposite sides of said opening.
2. The combination of a car provided in its bottom with a central discharge opening. a frame arranged to be drawn along the bottom of the car, and two ploughs hinged at opposite sides of said frame with their apexes free from altachment to each other and arranged to be laterally adjusted, as and for the purpose set forth.
8. An unloading device for gravel cars or the like comprising a frame designed to be drawn over the botfom of the car, two spaced apart laterally adjustable ploughs carried by said frame, and means for holding said ploughs in dituerent lateral positions with respect to each other, and means for drawing said frame over the bottom of a car.
4. An unloading device for gravel cars or the like rninprising a frame, means for drawing said frame over the bottom of the car. two angular ploughe hingen to said frame nt onnosite sides thercof with their front ends fren from conrimetion with each other, and means connected with sals irame for holding said two ploughs in different angular positinns.
5. An unloailing device for gravel cars or the thee comprising a frame fesigned to move over the bottom of the car. meanc for drawing sald frame forwardly. two nomeed apart angular nloughs hinged at opposite sldes of sald framr at one end onlv. and means connected to the other end of cach of sald ploughs for adjusting the same laterallv.
6. The rombination with a car noovided with a tiltine discharge section. of a nlunger designed to be drawn nepr then bottom of the car and arranged to automaticallv unlock and tilt sald section and a scraping device operatively connected with said plunger to move therewith, as and for the purpose set forth.
7. The enmbination with a car having a tilting botinia section of a frame insigned to move over the bottom of the car and provided with a scraping device, and \(n\) plunger carried by sald frame and extending beyond sald scranine de. vice and arranged to automatically unlock the said tilied section, as and for the purpose set forth.
8. The combination with a car of the character described embodying a tilted bottom section, of an unloading device comprising a frame, means for moving the frame over the bottom of the car, laterally adjustable ploughs carried by said frame and said ploughs being angular, and means for holding said ploughs in different lateral positions with respect to the frame, said means including a hand operated lever and links connecting the same with the ploughs and means for automatically unlocking and tilting said section in advance of the movement of the ploughs and frame in alignment with said section.
9. An unloading device for gravel cars or the like comprising a frame, two angular ploughs hinged at one end to opposite sides of said frame, links connected to the other ends of said ploughs and arranged to move said ploughs laterally With respect to each other, and a hand operated lever carried by said frame and connected to said links whereby to hold said ploughs in different angular positions with respect to each other.

\section*{No. 102,001. Water Purifying Process.} Procéd pour purifer l'eau.

The American Steel and Wire Company, Chicago, Illinois, assignee of Charles Arthur Browne, Lorain. Ohio, U.S.A., 13th November, 1906; 6 years. Filed 4th July, 1906. Receipt No. 137,507.

Claim.-1. The herein described method of purifying water, which consists in treating the water with a coagulent compound in the presence of a relatively smaller amount of a compound which is decomposed to form a germicidal precipitate, and filtering the water through such precipitate.
2. The herein described method of purifying water, which consists in treating the water with a coajulent compound in the presence of sulphate of copper, the latter being decomposed and precipitated to form a germicidal layer, and filtering the water through such precipitate.
3. The method herein described of purifying water, which consists in treating the water with a coagulant compound in the presence of sulphate of copper, and filtering.
4. The method herein described of purifying water, which consists in treating the water with sulphate of iron and sulphate of copper.
5. The method herein described of purifying water, which consists in treating the water with sulphate of Iron and sulphate of copper, and filtering.
6. The method herein described of purifying water, which consists of treating the water with sulphate of iron and sulphate of copper and caustic lime.
7. The method herein described of purifying water, which consists of treating the water with sulphate of iron and sulphate of copper, and caustic lime, and flltering.
8. The method herein described of purifying water, which consists of treating the water with sulphate of iron and a smaller proportion of sulphate of copper.
9. The method herein desoribed of purifying water, which consists of treating the water with sulphate of iron and a smaller proportion of sulphate of copper, and filtering.
10. The herein described method of purifying water, which -consists in treating water with a soluble sulphate of sesquioxide forming substance and germicide compound which is decomposed and precipitated to form a germicidal layer and filtering the water through such layer, the amount of germicide compound being less than the amount of th coagulant substance.
11. The method herein described of purifying water, which consists in treating the water with a soluble sulphate of gesqui-oxide forming substance, and sulphate of copper.
12. The method herein described of purifying water, which consists in treating the water with a soluble sulphate of a sesqui-oxide forming substance, and sulphate of copper. and filtering.

\section*{No. 102,002. Fiminace. Fournalse.}

Nelson W. Dempsey and Lewis C. Hanmer, both of Detroit. Michigan, U.S.A., 13th November, 1906 ; 6 vears. Filed 15th Octoher, 1906. Receipt No. 140,315.
Claim.-1. In a heater the combination of a firepot having openings in its sides and closed at its upper end, a chamber surrounding the firepot and enclosing the openings, and means for conducting the products of combustion and gases from the upper end of the firepot to the said chamber.
2. In a beater the combination of a firepot having openings in its sides and closed at its upper end, a radiating chamber above the firepot in communication with the upper end thereof to receive the products of combustion and gases therefrom a consuming chamber surrounding the firepot and communicating with said radiating chamber, and a smoke pipe communicating with said consuming chamber.
3. In a heater the combination of a firepot having the form of an inverted truncated cone and formed with open-

ings in its sides, a dome to close the upper end of said firepot, a flue leading upward from said dome, a consuming chamber surrounding the fire pot and covering the openings therein, a smoke pipe communicating with said consuming chamber, a flue leading upward from said chamber, and a radiating chamber connecting said flues.
4. In a heater the combination of a firepot having openings in its sides, a consuming chamber surrounding said firepot a smoke pipe opening into said chamber and extending upward, a radiating chamber above the firepot and the consuming chamber with the radiating chamber, a short pipe connecting the radiating chamber with the other smoke pipe, and a damper in the short pipe.
5. In a heater the combination with a firepot having openings, of a dome section to close the upper end of the firepot, a consuming chamber surrounding the firepot, a smoke pipe leading from said chamber, an air chamber supported by the dome and having openings in its bottom, a radiating chamber supported by the air chamber and having a central opening for the passage of the air from the air chamber, flues extending through the air chamber and connecting the dome and the consuming chamber with the radiating chamber, and a short smoke plpe having a damper connecting the radiating chamber and the smoke pipe.
6. In a heater the combination with a firepot having openIngs in its sides, of a dome to close the upper end of the firepot, a radiating chamber above the dome, a smoke flue connecting the dome and chamber, a consuming chamber surrounding the firepot, a smoke pipe opening into the consuming chamber, a flue connecting the consuming chamber with the radiating chamber, and an alr plpe opening into the dome.
7. In a heater the combination with an ash pit section and a firepot having openings supported by said section, of a chamber surrounding the firepot having a channel in its bottom provided with openings, a revoluble ring having openings to correspond with said openings, and means for turning the ring.
8. In a heater the combination of an ash pit section, an inverted truneated conical firepot supported by the ash pit section and having openings in its sides, a grate in the bottom of said pot, a dome to close the upper end of the pot and provided with a fire door, an air chamber on the dome of greater diameter than the dome and having openings in its bottom outside said dome, a radiating chamber on the air chamber having a center opening for the passage of air from the air chamber, a flue connecting the dome and radiating chamber, air pipes provided with dampers opening into the dome, a consuming chamber surrounding the firapot, a flue conncting the radiating chamber and consuming chamber, a smoke pipe communicating with the consuming and radiating chamber, and a damper to prevent communication between said pipe and radiating chamber.
9. In a heater the combination of an ash pit section, a firepot supported by said section and provided with perforations, a dome section in the firepot provided with a fire door, an air chamber of greater diameter than the dome provided with openings in its bottom outside the dome, a radiating chamber having a central opening for the passage of air from the air chamber, a consuming chamber surrounding the firepot and having a channel in its bottom provided with openings, a revoluable damper to close said openings, a smoke pipe opening into the consuming chamber, flues connecting the top of the consuming chamber with the bottom of the radiating chamber, a flue connecting the top of the dome with the bottom of the radiating chamber, a short smoke pipe connecting the radiating chamber with the smoke pipe, a damper in said short pipe, and a casing enclosing the sections.

\section*{No. 102,003. Punching Bag.}

Sac pour coups de poings.


Charles L. Finney and Lester R. Lantz, co-inventors both of Wyalusing, Pennsylvania, U.S.A.. 13 th November, 1906: 6 years. Filed 28 th June, 1906. Receipt No. 137,363.
Claim.-1. In a device of the class described, a standard having a perforated head, a vibrating striking bag mounted on the said head and adapted to roll thercon when struck, a spring in the standard, a flexible connection extending through the perforation of the head and connecting the spring and the bag, and means to regulate the tension of the spring.
2. In a device of the class described, a telescoping standard composed of two members, the upper one of which is hollow and provided with a flat head a vibrating punching bag mounted on the head, a cable extending through the aperture in the head and connected at one end to the bag, a spring in the standard connected at one end to the cable, a rod attached to the other end of the spring. and means for adjusting the rod to regulate the tension of the spring.
3. In a device of the class described, a standard composed of upper and lower posts. which telescope the lower end of the upper post having recesses. a washer provided with lugs engage the recesses and also having a central aperture, a threaded bolt extending thmough said aperture and held against rotation therein, a nut on the bolt. a spring secured to the bolt and located in the post of the standard. a cable secured to the spring. and a vibrating punching bag secured to the cable whereby the bag may be maintained in an upright position on the standard and the tension of the spring regulated.
4. In a device of the class described. a telescoping hollow standard having an apertured head piece, a bushing fitted In the aperture and having its bore flared at the upper end, a punching bag. a post secured to the punching bag, a cable secured to the lower end of the post and extending through the bore of the bushing and a resetting device mounted in the standard and connected with the cable.
5. In a device of the class described, a hollow standard having an apertured head. a post 18 a punching bag secured to the top of the post, a knob on the lower end of the post adapted to roll upon the head of the standard when the punching bag is struck a cable secured to sald knob and extending through the aperture in the head and a resetting device in the standard connected with the cable.
6. In a device of the class described a standard having a head, post having a knob at its lower end to rest upon said head, said post provided at its upper end with a concaved seat, punching bag secured to sald seat, and means secured to the knob extending through the head and into a standard for maintaining the post and the bag in an upright position.
7. The combination with the post 2 , having a lug therein, of a hollow post 5 fitted in the first-mentioned post, a punching bag mounted on the top of the hollow post, a spring in the hollow post connected with the bag's supporting member an adjusting rod eneaged with the spring and projecting from the end of the post 5, and a nut on the end of the rod adapted to be engaged with the lug in the first-mentioned post.

\section*{No. 102,004. Car Compler. Attclage de chars}

Frank H. Norwood and William H. Smith, assignee of a half interest, both in Pasadena, California, U.S.A.. 13th November, 1906; 6 years. Flled 17th July. 1906. Receipt No. 137,916.
Claim.-1. A car coupler comprising a casing, a coupler bar arranged in the casing at one side of the longitudinal center thereof, and made up of a lower section having a notch in one side and a tongue at its outer end and also
having a vertically disposed aperture, and an upper section having a vertical!y dis? osed aperture registered with that

of the lower section, and also having a tapered nose, a recess in its side in rear of sald nose to receive a gravitating pin of a complementary coupler, a recess in its under side to receive the outer end of the lower member and a groove in the wall of said recess to recelve the tongue and the outer end of the lower member, a pin resting in the casing and the registered apertures in the sections of the coupler bar, and a gravicating pin reating in the casing and having a lower reduced portion disiposed in the notch of the lower coupler bar section and a beveled shoulder arranged to be engaged by the tapered nose of the upper coupler bar section of a complementary coupler and to seat in the recess in the side of said section.
2. A car coupler comprising a casing. a coupler bar arranged in the casing at one side of the longitudinal center thereof and made up of an inner section having a vertical aperture and an outer section arranged to be engaged by a gravitating pin of a complementary coupler and having an aperture registered with that of the inner section, a pin resting in the casing and the reglstered apertures of the coupler bar sections, and a gravitating pin engaging the inner coupler bar section and arranged to be engaged by the outer coupler bar section of a complementary coupler.
3. A car coupler comprising a casing, a coupler bar arranged in the casing at one side of the longitudinal center thereof and made \(u p\) of an inner section having a vertical aperture and also having a passage and an outer section arranged to be engaged by a gravitating pin of a complementary coupler and having an aperture registered with that of the inner section, a pin resting in the casing and the registered apertures of the coupler bar sections. a gravitating pin engaging the inner coupler ber section and arranged to be engaged by the outer coupler bar section of a complementary coupler, and a cable connected to the lower portion of sald gravitating pin and extending upwardly through the casing and the passage in the inner coupler bar section.
4. An automatic car coupler comprising a coupler bar composed of two parts connected by a pin, a tapered nose on one of said bars, and a coupling pin having a curved cam to be engaged by sald nose. sald bar having a notich or recess into which the pin is dropped by gravity when in alignment therewith.
5. In an automatic car coupler, a casing, a two-part coupler bar connected together by a tongue, a groove. and a pin, one of said bars having a recess and a tapered cam nose, a coupling pin having a curved cam surface designed to be engaged by the cam nose, and to drop by gravity into the recess, sald coupler bar occupying one half of the space within the caslng, and belng removable therefrom to convert the coupling into an ordinary hand operated coupling.
6. A car coupler comprising a casing, a coupler bar arranged in the casing at one side of the longitudinal center thereof and having an inner portion and an outor portion. the latter portion being arranged to be engaged by a gravitating pin of a complementary coupler, and a gravitating pin engaging the inner partion of the coupler bar and arranged to be engaged by the outer portion of the coupler bar of a complementary coupler.
7. A car coupler comprising two members of identical construction. cach member comprising a casing having a coupler bar secured at one side thereln and occupying sut. stantially one half of the space within the casing. said -oupler bars having each a recess and a tapered nose. anit automatic coupling pins each having a cam to be engaged by the noses to seat sald pins in the reoesses.
8. A car coupler comprising a casing, a coupler bar arranged in the casing at one side of the longitudinal center thercof and having an inner portion and an outer portion, the inner portion being provided in one side with a notch and the other portion being arranged to be engaged by a gravitating pin of a complementary coupler. and a gravitating pin resting in the casing and having a lower reduced portion disposed in the notch of the inner coupler bar portion and also having a beveled shoulder arranged to be engaged by the outer coupler bar portion of a complementary coupler.
9. A car coupler comprising a casing, a gravitating pin extending through the casing and having a portion at an intermediate point of its length arranged to be engaged by a coupler bar of a complementary coupler, and an uncoupling cable connected to the said pin at a point below the casing.
10. In a car coupling, the combination of two members. each of which members comprises a casing. a coupler bar secured in the casing at one side thereof, and a gravitating pin extending through the casing and having a portion at an intermediate portion of its length arranged to be engaged by a coupling bar by the other member.
11. In a car coupling, the combination of two members. each of which comprises a casing, a spacing bar, a coupler, bar superposed on the spacing bar, a pin extending through and connecting the casing, the spacing bar and the coupler bar, and means for automatically engaging the coupler par of the other member.

\section*{No. 102,005. Governor for Plectric Pumps. Gouverneur pour pompes électriques.}


The Canadian Westinghouse Company, Hamilton, Ontario, Cuauua, assignee of walter \(V\). turner, wikinsdurg, rennsyivania, U.S.A., lota Novemder, 1906; o years. riled liztn February, 19ub. Keceipl No. 132, 773.
Cłaim.-1. a pressure governor comprising a controlling device, an actuating piston for the same and a low tension reguatimg means operallug when the pump pressure diminishes to a certalu posut to positively retedse nuid unuer pressure rom the actuating piston and cause the pump to cut in.
2. A pressure governor comprising a controlling device and a piston for actuating the same, a main valve for controlling the release of thid under pressure trom the actuating piston, and a low tension regulating means for causing the movement of the main valve when the pump pressure diminishes to a predetermined point.
3. A pressure gonvernor comprising a controlling device and a piston for actuating the same, a main valve for controlling the release of fluid under pressure from the actuating piston, a movable abutment for operating said valve, and a low tension regulating valve, means for varying the pressure on said abutment when the pump pressure diminishes to a predetermined point.
4. A pressure governor comprising a controlling device and an actuating piston, a main valve and abutment for controlling the pressure on said actuating piston and a regulating valve, means operated by the pump pressure for governing the release of fluid under pressure from one side of said abutment.
5. A pressure governor comprising a controlling device and actuating piston, a low tension regulating means for causing the movement of the piston to cut in the pump and a high tension regulating means for causing the movement of the piston to cut out the pump.
6. A pressure governor comprising a controlling device and actuating piston, a main valve for controlling the pressure on said piston, and a low tension regulating valve means and a high tension. regulating valve means both operated by the pump pressure for governing the action of the main valve.
7. A pressure governor comprising a controlling device and actuating means, a main valve for controlling the pressure on said piston, a differential abutment for actuating sald main valve, a low tension regulating valve means operated by the pump pressure for governing the pressure on one face of sald abutment, and a high tension regulating valve means operated by the pump pressure for governing the pressure on another face of the differential abutment.
8. A pressure governor comprising a controlling device and actuating piston, a main valve for controlling the pressure on said piston, a differential abutment subject to the pump pressure for actuating said main valve, a low tension regulating valve means governing the release of fluid from one face of said abutment, and a high tension regulating valve means governing the release of fluld from another face of said abutment.
9. A pressure governor comprising a controlling device and actuating piston, a main valve with abutment subject to pump pressure for governing the pressure on said piston, means for permitting an equalization of pressure around said abutment, a regulating valve for releasing fluid from one side of the abutment and a diaphragm subject to the opposing pressures of the pump and an adjustable spring for operating the regulating valve.
10. A pressure governor comprising a controlling device and actuating piston, a main valve with abutment subject to pump pressure for governing the pressure on said piston, means for permitting an equalization of pressure around said abutment, a regulating valve for releasing fluid from one side of the abutment, means operated by the movement of the abutment for closing the outlet through the release port and a diaphragm subject to the pump pressure for operating the regulating valve.
11. A pressure governor comprising a controlling device and actuating piston, a main valve with abutment subject to pump pressure for governing the pressure on said piston means for permitting an equalization of pressure around said abutment, a regulating valve for releasing fluid from one side of the abutment, a diaphragm for of rating the regulating valve, and means operated by the movement of the abutment for relcasing pressure from the diaphragm chamber.
12. A pressure governor comprising a controlling device and an actuating piston, a movable abutment and valve for controlling a supply port to the actuating piston, a regulating valve means governed by the pump pressure for releasing fluid from one side of said abutment, and means operated by the preliminary movement of the abutment for venting pressure from one face of said abutment to cause a quick movement of the valve.
13. A pressure governor comprising a controlling device and an actuating piston, a movable abutment and main valve for controlling the pressure on said piston, and a regulating valve means subject to the opposing pressures from different pumps for varying the pressure on said abutment.
14. A pressure governor comprising a controlling device and an actuating piston, a movable abutment and main valve for controlling the pressure on said piston, a low tension regulating valve operated by the pump pressure and a spring for varying the pressure on said abutment, and an auxiliary regulating valve means subject to the opposing pressures from different pumps for also governing the pressure on said abutment.
15. A pressure governor comprising a controlling device and an actuating piston, a movable abutment and main valve for controlling the pressure on said piston, low tension and high tension regulating valves operated by the pump pressure for governing the pressure on said abutment, and an auxiliary regulating valve means subject to the opposing pressures from different pumps for also varying the pressure on said abutment.
16. A pressure governor comprising a controlling device and an actuating piston, a main valve and movable abutment subject on one side to the pump pressure for governing the pressure on said actuating piston, means for permitting an equalization of pressures around the abutment, and a regulating valve operated by the opposing pressures from different pumps for controlling the release of pressure from the other side of said abutment.
17. A pressure governor comprising a controlling device and an actuating piston, a main valve and movable abutment subject on one side to the pump pressure for governing the pressure on said actuating piston, means for permitting an oqualization of pressures around the abutment, a regulating valve means operated by the pump pressure for releasing
fluid under pressure from the other side of the abutment, and an auxiliary regulating valve operated by the opposing pressures from different pumps for also controlling the releatse of fluid from one side of the abutment.

No. 102,006. Fluid Pressure Regulator.
Régulateur pour presseur de fuide.


The Canadian Westinghouse Company, Hamilton, Canada, assignee of Walter, V. Turner, Wilkinsburg, Penrsylvania, U.S.A., 13th November. 1906 ; 6 years. Filed 19th April, 1906. Receipt No. 135,052.
Claim.-1. A fluid pressure regulator comprising a main valve, a movable abutment for operating said valve, and means governed by the fluid on the outlet or low pressure side for controlling the pressures acting on the opposite faces of said abutment.
2. A fluid pressure regulator comprising valvular means for controlling the flow of fluid, pistons for operating said means, and mechanism governcd by the outlet pressure for controlling the pressure of said pistons.
3. A fluid pressure regulator comprising a main valve, a movable abutment for operating said valve, and means governed by the fluid on the outlet or low pressure side for controlling the release of fluid from the opposite faces of said movable abutment.
4. A fluid pressure regulator comprising main valve means, a piston for opening and a piston for closing said valve means, and mechanism governed by the outlet pressure for controlling the pressure acting on sald pistons.
5. A fluid pressure regulator comprising main valve means. a piston for opening and a piston for closing said valve means, and regulating valve mechanism governed by the outlet pressure for controlling the release of fluid from one face of each of said pistons.
6. A fluid pressure regulator comprising a main valve, pistons subject to fluid pressure on one of their faces for operating said valve, and regulating mechanism governed by the outlet pressure for controlling the pressure on the opposite faces of said pistons.
7. A fluid pressure regulator comprising a main valve, pistons subject on one side to the pressure of the valve chamber for operating said valve, means for permitting a slow leakage of fluid past said pistons, and regulating mechanism for controlling the release of fluid from the chambers on the opposite faces of said pistons.
8. A fluid pressure regulator comprising a main valve, pistons subject on one side to the pressure of the valve chamber for operating said valve, means for permitting a slow leakage of fluid past said pistons, a regulating valve for venting fluid from the opposite side of one piston to the low pressure compartment, another regulating valve for venting fluid from the opposite side of the other piston to the atmosphere, and means governed by the outlet pressure for actuating the regulating valves.
9. In a fluid pressure regulator the combination with a main valve and movable abutment for operating the same, of a regulating valve for controlling the pressure on one face
oi said abutment, another regulating valve for controlling the pressure on an opposite face of said abutment, and a diaphragm subject to the outlet pressure for actuating said regulating valves
10. A fluid pressure regulator comprising a main slide valve normally held to its seat by the inlet pressure, a mov able abutment subject to the inlet pressure for operating said slide valve, and regulating valve mechanism governed by the outlet pressure for controlling the release of fluid from opposite faces of said abutment.
11. A fluid pressure regulator comprising a main valve, pistons subject to the inlet pressure for operating sald valve, regulating valves for controlling the release of fluid from the opposite faces of said pistons, a diaphragm subjrct to the outlet pressure for actuating said regulating valves, an adjustable spring, and adjustable stops for limiting the range of adjustment of said spring.
12. A fluid pressure regulator comprising a valve for controlling the flow of fluid, means subject to the fluid pressure on one side and an adjustable spring on the other for controlling the action of said valve, a casing and adjusting nut for said spring, two friction bands mounted on the casing and each having a projection or stop, and an arm carried by the adjusting nut for engaging said stops.

No. 102,007. Safety Valve. soupape de süretc.


Edward Joseph Clark, Scranton, Pennsylvania, U.S.A., 13th November, 1906; 6 yearsff. Filed 13th November, 1906. Receipt No. 139,374.
Claim.-1. A safety valve for steam boilers comprising a casing, a valve therein adapted to open at a desired steam pressure, and thermostatic means for independently controlling the valve.
2. A safety valve for steam bollers comprising a casing. an escape valve therein normally operative to open at a desired steam pressure, and thermostatic means for controlling the valve, said valve being arranged to open inriependently under steam pressure or the action of the thermostatic means.
3. A safety valve for steam boilers comprising a casing having an outlet passage and a discharge port, a valve con irolling the outlet passage, means normally holding said valve closed to open under a determined steam pressure, and a thermostatic device for opening the valve independently of steam pressure.
4. A safety valve for steam boilers comprising a casing having an outlet and a discharge port, a valve controlling the outlet passage, a spring operating to hold the valve seated to open under a determined steam pressure, and a thermostatic device operating to open the valve against the resistance of the spring under a determined temperature in the boiler independent of the steam pressure.
5. A safety valve for steam bollers comprising a casing having an outlet passage, a valve controlling the outlet passage, means for setting the valve to open under a desired steam pressure and auxiliary means affected by variations in temperature in the steam space of the boiler for opening the valve at a determined temperature independent of steam presure.
6. A safety valve for steam boilers embodying means for permitting exhaust of steam from the boiler at a determinded pressure and the exhaust of evolved gases from the steam space of the boiler at a determined temperature independent of the steam presure
7. A safety valve for steam boilers having an exhaust valve and controlling means therefor operative to permit of the exhaust of steam at a determined presure and of the exhaust of gases under certain condition independent of the steam presure.
8 A safety valve for steam boilers comprising a casing a valve therein operative to permit of the exhaust of steam under a determined pressure and a thermostat controlling the valve irrespective of steam pressures.
9. A safety valve from steam boilers comprising a casing having an outlet a valve controlling the outlet means for holding the valve closed to open under a determined steam pressure opposed and a thermostat for operating said means.
10. A safety valve for steam boilers comprising a casing having an outlet port, a valve controlling said port, means acting upon the valve to hold it seated and permit it to open under a determined steam presure, levers operallivery collnected to the valve and a thermostat for actuating said levers.
11. A safety valve for steam boilers comprising a casing having an outlet port, a valve controlling said port, means for holding the valve seated to open under a determined steam pressure, levers movably connected with the valve and a thermostat operatively connected with the levers.
12. A safety valve for steam boilers comprising a casing having an outlet port, a valve controlling the same, adjustable spring means for holding the valve closed, a thermostat operatively connected with the valve the latter being adapted to be opened by the thermostat and to open independently thereof under steam pressure, and means for regulating the action of the thermostat.
13. A safety valve for steam boilers provided with means for opening the same, said means being influenced by interior boiler temperature to open the valve for the vent of gas when a determined temperature is reached.
14. A safety valve for steam boilers having thermostatic means for opening the same at any determined temperature in the steam space of the boiler.
15. A safety valve for steam boilers comprising a casing having a depending support, a valve disposed in said casing, a thermostat carried by said support and operatively connected with the valve, said thermostat being adapted to be subjected to variations of temperature in the steam space of a boiler to open the valve when the temperature reached any determined degree.
16. A safty valve for steam boilers comprising a casing adapted for connection with the boiler, said casing being provided with a support to project within the steam space of the boiler, a safety valve in the casing and a thermostat carried by said support and operatively connected with the valve to open same for the escape of gases when the temperature in the steam space of the boiler reaches a determined degree.
17. A safety valve mor steam boilers comprising a casing, valve operating therein, a thermostat controlling the valve, and means for adjusting the valve to regulate its seating action under the operation of the thermostat.
18. A safety valve for steam boilers comprising a casing adapted to be secured to the boiler and having a portion to extend in to the steam space thereof, a valve operating in the casing and a thermostat supported by the casing and the said extended portion thereof and operatively connected with the valve to open same when a determined temperature exists in the steam space.
19. A safety valve for steam boilers comprising a casing having an outlet port, a valve controlling said port, a thermostat comprising bars supported by the casing and levers connected with said bars and valve.

No. 102,008. Valve. Soupape.


Harry C. Root, Charleston, Illinois, U.S.A., 13th November, 1906 ; 6 years. Filed 15th May, 1906. Receipt No. 135,942.
Claim.-1. A pressure controlling valve structure consisting of a casing having an intermediate chamber with a passage communicating therewith, a pair of cylinders one at each end of sald chamber, a by-pass forming a communication between the opposite ends of one of said cylinders and a passage forming a communication between the outer end of said last-mentioned cylinder and the exterior, and a pair of connected plstons mounted one in each of said cylinders, one of said pistons controlling the by-pass.
2. A pressure controlling valve structure consisting of a casing having an intermediate chamber with a passage communicating therewith, a pair of cylinders one at each end of said chamber, a by-pass forming a communication between the opposite ends of one of said cylinders, and a passage forming a communlcation between the outer end of said
last-mentioned cylinder and the exterior, a pair of connected pistons mounted one in each of said cylinders, one of said pistons controlling the by-pass and a pressure controlling spring engaging said piston structure.
3. A pressure controlling valve structure consisting of a casing having an intermediate chamber with a passage communicating therewith, a pair of cyllnders one at each end of said chamber, a by-pass forming a communication between the opposite ends of one of said cylinders, and a passage forming a communication between the outer end of said last-mentioned cylinder and the exterior, a pair of connected pistons mounted one in cach of sald cylinders, one of said pistons controlling the by-pass and means for loading the valve structure.
4. A pressure controlling valve structure consisting of a casing having an intermediate initial pressure chamber, an inlet passage leading thereinto, a pair of cylinders arranged at opposite ends of said initial pressure chamber, a by-pass forming a communication between the opposite ends of one of said cylinders, and an outlet passage leading from the outer end of said last-mentioned cylinder, a piston structure mounted in said casing and consisting of a pair of connected pistons, one mounted in each of said cylinders ond one of said pistons controlling the effective area of the by-pass, and a pressure controlling spring arranged in the outer end of the other cylinder.
5. A pressure controlling valve structure consisting of a casing having an intermediate initial pressure chamber, an initial passage leading thereinto, a pair of cylinders arranged at opposite ends of said initial pressure chamber, a bypass forming a communication between the opposite ends of one of said cylinders and an outlet passage leading from the outer end of said last-mentioned cylinder, a piston structure mounted in said casing and consisting of a pair of connected pistons, one mounted in each of said cylinders and one of said pistons controlling the effective area of the bypass, a pressure controlling spring arranged in the outer end of the other cylinder, and means for adjusting the effective pressure of said spring.

No. 102,009. Derrick. Grue.


Diedrich William Krellwitz, St. Catherines, Ontario, Canada, 13th November, 1906; 6 years. Filed 20th October, 1306. Receipt No. 140,475.
Claim.-1. In portable hoisting derricks the combination of hoisting derricks with a swinging platform having one end attached with a ball bearing socket joint to the boom and the other end carrying a counter weight and a wheel beneath this end carrying said platform with counterweight. as specified.
2. In portable hoisting derricks the combination of hoisting derrick derricks with sliding cleats, as specified.
3. In portable hoisting derricks the combination of hoisting derrick with sliding cleats, as specified.

\section*{No. 102,010. Guard for Chandeliers. \\ Garde pour chandelicrs.}

Victor J. Janser, and Henry Meyer. Springfield Massachusetts, U.S.A., co-inventors, 13th November, 1906 ; 6 years. Filed 4th July, 1906. Receipt No. 137.514.
Claim.-1. In an appliance of the character described, a sleeve or ring made in hinge connected sections, providud with means for locking the sleeve sections in their closed relations, and formed with three or more holes radially therethrough, three or more studs having threaded shanks screw engaged through said radial holes and protruding beyond the inner wall of the sleeve to assume engagements with the depending chandelier gas pipe to secure the ap-
pllance to said pipe, at different points therearound, and said studs being provided with tubular extensions and rods,

undwise adjustable in said tubular extensions and carrying guards or canopies at their outer ends.
2. In an appliance of the character described, in combination a sleeve or ring made in hinge connected sections and provided with means for locking the sections -losed, and constructed with three or more screw-threaded holes therethrough, a corresponding number of studs having threaded shanks screw-engaged through said radial holes, nad protruding beyond the inner wall of the sleeve for engagement with the variably sized chandelier pipes to secure the appliance to said pipes and studs having the outwardly open axial sockets, tubular arms having their inner ends engaged in said sockets, and the rods fristionally engaged, and endwise adjustable, in said tubes and having gas light guards at their outer ends.
3. In an appliance of the character described, a supporting ring comprising a plurality of movably connected regments together. said segments being formed with a plurality of radially disposed threaded openings extending cntirely therethrough, a plurality of radiating studs, each of which is formed with a threaded end engaging one of said openings and projecting withln the segmental ring to impinge against a plpe to secure the appliance in position thereon, the outer end of each stud belng formed with an axial socket, arms rigidly mounted in the sockets and shields on the arms.

No. 102,011. Method of Illumination in Connection with Photography.
Méthode d'illumination pour photographie.


Finuard Mertens, Gross-Lichterfelde, near Berlin, Germany, 13th November, 1906; 6 years. Filed fth July, 1906. Recelpt No. 137.516.
Claim.-1. A method of illuminating in connection with toking photographs consisting in arranging an object to be photographed. in arranging an objective and a sensitive flim to photograph said object. in arranging one or more sources of light adapted to illuminate said object, and in causing a movement of said source of light along the object and between the same and the objective so that all parts of said object are not photographed simultaneously, but the different parts thereof in succession.
\(\because\) A me:hod of illuminating in connertion with taking photographs consisting in arranging an object to be phoiographed, in arranging an objective and a sensitive film to piotograph sald object. In arranging one or more sources of liche adapted to illuminate sald object, and in callsing a deftitely determined movement of said source of light along the oblject and between the same and the objective so that all paris of sald object are not photographed simultanmonaly. but the different parts thercof in succession.
3. A method of illuminating in connection with taking plotographs consisting in arranging a transparent object to be photographed, in arranging an objective and a sensitive film to photograph said object, in arranging one or more sources of light adapted to illuminate said object at the side of the object remote from the objective, and in causing a movement of said object and said source of light relatively one to the other so that all parts of said object are not p!otographed simultaneously, but different parts thereof in succession.
4. A method of iluminating in connection with taking plotographs consisting in arranging an object to be photographed, in arranging an objective and a sensitive flm to photograph said object, in arranging one or more sources of light adapted to illuminate said object, in causing a movement of said obiect, and a sburce of light relatively one to the other so that all parts of said object are not photographed simultaneously, but the different parts thereof in siccession, and in maintaining the intensity of said source of light in correspondence with the angle of refiection dopending on the relative position of said source of light, sald objective and film, for the purpose of obtaining a uniform exposure of the sensitive film in all parts.
j. A method of illuminating. in connection with taking photographs consisting in arranging an object to be photographed, in arranging an objective and a sensitive flm to photograph said object, in arranging one or more sources of light adapted to lluminate sald object, in causing a movement of said object and said source of light relatively, one tc the other so that all parts of said object are not photographed simultaneously, but the different parts thereof in succession, and in regulating the intensity of said source of light in correspondence with the variation of the angle of rctlection depending on the relative position of said source of light, said object, and said objective and film, for the purpose of obtaining a unlform exposure of the sensitive film in all parts.
6. A method of illuminating in connection with taking photographs consisting in arranging an object to be photographed on a cylindrical surface, in aranging a sensitive thlm on a cyllndrical surface concentric with sald object, and in moving an objective, a frame having a slit, and one or more soarces of light mounted on sald frame concentrically with aud at a uniform speed between said object and sald flm, so that all parts of said object are not photographed simultanewisly, but the different parts thereof successively.
7. A method of llluminating in connection with taking photographs consisting in arranging an object to be photographed, in arranging an objective and a sensitive film to photograph said object. In arranging one or more sources of light adapted to illuminate said object, in causing a movement of said object and said source of light relatively to one another, and varying the speed of the source of light relatively to the object during the taking of a photograph in proportion to the variation of the intensity of the illumination or account of the continuous change of the angle of refection.
8. A method of illuminating in connection with taking photographs consisting in arranging an object to be photographed, in arranging an objective and a sensitive fim to photograph said object, in arranging one or more sources of lioht alapted to illuminate said object, in causing a movement of said object and said source of light relatirely to ont anothir and in varying the distance of the source 0 : light from the object during the taking of a photograph in preparation to the variation of the intensity of the illumination on account of the continuous change of he angle of reflection.
9. A method of illuminating in connection with taking photographs consisting in arranging an object to be photograhed, in arranging an objective and a sensitive film in photograph said object, in arranging one or more sources of light adapted to illuminate said object, and in causing a movement of said object and sald source of light relatively one to the other, and in varying the brightness of the soure: of light during the taking of a photograph in proportion to the varlation of the intensity of the illumination on account of the continuous change of the angle of refection.
10. A method of illuminating in connection with taking photographs consisting in arranging an object to be photographed, in arranging an objeotive provided with a diathragm and a stnsitive film to photograph sald object. ir arranging one or more sources of light adapted to flluminate said objoci, in causing a movement of said object and said source of light relatively to one another and in vars. ins the opening of the diaphragm of the objective during the taking of a photograph in proportion to the variation of the int"nsity of the illumination on account of the change of the augle of reffection.
11. A method of illuminating in connection with takinz photographs consisting in arranging an object to bn photosraphol. in arranging an objective and a sensitive film io whotograph said object. in arranging one or more sources of
light adapted to illuminate said object, in causing a movement of said object and said source of light relatively one to the other so that all parts of said object are not photographed simultaneously, but the different part thereof in succession, in arranging a transparent screen between said source of light and said object, and in varying the transparency of said screen during the taking of a photograph in proportion to the variation of the intensity of the \(11-\) lumination on account of the continuous change of the angle of reflection
12. A method of illuminating in connection with taking photographs consisting in arranging a movable object to be photographed, in arranging a stationary objective and a movable sensitive film to photograph said object, in arranging one or more stationary sources of light adapted to illuminate said object, and in moving said object and said film symmetrically parallel to one another, but in opposite directions, so that all parts of said object are not photographed simultaneously but the different parts thereof in succession and so that the part of the object situated at cach time under the slit is not only always illuminated at a constantly equal angle, but also photographed at a constantly equal angle.

\section*{No. 102,012. Holder for Lamps and Lanterne.}

Porte-lampes et lanternes.


William N. Roberts and Henry B. Mathews, co-inventors, both of Ansonia, Ohio, U.S.A., 13th November, 1906; 6 years. Filed 3rd July, 1906. Receipt No. 137,486.
Claim.-1. The combination with a lamp or lantern provided with a socket, of a standard designed to fit at one end in said socket and provided near its other end with a shoulder, and a clamp mounted to turn on the lantern and provided with a portion designed to be turned up over the shouldered end of the standard into binding engagement with said shoulder.
2. A lamp or lantern holder comprising a socket piece designed to be secured to a lantern and provided with a downwardly opening socket, a standard arranged for attachment to the vehicle or some stationary part and designed to fit upwardly in said socket, and a clamp mounted to turn on sald socket piece and provided with a clamping portion arranged to be turned up around and over the lower end of said standard whereby to lock the same in said socket.
3. The combination with a lamp or lantern provided with a socket plece formed with a socket, of a standard designed to fit upwardly in said socket, and provided on its outer face with a downwardly facing shoulder, and a rounded portion extending from sald shoulder to its lower edge, and a wire clamp mounted to turn in said socket piece and provided with an intermediate angular portion designed to be carried around the lower round end of the standard into binding engagement with said shoulder.
4. The combination with a lamp or lantern of a socket plece secured thereto and provided with a tapered socket, a standard having a tapered upper end designed to fit in said socket, said standard being provided with a lower rounded end and a downwardly facing shoulder on its outer side, a wire clamp mounted to turn in said socket piece and bent or buckled intermediato its ends to produce an angular portion adapted to be carried around the lower round end of the standard into engagement with said shoulder and having one of its ends bent angularly and formed with a finger piece and lock designed to spring over some stationary part to hold the clamp in locked position.
\(\overline{5}\). The combination with a lamp or lantern, of a plate secured thereto, a strap attached at its ends to sald plate and provided with an intermediate upwardly tapering angufar portion producing a socket, a standard having an upper tapered end designed to fit in said socket, and a clamn mounted in sald plate and provided with an intermediate angular portion adapted to be carried around the lower end of said standard and into engagement therewith to clamp the standard in the socket.
6. The combination with a lamp or lantern of a standard in the form of a block designed for detachable connection to the lamp or lantern to directly support it, said standard being provided with a screw-threaded aperture by which it is adapted to be screwed on to the post of a side of a buggy top in place of the regular nut which holds the side brace on said post, as and for the purpose set forth.

\section*{No. 102,013. Diastatic Substance.}

Substance diastatique.
Jokich1 Takamine, New York City, New York, U.S.A., 13th
November, 1906; 6 years. Filed 3rd July, 1906. Receipt No. 137,493.
Claim.-1. The process for producing a disastatic substance, which consists in making a fluid extract of grains or roots of the character described, or of such materials after the removal therefrom of the whole or a portion of their starchy constituents, precipitating from said extract associated extractive matters which have a deteriorating effect on the stability or permanence thereof, and adding the fluid extract so obtained in desired quality to a substance having starch liquefying properties.
2. The process for producing a diastatic substance, which consists in making a fluid extract of grains or roots of the character described, or of such materials after the removal therefrom of the whole or a portion of their starchy constituents, precipitating from said extract associated extractive matters which have a deteriorating effect on the stability or permanence thereof, treating the fluid extract obtained with alcohol, collecting the precipitate and adding the same in desired quantity to a substance having starch liquefying properties.
3. The process of producing a saccharifying diastatic substance having practically no liquefying action on liquefied or gelatinized starch, said process consisting in making a fluid extract of grains or roots of the character described, or of such materials after the whole or a portion of their starchy constituents have been removed and precipitating from said extract associated extractive matters having a deteriorating influence on the permanence, stability and keeping qualities of said saccharifying diastatic substance.
4. The process of producing a saccharifying diastatic substance having practically no liquefying action on starch but having marked saccharifying action on liquifled or gelatinized starch, said process consisting in making a fluid extract of grains or roots of the character described, or of such substances after the whole or a portion of their starchy consituents have been removed, inducing an acid condition in said extract, and separating the fluid from the precipitate formed.
5. The process of producing a saccharifying diastatic substance in a permanent and stable form, which consists in making an aqueous extract of grains or roots of the character described, or of such substance after the whole or a portion of their starchy constituents have been removed, subjecting said extract to acid fermentation, and removing the precipitate formed.
6. The process of producing a saccharifying diastatic substance in a permanent and stable form, which consists in making an aqueous extract of grains or roots of the character described, or of such substance after the whole or a portion of their starchy constituents have been removed, subjecting sald extract to acid fermentation, removing the precipitate formed, treating the fluid with alcohol and collecting the desired precipitate.
7. The process of producing a saccharifying diastatic substance in a stable form which consists in making an aqueous extract of grains or roots of the character described, or of such eubstances after the whole or a portion of their starchy constituents have been removed, subjecting said extract to a temperature of from \(80^{\circ}\) to \(90^{\circ} \mathrm{F}\) for a period of from thirty to flfty hours and removing the precipitate formed.
8. The herein described diastatic substance having a whitish colour in dry form, soluble in water, difficultly soluble in alcohol, having practically no liquifying action on starch, but having marked saccharifying action on liquified starch, and substantially free from foreign or associated matters which have a destructive or deteriorating effect on its saccharifying properties.
9. A diastatic substance, possessing both starch liquefying and saccharifying properties, and in which the saccharifying properties are constituted in whole or in part by an extrinsic diastatic substance having practically no liquefying action on starch.
10. A diastatic substance in stable form or condition consisting of a mixture of a substance having a liquefying action on gelatinized starch and a diastatic substance having substantially no action upon gelatinized starch but having marked saccharifying action on liquefied starch or starch solution and freed from deteriorating ingredients.

No. 102,014. EIydrant. Bornc-fontaine.


Charles A. Peak and Louls Amlet, assignee of a half interest both of Henderson, Kentucky, U.S.A., 13th November, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,870.
Claim.-1. In a hydrant the comblnation with a casing having a water passageway therethrough, a plug seat disposed transversely of the water passageway, and a waste passage also disposed transversely of the passageway, said waste passage communicating with the passageway and having its outer end out of alignment with the plug seat, of a turning plug rotatably mounted on the seat and projecting below the casing, and a valve carried by the projecting portion of the plug, and constltuting means for retaining the plug in its seat, said valve being located outside of the casing and movable over and from the outer end of the waste passage.
2. In a hydrant the combination with a boxing having an opening in its bottom, of a tubular guide connected to the top of the boxing, a casing located within the boxing above the bottom thereof and having a waste passage in its lower side that is located over the opening of said boxing. a supply pipe connected to one end of the casing. a delivery pipe connected to the other end, a turning plug journalled in the casIng beneath the guide tube and at one side of the waste passare, said plug projecting above and below the casing, an actuating stem for said plug extending downwardly through said tube and connected to the upper projecting end of said plug. and a closure secured to the lower profecting end of the plug outside the rasing, and operating in the boxing between the waste passage and opening. said closure betng movable to and from a position over the outer end of the waste passage when said turning plug is operated, and furthermore constituting means for retaining the plug in the casing.

No. 102,015. Electric Arc Lamp. Lampe à arc.


John James Rathbone and Eric Rivers Smith, assignce of a half interest, both of London, England, 13th November. 1906; 6 years. Filed 8th August, 1904. Receipt No. 117,573.
Claim.-1. In electric arc lamps the combination of a thermostatic ransule \(E\) for controlling the feed of the carbon \(P\). ciectrical means \(R\) for gencrating heat to actuate the capsule E. an electro-magnetic device or cut out \(A\) for controlling the current to said means \(R\), an adjustable contact spring \(\mathbf{B}\) arranged in operative relation with respect to said device \(A\). and a set scriw \(C\) for adjusting the spring so as to cut off the heat supply at any given amperage.
2. In elertric arc lamps. a pulley and cord ford merhanism \(F\) for the carbons. a thermostatic capsule \(E\) for controlling the said mechanism \(F\), means \(R\) for generating heat to actuate the capsule \(E\), an electro-magnetic device A for control-
ling the passage of the current through said heating means K , an adjustable contart spring B arranged in operailve relation with respect to sald electro-magnetic device A so as to cut \(n\) the heat supply at any given amperage, and a shunt coil I arranged in operative relation with respect to said device.

No. 102,016. Watering Bowl. Bol d arroser.


Tha Metal Shingle and Siding Company, assignce of Cyrus Dolph. all of Preston. Ontario, Canada, 13th Norember. 1906; 6 years. Filed 26th April, 1906. Receipt No. 185,2s7. Claim.-1. In a watering bowl the combination with a bowl having a central orifice and water pipe leading thereto. of a disc and a valve support therefor yieldingly held on its seat. as and for the purpose specifled.
2. In a watering bowl the combination with a bowl having a. central orifice and water pipe leading thereto, of a disc and a valve support therefor resiliently held on its seat, as and for the purpose specified.
3. The combination with the watering bowl having a central orifice and the flanged sleeve extending through such orifice, of the dished disc and a valve sultably connected to the bottom thereof and means for normally holding the dished disc raised and the valve on its seat, as and for the purpose specified.
4. The combination with the watering bowl having a central orifice and the eentral sleeve extending through such orlfice. of the dished dise and a valve suitably connected to the bottotn therenf and spring means for normally holding the dished dise raised and the valve on its seat, as and lor the purpose specifled.
5. The combination with the watering bowl having a central orifice, of a perforated disc carrying a valve designed to normally close such orifice, as and for the purposo specified.
6. In combination a watering bowl having a rentral orifice a central sleeve fitting in such orifice having an internal shoulder and valve seat at the bottom, a ball valve having a efntral stem, a disc secured on the upper end of the stem and a spring extending between the bottom of the disc and the irternal shoulder of the sleeve designed to normally hold the valve on its scat, as and for the purpose specifled.

No. 102,017. Felted Feather Fabric. Tissu de feutre enplumer.


The Warren Featherbone Company, assignee of Edward \(k\). Warren, and Jones H. Holden, Three Oaks, Michigan. U.S.A., 13th November, 1906 ; 6 years. Filed 19th May. 1906. Receipt No. 136,084.
(Vaim.-1. A felt fabric consisting of feather plumage filled together, and having rows of stitching through the same.
\(\because 2\) A fult fabric consisting of feathers felted together. having crossed rows of stitching through the same.

No. 102,018. Brake Rod. Bielle de frein.


William Stephen Atwood, Westmount, Quebec, Canada, 13th November, 1906; 6 years. Filed 28th September, 1906. Receipt No. 139,871.
Claim.-1. An article of manufactur's comprising male and female members adapted to fit one over the other, the coinciding portions being tapered in two directions at right angles to each other and means securing the opposite ends of the article thus constituted to parts to be connected together, substantially as described and for the purpose set forth.
2. The combination with a rod of male and female members each of semi-annular cross section and provided with lateral flanges, the flanges of the female member enclosing the side edges of the male member the said slde edges of the male member converging and the exposed faces of the said flanges being inclined, the internal surface of the female member being inclined correspondingly to the side edges and exposed surfaces of the male member, means for connecting the rod to the said members, and means whereby the said members are connected to a separate part, substantially as described and for the purpose set forth.
3. The combination with a rod having one end bent at right angles, of male and female members each of semiannular cross section and provided with lateral flanges, the flanges of the female member enclosing the side edges of the male member, the said side edges of the male member converging and the exposed faces of the said flanges being inclined, the internal surfaces of the female member being inclined correspondingly to the said side edges and exposed surfaces of the male member, the said male member having a hole at the inner end of its concavity to receive the bent end of the rod, and means whereby the sald members are connected to a separate part, substantially as described and for the purpose set forth.
4. The combination with a rod having one end bent at right angles, of male and female members each consisting of a shank with an offset lug and each shank being of semiannular cross section and provided with lateral flanges. the flanges of the female member enclosing the side edges of the male member, the said side edges of the male member converging and the exposed faces of the sald flanges being inclined, the internal surfaces of the female member being inclined correspondingly to the said side edges and exposed surfaces of the male member, the sald male member having a hole at the inner end of its concavity to receive the bent end of the rod, and the said lugs being perforated, substantially as described and for the purpose set forth.

\section*{No. 102,019.. Valve for Burial Caskete. Soupape.}

Frederick Edward Cooper. Grand Forks, British Columbia, Canada, 13th November, 1906; 6 years. Filed 20th August 1906. Receipt No. 138,862 .

Claim.-1. A valve having in combination a stem which is screw-threaded exteriorly on its inner end, and interiorly on its outer end, said valve having a reduced passage from the inner end to said interiorly screw-threaded bore portion, a perforated packing forming a valve seat at the outer end of said reduced passage, a screw-threaded plug fitting within the bore of the outer screw-threaded portion, a vent tube tapping the said screw-threaded bore portion and a screw-threaded ring fitting onto the outer screwthreaded portion.
2. A valve having in combination a stem which is screwthreaded exteriorly on its inner end and interiorly in its outer end, said valve having a reduced passage from the
inner end to said interiorly screw-threaded bore portion, a perforated packing forming a valve seat at the outer end

of said reduced passage, a screw-threaded plug fitting within the bore of the outer acrew-threaded portion, a vent tube tapping the said screw-threaded bore portion and a screw-threaded ring fitting onto the outer screw-threaded portion, and a burial casket which is adapted to be hermitically sealed when said screw-threaded plug is at its innermost position.

\section*{No. 102,020. Machine for Forming Flexible Bands} Across Sheets of Paper.
Machine pour faire des bandes flexibles à travers des feuilles de papier.


Rolla L. Crain, Ottawa. Ontario, Canada, 13th November, 1906; 6 years. Filed 10th October, 1906. Receipt No. 140,192.
Claim.-1. An improved machine for forming flexible bands across sheets of paper having means therein for producing a corrugation in the paper on one side thereof combined with means for reversing the corrugation to protrude from the opposite side, as and for the purpose specified.
2. An improved machine for forming fiexible bands across sheets of paper having means therein for producing a corrugation in the paper on one side thereof combined with means for reversing the corrugation to protrude from the opposite side thereof and means for flattening the corrugation and smoothing the paper, as and for the purpose specified.
3. In a machine for forming flexible bands across sheets of paper the combination of two pairs of corrugating rollers, the second pair being adapted to reverse the corrugations formed by the first, as and for the purpose specifled.
4. In a machine for the purpose specified the combination with the two pairs of corrugating rollers of which the second Dair is adapted to reverse the corrugations formed by the first of a pair of flattening rollers adapted to remove the corrugations and smooth the sheet of paper, as and for the purpose specified.
5. In a machine for the purpose specified the combination with the two pairs of corrugating rollers of which the second pair is adapted to reverse the corrugations formed hy the first, of means for feeding the paper sheet by sheet to the rollers, as and for the purpose specified.
G. In a machine for the purpose specified the combination with two pairs of corrugating rollers having the corrugations in the second set reversed to those of the first, of means for moving the rollers of each set closer together during certain narts of their revolution, as and for the gurpose specified.
7. In a machine for the purpose specifled the combination with the two sets of corrugating rollers having the corrugations in each set reversed. of slidable blocks secured to pintles on the end of one roller of each set and means for intermittently moving the said bearing blocks closer to the opposite roller, as and for the purpose specified.
8. In a machine for the purpose specified the combination with the two sets of corrugating rollers having the corrugations in each set reversed, of slidable blocks secured to pintles on the end of the roller of each set and cam operated means for intermittently moving the said bearing blocks closer to the opposite roller, as and for the purpose specified.
9. In a machine for the purpose specified the combination of three sets of rollers and means for successively moving the rollers of each pair closer together, as and for the purpose specified.
10. In a machine for the purpose specified the combination with three sets of rollers, of cam operating means for successively moving the rollers of each pair closer together, as and for the purpose specified.
11. In a machine for the purpose specifled the combination with the three sets of rollers, of bearing blocks secured to the lower rollers of each pair, means for slidably supporting the same, a plurality of cams and connecting means extending between the cams and the bearing blocks whereby the same are intermittently raised and lowered, as and for the purpose specified.
12. In a machine for the purpose specified the combination with a pair of rollers having a series of grooves formed in a portion of the periphery of one roller, and a series of ribs in a portion of the periphery of the other adapted to extend into said grooves when the rollers are rotated in opposite directions, of a second pair of rollers therein oppositely placed, and means for operating the rollers. as and for the purpose specified.
13. In a machine for the purpose specified the combination with a pair of rollers having a series of grooves formed in a portion of the periphery of one roller and a series of ribs in a portion of the periphery of the other roller adapted to extend into said grooves when the rollers are rotated in opposite directions. of a second pair of rollers provided with like grooves nd ribs but having the rollers therein oppositely placed, means for rotating the rollers. and means for moving the rollers of each pair closer together during the parts of the revolution when the ribs on the roller are opposite the grooves of the other, as and for tre purpose specified.
14. In a machine for the purpose specifled the combinatlon with a nair of rollers having one roller provided with a series of grooves on a portion of the periphery thereof. and the other roller with a series of ribs adapted to extend into said grooves when the rollers are rotated in opposite directions, of a second set of rollers having grooves in one roller and ribs in the opposite roller oppositely placed to the first-mentioned rollers, the second set of gating means will operate to reverse the corrugations formed by the first roller, and means for rotating the rollers, as and for the purpose specifled.
15. In a machine for the purpose specified the combination with a set of nollers having corrugating means formed on a portion of their peripherles, of a second set of rollers having corrugating means also formed on their peripheries but reversed in direction to the corrugating means on the first-mentioned rollers. the second set of rollers being placed such a distancc from the first set that the corrugating means will operate to reverse the corrugations formed by the first set of rollers, and means for rotating both sets of rollers, as and for the purpose speclifed.
16. An improved machine for the purpose specified having two pairs of corrugating rollers, the second rollers being adapted to produce a corrugation reversed in direction to the first, the corrugating means of each set of rollers only being thrown into operation when the rollers are moved closer together, as and for the purpose specified.
17. An improved machine for the purpose specifled having two pairs of corrugating rollers, the second set being adapted to produce a corrugation reversed in direction to the first. the corrugating means being formed on the rollers wholly within the peripherics thereof whereby they will only be thrown into operation when the rollers are brought closer together, as and for the purpose syecffed.
18. In a machine for the purpose specifled the combination with the two sets of corrugating rollers, the second set being adapted to produca a corrugation reversed in direction to the first, of means for moving the rollers of each set closer together during certain portions of their revolution, and means for adjusting the distance the said rollers are moved, as and for the purpose specified.
19. In a machine for the purpose specified the combination with the two sets of corrugating rollers having the lower rollers of each set movable, of means for intermittently moving the lower rollers closer to the upper ones
and means for adjusting the distance the said lower rollers are moved, as and for the purpose specifled.
20. In a machine for the purpose specified the comblnation with the two sets of corrugating rollers having one movable roller in each set. of means for intermittently moving the movable rollers closer to the fixed rollers, as and for the purpose specified.
21. In a machine for the purpose specified the combination with the two sets of corrugating rollers having one movable roller in each set, of means for intermittently moving the movable rollers closer to the fixed rollers and means for independently adjusting the intermittent movement of the movable rollers, as and for the purpose specified.
22. In a machine for the purpose specifled the combination with the two pairs of corrugating nollers having one movable roller in each pair, of bearing blocks journalling the movable rollers, means for slidably supporting the same, a standard having an externally screw-threaded top, a nut screwed on said top and extending outwardly therefrom and abutting the bearing blocks, means for locking said nut in position, and means for intermittently raising and lowering the standard, as and for the purpose specified.
23. In a machine for the purpose specified the combination with the two pairs of corrugating rollers having one movable roller in each pair, of bearing blocks journalling the movable rollers, means for slidably supporting the same, a standard having an externally screw-threaded top, a nut screwed on said top extending outwardly therefrom and abutting the bearing blocks. means for locking said mut in position, a cam, and a roller secured to the bottom of the standard adapted to bear on the cam, as and for the imupose specified.

No. 102,021. Method of Rendering Sheets of Paper More Flexible.
Méthode de rendre des feuilles de papier plus flexibles.


Rolla L. Crain, Ottawa, Ontario, Canada 13th November. 1906; 6 years. Flled 29th September, 1906. Receipt No. 139,910.
Claim.-1. The herein described method of treating a sheet of paper to increase its flexibility which consists in stretching a portion of the paper a definlte amount to one side thereof and then stretching it an equal amount to the opposite side, substantially as described.
2. The herein described method of treating a sheet of paper to increase its flexibility which consists in stretching a portion of the paper a definite amount to one side thereof, then stretching it an equal amount to the opposite side and then bringing it back to its normal position, substantially as described.
3. The herein described method of treating a sheet of paper to increase its flexibility which consists in forming a corrugation in the paper on one side and then reversing the corrugation so that it protrudes from the opposite side substantially as described.
4. The herein described method of treating a sheet of paper to increase its flexibility which consists in forming a corrugation in the paper on one side, then reversing the corrugation so that it protrudes from the opposite side, and then removing the corrugations and smoothing the paper, substantially as described.
5. The herein described method of treating a sheet of paper to increase its flexibility which consists in forming a series of parallel corrugations in the paper on one side thereof, then reversing the series of corrugations so that: cach corrugation protrudes from the opposite side to which it previously did and then removing the corrugations and smoothing the paper, substantially as described.
6. The herein described method of treating a sheet of paper to increase its flexibility which consists in stamping a portion thereof outwardly from one slde thereof, then
stamping sald portion to protrude from the opposite side. substantially as described.
7. The herein described method of treating a sheet of paper to increase its flexibility which consists in stamping a portion thereof outwardly from one side thereof, then stamping said portion to protrude from the opposite side and then smoothing the paper and causing the stamped portion to again lie flat with the remainder of the sheet. substantially as described.

No. 102,022. Faucet. F'ultsset.


Samuel A. Dennis, Los Angeles, California, U.S.A., 13th November, 1906; 6 years. Filed 26th September, 1906. Receipt No. 139.787.
Claim.-The combination with a pipe having its outer end exteriorly screw-threaded, of a cap arranged for detachable screw-threaded engagement with the said outer end of the pipe, said pipe having a passage, a valve therethrough and a circumscribing flange surrounding the passage, a valve casing engaged with said circumscribing fiange and provided with openings at its lower end, a removable valve seat arranged upon the bottom of said valve casing. and a nozzle passed through the passage in said cap and into the casing for longitudinal movement within the latter to move the lower edge of the nozzle toward and away from said valve seat to close and establish communication between the pipe and the nozzle.

No. 102,023. Underground Conduit and Joint.
Conduit et joint souterrain.


Bingley R. Fales and Eugene L. Barnes, co-inventors, both of Detroit, Michigan, U.S.A., 13th November, 1906; 6 yeans. Flled 12 th October, 1906. Receipt No. 140,235.
Claim.-1. In an expansion joint the combination of two tubular members, diaphragms connected to each at their inner edges, and a positively longitudinally moved rigid ring connecting their outer edges.
2. In an expansion joint, the combination of two tubular members, a multiple of diaphragms forming a sealed connection between sald pipes, each movable within fixed limits, and a rigid backing for each diaphragm after it has reached its fixed limit of movement.
3. In an expansion joint the combination of two tubular members, clamping rings for each member, annular diaphragms secured by sald rings at their inner edges, a loose ring to which the outer edges are clamped, means for moving each diaphragm within fixed limits, said clamping rings forming backings for the diaphragms after they have reached their limit of movement.
4. In an expansion joint, the combination with two tubular members, diaphragms connected to each at their inner cdges, and a longitudinally movable rigid ring, of rings clamping said diaphragm to said members and operating to move said longitudinally movable rigid ring.
5. In an expansion joint. a multiple of diaphragms each movable within fixed limits, and a clamping ring for the inner edge of each diaphragm, said clamping ring forming a backing for said diaphragm and tending to transmit further movement to the next diaphragm when said limit of motion has been reached.
6. The combination of a conduit. a \(T\) therein, a casing for the condult spaced therefrom and having separated ends between which the \(T\) is located, of a bridging casing between the ends of the conduit casing, of a cement tube supported on and bridging the space between the ends of the couduit casing, one member of the \(T\) projecting into said cement tube.
7. The combination of a conduit, an expansion joint therefor consisting of a \(T\), one member of which is connected in the line of the conduit and the other extends at an angle thereto, of a diaphragm expansion joint on each side of the \(T\) and an anchor for the \(T\).
8. The combination of a conduit, an anchored \(T\), the conduit connected to the opposite ends of one member of the \(T\), an expansion joint between the \(T\) and one conduit, a conduit casing spaced from the conduit and having separated ends, and a tubular cement casing connecting the ends of the conduit casing and enclosing the \(T\).
9. In an expansion joint, the combination of a tubular member, a diaphragm secured at one edge to said tubular member, the ring I forming such securing means, said ring having a curved inner face forming a backing for the diaphragm, when the limit of expansion is reached, and means on the ring for preventing further expanding movement of the diaphragm beyond such limit.
10. In an expansion joint, a ring such as \(I\), the diaphragm, the ring being substantially the width of the diaphragm and combined therewith to form a backing for the diaphragm when the same has reached its limit of expansion.
11. In an expansion joint, the combination with a conduit, a flexible diaphragm, and the ring such as I having a curved inner face forming a backing for the diaphragm when its limit of expansion is reached, and having circumferential lugs for preventing further expansion of the diaphragm.
12. In an expansion folnt, the clamping ring I having a curved inner face, a diaphragm having its inner edge bent around said curved face, means for clamping the edge of the diaphragm to the outer face of said ring, and clamping means for the outer edge of the diaphragm.

No. 102,024. House Service Box.
Boîte au service des maisons.


Daniel William Crockett, Frederick Gisborne Crockett, and Thomas Frazer, all of Westville, Nova Scotia, Canada, 13th November, 1906; 6 years. Filed 5th September, 1906. Receipt No. 139,267.

Claim.-1. In a pipe stand a base member provided with a depression intermediate its ends, vertical flanges at each side of said depression, a pipe seat nearer each end of the base member and flanges rising at each side of said pipe seats.
2. In a pipe stand, a base member provided with a depression intermediate its ends, vertical flanges at each side of said depression, a pipe seat nearer each end of the base member and flanges rising at each side of said pipe seats, in combination with a stand pipe having a flanged and hollow base position with openings in approximate alignment with the inner faces of said flanges.
3. In a pipe stand, a base member having a valve seat extending longitudinally thereof, flanges at each side of said valve seat, flanges between said valve seat and the ends of said base, and a rib extending longitudinally beyond said flanges at each end of said base, said ribs serving as pipe supporting means.
4. In a pipe stand, a base member having a valve seat extending longitudinally thereof, flanges at each fide of said valve seat, flanges between said valve suat and the ends of said base, and a rib extending longitudinally heyond said flanges at each end of said base. said ribs serving as pipe supporting means. in combination with a stand pipe having a flanged, hollow base portion with openings in the wall thereof in allgnment with said longitudinal flanges.
No. 102,025. System of Water Supply. systeme d'approvisionnement d'cati.


Wallace Pratt Groom, Brooklyn, New York. U.S.A., 13th November, 1906; 6 years. Filed 9th July, 1906. Receipt No. 137,644
Claim.-1. An aero-hydrostatic system of water supply for a building or buildings, comprising the combination of an air compressor stationed and installed at a distance more or less remote from said bullding or buildings, an air and water reservoir in said building or buildings for receiving and storing compressed air and water, a water pipe 72 connected with said reservoir and provided with outlets 74, a compressed air passage connecting the air compressor with the compressed air and water reservoir in said building or buildings for supply of compressed air to such reservoir, and a water pipe connected with a water main and the reservoir for supplying said compressed air and water reservoir with water, substantially as and for the purpose set forth.
2. As part of a system of aero-hydrostatic water supply for a building or group of buildings. the combination of an air compressor, a storage compressed air and water reservoir connected with the outlet of sald compressor by a valve controlled pipe or passage, a valve controlled compressed air main pipe connected with said reservoir and also with the aero-hydrostatic apparatus in said building or buildings, a valve controlled return air main pipe, a passage for air from said aero-hydrostatic apparatus to and into said return air main plpe, and a receiver 4 connected with such return main pipe and having a valve controlled pipe connected with the induction pipe of sald compressor, substantially as and for the purpose set forth.
3. In a system of apparatus for aero-hydrostatic water supply for a building or group of buildings, the combinatlon of an air compressor, a central station compressed air reservoir connected with said air compressor by a valve conirolled pipe or passage, a valve controlled compressed ai: main connected with said air reservoir, an aero-hydrostatic reservoir in sald building or bulldings and connected with the compressed air main pipe by a valve controlled compressed air service pipe, a valve controlled water service pipe connceted with the aero-hydrostatic reservoir, and a water main or other source of water supply, a fire extinguishing service plpe connected with sald aero-hydrostatic reservoir and extending up through floors of said building or buildings and provided with valve controlled outlets for allachment of hose or other fire extinguishing appliances, and a return air mair pipe connected by a valve controlled pipe with said aero-hydrostatic reservoir and with said rompressor hy a valve controlled return air pipe, substantally as and for purposes deseribed.
4. In an arro-hydrostatic system of water supply for a building or buildings. the combination with an alr and water storage reservoir placed in the cellar or basement of any of such building or buildings, and supplied with wator and compressed air through a water supply pipe and a compressed air main pipe, substantially as herein set forth. of a relay of compressed air and water storage reservoir placed at a higher level in sald building and provided with valve controlled alr vents, \(a\) valve controlled water pipe
connecting the water spaces in sald reservoirs, a compressed air pipe connected with the upper part of the relay reservoir and with the compressed air main pipe, and a water pipe connected with the lower part of said relay reservoir and extending to floors above said relay reservoir. all substantially as and for purposes set forth.
5. The combination of a central station air compressor. a central station cmpressed air and water storage reservoir, air passage connecting said reservoir with said compressor, means for supplying water to said reservolr, a valve controlled water main pipe connected with sadd reservoir and extending out from the central station to a point near a building or buildings to be protected from fire, a hydrant placed near such building or buildings, plipe 53 connecting said water main with said hydrant, riser pipe i? in the interior of said bullding or buildings and provided with valve controlled outlets, pipe 54 connected with said water main, and valve controlled pipe 94 connecting plpes 54 and 72, substantially as described and for purposes set forth.
6. The combination with a central station air compressing plant. comprising an air compressor and duplicate air and water storage reservoirs connected with the outlet of said compressor, means for supplying said reservoirs with water, means for separate or simultaneous operation, of a valve controlled water main pipe connected with each of said reservoirs, aero-hydrostatic water elevating apparaius in a building or puildings at a distance more or less remotfrom the central station, a hydrant 55, pipe connecting said water main pipe with said hydrant and means for operating the duplicate reservoirs in the central station, said hydrant, and said aero-hydrostatic water elevating apparatus simultaneously, substantially as and for purposes described.
7. The combination of a central station air compressor. a central station compressed air and water reservoir is connected by valve controlled pipe connections to the outlet of said compressor, a separate central station compressed air and water reservoir 25 connected by valve controlled pipe connections to said outlet, a valve controlled water main pipe 44 connected with reservoir 25 and also by separate valve controlled pipe connections with reservoir 18, valve controlled water pipes 23 and 30 respectively connected with said reservoirs, an aero-hydrostatic water clevating apparatus placed in a building or buildings more or less remote from the central station, a valve controlled compressed aif main pipe and a return alr main pipe, both of said main pipes connecting said central station and said aero-hydrostatic apparatus, substantially as and for purposes described.
8. The combination of a central station air compressor. duplicate central station compressed air and water reservoirs, each connected by valve controlled compressed air pipe connection with the discharge outlet of said compressor, water main pipe connected with each of said reservoirs by valve controlled pipe connection, a return air receiver 4 connected by valve controlled pipe connection with thi inlet of said compressor, an aero-hydrostatic water elevating apparatus situated in a building or bulldings more or less remote from said compressor and connected with said water main, valve controlled compressed air main pipe connected by valve controlled pipe connecting with said reservolrs and also with said aero-hydrostatic apparatus, and a valve controlled return air main pipe connected with sald aero-hydrostatic apparatus and with said recelver, substantially as and for purposes described.
9. The combination of a central station air compressor. a compressed air reservoir 15 connected by valve controlled pipe connection with the outlet of sald compressor. a valve controlled compressed air main pipe 34, means for connecting said compressed alr reservoir with and disconnecting it from said compressed air main plpe, an aerohydrostatic water elevating apparatus situated in a building or buildings more or less remote from said central station and connected with said compressed air main pipe a central station return air reservoir 4, valve controlled pipe connection connecting said reservolr with the outlet of the air compressor, and a valve controlled return air main pipe connected with both said aero-hydrostatte apparatus and said reservoir, substantially as and for purposes specifled.
10. The combination of central alr compressing statio', containing un air compressor, and separate air storage r.servoirs, an aero-hydrostatlc water elevating apparatu: situated in a building or buildings more or less remote fro a said central station, means for passing compressed atr se parately or simultaneously from said reservoirs to san:1 acro-hydrostatic water elevating apparatus. means for r... turning air discharged from sald aero-hydrostatic apparatu* back to said central station compressor and meabs fir charging said reservoirs separately or simultancously with compressed air from said compressor, substantially a- .ait for purpose's set forth.
11. The combination of a central air compressing, air and water storage station, containing an air compressor and separate reservoirs for storage of compressed air and water, an aero-hydrostatic water elevating apparatus situated in a building or buildings more or less remote from said central station, means for passing compressed air separately or simultaneously from said reservoirs to said aero-hydrostatic apparatus, means for passing water separately or simultaneously from said reservoirs to said aero-hydrostatic apparatus, means for returning air discharged from said aerohydrostatic apparatus back to said central station compressor, and means for charging separately or simultaneously said reservoirs with air returned from said aerohydrostatic apparatus, substantially as specified and for purposes described.
12. As part of añ aero-hydrostatic system for a building or buildings, comprising an air compressora air and water storage reservoirs 15,18 and 25 , air and water storage reservoirs 58 and 59 , installed in a building or buildings more or less remote from said compressor, means of passing air from said compressor to reservoirs 58 and 59, and means for returning air from said reservoirs 58 and 59 back to said compressor, the combination with sald compressor, reservoirs and means for passing air from the compressor to reservoirs 58 and 59, and returning such air to the compressor, of a relay air and water storage tank placed at a higher level in said building or buildings, valve controlled compressed air pipe connecting compressed air service pipe 56 with said relay reservoir, valve controlled water plpe 72 connected with either or both of the reservoirs 58 and 59, and a valve controlled return air pipe connected with the upper part of said relay tank, and with the return air service pipe 57, substantially as described.
13. As part of a system of aero-hydrostatic water supply apparatus for a building or buildings, the combination of a compressed air and water storage reservoir placed in the lower part of said building or buildings and means for supplying air from a central station more or less remote from such reservoir, of duplicate relay air and water storage reservoirs placed at a higher level, valve controlled pipes connected with the air spaces in said reservoirs, valve controlled pipes connected with water spaces in said reservoirs, and a water supply pipe extended to floors above and connected with said relay reservoirs, all being constructed to permit separate operation of either or simultaneous operation of both said relay reservoirs, substantially as described and for the purposes set forth.
14. As part of a system of aero-hydrostatic apparatus for a building or group of buildings, the combination of duplicate alr and water storage reservoirs placed in the lower part of said building or group of buildings, means for supplying air from a central air compressing station and with water from a separate source, valve controlled pipe connections constructed to permit separate operation of either or simultaneous operation of both said reservoirs, duplicate relay air and water storage reservoirs, placed on a higher level than the said lower reservoirs, pipe connections connecting the air and water spaces in said reservoirs, and so constructed that either of them may operate separately or all may operate together, and a pipe connected and extended to floors higher than said relay reservoirs, substantially as and for purposes specifled.
15. As part of a system of aero-hydrostatic water supply for a bullding or a group of buildings, the combination of a compressed air and water storage reservoir placed in the lower part of such building or buildings, valve controlled water service pipe connected with said reservoir, compressed air main pipe, valve controlled air service pipe connected with said compressed air main pipe and with said reservoir, a valve controlled pipe connected with said reservoir for supply of water to any part or parts of said building or buildings, a valve controlled blow-off or flushing pipe connected with the lower part of said reservoir and a drainage pipe connected with said blow-off or flushing pipe, substantially as and for the purposes described.
16. As a part of an aero-hydrostatic system of water supply for a building or buildings the combination with duplicate compressed air and water storage reservoirs located in the lower part of such building or buildings, each having an independent valve controlled water service pipe, and each connected with an independent valve controlled compressed air service pipe and air discharge pipe, and each having a valve controlled water pipe for supply of water to any part or parts of said building or buildings of a valve controlled blow-off or flushing pipe connected with each of said reservoirs and with a drainage pipe, all constructed to permit the separate or simultaneous blowing off or flushing of said reservoirs, substantially as specifled.
17. A system of water supply comprising an air compressor at a distance from the place to be supplied, an air and water reservoir at the place, a source of supply connected to the reservoir, a water pipe rising from the reservoir and pro-

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vided with outlets, together with suitable valves and connections.
18. The combination of an air compressor, a serles of air and water reservoirs̄ placed at different levels, a water supply, connections from the water supply and the air compressor to the various reservoirs and suitable valves, by the operation of which the water may be lifted by a step-by-step movement.
19. A system of water supply comprising an air compressor at a distance from the place to be supplied, an air and water reservoir at the place, a source of supply connected to the reservoir, a water pipe rising from the reservoir and provided with outlets, a return air pipe leading back directly or indirectly to the compressor, together with suitable valves and connections, for the purpose set forth.
20. The combination of an air compressor, a series of air and water reservoirs placed at different levels, a water sup ply, connections from the water supply and the air compressor to the various reservoirs, suitable end valves by the operation of which the water may be lifted by a step-by-step movement, together with a return air plpe leading back directly or indirectly from the air and water reservoirs to the compressor.
21. A system of water supply comprising an air compressor an air and water reservoir, an air storage reservoir, a source of water supply connected to the water reservoir, a water pipe rising from said reservoir and provided with outlets together with suitable valves and connections.
22. A system of water supply comprising an air compressor, an air water reservoir, a source of supply connected to the reservoir, a water pipe rising from the reservoir and provided with outlets, pressure regulating valves connected with said outlets and adapted as described to deliver water at uniform pressure on different levels together with suitable vaives and connections, for the purpose set forth.
23. A system of water supply comprising an air compressor un air and water reservoir, a source of supply connected to the reservoir, a water pipe rising from the reservoir and provided with outlets, together with suitable valves and conuections and a supplemental water supply continually under pressure and valve controlled connections leading to the riser pipe, whereby the additional supply may at any time be utilized
24. In a system of water supply, a reservoir provided with a shield located above the bottom, an outlet and an inlet, the latter of which discharges immediately over said shleld, all substantially as and for the purpose set forth.
25. As a part of an aero-hydrostatic system of water supply for a building or buildings, the combination with a compressed air and water reservoir in the lower part of said builidng or buildings, having an independent water supply pipe connected with and extending into the interior of such reservoir to a point near the middle of the bottom of the same, and a shield fast to supports attached to the bottom of the reservoir, said shield having a convex surface, the middle of which is placed under the discharge opening of said water pipe, substantially as described.

No. 102,026. Fire-Cracker Pistol. Pistolet.


Gustaf William Hanson, Marquette, Kansas, U.S.A., 13th November, 1906; 6 years. Filed 27th January, 1906. Recelpt No. 132,340.
Claim.-1. A fire-cracker holder having a handle or frame provided with bearings, a barrel having trunnions resting in said bearings, a spring having its support in the frame and bearing against the barrel to close the breech, a hook on the barrel, and a hooked trigger pivoted in the frame in position te engage said barrel hook, all combined.
2. A fire-cracker pistol having a pivoted barrel. means for opening and closing the barrel, a fixed breech piece having a groove therein in rear of the barrel, and a stock with an opening for punk extending to the rear of the breech plece, all combined.
3. In a fire-cracker pistol, the stock having an opening extending in substantially vertical direction through the same, and a spring pressed dog within the stock and projecting slightly into sald opening.
4. In a fire-cracker holder, the frame composed of two sections divided vertically and having trunnion bearings in each section, a barrel pivoted between the sections, a breech piece fined to the frame sections in rear of the barrel, said sections having a substantially vertical opening in rear of said breech piece to receive the igniter, and means for holding the frame suctions together.

No. 102,027. Funnel. Entonnoir.


George Nathan Haskell, Groton, South Dakota, U.S.A., 13th November, 1906; 6 years. Filed Sth June, 1906. Receipt No. 136,721.
Claim.-1. A funnel having means to prevent circular motion of the liquid poured into the funnel.
2. A funnel having a partition to prevent circular motion of the liquid to the funnel and facilitate its discharge therefrom.
3. A funnel having a partition extending through and dividing the spout, and also extending upwardly into the lower portion of the funnel above the spout to prevent circular motion of the liquid in the funnel and facilitate its discharge therefrom.

No. 102,028. Blectric Lighting System.
Système d'éclairage électriyue.


Henry Leitner, Woking, Surrey, and Richard Norman Lucas, Rose Villa, Byfleet, Surrey, England, co-inventors, 13th November, \(1906 ; 6\) years. Filed 3rd October, 1906. Recelpt No. 109,059.
Claim.-1. In a system of electric lighting by means of accumulations charged by a main generator or dynamo driven at variable speed and a subsidiary dynamo driven at the same or proportional speed and adapted to weaken the field or fields of the main generator as the speed of driving increases the combination therewith, of a resistance having a negative temporature co-efflcient arranged in series with the shunt or fine wire winding of the subsidiary dynamo, substantially as described.
2. In a system of electric lighting by means of accumulators charged by a main generator or dynamo driven at variable speed, and a subsidiary dynamo driven at the same or proportional speed and adapted to weaken the field or flelds of the main generator as the speed of driving increases the combination therewith, of a resistance having a positive temperature co-efficient arranged across the main generator fi. Id and armature. substantially as described.
3. In a system of electric lighting by means of a main zיnerator or dynamo driven at variable speed, and a subsidiary dynamo driven at the same or proportlonal speed and adapted to weaken the fleld or flelds of the main generator as the spied of driving increases the combination therewith,
of a self-acting switch comprising a magnetic flerd wth tine wire and coarse wire windings, a movable armature and morable contact pieces adapted to be operated by the latter so as to bridge successively gaps in the system, the said selfacting switch being arranged in the circuit in such a manner that when the generator excites itself the switch closes one gap thereby permitting the ine wire field winding of the demagnetizing dynamo to receive normal current and simultaneously or subsequently when the voltage of the maln generator rises the said switch closes a second gap through which when closed the generator current by way of the coarse wire winding of the field of the self-acting switch passes to charge the accumulators, substantially as described and set forth.

No. 102;029. Pipe Flange. Rebord de tuyan.


Edward Ludlow Maxwell, Mulberry, Florida, U.8.A.. 18th November, 1906; 6 years. Filed 25th August, 1906. Receipt No. 138,987.
Claim.-1. As an improved article of manufacture, a pipe flange comprising a male and a female section, both sections having an opening for the reception of a pipe, one section being provided at its inner face with a recess around the pipe receiving opening, pins at the said recessed portion, and a gasket fitted in the said recess and engaging with the pins. the female section having side grooved wings spaced at the top and at the bottom, the male section being shaped to it between the wings of the female section and provided with a marginal tongue to enter the groove of the said wings, the male section being also provided with a lip which enters the lower space between the wings.
2. A pipe flange comprising a male and a female section, the female section consisting of a ring body having side wings at its front face and grooves in the inner faces of the said wings, the upper portions of the grooves being straight and the lower portions curved, spaces intervening between the upper and the lower portions of the wings, the said body of the female section being also provided with a recess for the reception of the gasket, the male section comprising a body having straight side edges, rounded lower edges and a downwardly extending lower lip centrally located, the salid body being likewise provided with an opening to receive a pipe and said body being also provided with a marginal up having straight sides and rounded lower ends, the lower portions of the tongues being at the rear of the said lip. the tongues being adapted to the grooves in the female section and the body being adapted to fit between the wings of the said female section while the lip extends through the lower space between the wings.
3. In a flange for pipes the combination with a female section comprising a disc body having an opening for the reception of a pipe and a recess in its front face around the said opening and pins in the recessed portion of the body. the said body being further provided with a gasket engaging the pins and with front wings at its sides, which wings are provided with downwardly tapering grooves in their inner faces, having straight upper sections and curved lower sections, the inner faces of the wings beling correspondingly formed, the said body being likewise provided with apaces between the wings at its top and bottom, of a male section comprising a body having an opening to receive a plpa. which body is provided with straight walls at its upper portion and with convexed side walls at its lower portion, the convexed side walls meeting a downwardis extending lip and the said body being also provided with a downwardly tapering or wedge-shaped marginal tongue at its rear portion, the upper portlons of which tongue are straight and the lower portions convexed, the sald body being adapted to at Into the space between the wings, the tongues to enter the grooves in the female section and the lip to enter the lower space between the wings of the female section, substantially as described.

No. 102,030. Feed Water Heater.
Chauffcur d'eau d'alimentation.


Walter Andrew Moffat, Denver, Colorado, U.S.A., 13th November, 1906; 6 years. Filed 1st October, 1906. Receipt. No. 139,958
Claim.-1. In a device of the class described, a boiler having a steam space and a combustion chamber, a feed water receptacle having a steam space operatively connected with the steam space of the boiler, connections between the receptacle and boiler for supplying water to the latter, and a circulating pipe communicating at its ends with the receptacle and extended between its ends through the combustion chamber.
2. In a device of the class described, a boller provided with a combustion and smoke chamber and having a steam space, a feed water receptacle communicating with the boiler for supplying water thereto and also having a steam space, a duct communicating with the steam spaces of the boiler and receptacle, and a circulating pipe communicating at its ends with the receptacle and having intermediate coils disposed in the combustion chamber, said pipe being extended between its ends through the smoke chamber.
3. In a device of the class described, a boiler provided with a combustion chamber and a smoke chamber and having a steam space, a feed water receptacle having a steam space, and provided with an inner flue communicating with said smoke chamber, a duct connecting the steam spaces of the boiler and receptacle, connections between the latter and the boiler for supplying water thereto, and a circulating pipe communicating at its ends with the receptacle and extending between its ends through the combustion and smoke chambers.
4. In a device of the class described, a boller provided with a firebox and smoke chamber, and having a steam space, a feed water receptacle having a steam space, and provided with an inner flue communicating with sald smoke chamber, a duct connecting the steam spaces of the boiler and receptacle, connections between the latter and the boiler for supplying water to the boller, and a pipe connected at both ends with the receptacle and extended through the smoke chamber, and provided between its ends with coils disposed in the firebox, for heating the water in the receptacle, said pipe having the usual valves for operating and cleaning the same.
5. In a device of the class described a boller provided with a firebox, smoke chamber and ash pit, and having a steam space, a feed water receptacle having a steam space, and provided with an inner flue communicating with said smoke chamber, a duct connecting the steam spaces of the boiler and receptacle, connections between the latter and the boiler for supplying water to boiler, and a circulating pipe connecting at both ends with the receptacle and extended through the smoke chamber, and provided between its ends with coils disposed in the flrebox and ash pit for heating the water in the receptacle, sald pipe having the usual valves for operating and cleaning the same.
6. In a device of the character described. a boiler with a firebox and smoke chamber, a feed water receptacle having a steam space and orovided with an inner flue communicating with said smoke chamber, a duct connecting the steam space of the boller with the steam space of said receptacle, a valve for controlling said duct under the control of the steam pressure, connections between said receptacle and boller for supplying water to the boller, and a circulating pipe for said receptacle having a heating coil or coils disposed in said firebox.
7. In a device of the character described, a boiler with a firebox and smoke chamber, a feed water receptacle having a steam space and provided with an inner flue communicating with said smoke chamber, a duct connecting the steam space of the boiler with the steam space of said receptacle, a valve for controlling said duct under the control of the steam pressure, a valve for the feed water re-
ceptacle adapted to be controlled by the pressure of steam therein, connections between said receptacle and the boiler for supplying water to the boiler, and a circulating pipe for said receptacle having heating coil or coils disposed in sald fire box.
8. In a device of the character described, a boller with a firebox and smoke chamber, a feed water receptacle having a steam space and provided with an inner flue communicating with said smoke chamber, a duct connecting the steam space of the boiler with the steam space of said receptacle, a valve for controlling sald duct under the control of the steam pressure, connections between said receptacle and boiler for supplying water to the boiler, and a circulating pipe having heating colls disposed in said firebox below the grate thereof.
9. In a device of the character described, a boller with a fire box and smoke chamber, a feed water receptacle having a steam space and provided with an inner flue communicating with said smoke chamber, a duct connecting the steam space of the bollor with the steam of said receptacle, a valve for controlling said duct under the control of the steam pressure between said receptacle and boller for supplying water to the boller, a circulating pipe for said receptacle, the same extending from the smoke chamber and having heating coils disposed within said firebor.

No. 102,031. Spraying Maohine. Machine darroser.


John Wilber Patterson, Reed City, Michigan, U.S.A., 13th
November, 1906; 6 years. Filed 1st October, 1906. Receipt No. 139,927.
Claim.-1. In a spraying machine in combination with means for discharging liquid in the form of spray, means for discharging a blast of air to turn the leaves of plants with their under side exposed to the spray.
2. In a spraying machine in combination with means for discharging a spray of liquid, a fan, means for retaining the fan, a nozzle for discharging air from the fan in the direction that the spray is discharged, and pipes for connecting the fan and nozzle.
3. The combination of a tank to contain liquid, a spraying nozzle connected to the tank, a pump to supply air under pressure to the tank, a fan blower, and a nozzle connected to the fan blower to discharge a blast of air in the direction that the spray is discharged.
4. The combination of a tank to contain liquid, means for supplying air under pressure to the tank, a fan blower, an air nozzle and a spraying nozzle, manually operated means for supporting and adjusting said nozzles, and flexible pipes respectively connecting the fan and the tank with the respective nozzles.
5. The combination of a hood open at the bottom and front, an air nozzle and a spraying nozzle supported beneath the hood, a fan blower connected to the air nozzle a tank to contain liquid and connected to the spraying nozzle. means for supplying air under pressure to the tank, and an adjustable pivotal support for the hood.
6. The combination of a rotative and longitudinally inovable rock shaft, a manually operated lever attached thereto, an arm rigidly extending from the rock shaft, a hood, an air nozzle and a spray nozzle supported by the sald arm, a fan blower, a flexible pipe connection between the blower and the air nozzle, a tank, flexible pipe connections betwen the tank and the spraying nozzle, means for supplying liquid to the tank, means for supplying alr under pressure to the tank, and means for rotating the fan.
7. The combination of a frame, a rotative axle supporting the frame, wheels attached to the axle and rotating the same, a fan blower mounted on the frame, sprocket wheels and chain connecting the axle and the blower, a liquid tank mounted on the frame, an air pump, a crank shaft journalled on the frame, gears connecting the crank shaft and the axle, a pitman rod connecting the srank shaft and
pump, an air nozzle connected to the fan, a spraying nozzle connected to the tank, flexible pipe connections between the respective nozzles, the fan and the tank, and means for manually adjusting the nozzles.

\section*{No. 102,032. Wire Fence Making Machine.}

Machine à faire les clôturcs de fil de fer.


Theodore M. Connor, Kokomo, and John B. Dougan, assignee of one-third of the interest, Richmond, both in Indiana, U.S.A.. 13th November, \(1906: 6\) years. Filed 26th September, 1906. Receipt No. 139,799.
Claim.-1. A machine of the character described employing line and stay wire feeding devices, line wire guiding devices, means for relatively disposing the stay wire sections pivoting upon said guiding devices, devices for interlocking said stay wire sections as they are laid upon the line wire, and means for intertwisting said stay wire sections upon said line wire.
2. A machine of the character described, employing stay wire feeding rolls and line wire guiding or delivering spindles, means for severing the stay wires into suitable lengths, means for relatively disposing said sections pivoting upon said line wire guiding spindles, means for bringing said sections into position to be acted upon by twisting pins carried by said spindles, and means for actuating said twisting pins.
3. A machine of the character described, employing stay and lline wire feeding devices, means for severing the stay wires into suitable lengths or sections, means pivoted to swing laterally for receiving and carrying said sections into longitudial alignment, means adapted to interlock and intertwist said sections with the line wires, and means adapted to depress said sections at their ends into position to be acted upon by said interlocking and intertwisting means prior to such action.
4. A machine of the character described employing stay and line wire feeding devices pivoted cutters arranged and adapted to cut the stay wire into suitable lengths or sections, laterally swinging devices having longitudinal grooves to receive said stay wires prior to the severing thereof, vertically reciprocated devices for depressing or downwardly bending said sections at their ends, twisting pins for engaging the downwardly bent portions of said sections, and means for actuating or rotating said twisting ping.
5. A machine of the character described, employing stay wire feeding rolls, laterally swinging depositors adapted to receive the stay wires, means for severing said stay wires into sections, after the reception thereof by said depositors, line wire receiving and delivering spindles carrying twisting pins and adapted to form the axes or pivots of said depositors, means for depressing the end portions of said sections if.to position for the action of said twisting pins, and means for actuating said twisting pin carrying spindlez.
6. A machine of the character described, employing stay wire feeding rolls, laterally swinging depositors adapted to receive the stay wires, wire conducting tubes arranged between said feeding rolls and depositors to deliver said wires to sald depositors, cutters for severing said wires into sectlons, reciprocating depressors for bending downward the end pertions of said wire sections, spindles having the line wires passing therethrough and provided with twisting pins adapted to interlock and intertwist sald wire sections together ard upon sald line wires and means for actuating said spindles.
7. A machine of the character described, employing stay wire feeding rolls, laterally swinging depositors having for their axes or pivots spindles through which are passed the line wires, said spindles being equipped at their upper ends with twisting pins, cutters for severing sald stay wire into sections, depressors adapted to bend downward the end portions of said sections into position for the action of said
twisting pins, means for actuating said spindles, and wire conducting tubes having right lined portions adjacent, and receiving the stay wires from said feeding rolls, and their remaining portions extending diagonally towards and in a!ignment with the corresponding initial position of said clepositors.
8. A machine of the character described, employing peripherally opposed stay wire feeding rolls of graduated diameters, laterally swinging depositors adapted to receive the stay wires and arranged at varrying intervals apart relatively corresponding to the differential diameters of said rollers, said repositors having for their axes or pivots line wire delivering spindles provided at their upper ends with twisting pins to engage sald stay wires, cutters for severing said wires into sections, means for actuating said spindles, depressors for bending downward said stay wire sections for the action of said twisting pins, and stay wire conducting tubes of varying or gradated lenfths as suggested by the arrangement of sald depositors and diameters of said feeding rolls.
9. In a machine of the character described the combination with wire feeding rolls and cutters for severing the stay wires irito sections, of laterally swinging depositors adapted to receive said wires, rotary spindles equipped at their upper ends with twisting pins for actuating upon sald stay wires and adapted to permit the passage therethrough of the line wires, said depositors having diagonally opposite reduced end portions for the purpose set forth.
10. In a machine of the character described the combination with wire feeding rolls and cutters for severing the stay wires into sections, of laterally swinging depositors adapted to receive said wires, rotary spindles equipped at their upper er:ds with twisting pins for acting upon said wire sections and adapted to permit the passage therethrough of the line wires, bell cranks linked to said depositors, a slide connected to said bell cranks. a rack having an arm engaging said slide, and means for actuating sald rack.
11. In a machine of the character described the combination with wire feeding rolls and cutters for severing the stay wires in sections, of laterally swinging depositors adapted to receive said wires, rotary spindles equipped at their upper ends with twisting pins for acting upon said wire sectlons and adapted to permit the passage of the line wires therethrough, bell cranks linked to said droositors. a slide connected to said bell cranks, a rack having an arm actuating said slide, and a wheel, cam and slotted arm mechanism for actuating said rack.

13 . In a machine of the character described the combination with wire feeding rolls and cutters for severing the stay wires into sections, of laterally swinging depositors adapted to receive said wires, rotary spindles equipped with twisting pins for acting upon said wire sections and adapted to permit the passage of the line wires therethrough, means for actuating sald depositors, and depressors and mechanism for actuating the same including a rock shaft, a cam wheel, a spring pressed lever operating in conjunction with said cam wheel, and a pivoted bar, said rock shaft having its crank arm coupled to sald lever.
13. In a machine of the character described the combination with wire feeding rolls and cutters for severing the slay wires into sections, of laterally swinging depositors adapted to receive said wires, line wire delivering or feeding means, means for twisting said wire sections, reciprocating depressors for bending downward the stay wire sections at their ends and holding devices or arms arranged upon the shaft carrying said depressors and adapted to overlie said depositors and retain said stay wire sections in the latter at a certain step in the fabric weaving operation.
14. In a machine of thec haracter described the combination with wire feeding means and wire severing cutters, of rivoted bridge pieces arranged alongside of said cutt \(\cdot \mathrm{r}\) s and cach having in its upper edge near one end a notch to perinit the passage of the wire, and its other end adaptai to rest under the rod connecting the heel ends of said cutters.
15. In a machine of the character described the combination of means for feeding stay and line wir s , means for c:itting the stay wire in sections, means for derositing said sections after the wire severing operation, in right lined arrangement, means for intertwisting sald sections, a shalt carrying depressors adapted to act upon said wire sections to bring them into position for the action of the twisting means. and means for Intermittently actuating said shaft including a cum wheel equipped with cam faces arranged at certain intervals apart, and a lever adapted to be engaged bs said surfaces and conneoted via certain other parts to said shaft. and means for actuating said cam wheel.
16. A machine of the character described, employing pivoted depositors for disposing the stay wire sections in proper relation to the line wires, and twisters forming the pivots for said depositors and adapted to cause one stay wire section to initially assume a substantially U-shape alongside of the line wire, and thereafter and continuously to effect the interlocking of sald stay wire sections and the applying
of the terminals of said stay wire sections upon the line wires.
17. A machine of the character described, employing pivoted depositors to receive and carry the stay wire sections into position with relation to the line wires, and twisters adapted to cause one stay wire section to initially assume a substantially U-shape alongside of the line wires and thereafter and continuousiy to effect the interlocking of said stay wire sections and the applying of the terminals of said stay wire sections upon the line wires.
18. A machine of the character described, employing line and stay wire feeding devices, line wire guiding devices. means for relatively disposing the stay wire sections, pivoting upon said line wire guiding devices. depressors for depressing said stay wire sections, after having been brought into position with relation to the line wires for the action ot the twisters, devices for interlocking said stay wire sections as they are laid upon the line wires, and means for intertwisting sald stay wire sections and said line wires.

No. 102,033. Carbureter. C'arburatcur.


The Buffalo Carbureter Company, assignee of William John Steinbrenner and Godfried John Mayer, all of Buffalo. New York, U.S.A., 13th November, 1906; 6 years. Filed 4th May, 1906. Recelpt No. 135,537.
Claim.-1. In a carbureter the combination of a carbureter chamber having a conical wall provided with a port, a rotary conical valve lying against the inner side of said wall and having an opening therein, a vapourizing nozzle terminating adjacent said port, a device for maintaining level for the liquid hydro-carbon in sald nozzle, and a throttling valve between said conical valve and the combustion chamber of the engine.
2. In a carbureter the combination with a gasoline chamber, of a carbureter chamber having a conical wall provided with a port, a rotary valve lying against the inner side of said wall and having an opening therein, a vapourizing nozzle disposed substantially parallel with said conical wall, a gasoline conduit connecting the gasoline chamber with said vapourizing nozzle and having a guide tube extending upward through the ton of the carbureting chamber, a needle valve regulating the flow of gasoline to the vapourizing nozzle and extending through said guide tube, means for mixing the vapourized air, and a throttling device to regulate the quantity of explosive mixture drawn Into the combustion chamber of the engine.
3. In a carbureter the combination with a gasoline chamber, of a carbureter chamber having a wall therein with a port, an air inlet and a mixture outlet, a valve adapted to throttle said port and having a stem extending through the casing, a vapourizing nozzle positioned with relation to said port that the air passing through the latter has an aspirating effect on said nozzle, a gasoline valve controlling the flow of gasoline to said nozzle, a throt tling device in the mixture outlet, and means for simultaneously actuating said throttling valve and the throttling device in the mixture outlet.
4. In a carbureter the combination with a gasoline chamber, of a casing having a mixing chamber and a vapourizing chamber separated by a conical wall provided with a port, a conical valve seated against said conical wall to throttle said port and having a bnllow stem extending through the top of the casing, a throttling lever on said stem. an air inlet, and a mixture outlet, a vapourizing nozzle in aspirating relation to the port in said conical wall and having connection with the gasoline chamber, a valve regulating the flow of the gasoline to sald vapourizing nozzle, and connection between said conical valve and the gasoline valve for causing the two to move simultaneously.
5. In a carbureter the combination with a gasoline supply and means for maintaining the gasoline at a constant level., of a chamber having an air inlet, a mixture outlet, and a valve controlling ported wall between the two, a vapourizing nozzle in aspirating relation to the nort in said wall. and a nozzletting device in said mixture outlet.
6. In a carbureter the combination with a gasoline supply and means for maintaining the easoline at a constant level, of a chamber having an air inlet, a mixture outlet, and a
valve controlled ported wall between the two, a vapourizing nozzle in aspirating relation to the port in said wall, and a butterfly valve in said mixture outlet.
7. In a carbureter, a mixing chamber having a conical bottom provided with opposite ports and having a mixture passage leading to the engine, vapourizing nozzles held in such relation to said ports that the air passing therethrough has an aspirating effect on said nozzles, and a conical valve seatud against said conical wall and having two openings therein, said valve serving to throttle the ports.
8. In a carbureter, a mixing chamber having opposite ports and a mixture passage above said ports, vapourizing nozzles held in aspirating relation to said ports, and a valve to throttle said ports.
9. In a carbureter, a mixing chamber having a conical bottom provided with opposite ports and having a mixture passage leading to the engine, a radial wing at one side edge of each port on the outer face of said conical wall, vapourizIng nozzles in line with the other side edges of said ports and in aspirating relation to the latter, and a conical valve seated against the inner face of the conical wall and serving to throttle said ports.
10. In a carbureter the combination with a gasoline chamber, a casing having an air inlet, a mixture outlet, and a conical wall dividing the casing into a vapourizing chamber and a mixing chamber, said wall havilig opposite ports and radial wings extending from one of the side edges of said ports, vapourizers located in line with the other side edges of said ports in aspirating relation to the latter and being connected with the gasoline chamber, a conical valve seated against the conical wall and serving to throttle said ports, and a valve for regulating the flow of gasolinc to said vapourizing nozzles.
11. In a carbureter the combination with a gasoline chamber, of a carbureter chamber having an air inlet a mixture outlet, and a conical wall between the two provided with opposite ports, a conical valve seated against the inner face of said wall to throttle said ports and having opposite openings and a hollow stem projecting through the top of the casing. a gasoline conduit connected to the gasoline chamber and having a guide tube extending upward through the valve and the hollow stem thereof and projecting above the upper end of said hollow stem, vapourizing nozzles on said conduit held in aspirating relations to the ports in sald conical wall, a neodle valve in said guide tube to regulate the flow of gasoline to the vapourizing nozzle and having threaded connection with the upper end of said tube, a throttle lever secured to the projecting end of the valve stem, a lock bar loosely straddling the needle valve underneath the head thereof and being connected with said throttle lever to move therewith. and a clamping nut on the needle valve between said lock bar and the upper end of said guide tube to clamp said lock bar to the needle valve, or to lock the latter against movement.
12. In a carbureter the combination with a gasoline chamber, of a vapourizing nozzle, a valve for regulating the flow of gasoline to the vapourizing nozzle, a mixing chamber having a port for the vapourized airga valve for throttling said port, and means for connecting both valves to move them in common and to permit of locking one of said valves against movement, as desired.
13. In a carbureter the combination with a gasoline chamber, of a vapourizing nozzle, a valve for regulating the flow of gasoline to the vapourizing nozzle, a mixing chamber havIng a port for the vapourized air, a valve for throttling said port, a lock bar connected for movement with the throttling valve at all times, and clamping means to cause the gasoline valve to move with said locking bar or to hold said gasoline valve against movement.

No. 102,034. Talking Machine. Machine à parler.
Landay Brothers assignees of Wilhelm Rabe and Carl Kamratt. all of New York Clty, New York, U.S.A.. 13th November, 1906; 6 years. Filed 2nd August, 1906. Receipt No. 138,369.
Claim.-1. In a talking machine, the combination of a sound conveying horn connection mounted to vibrate in a plane parallel with the record carrying table, a sound box suitably connected to sald horn connection, a guiding arm for the sound box curved in an arc concentric with the pivot of the horn and having a series of grooves or projections on its under face, a record carrying table and an annular crown spiral carried by the record carrying table: and engaged by the grooves or projections on the under face of the gulding arm, substantially as described.
2. In a talking machine, the combination of a flat record crirying table, a suitable record table carried thereby, an annular crown spiral having projections to engage with the record tablet to which it is applied, a sound conveying horn connection mounted to vibrate in a plane parallel with the record carrying table, a sound box suitably connected

With the said sound conveying horn connection and an arcshaped arm mechanically connected to the sound box and
terial and finally subjecting the material to heat to render the binding material insoluble.
4. The method of making an artificial cork consisting in taking pulverized base, mixing therewith a binding material and finally hardening said binding material and readering it in soluble by heat, substantially as described.
5. The method of making arificial cork, consisting in laking granulated cork, mixing therewith a coagulable binding material and finally submitting the composition to a moist heat under pressure to render the binding material insoluble.
6. The method of making artificial cork, consisting in taking granulated cork, mixing therewith albumen and subjecting the composition to such heat as will render the albumen insoluble and retain the natural elasticity and flexibility of the cork, substantially as described.
7. The method of making artificial cork, consisting in taking granulated cork, mixing it with albumen and subjecting the composition to moist heat, substantially as described.
8. The method of making artificial cork. consisting in taking granulated cork, cleansing and purifying the same, adding thereto albumen as a binding material, subjecting the composition to pressure and to a moist heat whereby the albumen is coagulated and becomes insoluble, while the product rotains all the elasticity and flexibility of the natural material, substantially as described.
9. The method of purifying granulated cork or the like. consisting in placing the granules in a receptacle, submerging the receptacle in a liquid and allowing the granules to escape from the receptacle whereby the granules rise to the surface cleansed and purified while the impurities sink. substantially as described.
10. The method of purifying granulated cork or the like. consisting in placing the granules in a closed receptacle. submerging the receptarles in thalh of purifying or cleansing liquid and then allowing the granules to escape to the surface, becoming clcansind ont rurified in their passage and leaving the impurities behind, substantially as described.
No. 102,036. Rotary Gas Engine.
Machine d gaz rotatoire.


Edwin R. Langford, Lowell, Arizona, U.S.A., 13th November, 1906; 6 years. Flled 16th May, 1906. Récelpt No. 135,980. Claim.-1. In a rotary internal combustion engine. two piston cylinders, constituting respectively compressina and explosion cylinders an intervening abutment cylinder, rotary piston members carrying pistons working in the pistod cylinders a rotary abutment member working in the abutment rylinder and having a plurality of cavities to permit passage of the pistons. and means for intermittently rotating the abutment.member during the passage of the pistons. 2. In a rotary internal combustion engine compression and expansion cylinders, rotary piston members working therein, an intervenjng abutment cylinder, a rotary abutment therein co-operating with the piston members in both cylinders, means for intermittently rotating said abutment. said abutment having cavities permitting passage of the pistons during the partial rotation of the abutment. and with packing portions engaging with the rotary piston members through an extended arc of contact, while the abutment is stationary.
3. In a rotary internal combustion engino. compresswy and expansion cylinders. rotary pistons working therein. an abutment cylinder between the aforesaid cylinders, air supply means connected to reccive air compresred by thcompression cylinder and opening into the abutment cylinder, an abutment provided with cavities permitting the passage of the pistons in said cylinders, and adapted to expose the air supply openjng in the abutment cylinder and means for intermittently rotating gaid abutment.
4. In a rotary internal combustion engine, a casing provided with cylinders piston members working therein, an intervening cylinder and an abutment member working therein, an arm connected to each piston member, and a part connected to the abutment member and having slots engaged by said arms on opposite sides of the abutment axis to intermittently rotate the abutment member.
5. In a rotary internal combustion engine, a casing provided with cylinders, a piston member and an abutment member working therein, an arm connected to the piston member, a part conneoted to the abutment member and having slots engaged by said arm to intermittently rotate the abutment member, locking means for sald abutment, and a cam operated by the engine to release said locking means.
6. A reversible rotary internal combustion engine, comprising a cylinder, a piston member working therein, air supply means, a sotary valve connected to and operated by the engine, a second valve engaging directly with and movable on said first-named valve and co-operating with said finst-named valve and with caid air supply means to control admission of aif to the cylinder, and means for varyIng the position of said second valve.
7. A reversible rotary internal combustion engine, comprising a cylinder, a piston working therein, air supply means, a rotary valve connected to and operated by the engine, a second valve engaging directly with and movable on said first-named valve and co-operating with said rotary valve and with said air supply means to control admission of air to the cylinder, and a reversing device connected to vary the position of said second valve to admit air at different parts of the revolution.
8. Ino a rotary internal combustion engine, two cylinders, a piston member working in one cylinder, an abutment member working in the other cylinder, and provided with cavithes adapted to receive and permit passage of the piston, and a rotary valve in the abutment dylinder engaging directly with and movable on the abutment member and adapted to open into an abutment cavity and connected to be operated by the engine.
9. In a reversible rotary internal combustion engine, an explosion cylinder, a piston member working therein, an abutment cylinder opening into the explosion cylinder and a rotary abutment working therein and having cavities adapted to recelve and permit passage of the piston. a rotary valve in said abutment cylinder having a port adapted to open into said cavities, air supply means and a valve in caid abutment cylinder, provided with a port co-operating with said air supply means and with the port in the rotary valve, and movable to vary the time of admission through said valves.
10. An internal combustion engine comprising compression and explosion cylinders, rotary piston and abutment members working therein and provided with parts adapted for the compression of air and for the expansion of exploded mixture, by rotatively acting parts, means for supplying the air compressed in the compression part to the expansion part of the engine, fuel supply means and igniting means, reversing means adapted and arranged to shift the point of admission of fuel and air to the expansion part of the engine, to cause operation in reverse directions, a reservoir, air connections to said reservolr from each side of the compression cylinder, provided with outwardly opening check valves, and air inlet means to each side of said cylinder provided with inwardly opening check valves.
11. An internal combustion engine comprising compression and explosion cylinders. rotary piston and abutment members working therein and provided with parts adapted for the compression of air and for the expansion of exploded mixture, by rotatively acting parts, means for supplying the air compressed in the compression part of the expansion part of the engine fuel supply means and igniting means, reversing means adapted and arranged to shift the point of admission of fuel and air to the expansion part of the engine, to cause operation in reverse directions, a reservolr, air conneotions to said reservoir from each side of the combustion cylinder, and valve means in said connections reversing the connection to the reservoir from one side to the other of the compression cylinder on reversal of the engine.

\section*{1To. 102,037. Carbureter. Carburateur.}

Charles D. Shain, Rockaway Park, New York, U.S.A., 13th November, 1906: 6 years. Filed 19th June, 1906. Reoeipt No. 137,070.
Claim.-1. In a vapourizer or carbureter, a ball located In the mixing chamber and a supporting seat and a tube for gasolene or liquid fuel discharging under the ball the lift of the ball being automatioally caused both by suction of the engine and pressure of the gasolene in the tube under it, all substantially as set forth.
2. In a vapourizer or carbureter, a ball located in the mixing chamber and seated in a support and a tube for
gasolene or liquid fuel discharging under the ball and sllding rods to control the lift of the ball, moved by a thumb-

screw situated below the bottom of the air chamber, all substantially as set forth.
3. The combination in a vapourizer or carbureter of a ball seated in a support and a tube for gasolene or liquid fuel discharging under the ball and sliding rods to control the lift of the ball, moved by a thumb-screw below the bottom of the air chamber. with two shutters hinged to the bottom of the vapourizer or carbureter to automatically control by suction from the engine, the quantity of air taken into the air chamber, all substantially gs set forth.

No. 102,038. Controller for Sparking Devices.
Contrôleur pour appareil à étinccler.


Daniel Brower Willix, Alexandria Bay, New York, U.S.A., 13th November, 1906; 6 years. Filed 1st May. 1906. Recelpt No. 135,423.
Claim.-1. In a gas engine or the like, means for controlling the current to the igniters, comprising a set of contact terminals for each igniter, each set consisting of a contact terminal connected in a primary circuit of an induction coil, and contact, terminals connected in the secondary circuit of the coll and to the igniter, all of said contacts being arranged in a single row, and means operating with the main shaft of the engine to close said contacts.
2. In a gas engine or the like, means for controlling the current to an igniter, comprising a source of electricity, and an induction coil in primary circuit therewith, the circuit having contacts, asecondary circuit connected to the igniter and having contacts, and means actuated by the engine to close said contacts, comprising a series of brushes arranged to brush successively over all of said contacts.
3. In a gas engine or the like, means for controlling the current to a plurality of igniters, comprising a source of electricity, an induction coil in primary circuit therewith, the circuit having contacts, a secondary circuit having contacts corresponding in number to the igniters and separate connections therefrom to the igniters respectively, all of said contacts being arranged in a single row, and means actuated by the engine to successively close said contacts.
4. In a gas engine or the like, means for controlling the circuit to the igniters, comprising, in combination, a plurality of sets of brushes arranged in a single row around a shaft of the engine, the sets corresponding in number to the igniters, each set having a brush in the primary circuit of an induction coil and a pair of brushes in the secondary circuit, and contacts carried by the shaft and revolving under said brushes and adapted to close the respective circuits.
E. In a gas engine or the like, means for controlling the current to the igniters, comprising in combination a single shiftable ring extending around a shaft of the engine, a series of sets of brushes aranged in a single row. one set for cach igniter, carried by the ring, each set having a brush in the primary circuit of an induction coil, and a pair of brushes in a secondary circuit of the coil connected to an igniter. and contacts carried by the shaft and revolving therewith across the brushes, one of said contacts being a terminal in the primary circuit and the other being a connector to connect said pair of brushes.

No. 102,039. Internal Combustion Engine.
Combustion interne.


Francis M. Uhler, Seneca, Nebraska, U.S.A., 13th November, 1906; 6 years. Filed 14th May, 1906. Receipt No. 135,921.
Claim.-The combination in an internal combustion engine, of a frame, a crank shaft journalled in said frame, a cylinder arranged below the shaft, said cylinder having heads at its opposite ends, stuffing boxes carried by the heads, a pair of pistons arranged in said cylinder and movable in opposite directions respectively, tubes connected to the outer faces of the pistons and leading through sald stufting boxes, the cylinder being thus divided into a central explosion chamber and end pumping chambers, inlets through which the explosive mixture may pass to the end pumping chambers when the pistons are at the limit of in stroke, ports leading from said pumping chambers and connected to a port that is placed in communication with the central explosion chamber, when the pistons are at the limit of out stroke, one of the pistons controlling the inlet port, and an exhaust port leading from the combustion chamber and controlled by the opposite piston the ports being disposed respectively, at opposite ends of said explosion chamber, connecting rods leading from the pistons through the tubular portions thereof, brackets extending outward from the frame to the points beyond the ends of the cylinder, levers pivoted on said brackets, the lower arms of said levers being connected to the rods, and uper rods extending from the upper arms of said levers to the crank shaft.

No. 102,040. Trase. Bandage herniaire.


James H. Campbell, Lakeport. New Hampshire, U.S.A., 13th November, \(1: 16 ;\) t yars. Filed 25 th June, 1916 . Receipt No. \(137,245\).
Claim.-1. In a truss the conbination with a pad having a concave hearing surface, of a bell-shaped holder for said mad, means to adjustably and ylelitingly contrert said pad to sad holder. and moans to yieldingly altath the pad and holdur to the body, substantially as deseribed.
2. In a truss the combination with a pad having a concave bearing surface and a threaded shank, of a bell-shaped holder, an attaching bolt adapted to be screwed into engagement with said shank, yielding connections between said bolt and said holder, and means to yieldingly atach said holder to the body. substantially as described.
3. In a truss the combination with a pad having a concave bearing surface and threaded shank, of a bell-shaped holder. an attaching bolt adapted to be screwed into engagement with said shank, a flanged head formed on said bolt. springs to connect said holder with said fianged head of the bolt. attaching straps and yielding connections arranged between the ends of said strap and said holder, substantially as described. \({ }^{\bullet}\)
4. In a truss the combination with a pad having a concare bearing surface and a threaded shank, of a bell-shaped holder, an attaching bolt adapted to be screwed into engagement with said shank, springs to conenct said holder with said bolt, side attaching springs. and a centrally disposed lower attaching spring arranged on the outside of said holder. and body and thigh attaching straps adapted to be comnected to said springs, substantially as described.
5. In a truss the combination with a pad having a concave bearing surface and a hollow interiorly threaded shank. of a bell-shaped holder, an attaching bolt adapted to be screwed inito engagement with said shank, a flanged head formed on said bolt, radially disposed spiral springs to connect said holder with a flanged head of said bolt. parallel coll.i side attaching springs connected to the outer side of said holder and having spring metal bracing rods arranged ther.. in, body attaching straps adapted to be connected to said springs, a lower centrally disposed colled attaching soring connected to the holder, said coiled spring having a spring metal bracing rod arranged therein, and a thigh strap adap. ted to be connected to said lower spring. substantiflly as described.

No. 102,041. Sink, Bowl, Etc. Erirr. bol, etr.


Join Croswell, Wellesley, Massachusetts, U.S.A.. 13th November, 1906; 6 years. Filed 8th July. 1905. Receipt No 126,711.
C'laim. - 1 . A sink having a pocket in lts bottom and an la-trenally-threaded opening in said pocket combined with a cuupling member externally and internally threaded at lis "ibier portion, the external thread of the coupling beine firmed to engage the internal thread of sald opening. while the internal thread of the coupling surrounds the outlot of said pocket. and a strainer formed to cover the mouth of sitid porket and provided with a tubular. externally thranded shank formed to engage the internal thread of the coupling. the sald coupling having means at its lower end for cagiscoment with a waste plpe.
2. A sink having a pocket in its bottom and an internally threaded opening in said pocket, combined with a coupling member externally and internally threaded at its upper portion, the external thread of the coupling being formed to engage the internal thread of said opening while the internal thread of the coupling surrounds the outlet of said pocket, and a stralner comprising a plate formed to cover the mouth of said pocket and having arms extending downward from its outer edge and fitting the inner surface of the pocket and provided with a tubular externally threaded shank at the lower ends of said arms, said shank being formed to engage the internal thread of the coupling, the sald coupling having means at its lower end for engagement with a waste pipe.

No. 102,042. Floor Scraper. (irattoir de plancher.


Constantin Duda, Chicago, Illinols, U.SA., 13th November, 1906; 6 years. Filed 10th September, 1906. Receipt No. 139,388.
Claim.-1. A plane comprising a block mounted on wheels at one end and having at the other end a pivoted face plate for contact with the work, and a blade secured at the front end of the block and projecting through said plate.
2. A. plane comprising a block having a handle projecting at the rear end and wheels upon which the block is carried at said end, a weight on the block, a face plate at the front end of the block, for contact with the work, and a blade secured to the front end of the block and extending through sald face plate.
3. A plane comprising a block mounted on wheels at its rear end and having projecting cheeks at each slde at its front end, a face plate pivoted between the cheeks at the bottom thereof, to contact with the work, and a blade clamped to the front end of the block, between the cheeks, and projecting at its lower edge through the face plate.

No. 102,043. Talking Machine Record and Tablet. Record et tablette de machine d parler.

Victor H. Emerson, New York City, New York, U.S.A., 13th November, 1906; 6 years. Filed 30th July, 1906. Recelpt No. 138,243.
Claim.-1. A tablet for sound records, consisting of a hard and self-sustaining body contalning shellac in addition to the ingredients of celluloid.
2 A sound record tablet composed of a homogeneous body containing shellac and the ingredients of celluloid.
3. A sound record tablet consisting of a self-sustaining body composed of shellac and the ingredients of celluloid.
4. A sound record tablet consisting of a self-sustaining body composed of shellac, crocus powder and the ingredients of celluloid.
5. A sound record tablet consisting of a self-sustaining body composed of celluloid and shellac.
6. A sound record consisting of a tablet composed of shellac and the ingredients of celluloid and having irregularities corresponding to sound waves formed therein.
No. 102,044. Plane. Rabot.
Andrew N. Gabrielson, Chrosholm, Minnesota, U.S.A., 13th November, 1906; 6 years. Filed 4th September. 1906. Receipt No 139,219.

Claim.-In a plane, the combination with a body having longitudinal rabbets at its lower side angles and having vertical threaded passages communicating with the rabbets, of set of screws engaged in the passages, guldes ocnnected with the lower ends of the set screws for rotation 11-11
of the latter with respect thereto, said set screws being operable to move the guides into and out of the rabbets,

and means for holding the set screws with the guldes at different points of their movement.
No. 102,045. Line Centering Device.
Appareil d centrer une ligne.


Abram S. Hamilton, Nanaimo, British Columbia, Canada, 13th November, 1906; 6 years. Filed 19th September 1306. Receipt No. 139,617.

Claim.-1. As a means for adjusting a line, a base portion having means for attachment of the same to a support and an opening through it toward the support, a member vertically slidable on the face of the base portion and having ing an opening through it approximately corresponding to that through the base portion, means for endwise moving the vertically slidable member on the face of the base portion and for securing it in any desired position of endwise movement, a stem horizontally slidable in the be-fore-mentioned vertically slidable portion such stem being prevented from rotating in its supports and having a small aperture through it at its midength, means for endwise moving the stem and for securing it in any desired position, and a small roller the upper side of which is in alignment with the aperture in the middle of the laterally movable stem.
2. In a device of the class described, a base portion having ing means for the attachment of it to a support and an aperture through it toward the support, an open frame vertically slidable between guideways on the outer face of the base portion and having a shelf outwardly projecting from its upper side, means for adjusting and securing such vertically slidable frame at any desired position of such movement, a stem horizontally movable in the vertcally movable frame, means for adjusting and securing the endwise movement of such stem, an aperture through thi stem at its midlength, and a roller the upper side of which is on a level with the aperture in the stem.
3. In a device of the class described, a base portion having means for securing the same to a support such base portion having an aperture through it toward the support and also side guides, a member vertically slidable in such side guides having an aperture corresponding to that of the base portion and a downwardly projecting screw passing through the projection on the base portion, nuts threaded on the screw and engaging both sides of the projection through which the screw passes, a stem having screwed ends and an aperture through it at its mid-length, such stem being horizontally slidable in the verticilly slidable membor, a nut threaded on each side of the screw and engaging the outer sides of its supports, a roller the upper side of which is about the level of the aperture in the stem, and a shelf on the upper side of the vertically slidable member the plane of which is parallel to the axis of the horizontally slidable stem.
No. 102,046. Mowing Machine. Faucheuse.


Emanuel Kaufman, Cleora, Indian Territory, U.S.A., 13th November, 1906; 6 years. Filed 8th October, 1906. Receipt No. 140,119.
Claim.-1. A mowing machine comprising in combination with an axle and traction wheels carried thereby, a gear secured to the axle at one end thereof, a pair of rods pivotally connected with said axle intermediate the traction wheels, means connecting said rods, a bracket attached to sald connecting means, a drive shaft jour:alled in said bracket and comprising a pair of sections con nected by a universal joint, a gear mounted on the rear shaft section, in mesh with the axle gear, cutting mechanism connected with said bracket, and a driving connection between said cntting mechanism and said drive shaft.
2. A mowing machine comprising in combination with an axle, and traction whecls carrisd thereby, a gear mounted upon one end of satd axle, a swinging frame pivotally connected to said axle intermediate said traction whols, a bracket connected to said frame, a drive shaft journalled in said bracket, and comprising a pair of sections connected by a unlversal joint. a gear mounted on said rear shaft section for mesh with said axle gear, cutting mechanism connected with sald bracket, and a driving connection between sald cutting mechanism and said drive shaft.
3. A mowing machine comprising in combination with an axle, , and traction wheels carried thereby, a gear mounted upon one end of said axle, a swinging frame pivotally connected to said axle intermediate said traction wheels, a bracket connected to said Prame, a drive shaft journalled in sald bracket, and comprising a pair of sections connected by a universal joint, a gear mounted on said rear shaft section for mesh with said axle gear, a cutter bar connected to said bracket, pins mounted upon opposite ends of said cutter bar, wheels loosmly mounted upon said pins, a knife chain passing around sald wheels and comprising a purality of knives connected together. a gear carrled by :aid front fhaft section, and a gear formed upon the faco of the adiacent wheel in mesh with said last-mentioned guar. for urlving sald chain.
4. A mowing machine comprising in combination with an axle and traction wheels carried thercby, a pair of sloeves mounted upon said axle intermediate said traction wheels. a pair of rods pivotally connected at one end to said sleeves and provided with eyes at their opposite ends, a rod mounted in sald eyes, an armed bracket connected to one end of said last-mentioned rod, a drive shaft journalled in the arms of said brarkrt, and comprising a pair of sections connceted by a universal foint, a gear carricd by the rar shaft section, a gear carried by the axle in mesh with sald Lear, a cutter bar connected with sald bracket, pins mounted upon opposite ends of said cutter bar, wheels loosely mounted upon said pins, a knife chain passing around sald wheels and comprising a plurality of knives connected together, a gear carried by sald front shaft section, and a gear formed upon the face of the adjacent wheel in mesh with said last-mentioned gear, for driving said chain.
No. 102,047. Cup-and-Ball Joint. Godet et joint de boule.


Jesse C. Martin. Jr., San Francisco, California, U.S.A., 13th November, 1906 ; 6 years. Flled 4th April, 1906. Receipt No. 134,604.
Claim.-1. A connection for pipes of the like comprising an udwise adjustable connecting gimbal enclosed within a rietallic flexible fluid tight conveyer.
2. A flexible connection for pipes or the like comprising a movable fluid-tight conveyer member, a universally movable connecting member, within the conveyer member, having a tubular abutment adapted to engage with the converer member.
3. A flexible connection for pipes or the like comprising a movable metallic fluid-tight conveyer member, a universally movable connecting member, within the conveyer member, having a tubular abutment adapted to engage with the conveyer member.
4. A flexible connection for pipes or the like comprising \(s\) ball and socket joint, a universally movable connecting member, with the ball and socket joint, having a tubular abutment adapted to engage with the ball and socket joint.

4 A flexible connection for pipes or the like comprising an axially rotatable connecting glmbal enclosed within a metallic flexible fluid-tight conveyer member.
5. A flexible connection for pipes or the like comprision axially rotatable connecting gimbal enclosed within a met.1. lic flexible fluid-tight conveyer member.
7. A flexible connection for plpes or the like comprising ar axially rotatable connecting gimbal enclosed within a ball and socket joint.
8. A connection for pipes or the like comprising a cup of sceket member, a ball member having operative conta.. therewith and projecting from the contact surface beynd its full diameter and a gimbal having unrestricted rotatabi. movement adapted to hold the parts in operative association.
9. A connection for plpes or the like comprising a cup of socket member, a ball member having operative contar: therewith and projecting from the contact surface beyond
its full diameter, a gimbal having unrestricted rotatable movement adapted to hold the parts in operative association, and joint packing between the two members.
10. A connection for pipes or the like comprising a cup or socket member, a ball member having operative contact therewith and projecting from the contact surface beyond its full diameter, a gimbal having unrestricted rotatable movement adapted to hold the parts in operative assoclat!on, and a gland or stuffing between the members.
11. A fiexible connection for pipes or the like comprising a ball and socket joint, and an endwise adjustable gimbal connecting the ball and socket and enclosed by the ball and socket joint.
12. A flexible connection for pipes or the like comprising a ball and socket joint provided with suitable joint packing. and an endwise adjustable gimbal connecting the ball and socket and enclosed by the ball and socket joint.

No. 102,048. Needle for Graphophones and the Like.
Aiguille de graphophone, etc.

FIG.2.


Fred. Petmecky, Austin, Texas, U.S.A., 13th November, 1906 ; 6 years. Filed 30th August, 1906. Receipt No. 139,112.
Claim.-1. A needle of the class described comprising a shank and a point, the shank being flattened adjacent to Its junction with the point, and the needle being provided with oppositely arranged concavities between the flattened portions of the shank and the point, whereby to permit the vibrations of the point.
2. A needle of the character described having a rigid shank, a rigid point, a thin section connecting the shank and point and entirely within the body of the needle, and a thinner flexible portion located at the lower end of said thin portion and above the point of the needle.
3. A needle of the character described having a thin partion extending along the body thereof above the point, and a flat flexible portion at the base of said thin portion and at the head of said point.
4. A needle of the character debcribed having a thin portion extending along the body thereof above the point, and a flat flexible portion at the base of said thin portion and at the head of said point, the point having a general pyramidal shape.
5. A needle or stylus for graphophones and the like, having a thin flat flexible portion located immediately at the rear of the point of the needle, the point having a general pyramidal shape with concave sides.
6. A needle or stylus for graphophones and the like having a pyramidal-shaped point.
7. A needle or stylus for graphophones and the like having a pyramidal-shaped point with concave faces.

No. 102,049. Solid Deodoriser or Disinfectant. Iésinfcctant.


Willoughby Hamilton Power, London, England, 13th November, 1906 ; 6 years. Filed 17th April, 1906. Receipt No. 134,949.
Claim.-1. A solid disinfecting or deodorizing piece or tablet consisting of a solid volatile disinfectant substance combined with a perfume and a balsam.
2. A solid disinfecting or deodorizing piece or tablet, consisting of naphthaline combined with a perfume and a balsam.
3. A solid disinfectant or deodorizing plece or tablet, consisting of a solid volatile disinfecting substance, combined with a perfume, a balsam and carbolic acid or phenol.
4. A solid disinfectant or deodorizing piece or tablet, consisting of napthaline combined with a perfume, a balsam and carbollc acid or phenol.
5. A solld disinfectant or deodorizing piece having a recess formed therein, in combination with a solid disinfectant or deodorizing piece which is adapted to fit into the recess in the first-mentioned plece and which comprises a solid volatile disinfectant substance, a perfume and a balsam.
6. A piece of naphthaline having a recess formed therein, in combination with a piece or tablet which is adapted to fit into the recess in the first-mentioned piece and which comprises naphthaline, a perfume and a balsam.
7. A holder comprising a back with supports \(\mathrm{E}, \mathrm{E}, \mathrm{F}, \mathrm{F}\), and \(G\), which allow substantlally the whole of the edge and face of the tablet to be exposed to the air, substantially as described.

\section*{No. 102,050. Prisile. Jeu de pationce.}

Clarence Edward Hall, Winnetka, assignee of Leo B. Lincoln, Chicago, both in Illinois, U.S.A., 13th November, 1906; 6 years. Flled 23rd January, 1906. Receipt No. 132,155.
Claim.-1. The puzzle described consisting of a base card bcaring numerals or digits on its front face and a plurality of perforated cards adapted to be laid upon the base card and each other in superposed order, through the perforations of which certain numerals of the base card are disclosed.
2. The puzzle described consisting of a base card bearing numerals or digits on its front face and a plurality of perforated cards adapted to be laid upon the base card and each other in superposed order, each of sald cards bearing on its rear face a group of key numbers for the purpose set forth.
3. The puzzle described consisting of a base card bearing digits on its front face and a plurality of perforated cards adapted to be laid upon the base card and each other in superposed order, certain of the perforated catds bearing on their front faces digits designed to be combined with the digits on the base cards to produce numerals one of which is designed to be exhibited through the registering perforations of the cards.
4. A puzzle described consisting of a base card bearing digits on its front face and a plurality of perforated cards
adapted to be laid upon the base card and each other in superposed order. certaln of the perforated cards bearing on

their front faces digits designed to be combined with the digits on the base cards to produce numerals one of which is designed to be exhibited through the registering perforations of the cards, each of said cards bearing on its rear face a group of numbers composed from, but less than all, the numbers compounded from the digits on the base and perforated cards.
5. The puzzle described consisting of a base card bearing digits on its front face and a plurality of perforated cards adapted to be laid upon the base card and each other in superposed order, certain of the perforated cards bearing on their front faces digits designed to be combined with the digits on the base cards to produce numerals one of which is designed to be exhibited through the registering perforations of the cards, each of said cards bearing on its rear face a group of numbers composed from, but less than all, the numbers compounded from the digits on the base and perforated cards, and characters on the cards indicating the top and bottom ends thereof.

\section*{No. 102,051. Cap or Olosure.}

\section*{Capuchon on fermeture.}

Whlliam Hatfleld Dodge, Montclair, New Jersey, U.S.A., 13th November. 1906; 6 years. Filed 20th January, 1906 Receipt No. 132,087 .
Claim.-1. A cap or closure for bottles, jars, or similar vessels, comprising a cover, a compressible disc and a holding flange, one part of said flange being in form of a depending rim integral with said cover, and the other part being detached from the periphery of said cover, the two parts of said flange being connected together by a weakened band or fold.
2. A cap or closure for bottles. jars, or similar vessels, comprising a cover, a compressible disc and a holding flange, substantially one half of sald flange being in form of a depending rim integral with said cover, and the other half being detached from the periphery of said cover but having an inwardly projecting gripping rim which overlaps sald periphery or practically that part of the covers
edge having no integral depending rim, the two parts of said holding flange being held together by a band or fold.

3. A cap or closure for bottles, jars, or similar vessels. made from one piece of sheet metal, comprising a cortr and a holding flange, one part of said flange being a depending flange from said cover and integral therewith, and the other part having an inwardly projecting gripping rim overlapping the periphery of said cover a part of the way round, the two parts of said holding flange being held together on one side by a breakable connection.
4. A one piece shell for forming a cap or closure for bottles, jars, or similar vessels, consisting of a top plate and a depending flange around the same and integral therewith, a part of the way, said shell being longer in diameter across the top in one direction than in the other, or slightly oblong in form substantially of two semi-circles joined logether by a rectangle or narrow space between the same.
5 . In a sheet metal cap or closure for bottles, fars, or similar vessels, made from a shell having a top and a depending flange integral therewith, a cut or opening substantlally crescent-shaped, in the top of sald shell on one side thereof leaving a gripping rim or edge on a part of said depending flange, whereby said flange may be circumferentially contracted.
6. In a sheet cap or closure for bottles, jars, or similar vessels, made from a shell having a top and a depending flange integral therewith, a cut or opening substantialls crescent-shaped in the top of said shell on one slde thereof, leaving a gripping rim or edge on a part of sald depending flange, whereby said flange may be circumferenlially contracted, and the edge on one side of said cut may be made to overlap that on the other side.
7. A cap or closure for bottles, jars, or similar vessels. made from a one-piece sheet metal shell, said shell comprising a top and a holding flange, partially oeparated therefrom, said flange having a greater circumferential length than the peripheral length of the top. and including an integral foldable web of a width less than that of the flange.
8. A can or closure for bottles, jars. or similar vessels. made from a one-piece sheet metal shell, sald shell comprising a top and a holding flange partially separated therefrom, sald flange being of greater oircumferentia length than the peripheral length of the top and including an integral poldable web whereby said flange may be cir an integral foldable web, whereby said fange cumferentially contracted by folding sald web.
9. A cad or closure for bottles, jars, or similar vessels. made from a one-piece sheet metal shell, said shell comprising a ton, and a holding flange of greater circumference than said top, and one part of said flange having an inwardly projecting gripping rim, wherebs said fange may be circumferentially contracted, and said gripping rim be made to overlap the peripheral edge of said top.
10. A cap or closure for bottles, jars or similar vessels. comprising a cover, a compressible disc and a holding flange, substantially one-half of said flange being in form of depending rim integral with said cover, and the otber part being detached from the periphery of said cover but having an inwardly projecting gripping rim which overlays practically that part of the covers edge or periphery having no depending rim, the two parts of said flange being joised together near the points where a part thereof is detachid from the periphery of said cover, on practically opposit. sides of said can or closure, said flange being circumferentially contracted by one or more folds or breakable vertical crimps or ribs therein.
11. A sheet metal cap or closure for bottles, jars or simflar vessels. comprising a cover and a holding fange. one part of said flange being a depending tange from ail!
cover and integral therewith, and the other part having an inwardly projecting scallopped gripping rim, overlapping the periphery of said cover a part of the way round.
12. A sheet metal cap or closure for bottles, jars or simllar vessels, comprising a cover and a holding flange, one part of said flange being a depending flange from said cover and integral therewith, and the other part having an inwardly projecting scallopped gripping rim, overlapping the periphery of said cover a part of the way round, the two parts of said flange being connected together by one or more folds or vertical crimps or ribs therein.
13. A sheet metal cap or closure for bottles, jars, or similar vessels. comprising a cover and a holding flange, one part of said flange being a depending flange from said cover and integral therewith. and the other part having an inwardly projecting scallopped gripping rim, overlapping the periphery of said cover a part of the way around, said flange being circumferentially contracted by one or more folds or vertical crimps or ribs therein.
14. A cap or closure for bottles, jars, or similar vessels, made from one piece of sheet metal, comprising a cover and a continuous or endless holding flange, one part of said flange being a depending flange from said cover and integral therewith, and the other part having an inwardly projecting gripping rim overlapping the periphery of said cover a part of the way round, the two parts of said holding flange being connected by one or more folds or vertical crimgs or ribs.
15. A cap or closure for bottles. jars. or similar vessels, made from a one-plece sheet metal shell, sald shell comprising a top and a holding flange, said flange being of greater circumference than sald top, whereby said flange may be circumferentially contracted by projecting a fold or bow therefrom, or by forming one or more vertical crimps or ribs therein.
16. A cap or closure for bottles, fars. or similar vessels. comprising a cover and a holding flange, one part of said flange being in form of a depending rim integral with said cover, and the other part belng detached from and made to overlap the periphery of said cover, said flange where divided on one side being connected together by a lever or bar pivoted to one or both of the ends of sald flange.
17. A cap or closure for bottles. jars, or similar vessels. comprising a top plate and a holding flange. both of sheet metal, and a pliable sealing cover under sald top plate, one part of said holding flange being in form of a depending rim, integral with said top plate, and the other part being detached from and made to overlan the periphery of said top plate, sald flange and made to overlap the periphery of sald top plate, said flange where divided on one side being connected together by a lever or bar pivoted to one or both of the ends thereof.
18. A cap or closure for bottles. jars, or similar vessels. comprising a cover consisting of two parts hinged together across the top, and a holding flange, one part of said flange being in form of a depending rim integral with one part of said hinged top, and the other part being detached from and made to overlap the periphery of the other part of said top.
19. A cap or closure for bottles, jars, etc., comprising a cover, a compressible disc and a holding flange, substantially cne-half of said flange being in form of a depending rim integral with said cover, and the other half being detached from the periphery of said cover but having an inwardly projecting gripping rim which overlaps said periphery or practically that part of the cover's edge having no integral depending rim.
20. A cap or closure for bottles, jars, etc., comprising a cover, a compressible disc and a holding flange, substantially one-half of said flange being in form of a depending rim integral with said cover, and the other half being detached from the periphery of said cover but having an inwardly profecting gripping rim which overlaps sald periphery or practically that part of the cover's edge having no integral depending rim, the two parts of said flange being held together by detachable connections.
21. A cap or closure for bottles, jars, etc., made from one piece of sheet metal, comprising a cover and a continuous or endless holding flange, one part of said flange being a depending flange from said cover and integral therewith, and the other part having an inwardly projecting gripping rim overlapping the periphery of said cover a part of the was around.
22. A cap or closure for bottles, jars, etc., made from one piece of sheet metal, comprising a cover and a holding flange, one part of said flange being a depending flange from said cover and integral therewith, and the other part having an inwardly projecting gripping rim overlapping the periphery of said cover a part of the way round, said holding flange being continuous on one side and held together by detachable connections on the other side.
23. A cap or closure for bottles, jars, etc., made from one plece of sheet metal, comprising a cover and a holding flange, one part of said flange being a depending flange from said cover and integral therewith, and the other part having an inwardly projecting gripping rim overlapping the reriphery of sald cover a part of the way round, the lower edge of said holding flange being forced or spun under a projecting shoulder on the bottle or other receptacle, when the cap or closure is in use.
24. A cap or closure for bottles, jars, atc., made from a one-piece sheet metal shell having a tod and a peripheral depending flange or rim, said shell being slightly oblong or in form substantially of two semi-circles joined by a rectangle between, a part of the top of said shell being cut out from near the periphery on one side, leaving a gripping rim around the inner upper edge of the depending flange on that side, and allowing that part of the flange to be pressed in wardly so as to form practically one continuous holding flange or rim.
25. A one-piece shell for forming a cap or closure for bottles, jars, etc., consisting of a top plate and a continuous depending flange around the same and integral therewith. for substantially one-half its length, said shell being longer in diameter across the top in one direction than in the other.
26. In a sheet metal cap or closure for bottles, jars, etc., made from a shell having a top and depending flange integral therewith, a cut or opening, substantially crescentshaped, in the top of said shell on one side thereof, leaving a gripping rim or edge on a part of said depending flange, Whereby said flange may be circumferentially contracted, and said gripping rim be made to overlap the inner edge of sald top where cut.
27. A locking device for holding together the ends of the locking band or flange around a cap, cover or closure for bcttles, jars, or cans, consisting of an outwardly projecting tongue on or near one end of said band and a transverse slot in the band near the other end thereof, said slot extending upwardly from the lower edge of said band a part of the way across the same.
28. A cap or closure on bottles, jars, etc., comprising a top plate provided with a downwardly pending locking band or flange, both top plate and band being made of one plece of sheet metal, said top plate being made in two partially scparate parts. the inner edge of one of which overlaps the outer rdge of the other, for a part of the way around the periphery of said top plate in combination with a sealing ining made of cloth or other fabric dipped in parafine, wax or some other suitable liquid.
No. 102,052. Wrench. Clé áécrou.


Hustead B. Shaver, Flemington, West Virginia, 13th November, 1906; 6 year. Filed 22nd October, 1906. Recelpt No. 140,515 .
Claim.-1. In a wrench, the combination with a toothed shank, of a sliding jaw on said shank, a pair of spring pressed detents carried by sald jaw, one of said detents being mounted directly oveh the other, the teeth of one of said detents being adapted for operative engagement with the teeth of the shank while the other is half withdrawn from such engagement, and vice versa, and means whereby both detents may be simultaneously disengaged from the leeth of the shank.
2. A wrench comprising a coarse toothed shank having an integral jaw, a jaw slidable upon said shank, two spring controlled dogs pivotally mounted in said slidable jaw, one of said dogs being mounted directly over the body of the other and engaging the toothed shank at a point in
advance of the other, each of sald doga having coarse teeth corresponding with the teeth of the shank, said dogs being adapted to ride on the teeth of the shank and so arranged in relation to each other that they will alternately fall into operative engagement with the teeth of the shank as moved forward thereon, and means whereby sald dogs may be simultaneously disengaged from the shank.
3. A wrench comprising a coarse toothed shank having a fixed jaw, a jaw slidably mounted on the shank. a pair of dogs piroted within the movable jaw, each dog being of a width substantially the same as that of the shank and having coarse teeth corresponding with the teeth of the shank, one of said dogs being mounted directly over the body of the other and engaging the shank in advance of the other, said dogs being so arranged in relation to each other that but one dog is in operative engagement with the shank at a time, a slot extending across the top and down the sides of said movable jaw, and a stirrup movably mounted in said slot with a pin connecting its extremities directly over the upper of said dogs whereby said dogs may be depressed out of engagement with the shank.
4. A wrench comprising a coarse toothed shank, a sliding jaw on said shank, a pair of spring controlled detents carried by the jaw, one over the body of the other, and cooperatively engaging the toothed partion of the shank, one in advance of the other, said detents being mounted upon a common pivot and adapted to ride on and to alternately drod into operative engagement with the teeth of the shank, the teeth of each detent corresponding with the teeth of the shank, and one of sald detents normally standing half withdrawn from engagement with the teeth of the shank when the other detent is in operative engagement therewith, and means oparatively mounted over said detents whereby the latter may be simultaneously depressed and held out of engagement with the shank.
5. A wrench comprising a toothed shank, a fixed jaw carried by sald shank, a movable jaw upon said shank, a pair of detents carried by sald movable jaw, said detents being mounted upon a common pivot and both lying substantlally parallel to sald shank with their toothed portions in engagement with sald shank, one in front of the other, said detents beling so arranged relativels that the tecth of one is half withdrawn from the teeth of the shank while the other is in operative engagement therewith, and vice versa, and means whereby sald detents may be forced out of engagement with the shank.

No. 102,053. Meang of Splicing Telegraph Poles.
Moyen d'épisser les poteaus de télégraphe, etc.


Jchn D. Soseman, Monroe, Wisconsin. U.S.A., 13th November, 1906; 6 years. Filed 20th October, 1906. Receipt No. 140,467 .
Claim.-1. The herein described device for the purpose specifed comprising a pole clamp adapted to be fitted to or removed from operative position by movement in a direction transverse to the length of a pole, and a plurality of extensible ligs connected with said clamp.
2. The hereln described device for the purpose specifled comprising a pole clamp adapted to be fitted to or removed
from operative position by movement in a direction transverse to the length of a pole, and a plurality of legs extending downwardly and outwardly from sald clamp, and each having an enlarged base or show at its lower end.
3. The herein described device for the purpose specifed comprising a clamp adapted to be detachably secured in position on a pole and adjustable to engage poles of different diameters and a plurallty of legs connected with said clamp.
4. The herein described device for the purpose specifed comprising a clamp adapted to be detachably secured in position on a pole and adjustable to engage poles of different diameters and a plurality of extensible legs connected with sald clamp.
5. The herein described device for the purpose specilled comprising a pole clamp, a plurality of legs adapted to extend downwardly and outwardly from sald clamp, and a shoe or base adjustably connected with each leg, the face of each shoe to which the leg is connected forming an acute angle with the lower face or surface thereof.
6. In a device for the purpose described the combination of a pole clamp comprising a plurality of separated blocks and a cable connecting said blocks and adapted to secure them to a pole, and a plurality of legs each pivotally connected to one side of sald blocks.
7. In a device for the purpose described the combination of a pole clamp, a plurality of legs connected with ald clamp, a base or shoe for each leg, and an adjusting screw between each leg and the base or shoe therefor.
8. In a device for the purpose described the combination of a pole clamp, a plurality of legs connected with said clamp and each having a socket opening through its lower end a shoe or base plece for each leg, a screw connected to each base or shoe and extending into the socket in the leg, and a nut mounted on the screw and supporting the leg at the desired elevation thereon.
9. In a device for the purpose described the combination of a pole clamp, a plurality of legs each comprising two telescoping sections one pivotally connected with said clamp and the other connected with a suitable shoe or base plece. and means for adjusting both sections of elther leg. longitudirally relative to its said shoe or base plece.
10. In a device for the purpose described the combination oi a plurality of separated supporting blocks, a cable คrtending through a passage in each of sald blocks, and adaptrid to encircle a pole, a grip block with which one end of the eable is engaged and provided with a passage for the other end of the cable, means for drawing the cable through said blocks and holding it in the desired position, and leg= rich plootally connected at its upper end to one of the supporting blocks.
No. 102,054. Governor for Explosive Engines. Gouverneur pour machine explosive.


Alcxander Winton, Cleveland, Ohio, U.S.A., 13th November. 1906 ; 6 years. Filed 17th January, 1906. Recelpt No. 131,970.
('laim.-1. In a motor vehicle the combination of a plursl ity of transver:sly arranged explosive engine cylinders. thi power imils of the cylinders located at one side of the vebi
cle, each cylinder having an explosive inlet port, a passageway extending longitudinal the vehicle and in communication with all of the said explosive inlet ports, and a carbureter in communication with said passageway for providing thereto the explosive mixture.
2. In a motor vehicle the combination of a plurality of transversely arranged explosive engine cylinders, the power ends of the cylinders being located at one side of the vehicle, each cylinder having a projecting explosive inlet chamber, a lengitudinally arranged pipe located at one side of the vehicle, and establishing communication between all of the sald inlet chambers, and a carbureter or gas making device in communication with the said pipe.
3. In a motor vehicle the combination of an explosive engine, an explosive inlet port, a valve controlling the said jort, a gas making device in communication with the inlet fort, a gas making device having a controlled gasoline inlet, and means common to and adapted to control the said gasoline inlet and the explosive Inlet valve, said means being ander the control of the operator whereby the size of the explosive charge and its quality are under the control of the operator.
4. In a motor vehicle the combination of a plurality of explosive engine cylinders each having an explosive inlet port and a valve controlling the said port, means common to and adapted to control both the said inlet valves, and a manually operated device controlling the sald means.
5. In a motor vehicle, the combination of a plurality of explosive engine cylinders, each having explosive inlet ports and valves for said ports, a carbureter in communication with the said inlet ports, said carbureter having a gasoline inlet, a valve controlling the gasoline inlet, and means under the control of the operator and common to and adapted to control said gasoline and explosive inlet valves, for the purpose described.
6. In a motor carriage, the combination of a plurality of explosive cylinders having each explosive inlet ports, valves adapted to control the said ports, means operated by the engine in communication with and adapted to act upon said valves to keep them closed, and means under the control of the operator adapted to control the engine operative means.
7. In a motor carriage, the combination of a plurality of explosive engine cylinders, each having explosive inlet ports, valves controlling the said inlet ports, a carbureter in communication with all of the said ports, a gasoline inlet for said carbureter, a valve controlling the said inlet, and means operated by the engine and adapted to control the said inlet and gasoline valves, and means under the control of the operator adapted to control the engine operating means.
8. In a motor vehicle, the combination of a plurality of explosion engine cylinders, each having an explosive inlet port, a pressure producing device common to and adapted to control the said inlet valves, and pressure escape opening under the control of the operator for regulating the pressure simultaneously in respect to the said inlet valves.
9. In a motor vehicle, the combination of a plurality of explosive inlet cylinders, each having an explosive inlet port, valves therefor, a pressure producing device common to and adapted to act upon and control the said inlet valves, a pressure escape opening for keeping the pressure at a predetermined degree and regulating the normal speed of the engine, and a pressure escape opening under the control of the operator to vary instantly the degree of pressure and hence vary the speed of the engine.
10. In a motor vehicle, the combination of an explosion engine having an explosive inlet port, a valve controlling the said port, a carbureter in communication with the said port, the carbureter having a controlled gasoline inlet independent of the explosive inlet valve, and a pressure producing device adapted to act upon the said inlet and gasoline valves independently.
11. In a motor vehicle, the combination of a plurality of explosion cylinders having each explosive inlet ports, valver for the controlling of the sald ports, a carbureter common to and in communication with all of the sald inlet ports, the carbureter having a controlled gasoline inlet independent of the explosive inlet valves, and a pressure producing device acting upon and controlling the explosive inlet valves and the gasoline inlet.
12. In a motor vehicle, the combination of an explosion engine having an explosive inlet port, a valve for the said port, a carbureter in communication with the explosive inlet port, a gasoline inlet for the said carbureter, means actuated by the suction of the engine independent of the explosive inlet valve and adapted to open the gasoline inlet, and a pressure producing device acting upon the controlled gasoline inlet in opposition to the suction of the engine, and means for controlling the pressure.
13. In a motor vehicle, the combination of an explosion engine having an explosive inlet port, a valve controlling
the said port, a piston or diaphragm connected with the said valve, a carbureter in communication with the explosive inlet port, the carbureter having a gasoline inlet, a gasoline valve controlling the said Inlet, a piston or diaphragm under the influence of the engine suction for opening the gasoline valve, a pressure actuated piston operatively connected with the gasoline valve and adapted to operate in opposition to the valve which is under the influence of the engine suction, a pressure producing device in comunication with and acting upon the explosive inlet piston and the gasoline valve pressure piston, and means for controlling the pressure.
14. In a motor vehicle, the combination with an explosive engine, of a carbureter in communication with the engine, the carbureter having an air passage, a gasoline passage, a valve adapted to control the gasoline passage, a pressure actuated piston acting to close the gasoline valve, a pressure device in communication with the said piston, means for controlling the pressure and a valve located in the carbureter passage way and connected with the gasoline valve, the said valve being under the influence of the engine suction to oden the gasoline valve.
15. In a motor carriage, an explosive engine, an explosive inlet valve therefor, a pressure producing device controlling said inlet valve, a foot relief valve for said pressure and a hand rellef valve for sald pressure, both valves located to be controlled by the foot and hand of the operator,
16. In a motor carriage, an explosive engine, an explosive inlet valve therefor, an air pressure producing pump in connection with said rellef valve for controlling it, the engine having a crank case, and a connection between the said pump and crank case through which the pump draws its air.

No. 102,055. Grain Door. Porte d grain.


Edward Frank Atkinson, Peterboro, Ontario, Canada, 13th November, 1906; 6 years. Filed 1st June, 1906. Recelpt No. 136,475 .
Claim.-1. In a grain door for cars in combination with a frame having upright posts in pairs arranged at each side of a doorway, a pair of upright guldes suitably secured and located between the posts of each pair respectively and having the upper ends thereof arched and extending across sald car and suitably seoured at the outer ends, a plurality of horizontally arranged sections vertically arranged one above the other and the ends thereof resting against said posts, and means secured to said sections for embracing said guides and adapted to slide loosely thereon, and means for holding sald sections in a downward position and retaining them in a raised pgsition, as and for the purpose specified.
2. In a grain door for cars in combination with a frame having upright posts in pairs arranged at each side of a doorway, a pair of upright guides suitably secured and located between the posts of each pair respectively and having the upper ends thereof arched and extending across sald car and sultably secured at the outer ends, a plurality of horizon-
tally arranged sections vertically arranged one above the other and the ends thereof resting against sald posts, eye bolts suitably secured in said guides, and means for retainlt:g said sections in a downward position and in a raised position, as and for the purpose specifled.
3. In a grain door for cars in comblnation with a frame having upright posts in pairs arranged at each side of a doorway, a pair of upright guides suitably secured and lorated between the posts of each pair respectively and having the upper ends thereof arched and extending across said car in proximity to the roof thereof and suitably secured, a plurality of horizontally arranged sections having the upper edge bevelled on the inside and a lip or projection extending irom the lower edge and registering with the bevelled edge of the scction immediately below, pairs of eye bolts fixedly secured in said sections in proximity to the ends thereof having the eye portlons surrounding said guides and sllding loosely thereon, pivotal dogs or members pivotally secured in said upright posts having a downwardly extending lip or projection at the outer end thereof adapted to engage the edge of the upper one of said sections, and means for limiting the movement of said pivotal members, as and for the purpose specifed.
4. In a grain door for cars in combination with a frame having upright posts in pairs arranged at each side of a doorway, a pair of upright guldes sultably secured and located between the posts of each pair respectively and having the upper ends thereof arched and extending across sald car in proximity to the roof thereof and suitably secured, a plurality of horizontally arranged sections having the upper edge bevelled on the inside of allp or projection extending from the lower edge and registering with the bevelled edge of the section immediately below, the lower section having an opening therethrough, a gate or door hingedly secured to said section and closing sald opening, means for holding sald door in a closed position, pairs of eye bolts fixedly secured in said sections in proximity to the ends thereof having the eye portions surrounding said guides and sliding loosely thereon, pivotal dogs or members pivotally secured in said upright posts having a downwardly extending lip or projection at the outer end thereof adapted to engage the edge of the upper one of said sections, and means for limiting the movement o: sald pivotal members, as and for the purpose specified.

No. 102,056. Hook. Crochet

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Edward Jacob Hill, Wistminster, London, England, 13th November, 1906; 6 years. Filed 18th September, 1906. Receipt No. 139.604.
Claim.-1. The combination of an \(S\) hook comprising a length of rod or wire bent to a nearly closed \(S\) form or approximate figure of eight with its ends recurved to constitute short open terminal hooks extending in the plane of the \(S\) and a mousing link adapted to be engaged with sald teruinal hooks so as to close both loops of the \(S\) by completing

Edward Southworth, Portland, Maine, U.S.A., 13th November, 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,266 . 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,266 .
Claim.-1. In a machine for perforating paper, the combination of a series of perforating punches, a corresponding die plate, a guide plate above said die plate through which ald punches pass, a vertically movable punch holding frame carrying said series of punches, a cam shaft journalled so that it passes horizontally through said frame and operating that it passes horizontally through said frame and operating
to raise and lower said frame and means for rotating aald shaft.
2. In a machine for perforating paper the combination of a series of perforating punches, a corresponding die plate, a
guide plate above sald die plate through which sald punches a series of perforating punches, a corresponding die plate, a
guide plate above sald die plate through which sald punches pass, a vertically movable punch holding frame to which the upper ends of sald punches are secured having thereln a horiupper ends of said punches are secured having thereln a horl-
zintal slot. a cam shaft journalled within sald frame having a gear tooth flting said slot and means for rotating said shaft.
3. In a machine for perforating paper the combination of a scries of perforating punches having heads on their upper ends, a corresponding die pate, a gulde plate above sald d:c
plate through which sald punches pass, a vertically morable ends, a corresponding die pate, a gulde plate above sald d:c
plate through which sald punches pass, a vertically morable punch holding frame having a lower bar through which the tepper ends of said punches pass, a face plate having an edge or shoulder for resisting the upward thrust of said punches and having a horizontal slof or groove, a cam shaft journalled within said frame and having a tooth or projection
fitting sald slot to empart motion to said frame and means nalled within said frame and having a tooth or projection
fitting sald slot to empart motion to said frame and means for rotating sald shaft.
4. In a machine for perforating paper the combination of a series of perforating punches, a corresponding die plate. a guide plate above sald dle plate through which said punches pass, a vertically movable punch holding frame to which th. upper ends of the punches are secured, a cam shaft journalled parallel with and adjacent to sald frame, sald cara shaft and sald frame having interlocking projections whereb. the rotation of sald shaft moves said frame vertically.
the figure of eight, and to be disengaged from elther or both of the terminal hooks at will, substantially as described.
2. The combination of an \(S\) hook comprising a length of rod or wire bent to a nearly closed \(S\) form or approximate figure of eight with its ends recurved to constltute short open icrminal hooks extending in the plane of the \(S\) and a mousing link adapted to be engaged with said terminal hooks so as to close both loops of the \(S\) by completing the figure of eight, and to be disengaged from either or both of the terminal hooks at will, each loop of the \(S\) being of greater tranverse breadth than the internal length of the mousing link. substantially as described.

No. 102,057. Perforating Machine.
Machine d perforer.


No. 102,058. Combuntion Enginc.
Machine a combustion.


Harry Ball Stilz, Philadelphia, Pennsylvania, U.S.A., 13th November, 1906; 6 years. Filed 9th March, 1906. Receipt No. \(133,717\).
Clasm.-1. The combination of an air compressor provided with a means of cooling the air during the process of compression, a motor cylinder into which the compressed air is intermittently introduced from the compressor and is therein raised to a high temperature and partially expanded at constant pressure by the burning therewith of a combustible and then further expanded adiabatically, a piston in said cylinder, means for introducing said combustible under pressure into said cylinder, conduits for the ingress and egress of said fluids to the air compressor and motor cylinder, valves for controlling the passage of the fluids through said conduits, and means actuated by the power generated in said cylinder for operating said compressor and the valves.
2. In an Internal combustion engine, the combination with the working cylinder, the piston and the power shaft operated thereby, of a source of supply of compressed air which has been relieved of the heat produced in the act of compression; a heater in which heat in the exhaust gases from the engine is transmitted to the compressed air delivered from sald source of supply, means for conveying the compressed air to said cylinder, means for introducing a combustible under pressure into said cylinder, valves actuated by the engine shaft for controlling the supply of air and combustible admitted to the cylinder so as to cause combustion therein at constant pressure, and an exhaust valve for controlling the passage of the combustion gases from the cylinder.
3. In an internal combustion engine, the combination with the working cylinder, the piston and the power shaft operated thereby, of an air compressor provided with a means of cooling the air during the process of compression, a heater in which heat in the exhaust gases from the engine Is transmitted to the air delivered from said compressor, means for introducing a combustible under pressure into said cylinder, valves actuated by the engine shaft for controlling the supply of air and combustible admitted to the cylinder so as to cause combustion therein at constant pressure and an exhaust valve for controlling the passage of the combustion gases from the cylinder.
4. In combination of a cylinder and piston of an internal combustion engine, a source of supply of compressed air, a source of supply of a combustible under pressure; valves for controlling the compressed air and combustible admitted to and the products of combustion discharged from said cylinder, and a rellef valve in the combustible supply pipe to said cylinder, substantially as described.
5. In an internal combustion engine, an air compressor, means for cooling the air during the process of compression an engine cylinder, a valve mechanism for admitting com-11-12
pressed air and a combustible to said cylinder, sald valve mechanism being constructed and arranged 80 as to cause the whole charge of combustible to be introduced into and burned in the cylinder before the air controlling valve is closed in order that the compressed air in the cylinder may be heated at constant maximum pressure and then expand adiabatically, and means for then exhausting the air from the cylinder.
6. In an internal combustion engine, an air compressor, means for cooling the air during compression, an engine cylinder, a reservoir between sald compressoz and said cylinder, valve mechanism for admitting compressed air and a combustible to said cylinder, sald valve mechanism being constructed and operated so as to cause the whole charge of combustible to be introduced into and burned in the cylinder before communication between the cylinder and the reservoir is shut off in order to cause the air in the cylinder to be heated at constant maximum pressure, means for then permitting the heated air in the cylinder to expand adiabatically, and means for finally exhausting the air from the cylinder.
7. In combination with the cylinder and piston of an internal combustion engine, a source of supply of compressed air, a source of supply of a combustlble under pressure, valves for controlling the compressed air and combustible admitted to and the products of combustion discharged from said cylinder, and means for automatically varying the rate at which the combustible is supplied inversely with varlations in the pressure in the compressed air system in order to maintain the pressure in said system practically constant.
8. In an internal combustion engine, a compressor system, an engine cylinder, means for burning a combustible in said cylinder at the pressure of the said system, and means governed by said pressure for controlling the amount of combustible burned so as to maintain the pressure in said system uniform.

No. 102,059. Cuff Holder. lorte-poignet.


William T. Robinson, Toronto, Ontario, Canada, and Harris A. Bateman, Aberdeen, South Dakota, U.S.A., assignee of a half interest, 13th November, 1906; 6 years. Filed 1st September, 1906. Receipt No. 139,146.
Claim.-1. A cuff holder comprising a cuff receiving section having a resillent tongue, a swinging section or locking lever connected with the cuff receiving section for operating the tongue, and a sleeve member slidable on the swinging section or locking member and provided with means for engaging a coat sleeve.
2. A cuff holder comprising a cuff receiving section having a resilient tongue, a locking lever detachably connected with the cuff receiving section, and a sleeve member slidable on the locking lever and retained thereon by the cuff receiving section.
3. A cuff holder comprising a cuff receiving section having a movable cuff engaging portion, a lever detachably interlocked at its inner end with the cuff receiving section and provided with means for operating the movable portion thereof, said lever being provided at its outer end with a stop, and a sleeve member slidable on the lever and detachably retained thereon by the cuff receiving section.
4. A cuff holder, comprising a cuff engaging device, and an adjustable sleeve member slidable on the cuff engaging device and provided with a pin movable on the sleeve member for engaging a coat sleeve, said pin being also provided with means for securing the sleeve member in its adjustment.
5. A cuff holder comprising a cuff engaging device, and an adjustable sleeve member slidable on the cuff engaging device and provided with a slidable pin having a resilient loop for locking the sleeve member in its adjustment.
6. A cuff holder comprising a cuff engaging device, and an adjustable sleeve member slidable on the cuff engaging device and provided with a pair of slidable prongs or pins for engaging a coat sleeve, and prongs or pins baving a resilient connecting loop arranged to lock the sleeve member in its adjustment.
7. A cuff holder comprising a cuff engaging device, and an adjustable slceve member composed of a slidable body portion having guides to recelve the cuff engaging device and a pair of slidable prongs or pins provided with a connecting lcop arranged to lock the sleeve member and the cuff engaging device in their relative adjustment.
8. A cuff holder comprising a cuff engaging device, and a sleeve member composed of a plate or body portion slidably connected with the cuff engaging device and having an opening and a pair of pins or prongs adjustable on the said plate or body portion and having means extending through the sald opening for locking the sleeve member and the cuff engaging device in their relative adjustment.
9. A cuff holder comprising a cuff engaging device, and a sleeve member adjustable on the cufl engaging device and provided with an opening bevelled at one side, said sleeve member having slidable means for engaging the sleeve and provided with a resilient portion extending through the opening for securing the sleeve member and the cuff engaging device in their relative adjustment, said resilient portion being movable over the bevelled portion of the sleeve member to carry it into and out of engagement with the cuff engaging device.
10. A cuff holder comprising cuff engaging means, and ar adjustable sleeve member composed of a plate or body' haviug opposite guides and provided with eyes spaced from the guides, and a palr of pins or prongs slidable in the guides and fitting in the eyes, said prongs or pins being provided with a connecting loop for engaging the cuff engaging means.
11. A cuff holder comprising cuff engaging means, and a slceve nember composed of a plate or body adjustable on the cuff engaging means and provided with spaced guides and having a lug arranged between the guides, pins or prongs slidable in the guides, and a loop connecting the pins or prongs, said loop being located between the guides and arranged to be engaged by the sald lug.
12. A cuff holder comprising cuff engaging means provided with a series of shoulders, and a sleeve member composed ot a plate slidable on the cuff engaging means and having an opening, said plate being also provided with a stop spaced from the opening, and a pair of pins or prongs slidable on the plate and having a connecting loop extending through the opening to engage the said shoulders and arranged to be evgaged by the said stop.
13. A cuff holder comprising a cuff engaging device provided with means for engaging the cuff, a sleeve engaging member having means for engaging a coat sleeve, and means independent of the sleeve engaging means for slidably connecting the said device and the sald member so as to permit - the said parts to have relative sliding movement and adjustment without disengaging the sleeve member from the sleeve, said sleeve engaging means having a locking device for sccuring the sleeve member and the cuff engaging device in their relative adjustment.
14. A cuff holder comprising a cuff engaging device. an adjustable sleeve member slidable on the cuff engaging device, a pin slidable on the sleeve member for engaging a coat sieeve, and a locking device carried by the pin for securing the sleeve member and the cuff engaging device in their relative adjustment.

\section*{150. 102,060. System of Electricil Regriation. Système de régulation électrique.}

The Canadian General Electric Company, Toronto. Ontario. assignee of William L. R. Emmet, Schenectady, New York. U.S.A., 13th November. 1906; 6 years. Flled 6th October, 1904. Receipt No. 118,973.
Claim.-The combination of an alternating current generator having alternating current mains leading therefrom, and having a direct current exciting circuit connected there: to. a source of exciting current, a booster interposed in the exciting circuit, a regulator for the sald booster responsive both to the voltage of the alternating current mains and to the resultant voltage of said exciting source and booster, and
a resistance coll located in a shunt wire between the booster and the regulator and adapted to be inserted in the feld cir-

cuit of the booster in response to the action of the regulator, as and for the purpose specifed.
No. 102,061. Fose Supporting Clagp. Agrafe de jartelles.


The Sperella Company, assignee of Francis William Liallitt, all of Meadville. Pennsylvania, U.S.A., 13th November, 1906; 6 years. Filed th September, 1906. Receipt No. 139,210.
Clain.-1. A clasp consisting of a base plate formed with a hook-shaped jaw on one end, a strap receiving slot in the
opposite end, an aperture in the central portion and longitudinal flanges on its sides, a lever fulcrumed on said flanges opposite the central aperture of the plate and formed with ears extending beyond the fulcrum of the lever and adapted to enter the said aperture, and a clamping tongue pivoted to said ears, as set forth.
2. A clasp consisting of a base plate formed with a hookshaped jaw on one end, a strap receiving slot in the opposite site end, an aperture in the centre of the plate, and longitudinal flanges extending from end to end of the plate, a thumb lever formed with inwardly deflected ears pivoted to said flanges, opposite the central aperture and supplemental ears extending from the said deflected ears and adapted to enter the central aperture, and the clamping tongue pivoted to the supplemental ears, as set forth.
3. The improved hose supporting clasp consisting of the base slate formed with a hook-shaped jaw on one end, an aperture in the center of the plate, longitudinal flanges projecting at right angles from the plane of the plate and extending from end to end thereof and enlarged in depth at the central aperture, the thumb lever pivoted to the flanges at said aperture and provided with ears extending beyond the pivot, and the clamping tongue pivoted to said ears, in combination with the suspending strap extending across the central aperture and secured to both ends of the base plate, as set forth.
4. A hose supporting clasp consisting of a base plate formed with a hook-shaped hose receiving jaw on one end, means for attaching the plate to the strap at the opposite end of the plate and longitudinal flanges projecting at right angles from the plane of the plate, a transverse rod connected to the flanges, a lever pivoted on said rod and formed with supplemental ears extending beyond the pivot of the lever, the clamping tongue pivoted to said supplemental ears, and a spring disposed to press the free end of said tongue outward from the base plate as set forth.
5. A hose supporting clasp consisting of a base plate formed with the hose receiving jaw on one end, means for attaching the plate to the strap, an aperture in the central portion of the plate and longitudinal flanges on the sides of the plate, a transverse rod attached to the flanges opposite the central aperture, a thumb lever formed with inwardly deflected ears pivoted to said rod and with supplemental ears extending beyond the pivot, a transverse rod attached to the supplemental ears, the clamping tongue provided with ears pivoted to the last-mentioned rod. and a spring consisting of a wire baving its end portions each colled around one of the aforesaid transverse rods and terminating in fingers earing on the backs of the thrumb lever and clamping tongue, substantially as set forth and shown.
6. The base plate formed with the hose receiving Jaw on one end, an aperture in its central portion. transverse slots in the ends of the plate, and longitudinal flanges projecting at right angles from the plane of the plate, a transverse rod attached to the flanges opposite the central aperture, a thumb lever pivoted to said rod and formed with supplemental ears extending beyond the pivot, a transverse rod attached to sald supplemental ears, the clamping tongue formed with ears pivoted to the transverse rod on the supplemental ears, a spring wire having its central portion bent V-shaped and its end portions coiled around the transverse rods and terminating in fingers bearing on the backs of the thumb lever and clamping tongue, and the suspending strap extending along the back of the base plate to cover the central aperture thereof and around the jaw to cushion the same and passing through the transverse slots to retain the clasp on the strap, all constructed and combined to operate, substantially as set forth.

No. 102,062. Vapour Apparatus. Appareil d vapcur.
The Cooper Hewitt Electric Company, New York City, New York, assignee of Percy Holbrook Thomas, Montclair, New Jersey, U.S.A., 13th November, 1906; 6 years. Filed 24th February, 1905. Receipt No. 122,815.
Glaim.-1. The combination with a gas or vapour electric apparatus composed of fragile material and containing one or more electrodes of mercury or other conducting liquid, of one or more devices attached to the interior of the apparatus and forming a constriction near such point or points as are especially liable to shock from the movement of the liquid.
2. The method of regulating the flow of mercury within a fragile chamber, which consists in interposing between different parts of the contained a constriction wihich prevents the free passage of the liquid from one end to the other but allows the passage of a certain amount which
may act as a vent to relieve any hammer effect tending to result from the sudden stoppage of the liquid and also

serving to prevent a momentary agitation from displacing the liquid from its own position.

No. 102,063. Telephone. T'ćléphone.


Robert Bines, assignee of David Henry Wilson, both of Chi
cago. Illinois. U.S.A., 13th Novemebr, 1906; 6 years. Filed 3rd April, 1905. Recelpt No. 123,912.
Claim.-1. An induction coil comprising two cores, one formed into opposed pole pleces, the other located between said opposed pole pieces so as to form part of the magnetic circuit, and a primary and secondary coil on both of said ccres.
2. An induction coil comprising two cores, one formed into orposed pole pleces, the other located between said opposed pole pieces so as to form part of the magnetic circuit, and a primary and secondary coil on both of said cores, the two sets of coils connected in multiple.
3. An induction coll comprising a core formed into opposed pole pieces, a current reversing device associated therewith, an actuting device therefor comprising a movable part provided with an armature placed in proximity to one of said pole pleces.
4. An induction coil comprising a core formed into opposed pole pieces, a current reversing device associated therewith, all actuating device therefor, comprising a movable part provided with an armature placed in proximity to one of said pole pieces, and an adjustable regulating device associated therewith.
5. The combination in a telephone system of an induction coil provided with a core having pole pieces projecting therefrom, and a second core interposed between said pole piece, said cores each provided with a coll connected in the transmitter circuit and with a coil connected to the main line.
6. A telephone system comprising an induction coll having a core provided with projecting pole pieces, a second core interposed between sald pole pieces and magnetically insulated therefrom, each core provided with a coil connected in the transmitter circuit, and with a coil connected in the main circuit.
7. A telephone system comprising an induction coil having a core provided with projecting pole pieces, a second core interposed between said pole pieces, a coll on each of said cores, a connection between said coils and a generator, a second coil on each of said cores, and a connection from said latter colls to the transmitter circuit.
8. A telephone system comprising an Induction coll having a core provided with projecting pole pleces, a second core Itterposed between said pole pleces and magnetically insulated therefrom, a coll on each of sald cores, a connection between sald colls and a generator, a second coll on each of said cores, and a connection from sald latter colls to the transmitter circuit.
9. The combination in a telephone system of an induction ccil having two cores, each provided with a coll connected in the transmitter circuit, and also with a coil connected in the main line, the coil connected in the main line being divided into two sections on each core, and placed at the outer ends thercof, the coil in the transmitter circuit on each core being located between the two sections of the other coll, the core of one coil having projecting pole pleces between which the other core is located, said latter core having an insulating cap at each end Intermediate or between it and the pole pieces.
10. The combination in a telephone system of an Induction coil provided with two cores, one having extended pole pleces between which the other is located, sald latter core magnetfcally insulated from the pole pieces, a coil on each of said cores connected in the transmitter circuit, a coll on each of said cores divided so that one part is on one side of the coll in the transmitter circuit. and the other on the other side, sald coils connected with the maln line, and a source of electric supply connected with said main line so as to supply a current thereto.
11. The combination in a telephone system of an induction coll having a core provided with projecting pole pieces, a second core inserted between said pole pleces and magnetically insulated therefrom by pleces of insulating material, a coll on each of said cores, a transmitter, and a source of electric supply in circuit with said coils, another coil on each of sald cores, and a source of electric supply, and a receiver connected in circuit with said colls.
12. The comblnation in a telephone system of an induction ccil baving a core provided with projecting pole pieces, a second core between the pole pieces and magnetically instilated therefrom, a coll upon each of said cores, one connected with the main line, and the other connected in a local circuit, a pole changing device mounted upon said induction coll \(s 0\) as to be actuated by the poles thereof, an alarm device normally in circuit with the main line, a switch device for cutting the alarm device out of circuit and varying the circult so that the pole changing device is in circuit.
13. The combination in a telephone system of an induction coil having two cores, each provided with a coil connected in the transmitter circuit. and also with a coll connected in the main line, a circuit making and breaking device associated with said induction coll, and means for cutting the home signal out of circult when the circuit making and breaking device is operated.
14. The combination in a telephone system of an induction coil having a core provided with projecting pole pieces, a second core interposed between said pole pleces, a cap of magnetic insulating material between the ends of sald second ecre and said pole pieces, each of sald cores provided with a coil connected to the main line. a source of electric supply and a receiver in said main line, a second coll on each of sald cores connected in a local circuit, a source of electric supply and a transm!tter in said local circuit.
15. The combination in a telephone system of an induction coil having a core provided with projecting pole pieces, a second core interposed between said pole pleces, a cap of nagnetic Insulating material between the ends of sald second core and said pole pieces, each of said cores provided with a coll connected to the main line, a source of electric supply and a recelver in said main line, a second coll on each of said cores connected in a local clrcuit, a source of electric supply and a transmitter in sald local circuit, an automatic pole changing device assoclated with said induction coll, and monss for cutting said pole changing device in and out of circuit.
16. A telephone apparatus comprising an induction coil having a core provided with projecting pole pieces, a second core interposed between sald pole pleces and magnelically insulated therefrom, each core provided with a coil connected in the transmitter circuit. and a coll connected In the main line circuit leading to the distant station, and an electric generator in said main line circuit, as herein shown and escribed.
17. A telephone apparatus comprising an induction coll having a core with projecting pole pleces associated therewith. a second core interposed between said pole pleces. a cap of magnetic insulating material etween the cnds of said second core and said pole pleces, cach of said cores provided with a coll conccted in the main line, a source of clectric supply and a recelver in said main line, a second coil on each of said cores connected In a local circuit. a source of electric supply and a transmitter in sald local elrcuit.

\section*{No. 102,064. Telephone Transmittor. Transmetteur de teléphone.}


Robert Bines, assignee of David Henry Wilson, both of Chicago, Illinols, U.S.A., 13th November, 1906; 6 years. Flled 3rd April, 1905. Receipt No. 123,914.
Claim.-1. A telephone transmitter comprising two opposed eliaphragms, telescoping cups between said diaphragms, one conected to each diaphragm, said telescoping cups containing material the resistance of which is varied by the relative movement of the diaphragms.
2. A telephone transmitter comprising two side pieces, a separating piece between them, two diaphragms held between said side pieces and separating plece, and a connecting plece outside of said separating piece and engaging the two side pieces.
3. A telephone transmitter comprising two opposed diaphragms, two telescoping carbon cups between sald diaphragms and smaller than the diaphragns 80 that the diaphragms project beyond the edges thercof, one of said carbon cups connected to each diaphragm
4. A telephone transmitter comprising two opposed diaphragms, two telescoping carbon cups interposed between them, each provided with a bottom separate from the cup. the bottoms of said cups connected respectively with the said diaphragms, and an Intermediate piece between each cup and its associated diaphragm.
5. A telephone transmitter consisting of a receptacle divided into three chambers each of the exterior chambers provided with an outlet which leads to a mouth piece. the interior chamber provided with opposed electrodes each of which is adapted to be moved while the device is being used, opposed diaphragms carrying said electrodes, telescoping cups on said diaphragms, sald electrodes contained within telescoping cups which co-operate with each other.
6. A telephone transmitter comprising two opposed dia phragms, a carbon receptacle between said diaphragms and carrled thereby, a mouth plece provided with two branches, one leading to one diaphragm and the other to the other diaphragm, side pieces between which said diaphragms are contained, each provided with an opening. and means for removably connecting the branches of said mouth piece with said side plece.

\section*{No. 102,065. Crosg-Line Buchle.}

\section*{Boucle pour rêncs croisćes.}

Danicl Gilbert Hawkins, Lamont. Oklahoma, U.SA.. 13th November, 1906; 6 years. Flied 13th September, 10.6. Recelpt No. 139,430.
Claim.-1. A cross line buckle comprising side pieces. a cross bar connecting the side pleces and provided with a strap engaging stud, a pair of crossbars connecting the side pleces and lying in a plane spaced from the frst-mentioned crossbar, and a clamping member mounted upon one of the pair of crossbars and adapted to hold the strap lato a close engagement with the stud upon the first-mentioned crossbar.
2. A cross line buckle comprising side pieces, a crossbar connecting the side pleces and provided upon its inner facc with a strap cugaging stud, a pair of crossbars lying in a plane snaced from the first-mentioned crossbar, and a clamping member mounted upon one of the pair of cross. bars and adapted to hold the strap into a close engagement with the before-mentioned stud upon the first-mention crossbar. said clamping member comprising two arms disposed at angles to each other and so arranged as to be turned out of engagement with hte strap for adjusting purposes.
3. A cross line buckle comprising side pleces, a crossbar connecting the side pieces and provided on its inner
kets against movement, and automatic devices for moving the baskets together when unlocked.

3. In a trap the combination with a frame having guides therein, of oppositely disposed baskets movably mounted on the guides, locks for holding the baskets against movement, means for automatically moving the baskets together when unlocked, and mechanism for moving the baskets apart.
4. In a trap the combination with a frame having guides therein, of oppositely disposedispring pressed baskets mounted on the guides and normally contacting at their open ends, neans for separating the baskets, and simultaneously movable locks for holding the baskets apart.
5. In a trap the combination with a frame having guides therein, of oppositely disposed spring pressed baskets mounted on the guides and normally contacting at thelr open ends, means for separating the baskets and locks for engaging and holding the baskets, and means for simultaneously actuating the locks.
6. In a trap the combination with a frame having guides therein, of a lamp, oppositely disposed baskets movable upon the guides and normally inclosing the lamp, and means for simultaneously moving the baskets in opposite directions.
7. In a trap the combination with a frame having guides therein and a lamp, of oppositely disposed baskets mounted upon the guides and normally inclosing the lamp, sleeves secured to the baskets and slidably mounted on the guldes, springs within the sleeves normally holding the baskets in contact, means for compressing the springs and separating the baskets, and locks for holding said baskets separated.
8. In a trap the combination with a frame having guides therein and a lamp, of oppositely disposed baskets mounted upon the guides and normally inclosing the lamp, sleeves secured to the baskets and slidably mounted on the guides, aprings within the sleeves normally holding the baskets in contact, means for compressing the springs and separating the baskets, locks for holding said baskets separated, and means for simultaneously actuating the locks to release or lock the baskets.
9. The combination with a trap having oppositely disposed baskets spaced apart and means for simultaneously bringing the baskets together, of an electric lamp within the baskets and adapted to be submerged therewith.
10. In a trap of the character described the combination with oppositely disposed slidable baskets and means for holding the baskets normally spaced apart, of means for simultaneously moving said baskets toward each other.
11. In trap of the character described the combination with guides, of oppositely disposed baskets slidably mounted on the guides, means for holding the baskets spaced apart, and means for simultaneously moving said baskets toward each other.

\section*{No. 102,067. Skirt Hanger. Support de jupes.}

Peter Ten Broeck Nevins, Flemington, New Jersey, U.S.A.,
13th November, 1906; 6 years. Filed 10th September, 1906. Receipt No. 139,370.
Claim.-1. A skirt hanger comprising a support and a plurality of skirt engaging mernbri clidably mounted thereon each of said skirt engaging members being formed of wire and comprising a depending arm having a bentportion at the lower end thereof, and a pair of loops engaging the supporting member, one of said loons being open at its lower end. and having the terminal portion thereof bent to form a handle.
2. A skirt hanger comprising a support and a plurality of skirt engaging members slldably mounted thereon, said skirt engaging members being adanter to be automatically locked in adjusted position when a skirt is engaged therewith, each
of said skirt engaging members being provided with a handle portion, and the handle portion of one of said skirt engaging

members being located on the side of the support opposite the handle portion of the other skirt engaging member.

No. 102,068. Oollar and Oni Button. Bouton de col et poignet.


Charles S. Pederson, Maddock, North Dakota, U.S.A., 13th November. 1906; 6 years. Filed 10th September, 1906. Receipt No. 139,375.
Claim.-1. A collar button comprising two members, each provided with a peripheral flange adapted to engage with each other and form a cylindrical head, a stem projecting from one of the members and having a laterally projecting arm at its free end, and a sleeve projecting from the other member and formed with a housing mounted in the sleeve, and means for locking the members, said means being housed and concealed by the members.

No. 102,069. Measuring Vessel. Vaisseau d mesurer.


Clarence Schock, Mount Joy, Pennsylvanla, U.S.A., 13th November, 1906; 6 years. Filed 17th September, 1906. Receipt No. 139,583.
Claim.-1. A measuring vessel having a drain tube, the edge ot the inlet of which is at varying distances from the bottom
of the vessel and that portion of said edge nearest the bottom of the vessel being at all times in line with the axis of the vessel.
2. A measuring vessel having a drain tube rigidly mounted therein, the edge of the inlet of said tube being at varying distances from the bottom of the vessel, and that portion of said edge nearest the bottom of the vessel being at all times in line with the axis of the vessel.
3. A measuring vessel having a rigid drain tube therein of less length than the sides of the vessel, the edge of the inlet of said tube being at varying distances from the bottom of the vessel and that portion of said edge nearest the bottom of the vessel being at all times in line with the axis of the vessel.
4. The combination with a measuring vessel, of a discharge tube therfin having its inlet end obliquely cut away, that portion of said end nearest the bottom of the vessel being at all times in line with the axis of the vessel.
5. A measuring vessel having a drain tube adjustably mounted therein, the edge of the inlet of said tube being at varying distances from the bottom of the vessel, that portion of said edge nearest the bottom being at all times in line w:th the axis of the vessel.
6. In a measuring vessel the combination with the body portion having a threaded opening in its bottom, of a discharge tube adapted to fit in said threaded opening and disposed parallel with the sides of the measuring vessel and having its upper end obliquely cut away whereby the position of the lower side of said obliquely severed end will determine the quantity of contents in the measuring vessel, the position of the discharge point of the tube being varied by rotating the discharge tube.
7. The combination with an elevator, of a measuring vessel connected thereto and having an overflow tube, the edge of the inlet of sald tube being at all times intersected by the longitudinal axis of the vessel.
8. The combination with an elevator, of a measuring vessel connected thereto and having an overfiow tube rigidly mounted therein, the edge of the inlet of said tube being at all times intersected by the longitudinal axis of the vessel.
9. The combination with an elevator, of a measuring vessel connected thereto and having a rigid overflow tube adjustably mounted therein, the edge of the inlet of said tube being at all times intersected by the longitudinal axis of the vessel.
10. The combination with an elevator, of a measuring vessel movably connected thereto and having an overfiow tube, the inlet of which is at all times intersected by the longitudinal axis of the vessel.
11. The combination with a suitable support, of a measuring vessel connected thereto and adapted to swing thereon, said vessel having an overfiow tube, the edge of the inlet of which is at all times intersected by the longitudinal axis of the vessel.
12. The combination with a sultable support, of a measuring vessel connected thereto and adapted to swing thereon, said vessel having an overflow tube rigidly mounted therein, the edge of the inlet of said tube being at all times intersfcted by the longitudinal axis of the vessel.

\section*{No. 102,070. Screw Propeller. Hélice.}

Norman Rogers Smith. Seattle. Washington, U.S.A., 13th November, 1906: 6 years. Filed 22nd August, 1906. Receipt No. 138,914 .
Claim.-1. A propeller having blades extending through a material portion of its pitch length, the outer portion of one side face of the blades being concavely curved throughout the greater portion of its length, said surface at one end of the wheel reversing to a convex curve.
2. A propeller wheel having one side of the blades of increasing pitch from the front to the rear and the other slde mainly of uniform pitch. the pitches of the two sides being equal near the middle of the width of the blades.
3. A propeller wheel having the outer portions of its blade curving forward or in the direction of turning and having the rear portion of its hub tapering to a wedge which merges with the blades.
4. A propeller wheel having one side of the blades of increasing pitch and the other side mainly of uniform pitch. said last-mentloned side having it forward portion bevelled or rounded back to meet the surface of the opposite side.
5. A propeller wheel having one side of the blades of increasing pitch from the front to the rear and the other side mainly of uniform pitch, the pitches of the two sides being equal near the middle of the width of the blades and the forward portion of the surface of uniform pitch being rounded over towards the opposite surface to produce a narrow front edge.
6. A propeller wheel having blades with one side face of increasing pitch from front to rear and the other face of substantially constant pitch, the side faces of both surfaces of the blades, from a point near the hub to their outer ends.
curving concavely or away from the helical planes passing through their bases and at a constantly increasing angle.

7. A propeller wheel having blades with one side face of increasing pitch from front to rear and the other side face of substantially constant pitch, both side faces curving from near the hub to their outer ends concavely or away from the helical planes passing through their bases and at an angle progressively increasing outwardly, and the rear end of the hub tapering to a wedge which merges with the blades.
8. A propeller wheel having blades with one side face of increasing pitch from front to rear and the other face of substantially constant pitch, the side faces of both surfaces o? the blades curving concavely and away from a radius at a constantly increasing angle from a point near the hub to their outer end and also having an exterior groove or valley extending along the end edges of the blades between the side surfaces.

1To. 102,071. Animal Trap. Pidge d animal.


Jesse J. Swint, Milltown, Alabama, C.S.A., 13th November, 1906; 6 years. Filed 8th September, 1906. Receipt No. 139,350.
Claim.-1. In a trap the combination of a casing having an ertrance opening, a depressible platform arranged within the casing, a normally open door located at the entrance openirg, and a rock shaft mounted on the casing independently of the door and the platform and provided with arms connected respectively with the platform and with the door for closing the latter when the platiorm is depressed.
2. In a trap the combination of a casing having an entrance opening, a depressible platform mounted within the casing and provided with projecting arms, a normally open door located at the entrance opening of the casing, and a rock shaft
mounted on the casing independently of the platform and the door and provided with terminal arms connected with the arms of the platform, sald rock shaft being also provided With an intermediate arm arranged to engage and close the door when the platform is depressed.
3. In a trap the combination of a casing having an entrance opening and provided with an outlet adapted to communicate with a cage, inner and outer reversely operating doors, a depressible platform located within the casing, and rock shafts mounted on the casing independently of the doors and the platform and connected with and actuated by the platform for operating the said doors.
4. In a trap the combination of a casing having an entrance opening and provided with an outlet, inner and outer doors located at the outlet and at the entrance opening, the inner door being arranged to swing horizontally, and means for communicating motion from the platform to both the inner and outer doors whereby the latter will be reversely operated.
5. In a trap the combination of a casing having an entrance opening, a normally open door located at the entrance opening, a depressible platform, springs secured to the casing and located at the front and rear portions of the platform and baving free ends supporting the same.
6. In a trap the combination of a casing having an opening, a horizontaliy swinging door mounted at the opening and provided with an arm, a depressible platform, and a rock shaft having a loop connected with the platform, said rock skaft being also provided with an arm connected with and arranged to ascillate the arm of the door for opening and closing the same.
7. In a trap the combination of a casing having an opening, a door hinged at the opening, a guard having flanges recelving the free edges of the door and projecting outward from the casing for preventing a captured animal from opening the door, and means for operating the door.

No. 102,072. Car Door. Porte de chars.


William D. Thompson, Detroit, Michigan, U.S.A., 13th November, 1906; 6 years. Filed 1st October, 1906. Receipt No. 139,937 .
Claim. -1 . The combination of a car provided with a suitable doorway, a vertical guard plate arranged above said doorway, to protect the upper joint of the sliding door, a tread member extending inwardly and inclined downwardly from the guard plate, the sliding door, and hangers for the door, cylindrical rollers therein engaging the inclined tread journalled parallel thereto.
2. The combination with a car provided with a suitable dcorway, a vertical guard plate arranged above said doorway protecting the upper joint of the sliding door, a tread member extending inwardly and inclined downwardly from the guard plate, a sliding door, hangers for the door, rollers therein engaging the, inclined tread and journalled parallel thereto, and means for limiting the inward lateral movement of the door.
3. The combination with a car provided with a suitable doorway, of a sliding door therefor, a vertical guard plate arranged above said doorway and protecting the upper joint of the sliding door, a tread member extendingly inwardly and downwardly from the guard plate, and hangers for the door comprising a door plate attached to the outer side of the deor, a roller supporting bracket, a yoke member thereon, a raller journalled therein parallel with the tread member of sa!d guard plate and substantially above the center of weight of said door whereby said door tends to hang vertically.
4. The combination with a car provided with a suitable doorway, a sliding door therefor, a vertical guard plate arranged above said doorway and protecting the upper joint of said door, a tread member extending inwardly and downwardly from the guard plate, hangers for the door, rollers therein engaging the inclined tread and journalled parallel thereto, and wear plates on baid hangers engaging said guard plate and extending above said tread, for the purpose described.

No. 102.073. Metallic Ceiling. Plafond métallique.


Charles Frederick Wagner. Toronto, Ontarlo, Canada, 13th November, 1906; 6 years. Filed 5th September, 1906. Receipt No. 139,275.
Claim.-1. As a new article of manufacture, a metallic sauare or shingle provided with a backing of sound proofing material.
2. As a new article of manufacture, a metallic square or shingle provided with a flexible backing of sound proofing riaterial.
3. As a new article of manufacture, a metallic square or stingle provided with a flexible backing of sound proofing material, and cementing material for securing said sound proofing material to said metallic celling.
4. As a new article of manufacture, a metallic square or sbingle having a coating of paint only on its under side, and piovided with a backing or layer of sound proofing material.

No. 102,074. Ohain Machine Eplitter Bit.
Mèche a fendre.


Thornton S. Hardesty, Rivesville, West Virginia, U.S.A., 13th November, 1906; 6 years. Filed 27th September, 1906. Receipt No. 139,818 .

Claim.-1. A bit for coal mining machines, having a shank portion and a cutting portion, said cutting portion lying at an angle with the shank portion and having its front face wider than its rear face and also having a sharp, curved cutling edge adapted to enter the coal ahead of sald faces.
2. A bit for coal mining machines comprising a shank portion and a cutting portion lying at an angle to sald shank
portion in a horizontal plane and also lying at an angle to said shank portion in a vertical plane, the front face of sald cutting portion being wider than the rear face thereof, sald cutting portion having a sharp, curved cutting edge adapted to enter the coal ahead of said faces.

No. 102,075. Flevator. Elévateur.


Michael E. Neenan, New York City, New York, U.S.A.. 20th November, 1906; 18 years. Filed 24th October, 1906 Recelpt No. 140,589.
Claim.-1. The combination with a frictional driving apparatus, of flexible means driven thereby, a load carrying device connected to said means and a connection between the ofposite leads of the same winding respectively on and off the driving apparatus whereby tension on all the said leads changes with the load.
2. The combination with a frictional driving apparatus,of flexible means driven thereby, a load carrying device and a ccnnection between the load carrying device and all the leads or the flexible means winding respectively on and oft the driving apparatus whereby tension on all the sald leads changes with the load.
3. The combination with frictionsl driving apparatus, of flexible means Ariven thereby, a load carrying device connected to said flexible means and a connection between the load carrying device and the opposite leads of the said liexible means whereby tension changing with the load and in predetermined ratio to the weight of the load is applied to ali the said leads winding respectively on and off the driving apparatus.
4. The combination of a frictional rope driving apparatus, flexible means driven thereby, a load carrying device and a take-up device connected to all the leads of the flexible means winding respectively on and off the driving apparatus and applying tension to all said leads varying with the load.
5. The combination of a frictional driving apparatus, ropes driven thereby, a load carrying device connected to sald ropes and a give and take connection between the load carrying dovice and all the leads of the rope winding respectively on and off the driving apparatus whereby tension on all the leads of the ropes changes with the load.
6. In a friction driving elevator mechanism the combination of a load carrying device, a frictional driving apparatus. flevible means looped around the driving apparatus and driven thereby, and a connection between the leads of the driven flexible means whereby the welght of the car and its lead holds tight all the said leads winding respectirely on and of the driving apparatus and the tension on sald leads changes with the load.
7. In a friction driving elevator mechanism the combinatlon of a car, a frictional driving drum, a rope take-up device and a holsting rope looped around the drum and connected by its on-winding and off-winding leads to car suspcnsion means and to rope take up device whereby tension
changing with the load, and in predetermined ratio thereto is applied to all the leads of the rope winding on and off the frictional driving drum in the operation of the elevator
8. In a friction driving elevator mechanism the combination of a car, a hoisting rope or ropes therefor, a driving device on which the ropes are colled and a rope take-up device actuated by the weight of the car and its load, said car and take up device being connected to all the leads of the ropes winding on and off the driving apparatus and applying to all said ropes tension changing with the load.
9. A friction driving elevator mechanism comprising a car, a driving drum, a rope colled thereon and having a suitable suspensory connection with the car and a rope take-up device connected to the car and applying tension therefrom to the lead of the rope opposite to that by which hte car is suspended, whereby tension, changing with the load, is applled by the weight of the car and its load to all the leads of the rope winding on and off the drum.
10. In a frictional driving elevator mechanism the combination of a car, a driving drum, suspension ropes driven by said drum and in suitable suspensory connection with the car, a rope take-up device actuated by the weight of the car and its load and applying tension, changing with the load, to the lead of the ropes on the driving drum opposite that from which the car is suspended, and a chain so connected thereto as to counteract the weight of the ropes on sald take-up device.
11. In a friction driving elevator mechanism the combination of a car, a frictional driving drum, suspension ropes passing down on the side of the car and a rope take-up device connected with the car and with said ropes, so that the weight of the car can apply tension, changing with the load, to all the leads of the ropes winding respectively on and off the driving apparatus.
12. In a friction driving elevator mechanism the combination with a car, a frictional driving drum, ropes driven by said drum; in, suitable suspensory connection with the car, separating at top of the car and passing down on opposite sides thereof, and movable sheaves connected respectively to the ends of sald descending ropes so as to be drawn apart thereby and having the section of the ropes opposite to that from which the car is suspended looped around them so as to recelve tension by the drawing apart of said sheaves.
13. In a friction driving elevator mechanism the combination of a car 11, suspension ropes 12, frictional driving drum 14, guide sheaves 25 at the sides of the car, movable take up sheaves 17 to the boxes of which the extremities of the upper sections of the ropes 12 are connected so as to draw said takeup sheaves apart by the weight of the load, and the take-up device 16, 19 carrylng the lower parts of the ropes 12 around the take up sheaves 17 so as to draw said sheaves together in opposition to the weight of the car and apply tension, changing with the load, to all the leads of the rope winding on and off the driving drum 14, as explained.
14. In a friction driving elevator mechanism the combination with the car 11 and the frictional driving drum 14, of suspension ropes 12 , suitably connected to the car and drum. a take-up device applying tension to the lower section of the suspension ropes, and a dash pot device 20,21 connected to the suspension ropes 12 and car 11, so as to prevent sudden movement of the car.
15. In a friction driving elevator mechanism the combination of a car, a frictional driving drum, suspension ropes, a dash pot deyice through which the suspension ropes are connected to the car, and means for fixing the suspension ropes adjustably with relation to the dash pot device.
16. In a friction driving ele, ator mechanism the combina tion of a car 11, suspension ropes 12, dash pot cylinder 21 flxod to the car, hollow dash pot piston 20 through which the ropes are passed, and clamps 22, 23, above and below the dash pot piston by means of which the ropes are secured adjustably therein.
17. In a frictional driving elevator mechanism the combination with a car and driving drum, and suspension ropes sult ably connected therewith of a tension slack rope take-up device operating substantially as herein described to apply variable pressure and tension to the ropes, and frictional driving mechanism graduated by the load on the car.
18. In a frictional driving elevator mechanism the combination with the car 11, of suspension ropes 12 , frictional driving drum 14 and a take-up device. said ropes being suitably connected to the car ard to tho take up device, and applying fariable tension to the rope which is actuated by the drivitig mechanism.
19. In a frictional driving elevator mechanism the combination of a car 11, irictional driving drum \({ }^{14}\), suspension ropes 12 passing down on the side of the car, and a take-up device connected with said rope and applying variable tension to the lower section thereof.
20. In a frictlonal driving elevator mechanism the combination with the car 11, of suspension ropes 12 and fric-11-13
ional driving drum 14, said ropes in sultable connection therewith, separating at the top of the car and passing down on the opposite sides of the same, each connected to a movable sheave, applying tension to the lower section of the ropes.
21. In a frictional drive the combination with frictional driving apparatus, of a load carrying device, connecting means between the frictional driving apparatus and sald load carrying device, and means for regulating the tension of sald connecting means to effect a variation of tension throughout the latter in proportion to variations of load.
22. In a frictional driving elevator the combination with frictional driving apparatus, of a load carrying device, fiexible means for connecting the driving apparatus and said load carrying device, and means for regulating the tension of said flexible means to effect a variation of tension throughout the latter in proportion to variation of load.
23. In a frictional driving elevator the combination with driving apparatus, of an elevator car, ropes connecting the driving apparatus and car, and means for effecting the application of tension to the leads of all the ropes winding respectively on and off the driving apparatus in the opertion of the elevator.
24. The combination with a frictional driving apparatus, of a load carrying device, flexible means for connecting the load carrying device to the driving apparatus. and means for effecting a variation in the tension of all the leads of said connecting means in direct proportion to variations of the load.
25. The combination with a frictional driving apparatus, of a load carrying device. flexible ropes or cables connecting said load carrying device to the driving anparatus. and means for effecting a variation in the tenision of all the leads of sald ropes in a predetermined ratio to the weight of the load.
26. In an elevator the combination with frictional driving apparatus, of a load carrying device. flexible roves or cables connecting said load carrving device to the driving apnaratus, and means connected to the leads of the cables winding respectively on and off the driving apparatus for automatic effect.
27. The combination of a Prictional rope driving apnaratus. flexible means driven thereby. a load rarrying device and a rotatable take-up for changing the tension of the loads winding on and off the driving apparatus in proportion to changes of load.
28. In an elevator the combination with frictinา7l driving apparatus, of load carrying device. flexible roves or cables connecting said load carrying device with the driving apparatus, and an equalizing device having a limited degree of movement and boing asanciated with said cables to tighten the leads on sald driving annaratus when the load varies.
29. In an elevator the combination with frictional rope driving apparatus, of a load carrying device, power transmission means comprising flexible ropes or cables, and a tilting or rotating tension device for tightening the leads on said rope driving apparatus upon changes of load.

\section*{No. 102,076. Railway Switch.}

Aiguille de chemin de fer.
John B. Alderich and Arbia L. Aldrich, New York City, New York, U.S.A., co-inventors, 20th November, 1906; 6 years. Filed 26th October, 1906. Receipt No. 140,635.
Claim.-1. An emergency crossover rallway switch comprising track sections of greater height than ordinary rallroad. rails so that the heads of said track sections are higher than those of ordinary rails, switch points for the ends of said sections having their upper sides inclined for the purpose set forth, and crossover sections recessed in and detachably connected to the opposing ends of the firstmentioned sections where the latter are approximate to the inner track rails and bearing on the heads of said inner track rails, substantially as described.
2. In a switch of the class described, switch rail sections having recesses at their opposing ends and their upper sides, in combination with crossover sections fitted in sald recessed ends of said switch sections and having depending members bearing on opposite sides of the webs of said switch sections, substantially as described.
3. In an emergency crossover railway switch the combination of switch rail sections having their heads removed for suitable distances from their inner ends to form recesses and having their webs at said ends widened to form shoulders spaced from the heads at the recessed ends of said sections, in combination with crossover sections to bear on said webs and overlapping said recessed sections,
said crossoyer sections having depending members bearing on opposite sides of the webs of said switch sections and

against the shoulders formed on said webs. substantially as described.

No. 102,077. Railway Switch .
Aiguille de chemin de fer.


John G. Ryan, Montreal, Quebec, Canada, 20th November,
1906; 6 years. Filed 24th October, 1906. Recelpt No. 140,581.
Claim.-1. In an automatic switch, a rotatable member, an eccentric track thereon, a reciprocatable member engaging sald track, means connecting said reciprocatable member and switch point, and means carried by a car for engaging said rotatable member.
2. In an automatic switch, a rotatable member, an eccentric track thereon, a reciprocatable member, a pair of rollers mounted thereon and engaging opposite sides of said track, a spring tensioning sald reciprocatable member. means connecting sald reciprocatable member and switch foint and means carrled by a car for engaging sald rotatable member.
3. In an automatic switch, a rotatable member, an approximately elliptical track thereon, depressions in said track at the extremities of its minor and major axis, a reciprocatable member, means mounted on said member adapted to engage the track, a spring tensioning said member, means connecting said reciprocatable member and switch point, and means carried by a car for engaging sald rotatable member.
4. In an automatic switch, a rotatable member, an eccentric track on one side of said member, a plurality of radial members on the other side of said members, a reciprocatable member, means mounted on said member adapted to engage the track, a spring tensioning said member, means connecting said reciprocatable member and switch point, and means carried by a car for engaging said rotatable member.
5. In an automatic switch, a rotatable member, a track mounted thereon, a plurality of radial arms attached to said member, shoes at the extremities of sald arms, a tensioned reciprocatable member, means mounted thereon for engaging said track, means connecting said reciprocatable member and switch point, and means carried by a car for engaging said rotatable member.
6. In an automatic switch, a rotatable member, a track mounted thereon, a plurality of radial arms fixed to said rotatable member, a tensioned reciprocating member, means mounted thereon for engaging said track, a casing enclosing said mechanism, a slot in the top thereof, a pair of gates adapted to close said slot, springs normally maintaining said gates closed, yieldable means connecting said reciprocating member and the switch point, and means carried by a car adapted to enter said slot and engage said radial arms. 7. In an automatic switch, a rotatable member, an elevated track on one side thereof, a plurality of radial arms on the opposite side thereof, a tensioned reciprocatable member, means mounted thereon for engaging opposite sldes of said track, means connecting said reciprocatable member and the switch point, and means carried by a car for engaging the radial arms.
8. In an automatic switch, a rotatable member, a raised track on one side thereof, a plurallty of shoe bearing radial larms on the opposite side thereof, a tensioned reciprocatable member, rollers mounted thereon for engaging opposite sides of said track, a casing enclosing said mechanism. a slot in the top thereof, spring actuated gates normally closing said slot. yieldable means connecting said reciprocatable member and the switch point, and means carried by a car adapted to traverse said slot and engage the radial arms.
9. In an automatic switch. a rotatable member. an ecren. tric track on one side therenf. a plurality of radial arma curved towards their extremities to be tangential to sail rotatable member on the opposite side thereof. shoes on the "xtremitles of the arms, a tensioned reciprocatable memin. rollers mounted thereon for engaging opposite sides of said track, a casing enclosing sald mechanism, a slot in the top thereof. spring actuated gates normally closing sald slot. vicldable means connccting sald reciprocatable member and the switch noint, and means carried by a car adapted to traverse said slot and engage the radial arms.
No. 102,078. Railway Switoh.
Aiguille de chemin de fer


Frederick Vogel, La Plata, Missourl, U.S.A., 20th November. 1901; 6 years. Filed 27th October, 1906. Receipt No 140,675.
Claim.-1. In a switch mechanism the combination with main ralls, siding ralls and movable points, of a shift rod connected with the points for movement thereof into and out of position to close the siding, a crosshead carries by the switch rod, guldes for the crosshead, a lug carried by the crosshead, a plate plvoted to one of the culdes and extending through the path of movement of the lug a trip block carried by a plece of rolling stock and adsptu! for engagement of the plate to move the latter and thlug to shift the points, means for holding the plate wit the points in position to close the siding, said trip block
being movable into and out of operative position and means located beyond the plate for moving the trip block in operative position.
2. In a switch mechanism the combination with main track rails, siding rails and points movable into and out of position to close the siding, of means for moving the rails, a trip block carried by a piece of rolling stock and movable into and out of operative position, said trip block when in operative position being adapted for engagement of point moving means for operation thereof, and a rall brace located beyond the point moving means and adapted for engagement of the trip block after the latter has passed the point moving means to move the trip block into operative position.
3. In a switch mechanism the combination with main rails, siding rails and points movable into and out of position to close the siding, of a shift rod connected with the points for movement thereof and extending laterally beyond the rails. forward and rearward guides located at opposite sides of the shift rod, a crosshead carrled by the outer end of the shift rod and slidably engaged between the guldes, a segmental plate pivotally connected at its forward portion with the forward guide and extending across the shift rod between the crosshead and the rails, a lug carried by the crosshead, said plate lying in the path of movement of the lug. said plate being adapted for engagement by the lug and for movement therewith to extend toward the ralls when the switch is in open position. a track instrument carried by a plece of rolling stock and adapted for engagement of the plate when in its last-named position to move the plate and therewith the lug to close the switch and means for holding the plate with the switch in closed position.
4. The combination with a locomotive, of vertical guides carried thereon, trip blocks slidably mounted in the guides and having spaced ears at their upper ends, a rock shaft mounted adjacent to the guides and having cranks at its ends, said cranks being pivoted between the ears of the trip blocks, a finger carried by the rock shaft, an arm pivoted to the finger, an operating lever pivoted to the arm and means for holding the lever at different points of its movement in one direction.

No. 102,079. Brale. Frein.


Walter E. McKay, Leland, Idaho, U.S.A., 20th November, 1906; 6 years. Filed 4th September, 1906. Receipt No. 139,217.

Claim.-1. A brake shoe or chock for use as described, consisting of a body, the top surface inclining downward from the center in opposite directions, and the bottom surface inclining upward from the center in opposite directions.
2. A brake shoe or chock for use as described, consisting of a body, the top surface inclining downward from the center in opposite directions, and the bottom surface inclining upward from the center in opposite directions, and pendent flanges on each side of the inclined bottom surface.
3. A brake shoe or chock for use as described, consisting of a body, the top surface inclining downward from the center in opposite directions, and the bottom surface inclining upward from the center in opposite directions, the bottom surface being provided with tecth or serrations inclining from the ends toward the center.
4. The combination with two wheels of a truck, af a double brake shoe or chock arranged between them and having a frictional bottom surface to act upon the rails, a bar or supporting device extending between the wheels for raising and lowering the brake shoes, and a flexible means
for connecting the brake shoes with the bar, whereby when the brake shoes are lowered unon the rails of the track. the shoe will drag and the rear portion will trail and become engaged by the rear wheels as a chock.

No. 102,080. Brake Mechanism. Mécanisme de frein.


John Post, Philadelphia, Pennsylvania, U.S.A., 26th November, \(1906 ; 6\) years. Filed 25th October, 1908. Receipt No. 140,624.
Claim.-1. In a car brake, cylinders, pistons in said cylindres, the brake shoes operatively connected with said pistons, a pipe connected with a source of steam, controller valves, tubular connections between sald valves and the steam pipes and tubular connections between sald valves and the cylinders, all of said pipes and tubular connections arranged so as to drain to said cylinders, substantially as shown and described.
2. In a car brake, cylinders, pistons in said cylinders, coll springs in said cylinders bearing against said pistons, the brake shoes operatively connected with said pistons, a steam pipe controller valves, tubular connections between said valves and the steam pipe, tubular connections between said valves and the steam pipe, tubular connections beconnections being arranged so as to drain said cylinders, substantially as shown and described.
3. In a car brake, cylinders, pistons in said cylinders, the brake shoes operatively connected with said pistons, a steam pipe. controller valves, tubular connections between said velves and the steam pipe, tubular connections between said valves and cylinders and drain valves in said pistons to relleve the cylinders and connecting pipes of water of condensation, substantially as shown and described.
4. In a car brake, cylinders, pistons in said cylinders, the brake shoes operatively connected with said pistons, a steam pipe controller valves, tubular connections between said valves and the steam pipe, tubular connections between said valves and cylinders, said tubular connections arranged to drain into said cylinders, valves in said pistons and springs to actuate said valves when steam is cut of from said cylindders to drain the tubular connections and cylinders of water of condensation, substantially as shown and described.
5. In a car brake, cylinders, pistons in said cylinders. coll springs in said cylinders bearing against said pistons, the brake shoes operatively connected with said pistons, a steam pipe, controller valves, tubular connections betweel، said valves and the steam pipe, tubular connections between the valves and the cylinders and drain valves in sald pistons to relieve said cylinders and tubular connections of water of condensation, substantially as shown and described.
6. In a car brake cylinders, pistons in said cylinders coll springs in said cylinders bearing against said pistons, th.
brake shoes oneratively connected with said pistons, a steam fice, cont ol'er valles, tubular ronnections between saia valies and the steam pipe, tubular connections between the valves and the rylinders. said tubular connections arranged to drain into said cylinders, valves in said pistons and springs to artuate sald valves to open them when the supbly of steam is cut of from said cylinders, substantially as shown and described
7. In a car brake. cylinders, pistons in said cylinders, coll springs in said cylinders bearing against said pistons, a piston rod secured to each piston, brake shoes, arms connecting said brake shoes and piston rods, transverse plpes connecting said cylinders in pairs and arranged to drain into satd cylinders a pipe connecting said transverse pipes and arranged to drain theretnto a valve in each piston, a coll spring to lift each valve and a plpe connected with each controller valve and a source of steam supply, substantially as shown and described.
8. In combination with a railway car having a platform at each end. cylinders. pistons in said cylinders, the brake shoes operatively connccted with said pistons, a pipe connerted with a source of fluld pressure, a controller valve mounted on each platform, tubular connections between said valves and the said pipe and tubular connections between sald valves and the cylinders, substantially as shown and described.
9. In combination with a rallway car having a platform at each end, cylinders, pistons in said cylinders, the brake shoes operatively connected with said pistons, a pipe connected with a source of steam, a controller valve mounted on each platform, tubular connections between sald valves and the steam plpe, tubular connections between sald valves and the cylinders, and means to drain the pipes cylinders and tubular connections substantially as shown and described.
10. In combination with a railway car having a platiorm at each end, cylinders, pistons in said cylinders, the brake shoes operatively connected with said pistons, a pipe connected with a source of steam, a controller valve mounted on each platform, tubular connections between sald valves and steam pipes, tubular connections between sald valves and the cylinders and spring actuated drain valves in said pistons to drain the cylinders, pipes and tubular connections substantlally as shown and described.
No. 102,081. Brake shoe. sabot de frein.


William H. V. Rosing, St. Louis, and Frank Lee Gordon, Chicago; Illinois, U.S.A., co-inventors, 20th November, 1906: 6 years. Filed 29th October, 1906. Receipt No. 140. 00 .

Claim.-1. A brake shoe comprising two parts separated opposite the rail wearing portion of the wheel tread and bridges uniting said parts, said bridges extending upwardly and beyond the back of said shoe, substantially as described.
2. A brake shoe comprising two separated parts and one or more bridges uniting the same, the bottom of the bridge coinciding with the back of said shoc, substantially as described.
3. A brake shoe comprising a body and fiange with a space betwren them and one or more bridges uniting the same, the bottom of the bridge coinciding with the back of the shoe. substantially as described.
4. A brake shoe comprising a body and flange so separated as to prevint contact with that portion of the wheel tread adjacent to the flange. and one or more bridges uniting said body and flange of the shoe and extending outwardly from the hack of said shoe. substantially as described.
5. A brake shoe comprising a body and flange with a space Intervening betworn them and one or more bridges uniting Hh, same. the bottom of said brilge coinciding with the hark of the shore. sald bridge being formed with a key opening theroin, substantially as described.
6. A brake shoe comprising a body and flange with an intervening space between them. end and central bridges uniting the same and formed with key openings therein. the lottom of said bridges coinciding with the back of the shoe, substantially as described.

No. 102,082. Car Brake. Vrein de chars.


Charles L. Schultz, Wheeling, West Virgina, U.S.A.. 20th November, 1906; 6 years. Flled 27th October, 1906. Recelpt No. 140,672.
Claim.-1. In an automatic brake for cars or the like the combination with a frame and whecled trucks thereon, of swinging brake beams carrying shoes to engage the wheels of said tracks, actuating cams disposed between said brake beams, sliding drawbars, a centrally disposed lever, links connecting said lever and said cams, levers actuated by said sliding drawbars, links connecting the last-mentioned levers and said centrally disposed lever, and swinging elements upon the ends of said frame adapted to engage said slidin. drawbars to hold them against movement.
2. In an automatic brake for railway cars or the like the combination with a frame and wheeled trucks mounted thereon, of brake beams plvotally suspended from said trucks, brake shoes upon said beams adapted to engage the wheels of said trucks, cams pivoted centrally between said brake beams and adapted to actuate the latter. a centrally disposed lever pivoted at its center upon said frame. links connecting sald lever and said cams. longitudinally slidable drawbars in the ends of sald lever, levers pivoted upon said frame adjacent to said drawbars and adapted to be actuated by the inner ends of the latter, links connecting the lastmentioned levers and sald centrally disposed lever. shoulders upon said drawbars, levers plroted upon the ends of said frame and adapted to be swung into and out of cogagement with the shoulders of said drawbars. and means for actuating sald levers.
3. In an automatic brake for rallway cars or the lik. the combination of a brake mechanlsm. sliding drawbark for actuating the same. levers for locking said drawbars ayainst movement and sliding rods operatively connected at on. end and having inclined faces at their onoosite end adaperd to actuate said levers.
4. In an automatic brake for rallway cars or the lik, th. combination of a brake mechanism. sliding drawbars for actuating the same. levers for locking said drawbars againgt movement and sliding rods nneratively connected at on. rnd. springs for actuating sald rods and bumpers upon the outer ends of said rods.
5. In an automatic brake for rallway cars orthe like th. combination of a hrake mechanism, sliding drawbars for actuating the same. levers for locking said drawbars neafast moviment. a mair of levers pivotally mounted unon sill frame at their outer ends and loosely eonnerted at thelr inner ends. sliding rods connected to sald levers and haviog
at their outer ends oppositely inclined faces adapted to actuate the first-mentioned levers, springs for actuating said sliding rods and bumpers upon the outer ends of said sliding rods, substantially as described.

No. 102,083. Brake. F'ria.


Charles Christopher Woodman Simpson, 3 King street, Wagan, Lancaster, England, 20th November, 1906 ; 6 years. Filed 30th October, 1906. Receipt No. 140,748.
Claim.-1. In brakes for railway vehicles, winding drums and the like, a horn plate, brake blocks, bars connected to said brake blocis and bearing in said horn plate, a wedge device slidable in said horn plate with its taper part between the ends of said bars, and means for raising and lowering said wedge device from either side of the vehicle or the like.
2. In brakes for railway vehicles, winding drums and the like, a horn plate, brake blocks, bars connected to said brake blocks and bearing in said horn plate, a wedge device slldable in said horn plate with its taper part between the ends of said bars, a brake lever pivoted to said horn plate and engaging with said wedge device, a rocking shaft across the vehicle, a crank arm on said rocking shaft engaging with said wedge device, and a brake handle connected to said rocking shaft.
3. In brakes for rallway vehicles, winding drums and the like, a horn plate, brake blocks, bars connected to said brake blocks and bearing in sald horn plate, a wedge device slidable in said horn plate with its taper part between the ends of said bars, projecting lugs on both sides of said wedge device, a brake lever pivoted to said horn plate and located between said lugs on one side of the wedge device, a rocking lever, a crank arm on said lever located between the lugs on the other side of said wedge device, and a brake lever on the opposite side of the vehicle or the like from said first brake lever connected to said rocking shaft.
4. In brakes for railway vehicles, winding drums and the like, a horn plate, brake blocks, bars connected to said hrake blocks and bearing in said horn plate, means for adjusting the length of said bars, a wedge device slidable in said horn plate with its taper part between the ends of said bars, and means for raising and lowering said wedge device from either side of the vehicle or the like.
5. In brakes for rallway vehicles, winding drums and the like, a horn plate, brake blocks, bars connected to said brake blocks and bearing in said horn plate, a wedge plece slidable in sald horn plate, a straight portion towards the lower end of said wedge plece, and means located on either side of said vehicle and its opposite ends thereof for raising or lowering said wedge piece.
6. In brakes for railway vehicles, winding drums and the like, a horn plate, brake blocks, rods secured to sald brake blocks and slidably bearing in said horn plate, a wedge device slidable in said horn plate located with its narrowed part normally between said bars. a brake handle on one side of the vehicle or the llke directly engaging sald wedge device, a brake handle on the other side of the vehicle, a cross
shaft connected to sald second brake handle, and a crank arm connected to said rocking shaft engaging directly with said wedge device.
7. In brakes for rallway vehicles, winding drums and the like, a wedge device, a support and guide for said wedge device, brake blocks, means intermediate sald wedge device and sald brake blocks for positively actuating said brake blocks, a handle for raising and lowering said wedge device.
8. In brakes for railway vehicles, winding drums and the like, a horn plate, a wedge device slidable in sald horn plate, brake blocks, means for positively actuating said brake blocks from said wedge device, a tongue on said wedge device, a strap or guide plece about said tongue and secured to said horn plate, and means for operating said wedge device from either side of the vehicle and opposite ends thereof.
9. In brakes for railway vehicles, winding drums and the like, a horn plate, a wedge device slidable in said horn plate, brake blocks, means Intermediate said wedge device and sald blocks to positively operate sald brake blocks, means for operating said wedge device from either side or from opposite ends of caid vehicle or the like, a power cylinder, and means intermediate said power cylinder and said brake blocks for operating said brake blocks independently of said hand levers.
10. In brakes for rallway vehicles, winding drums and the like, a wedge device brake blocks positively actuated from sald wedge device, hand means for actuating said wedge device, a power cylinder, a plunger in said cylinder, a \(T\) lever connected to said plunger, means for supporting said \(T\) lever, links connected to said \(T\) lever and to said brake blocks.
11. In breaks for rallway vehicles, winding drums and the like, a wedge, brake blocks positively actuated from said wedge device, hand means for actuating sald wedge device, a power cylinder a plunger in said cylinder a \(T\) lever connected to said plunger, means for supporting sald \(T\) lever links connected to said \(T\) lever and to said brake blocks and slots in sald links.
12. In brakes for railway vehicles, winding drums and the like a horn plate, a wedge device slidable in said horn plate, brake blocks, bars connected to sald brake blocks and slidable in said horn plate, a brake handle pivotal on said horn plate and connected to said wedge device, a rocking shaft, a crank arm on said rocking shaft connected to said wedge device, a handle on said rocking shaft and on the opposite side of said vehicle from said first handle, a T-shaped lever with two short and one long arm mounted on said rocking shaft, a power cylinder, a plunger in said cylinder connected to the long arm of said T plece. links connected to the short arm of said \(T\) plece and to the brake blocks.
13. In brakes for railway vehicles, winding drums and the like the combination with hand means for operating the brakes, of a cross shaft connected to said hand operating means, of a lever on said cross shaft, a power cylinder, connections between said lever and said power cylinder, and means connected with said lever for braking the vehicle.
14. In brakes for railway vehicles, winding drums and thas like, a horn plate, a wedge device slidable in sald horn plate, brake blocks, bars connected to sald brake blocks and slidable in said horn plate, a brake handle pivotal on said horn plate and connected to said wedge device, a rocking shaft, a crank arm on said rocking shaft connected to sall wedge device, a handle on sail rocking shaft and on the opposite side of said vehicle from sald first handle, a T-shaped lever with two short and one long arm mounted on sald rocking shaft, a power cylinder, a plunger in said cylinder connected to the long arm of sald \(T\) plece, and means connected to the long arm of said \(T\) levers for operating said brake blocks and permitting said brake handles and said brake cylinder to operate the brake independently one of the other.
15. In brakes for railway vehicles, winding drums and the like, brake blocks, wedging means connected to handles at either side and at different ends of said vehicle or the like for operating said brake blocks, a power cylinder, means for operating said brake blocks therefrom independently of said hand levers and wedging means.
16. In brakes for railway vehicles. winding drums and the like, a horn plate. a wedging device slidable in sald horn plate, lugs on both sides of sald horn plate, a hand lever pivotal in said horn plate located between the lugs of said wedge device on one side thereof, a rock shaft, a crank arm on said rock shaft located between the lugs of the wedge device on the opposite side thereof, a second hand lever on said rock shaft and on the opposite side and at the opposite end of said vehicle from said first brake handle, brake blocks, adjustable rods connected to said brake blocks and slidably bearing in said horn plate and located on elther side of said wedging device a downwardly projecting tongue on said wedging device, guiding means for said tongue
on said horn plate spring means on said horn plate for holding the wedge device in given positions, a \(T\) lever on said rock shaft with two short and one long arm; a power cylinder, a plunger adapted to work in said power cylinder and connected to the long arm of said \(T\) lever, links between said brake blocks and the short arms of said T lever, and means for permitting movement of said brake blocks to their braking position without affecting said T lever.

No. 102,084. Car Replacer.
Appareil d remettre les chars sur la voice.


Edward Henry Best, St. Thomas, Ontario, Canada, 20th November, 1906; 6 years. Filed 26th October, 1906. Receipt No. 140,663.
Claim.-1. A car replacer comprising a pair of members, each provided with a body having outwardly and downwardly inclined sides and a top inclined downwardly from its center to its ends, ribs upon the tops of said members to receive the treads of car wheels, and means upon said members for directing the car wheels from said ribs and onto the track rails.
2. A car replacer comprising a pair of members, each provided with a body having outwardly and downwardly incline sides and a top inclined downwardly from its center to its ends, ribs upon the tops of said members to receive the treads of car wheels, and movable devices upon the tops of said members for deflecting the car wheels from said ribs and onto the track rails.
3. A car replacer comprising a pair of members, each provided with a body having outwardly and downwardly incline sides and a top inclined downwardly from its center to its ends, ribs upon the tops of said members to receive the treads of car wheels, one of said members having a deflecting or guiding roller at its upper and inner end and the other of said members having a guide rib and a movable element to form a continuation of said guide rib.
4. A car replacer comprising a pair of members, each provide with a body having outwardly and downwardly incline sides and a top inclined downwardly from its center to its ends, ribs upon the tops of. said members to receive the treads of car wheels, one of said members having a deflecting or guiding roller at the upper and inner end of its rib and the other of said members having a guide rib, and a deflecting point pivoted upon said guide rib and adapted to be swung into engagement with either of the tread engating ribs on said member, substantially as shown and described.
5. A car replacer comprising a body having outwardly and downwardly inclined sides and a top inclined downwardly from its center to its ends and formed with a central opening, longitudinally tapered ribs extending longitudinally and disposed centrally upon the top of said body at its opposite ends, said ribs terminating at the ends of said opening in the top of the body and formed with vertical grooves and a roller disposed in the opening in the top of said body and having trunnions to enter said grooves, substantially as idesscribed.
6. A car replacer comprising a body having outwardly and downwardly inclined sides, a top inclined downwardly from its center to its ends and having a depression or cavity at its center and upon one side, longitudinally extending ribs
upon the top of said body adapted to receive the treads of car wheels and formed with seats at their inner ends, a guide rib upon the opposite side of the top of said body, and a deflecting point pivoted in a recess in said guide rib and adapted to be swung into engagement with either of the seats of said tread engaging rib, substantially as described.
7. In a car replacer, a body having its top inclined down. wardly from its center to its ends, ribs upon said body to engage the treads of car wheels, a guide rib upon said body and a swinging deflector point mounted to engage either of said tread engaging ribs and to form a continuation of said guide rib.

No. 102,085. Car Axle. Essieux de chars.


William Hartill-Law, Toronto, Ontario, Canada, 20th November, 1906; 6 years. Filed 30th October, 1906. Receipt No. 140,747.
Claim.-1. An axle comprising two parts, one journalled within the other in combination with a complete metal ring fitted in an annular flat-sided channel formed partly in one part of the axle and partly in the other, substantially as described.
2. An axle comprising two parts, one journallel within the other, an annular channel being formed partly itu one part and partly in the other, and a slot cut in the outer past communicating with the said channel, in combination with a ring completely filling the channel and formed in segments of an annulus insertible through the said slot, substantially as described.
3. An axle comprising two parts, one journalled within the other, an annular channel being formed partly in one par: and partly in the other, and a slot cut in the outer part communicating with the said channel in combination with a ring fitting the channel and formed in segments insertible through the said slot, and a locking piece secured in the said slot, substantially as described.
4. An axle comprising two parts, one journalled within the other, an annular channel being formed partly in one part and partly in the other, and a slot cut in the outer part communicating with the said channel in combination with a ring fitting the channel and formed in segments insertible through the said slot, and a locking piece secured ir: the said slot and formed as part of one of the segments of the ring, substantially as described.
5. An axle formed in two parts, the end of one journalled within the end of the other, the inner part having collars integral therewith, having a space between them and the outer part an annular recess forming with the space between the collars, an annular channel in combination with a metal ring completely filing said channel, substantially as idescribed.
6. An axle formed in two parts, the end of one journalled Within the end of the other, the inner part having collars integral therewith, having a space between them and the outer part, an annular recess forming with the space between the collars, an annular channel in combination with a ring fitting the channel and formed in segments insertible through the said slot, and a locking piece secured in the said slot and formed as part of one of the segments of the ring, substantially as described.

No. 102,086. Machinc for Fooping Casks, Barrels, Ftc.
Machine a poser les cercles de baril, etc.


William Jamieson, Grays, Essex, and Robert Burn, London, both in England, co-inventors, 20th November, 1906; 6 years. Filed 4th October, 1906. Recelpt No. 140,043.
Claim.-1. In a machine for driving hoops on to a cask or the like, the use of telescopic or extendable arms which may be arranged in one, two or more series so as to deal with one hoop or several hoops at a time.
2. In a machine for driving hoops on to a cask or the like the arrangement of arms round a common center so that the said arms can be adjusted radially according to the diameter of the cask to be hooped is greater or less.
3. In a machine for driving hoops on to a cask or the like, having arms depending round a common center and adjustable radially, the device for automatically opening out or spreading the said arms by means of a disc worked by the rise and fall of the movable table or platform, substantially as described.
4. In a machine for driving hoops on to casks or the like, the arrangement whereby the rising table having risen to a predetermined and adjusted helght automatically acts on the driving gear so as to reverse the motion and cause the table to descend and stop at its lowest position.
5. In a machine for driving hoops on to casks or the like, having movable and adjustable top bottom plates or tables, the method described of adjusting the same by means of screw nuts, chain wheels and chain to suit the varying sizes of casks to be dealt with, substantially as described.
6. In a machine for driving hoops on to casks or the like, the arrangement of a rising table, depending arms which are adjustable both as to length and distance from a common center, automatic reversing arrangement to ensure the table only rising to a predetermined height and the descending automatic opening out or spreading of the arms so as to make room for a cask to be put in or taken out, all substantially as described as and for the purpose set forth with reference to the accompanying drawings.

No. 102,087. Apparatus for Washins Linen Appareil pour laver le linge.


Frederick Ludwig Bartelt, 3 Kensington Place, Breslington, Bristol, England, 20th November, 1906; 6 years. Filed 30th October, 1906. Recelpt No. 140,753.
Claim.-1. In apparatus for washing linen a tank and structures placed thereon comprising movable portions so arranged as to provide a zig-zag channel for the linen and means for giving to the movable portions movement in rotary paths in opposite directions whereby the linen is advanced and submitted to friction in the manner exnlained.
2. The apparatus for washing linen comprising two structures made up of stationary and movable frames and means for moving the movable portions in rotary paths in opposite directions, substantially as described.
3. In combination with apparatus for washing linen comprising a tank and a structure forming a zig-zag channel therein, feeding rollers for the linen to prepare the same and to prevent choking or blocking of the channel by the linen, substantially as set forth.

\section*{No. 102,088. Packet Closer. Fermeture de robes.}

Joseph Parrish Baumgartner, Philadelphia, Pennsylvania, U.S.A., 20th November, 1906; 6 years. Filed 24th October, 1906. Receipt No. 140,579.
Claim.-1. In a closer, a flexible support, clips carried by said support, guides adapted to be secured to the sides of a base or holder and with which guides said clips slidingly engage, and sald guides having means on the ends whereby said clips may be connected with and disengaged from said guides laterally.
2. In a closer, a flexible support, clips carried by sald flexible support, guides adapted to be secured to the sides of a base or holder and which guides sald clips slidingly engage, and a plate adjacent the ends of said guides whereby said clips may be connected with and disengaged from said plates laterally.
3. In a closer, guides adapted to be secured to the sides of a base or holder, a stop on one of said guldes, plates adjacent an end of each of sald guides, a flexible support, and clips each formed of jaws engaging and joining the guides, said jaws slidingly engaging said guides, and movable laterally upon sald plates.
4. In a closer, a flexible support, clips each formed of jaws. guides adapted to be secured to the sides of a base or holder and with which said jars slidingly engage, a
stop on one of said guides and a plate on each of said guides, said plates being adapted to pass sald jaws lat-

erally whereby said clips may be caused to engage with and be disengaged from said guides.
E. In a closer, of the character stated, a clip formed of zections, means for connecting said sections whereby jaws are formed joined by an intermediate neck, and a plece of flexible material seated between said sections and which is adapted to support said clips.
6. In a closer of the character stated, a clip formed of separable sections, means for securwing sald sections together and a piece of flexible material secured between said sections and serving to support the clips.
7. In a closure of the character stated, guides adapted to be secured to the sides of a base or holder, a clip formed of separable sections, means for securing said sections together, and two pieces of flexible material secured between said sections serving to support the clips and to surround the guides on each side thereof.
8. In a closure, a flexible support, clips each forming jaws, suides adapted to be secured to the sides of a base or holder and with which said jaws slidingly engage, plates on each of sald guides, sald plates being adapted to pass laterally said jaws, whereby sald clips may bo caused to engage with and be disengaged from said guides.
9. In a closer, a flexible support, clips carried by said support, guides adapted to be secured to the sides of a base or holder and with which guides said clips slidingly engage, said guldes having means adjacent to remote ends thereof whereby said clips may be connected with and disengaged from said guides laterally.
10. In a closer, a fiezible support, clips carried by said flexible support, suides adapted to be secured to the sides of a base or holder and with which guides said clips slidingly engage, and a plate adjacent the remote ends of sald guides whereby said clips may be connected with' and disengaged from said guldes laterally.

\section*{No. 102,089. Diggins Machine.}

Machine d creuser.
Jon V. Constaninescu, Bucarest, Roumania, 20th November 1906; 6 years. Flled 24th October, 1906. Receipt No. 140 「8/
Claim.-A digging machine in which the movement of one of the road wheels is transmitted by a gearing to a horizontal crank shaft at the top of the machine on the cranks of which, placed at suitable angles to each other, cutting tools or blades are attached with one end. the other ends bearing the tools proper which have lugs engaging into slots
provided at the interior of the frame of the machine, and directing the cutters so that they are caused to cut or dis

the ground in a direction perpendicular to that of the traction and throw the cut clods backwards.

No. 102,090. Wood Sawing Machinc.
Machine d scier le bois.


Melber H. Cox, Wyoming, Illinois. U.S.A., 20th November. 1906: 6 years. Flled 26th October. 1906. Receipt Na. 140.661.

Claim.-1. In a sawing machine the combination of a work support, a stationary stop comprising a transversely extending arm in longitudinal alisnment with the work upon eald
support, a transversely movable saw and a stop movable transversely between said saw and said stationary stop in close proximity to the latter, whereby when said stop is retracted the work cut by said saw will be permitted to drop between said stationary stop and said saw.
2. In a sawing machine the combination of a support or frame, a work feeding means thercon, a transversely movable saw carrier, a stationary stop having a transverse arm in longitudinal alignment with said work feeding means. means for adjusting said stop longitudinally toward and from said saw carrier and an adjustable mounted movable stop to work between the work upon said feeling means and said stationary stop in close proximity to the latter, substantially as described and for the purpose set forth.
3. In a sawing machine the combination of a suitable frame, a work feeding means thereon, a transversely movable saw carrier, a longitudinally extending support. a stationary stop slidable upon said support, means for securing sald stop in an adjusted position, a longitudinally extending shaft and a swinging stop adjustably secured upon said shaft and adapted to move between said work feeding means and said stationary stod in close proximity to the latter, substantially as described.
4. In a sawing machine the combination of a suitable frame, a work feeding means thereon, a transversely movable saw carrier, a longitudinally extending support, a stationary stop slidable upon said support. means for securing said stop in an adjusted position, a longitudinally extending shaft, a swinging stop adjustably secured upon said shaft and adapted to move between sald work feeding means and said stationary stop in close proximity to the latter and means actuated by said saw carrier for oscillating said shaft, substantially as described and for the purpose set forth.
5. In a sawing machine the combination of a suitable frame, a work feeding means thereon. a traversely swinging saw carrying frame. a longitudinally extending support, a stationary stop slidably and adjustably mounted upon said support and having a transversely extending arm in longitudinal alignment with said work feeding means. a longitudinally extending shaft. a transversely swinging stop adjustably mounted upon said shaft and adapted to swing in close proximity to the inner face of said stationary cton. a crank upon said shaft. a double crank shaft. a connertion hetween one of the cranks of said double rank shaft and said swingIng frame and a connection between the other crank of said double crank unon the first-mentioned shaft, substantially as described.
6. In a sawing machine the combination of a movable frame having a horizontally extending portion and a vertically extending portion at one end of the latter, a work feeding means upon said horizontally extendino nortion. a saw carrying frame mounted in the vertical nortinn of said frame to swing transversely across said feeding means, a longitudinally extending beam formen with rows of avertures arranged in staggered relation. a stationary stop having a transversely extending arm and a bracket nortinn to engagn caid avertured beam and slide thereon. said bracket portion being formed with anertures to on-gct with the rows of anprtures in said beam, a pin passed through aligning apertures in said stop and beam to adjustablv cocirro the former upon the latter. a longitudinally extending shaft. a transversely swinging ston slidably and adiustably secured upon said shaft and adanted to swing in closn nroximity to said stationary stop. a crank upon said shaft. a double crank shaft upon said frame and connections between the cranks of said double crank. the crank upon sald longitudinally extending shaft and said transverselv swinging saw carrying frame, substantially as shown and described.

\section*{No. 102,091. Gang Plough. Charrue en ligne}

John Clopton Farley, Kiowa, Indian Territory, U.S.A., 20th November. 1906; 6 years. Filed 29th October, 1906. Receipt No. 140,716.

Olaim.-1. In a machine substantially as described the combination of the main frame having a crossbar grooved or recessed longitudinally in its rear side and having the web formed by said groove slotted vertically for the passage of a bolt flange and provided at the ends of said crosbbar with guideways for axle bars said guideways having undercut grooves, the land side wheel, the axle bar therefor having a spindle for said wheel and said bar being movable vertically in its guideway of the main frame, a toothed segment for adjusting said axle bar, detent mechanism in connection with said toothed segment, a cant wheel having its spindle provided with a head bar and with a headed lug projecting from the inner face thereof, the axle bar for said cant wheel having a vertical slot for said head, means for adjusting the headed bar of the cant wheel relative to its axle bar, the segment on the main frame for operating said axle bar, detent mechanism operating in connection with
said segment, and a plough having its beam provided at its front end with a headed plate fitting and secured with

the longitudinal groove or recess of the crossbar of the main frame, all substantially as and for the purpose sel forth.
2. The combination of a main frame having at its opposite sides vertical guideways for axle bars, a land side wheel having an axle bar movable vertically in its respective guideway of the main frame, a cart wheel, an axle bar for said wheel movable vertically in its respective guideway of the main frame, means for securing the opposite axle bars in any suitable adjustment relative to the main frame and means for securing the cant wheel in any suitable adjustment relative to its axle bar, substantially as set forth.
3. In a machine of the character described a main frame having a crossbar grooved or recessed longitudinally in its rear face for the reception of a headed plate on a plougu beam and provided at its ends with vertical guideways, axle bars movable vertically in said guideways, means for securing said axle bars in any desired adjustment and means carried by their respective axle bars, substantially as set forth.
4. The combination of a main frame having a crossbar, wheels at the opposite sides thereof, axle bars connected with said wheels and adjustable vertically relatively to the main frame, a plough beam secured at its front end to the main frame having a plough share, a trail wheel in rear of said plough share, and means for adjusting the trail wheel vertically relatively to the plough share whereby the plough may be elevated or lowered in correspondence to the adjustments of the wheels at the opposite sides of the main frame, substantially as set forth.
5. In an apparatus, substantially as described, a main frame having a crossbar and vertical guideways at the opposite ends thereof, the guideways having undercui grooves for the reception of axle bars, and the cross bar being grooved or recessed longitudinally in its rear face for the reception of a headed plate on a plough beam and having a web formed by said groove or recess slotted for the passage from rear to front of a bolt flange on a plough beam, substantially as set forth.
6. The combination in a machine substantially as described with a cant wheel and a main frame having a vertical guideway with an undercut groove, of an axle bar movable vertically in said undercut groove, means for vertically moving said axle bar relatively to the main frame, a spindle for the cant wheel, a head bar carrying said spindle and held to and movable vertically along the axle bar and means io: securing said head bar in any desired adjustment relative to said axle bar, substantially as set forth.
7. The combination with the main frame and an axle bar movable relative thereof, of a wheel having a head bar movable longitudinally along the axle bar and provided with a rack, and a toothed segment connected with the axle bar and engaging with the rack of the head bar whereby to adjust the same relatively to the axle bar and means for securing said head bar in any desired adjustment relative to its axle, substantially as set forth.

No. 102,092. Fork. Fourche.


Leonard E. Fatch, Crown Point, Indiana, U.S.A., 20th November, 1906; 6 years. Filed 26th October, 1906. Receipl No. 140,659 .
Claim.-1. A fork of the class described having a sockel Fiece provided with a longitudinal slot and stop notches ex. tending in reverse directions from the opposite ends of saill slot, said fork being further provided with a tine having directing elements, a sliding rod having pivoted dogs at its outer ends turned outwardly by the directing elements of the said tines when said rod is moved outwardly, a sliding and partly revoluble sleeve on said socket piece, a handle fastened in the socket piece and having a longitudinal slot registering with that of the socket piece, and a pin projecting from the rod, operating in the slots of the handle and socket plece and attached to the sleeve, for operation thereby, substantially as described.
2. A hand fork of the character described comprising a body section having one of its tings grooved and a socket portion in alignment with said grooved tine, a top plate or section secured upon said body section and having a socket portion, said socket portions being adapted to receive said handle and formed with longitudinal slots. a sliding rod in said grooved tine and said socket portions, spurs pivoted upon the lower end of said rod and adapted to be projected through openings in said grooved tine, a sliding sleeve upon said socket portions and handle, and a transverse pin extending through said slecve, said slots and an opening in said rod, substantially as described.
3. A hand fork of the character described comprising a body section having one of its tines grooved and a socket portion in allgnment with said grooved tine. a top plate or section secured upon said body section and having a socket portion. said socket portions being adapted to receive said handle and formed with longitudinal slots. a sliding rod in said grooved tine and said socket portions. spurs plvoted upon the lower end of said rod and adapted to be projected through openings in said grooved tine, a sliding sleeve upon said socket portions and handle. and means for locking said sleeve against longitudinal movement.

No. 102,093. Trousers Presser. Prossc ì pantalons.


Rubert P. Koons. Lee's Summit, Missourl, L.S.A., 20th Novיmber, 1906; 6 years. Filed 21st September, 1:06. Receipt No. 13963.
rlaim.-1. In a trousers presser, a back board having hooked surings at one end thereof, a front board proporfinned for disposition within the springs. clamps carried by the sorinss and adapted to engag" the adjacent end of the
front board, and means for yieldably clamping the boards tog'ther at their opposite ends.
2. In a trousers presser, a back board provided at one end with laterally turned hooked springs, notehed latch members pivoted to the opposite end of the back board, a front board froportioned for disposition within the hooked springs. flamping levers pivoted to the springs and arranged to clamp the adjacent end of the front board, and a resilient bar iivoted to the front board and proportioned to engage the latches.
:3. In a trousers presser, a back board, hooked springs detachably secured to one end of and turned laterally of the lack board, a front board proportioned to be disposed Within the hooks of the springs, clamping levers pivoted to the springs and arranged to exert a yielding pressure upon one end of the front board, and means for yieldably clamping the opposite ends of the boards.
4. In a trousers pressure, a back board, socket members secured to one end of the board, hooked springs adjustably disposed within the sockets and turned laterally upon ond side of the front board when in operative position, and extending beyond the end of the board. when out of operative position. a front board proportioned for disposition within the springs. clamping levers pivoted to the springs and arranged to exert a yieldable pressure upon one end of the board, and means for clamping the opposite ends of the boards.

No. 102,094. Stocking. Bas.


Iames Edward Lewitt. Goderich, Ontario, Canada, 20th November. 1906; 6 years. Filed 25th October, 1406. Keceipt ㅅo. 140.602.
claim.-The combination with the plain knitting at th. top of any plain stockings of a strip or band of ribbed or tucked knitted fabric or any other such-like fabric. substantialiy as hereinbefore described.

No. 102,095. Beehive. Rucher.


George W. Mann, San Luis Obi-po. Califorala, C.si. : November, 1906: 6 years. Filed 2ith October, 190t. Receipt No. 140,671.
Claim.-1. In a device of the class described, a hive having an opening, a main slid for normally partially closide said opening, means connecting the slide for vertical movement on the hive, an auxiliary slide for closing the rmainder of sald opening, and means connecting the auxiliars side for verical and horizontal movement relative to eth. main slide.
2. In a device of the class described, a hive having \(a\). -longated doorway. a main slide provided with transvers. fots, fastening members entered through said slots for =:
curing the slide in place, and an auxillary slide having longitudinal slots terminated in transversely disposed slot extensions, said slots being designed to receive said fastening members for securing the auxiliary side movably in place.

No. 102,096. Nnt Lock. Arrétc-icrou.


Harvey Tanner Moler, Shepherdstown, West Virginia, U.S.A., 20th November, 1906 ; 6 years. Filed 26th October, 1906. Recelpt No. 140,657
Claim.-The herein described nut lock comprising the bolt having the longitudinal groove in one side extending to its end and provided near the outer end of said groove with a recess communicating with the bottom of said groove, the nut of the bolt having a groove in its bore. said groove being deepened outwardly at its outer end and the flexible nonresilient locking key inserted in the groove of the bolt and nut having its outer end projecting beyond the outer end of the bolt and provided near said end with the projection entering the recess in the bottom of the groove in the bolt, substantially as described.

No. 102,097. Mine Hoist. Ascenscur de mine.


Austin B. Paige, Iowa Falls, Iowa, U.S.A., 20th November, 1906; 6 years. Filed 26th October, 1906. Receipt No. 140,634.
Claim.-1. A drum for cables comprising a drum portion of relatively large diameter, a drum portion of relatively small diameter adjacent thereto and a flange at the end of the smaller drum portion opposite from the larger drum portion, said flange formed with a cable receiving notch.
2. A cable drum comprising a large cylindrical drum portion, a small cylindrical drum portion adjacent thereto, a flange adjacent to the small cylindrical drum portion and a drum portion on the other side of the flange. said flange formed with cable notches.
3. In a mine hoist, a drum having a notched annular flange, intermediate its ends, a reduced part adjacent the flange, ratchet faced flange, a dog to engage the ratchet face, an integral annular extension and a band brake for engaging the annular extension.
4. In a mine hoist. a shaft having a drum thereon, bearings for the said shaft, a clutch member on the ends of said shaft, a second shaft having balanced wheel thereon, bearings for said second shaft, a clutch member on said shaft, a sheave on the second shaft, a second sheave mounted on a shaft in suitable bearings, laterally removed from the first
sheave, a rope for embracing the sheaves, means for rotating the said second sheave, means for moving the clutch members into and out of engagement and a brake for controlling the speeed of the first-mentioned shaft.
5. In a mine hoist a shaft having a drum thereon, bearings tor said shaft, a second shaft having a balance wheel thereon, bearings for said second shaft, a third shaft having a balance wheel thereon, bearings for said third shaft, clutch members on the ends of the first-mentioned shaft, mating clutch members on the inner ends of the second and third shafts, means for moving the clutch members into and out of engagement and separate means for imparting motion to the second and third shafts.

No. 102,098. Heating Stove. Poêlc de chauffage.

m.

William A. Standing, Sharpsbury, Pennsylvania, U.S.A., 20th November, 1906; 6 years. Filed 25th October, 1906. Receipt. No. 140,605.
Claim.-A drum comprising a series of superimposed chambers spaced from one another, said chambers being oro \(\because\) ided with longitudinal partitions extending from one etill of the drum and terminating short of the other end thereof, connections between the chambers at the end of the drum from which said partitions extend, said connections being arranged alternately on opposite sides of said partitions, and means for supporting said chambers.

\section*{No. 102,099. Cart Saddle for Farnesses.}

Selle de charrette.
George John Theobald, Alton Reed and Harry H. Reed, each an issignee of a third interest, all of Boston, Massachip ptts, U.S.A., 20th November, 1906; 6 years. Filed 30t in October, 1906. Receipt No. 140,766.
Claim.-1. In a cart saddle, the combination with a jointed bow, of two pads, one carried by each section of the bow. 2. In a cart saddle, the combination with a jointed bow, of two pads, one rigidly secured to each section of the bow.
3. In a cart saddle, the combination with a jointed bow, of two ventilated pads, one secured to each section of the bow.
4. \(n\) a cart saddle, the combination with a bow jointed between its ends, of means to lock the sections of the bow in adjusted position, and a pad carried by each section of the bow.
5 . In a cart saddle, the combination with a bow, of a pad support sustained thereby and a ventilated pad carried by said pad support.
6. In a harness, a pad support, a perforated metallic foundation member secured thereto, and an exterior padding surrounding the foundation member.
7. In a harness, a pad comprising a pad support, a foundation secured to the pad support having a perforated face which is snaced from the nad support, and a padding covering said perforated face.
8. In a cart saddle, the combination with a bow, of two and adanted to set into the pan on the bottom thereof pads carried thereby, each pad comprising a pad support.

a foundation member having a perforated face spaced from the pad support, and a padding covering said perforated face.

No. 102,100. Orchard Heater.
Chauffeur pour vergers.


The Utica Orchard Heater Company, assignee of Charles S. Brown, and Frank M. Bremillier, all of Utica, New York, U.S.A.. 20th November. 1906: 6 years. Filed 29th October, 1906. Receipt No. 140,7:3.
Claim.-1. The combination in a heating device of the character described, of a shallow pan, a circular wick basket of comparatively large diameter adapted to be set into the pan on the bottom thereof, and having a closed outer wall and perforate or netting inner wall, and a capilllary material in the wick basket, substantially as set forth.
2. The combination in a heating device of the character described. of a shallow pan. a circular wick basket of comparatively large dlameter closed near the bottom, and adapted to be set into the pan on the bottom thereof. and having a closed outer wall above the plane of said closure in the basket, and a perforate or netting inner wall, and a capillary material in the wlek basket, substantially as set forth.
3. Thr combination in a heating device of the character dosiribed, of a shallow pan of comparatively largo diameter. a circular wick basket of greater height than the depth of the pan, having at its upper end a closed outer wall and casily removable therefrom, and a capillary material in the wick basket between the walls, substantially as set forth.
4. The combination in a heating device of the character described, of a shallow pan of comparatively large diameter, open at the top, a circular wick basket adapted to be set into the pan on the bottom thereof through sald opening, a capillary material in the wick basket and a draft tube adapted to set over the wick basket into the pan on the bottom thereof, having openings at or near the lower end, the draft tube and wick basket being readily suparable from the pan. substantially as set forth.

No. 102,101. Coal Space for Locomotive Tomder Tanles.
Espace pour charbon dans les tenders de locomotives.


The Canada Foundry Company, Toronto, assignee of John William Harkom, Davenport, both in Ontario, Canada. 20th November, 1906; 6 years. Filed 25th October, 1906. Receipt No. 140,610.
Claim.-1. In a coal space in locomotive tender tanks the combination with the sides of the tender and vertical back plates, of the inclined central back plate and the inclined sides converging to the front, and a shovel space at the foruard end at substantially the point of converging, as and for the purpose specifled.
2. In a roal space in locomotive tender tanks the combination with the sides of the tender and vertical back plates. of the inclined central back plate and the inclined sides convergiing to the iront, a shovel space at the forward en! at substantially the point of converging and angle strips at the meeting angles of the central inclined back and Inclined sides, as and for the purpose specified.
3. In a coal space in locomotive tender tanks the combination with the sides of the tender and vertical back plates of the inclined central back plate and the inclinal sides converging to the front, a shovel space at the forward and at subsiantialiy the point of converging and the cupboards having the inclined sides and the doors hinged to the cuphoards and extending down to a point in proximity with the outer edge of the shovel space, as and for the purpose specified.
4. In a coal space in locomotive tender tanks the com bination with the sides of the tender and vertical baih plates. of the inclined central back plate and tho inclined sidis convorging to the front. a shovel space at the formant end at subsiantially the point of converging and comprist:a scoop-shape plate supported on vertical crossbars, as add for the purpos. specifled.

No. 102,102. Plaster Board. Planche d platre.


Henry Kimmet and Charles E. Thornton, assignee of a half interest, both of St. Joseph, Missouri, U.S.A., \(20 t h\) November, 1906; 6 years. Filed 11th October, 1906. Receipt No. 140,206.
Claim.-1. In a plaster board the combination with a layer of plastic cement and shale, a layer of co-mingled cement and straw or flber, and a second layer of cement and shale interposed thereupon of a layer of coarse fabric secured to one of the faces of thte board.
2. In a plaster board the combination with two layers of plastic cement and shale, of an intermediate layer of straw and cement and a layer of burlap secured to one face of the tlock.
No. 102,103. Prepayment Moter.
Mêtre actionné par une pièce de monnaic.


The Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada, assignee of Frank Conrad, Edgewood Park, Pennsylvania, U.S.A., 20th November, 1906; 6 years. Filed 20th January, 1906. Receipt No. 132,085.
Claim.-1. In a prepayment meter the combination with a coin wheel and a coin chute into which the wheel projects, of a device that projects movably into the chute adjacent to the wheel to prevent withdrawal of coins.
2. In a prepayment meter the combination with a coin wheel and a coin chute into which the wheel projects, of a spring actuated device that projects into the chute adjacent to the wheel to prevent withurawal of colns.
3. In a prepayment meter the combination with a coin wheel and a coin chute into which the wheel projects, of a fivoted arm having a portion that projects into the coli chute to prevent withdrawal of coins.
4. In a prepayment meter the combination with a coin wheel and a chute into which the wheel projects, of a spring actuated pivoted arm having a shoulder that projects into said chute to prevent wilhdrawal of coins.
5. In a prepayment meter the combination with a coiri wheel and a chute into which the wheel projects, of a spring actuated device that normally prevents rotation of the conn wheel but is movable out of its path by a coin of the proper size.
6. In a prepayment meter the combination with a coin wheel having lugs and a chute into which the wheel projects, of a device that normally projects into the path of movement of the wheel lugs and is movable out of said path by coins of the proper dimensions.
7. In a prepayment meter, the combination with a coln wheel and a chute into which the wheel profects, of a device having a part that normally projects into the coin chute and a part that normally projects into the path of movement of the wheel lugs.
8. In a prepayment meter the combination with a coin wheel and a coin chute into which the wheel projects, of means for diverting undersized coins from the coln wheel and means for preventing the withdrawal of a coin after it has actuated the coin wheel.
9. In a prepayment meter, the combination with a coin actuated device and a chute for guiding coins thereto, of means for diverting undersized colns from said device and means for preventing withdrawal of a coin that has served to actuate said device.
10. In a prepayment meter the combination with a coin actuated device and a chute for guiding colns thereto, of means for preventing withdrawal of a coin that has served to actuate the device and means for preventing reverse operation of the coin actuated device.

\section*{No. 102,104. Electrical Measuring Instrument.}

Instrument électrique d̀ mesurer.


The Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada, assignee of Paul MacGahen, Wilkinsburg. Pennsylvania, U.S.A., 20th November, 1906; 6 years. Filed 20th January, 1906. Receipt No. 132,086.
Claim.-1. The combination with a translating device of ar electrical measuring instrument comprising circuit terminals, stationary windings respectively of high and low resistance, a movable winding having a high resistance circuit, a resistance, and means whereby the translating device may be connected between the circuit terminals in series circuit with the low resistance stationary winding and the movable winding may be connected in shunt thereto, or whereby the translating device may be connected between the circuit terminals In series with the resistance, and the high resistance stationary winding and the movable winding may be connected in series with each other and in shunt to the translating device.
2. The combination with a translating device of an electrical measuring instrument comprising circuit terminals. stationary windings respectively of high and low resistance, a movable winding having a high resistance circuit, resistances, and means whereby the circuit relations of the parts may be adjusted to adapt the instrument to the measurement of either voltage or energy.
3. The combination with a translating device of an electrical measuring instrument comprising circuit terminals, stationary windings respectively of high and low resistance, a movable winding having a high resistance circuit, resistances, a plurality of differently callbrated scales, means•

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that co-operate therewith to indicate the torque between the stationary and movable windings, and means for arranging the circuit relations of the parts of the instrument to udapt it to the measurement of either voltage or energy.
4. The combination with an electrical translating device, of a measuring instrument comprising circuit terminals, stationary windings respectively of high and low resistance, a movable winding having a high resistance circuit, a resistance approximately equal to that of the low resistance stationary winding, and means whereby the circuit relations of the barts may be so adjusted as to enable the instrument to operate either as a voltmeter or as a wattmeter and whereby the translating device may be connected in series circuit with the resistance in the former instance and in series circuit with the low resistance stationary winding in the second instance.
5. The combination with an electrical translating device, of a measuring instrument comprising circuit terminals, stationary windings respectively of high and low resistance, a movable winding having a high resistance circuit, a resistance approximately equal to that of the low resistance stationary winding, and means whereby the circuit relations of the parts may be so adjusted as to enable the instrument to operate either as a voltmeter or as a wattmeter and the rcsistance in series clrcuit with the translating device to be maintained gpproximately the same under either condition.
6. The combination with an electrical translating device of a measuring instrument comprising circuit terminals, stationary windings respectively of high and low resistance, a movable winding having a high resistance circuit, resistances and means whereby the circuit relations of the parts may be so adjusted as to enable the instrument to operate either ar. a voltmeter or as a wattmeter and the amount of resisance in the circuit of the movable winding to be altered according to the character of the quantities measured.

No. 102,105. Mowing Machine. Faucheusc.


John L. Tomer and George D. Hamor, assignee of a half interest, both in New Kensington. Pennsylvani, U.S.A., 20th November. \(1906 ; 6\) years. Filed 27 th October, 1906. Receipt No. 140,678 .
Claim.-1. The combination with the axle, the drive wheels mounted thereon, and the main frame in which the axle is journalled, of a pinion mounted on the axle. a transverse shaft journalled in the frame on a plane brlow the axle and having a crank on each end, a pinion on said transverse shaft meshing with the pinion on the axle hangers mounted on sald transverse shaft. hangers secured to the frame near its forward end, a platform suspended from sald hangers, a pitman lever pivotally mounted on said platform near its forward end, pitmen connecting said pitman lever with the ranks of the transverse shaft, and a ball and socket joint connecting sald pitman lever with a sickle, substantially as described.
2. Sickle actuating mechanism for mowing machines comprising in combination with a drive axle, drive whecls secured thereon, a main frame in which the axle is journalles and a sickle, a pinion mounted on the axle, a transversw shaft journalled in the main frame, a pinion carried by sald shaft and meshing with the pinion on the axle. a platform. hangers connected to the platform and to said shaft for supporting the platform at its rear end, hangers connected to said platform and to the frame for supporting the platform at its forward end, a pitman lever connected to the sickle and pivotally mounted on the platform, a pitman connecting said pitman lever with the transverse shaft, substantially as described.
No. 102,106. Joint. Joint.


Nexandre Arthur Charles Chenu, 71 rue St. Jacques. Etampes Seine et Oise, France. 20th November. 1906; 6 years. Filed 1st August, 1906. Receipt No. 138,320.
Claim.-1. Rail and other like joints comprising a chair Cshaped in section, wedging jars adapted to contact with the rails or bars at several distinct points, and engaging between the chair and the adjacent ends of the bars or rails. substantially as described.
2. Rail and other like joints comprisingg a single chair C-shaped in section, wedging jaws adapted to contact with the rails or bars at several distinct points and engaging between the chair and the adjacent ends of the bars or ralls, and securing means such as pins or spikes between the. chair and the jaws, substantially as described.
3. Rail and other like joints comprising a single chair Cshaped in section, ribs or projections formed on said chair. wedging jaws adapted to engage with the under surface o! the overturned edge of the chair and with the rails at two points on the base when tightening forces are set up and \(a\) : one point in loose contact with the web of the rail, substantially as described.
4. Rail and other like foints comprising a single chair \(C\). shaped in section, wedging jaws adapted to contact with the rails or bars at several distinct points and engagin: between the chair and the adjacent ends of the bars or nails, and expansion limiting plates located on either side of the rails or bars and gydgeons or parts adapted to pas: through openings in the adjacent rail and engage with the opposing plate, substantially as described.

No. 102,107. Fire Escape. Sauveteur d'incendic.


Sargent Z. Moore, Dallas, Texas, U.S.A., 20th November 1906 : 6 years. Filed 27th September. 1906. Reccip: No. 139,814.
Claim.-1. In a fire escape the combination with an endless cable operatively mounted alongside of a building, of means

Cor braking said cable comprising a movable platform, located at the base of said cable and a braking member mounted on said platform adapted to be brought into engagement with the operating cable upon the descent and alighting upon the platform of each person carried by the cable.
2. In a fire escape the combination with an endless cable operatively mounted alongside of a building, of a support adjacent the lower end of said operating cable and provided with a transverse plate having a cutaway portion and a pivoted platform provided with braking member having a prong-shaped upper portion adapted to co-operate with the cut-away portion of said transverse plate and to receive the operating cable therebetween.

No. 102,108. Gas Cut-Off. Détente pour le gaz.


Campleell's Automatic Safety Gas Burner Co., assignee of Victor E. Campbell, both of Portland, Oregon, U.S.A. 20th November, 1906; 6 years. Filed 5th July, 1906. Receipt No. 137,538.
Claim.-1. The combination with a gas burner, a valve therein and a tension device for holding the valve normally closed, of a brake wheel operativaly connected to and adapted to be actuated by the closing of the valve, a brake lever and a thermostat for applying the lever to the wheel.
2. The combination with a gas tube, a valve therein and a spring for holding the valve normally closed, of a brake wheel adapted to be actuated by the valve when closed, a resilient brake lever and a thermostat for applying the lever to the wheel, said thermostat comprising a support and an actuating rod connected thereto, said rod and support being affected to different extents by heat.
3. The combination with a gas tube, a valve therein and a spring for holding the valve normally closed, of a toothed sector movable with a valve, a train of gears, a pawl and ratchet connection between the sector and train of gears, a brake wheel actuated by the gears, a resilient brake lever and a thermostat for applying the lever to the brake wheel to hold the gears and valve against movement.
4. The combination with a gas tube, a valve therein and a spring for holding the valve normally closed, of a brake wheel adapted to be actuated by the valve when closed, a resilient brake lever, a thermostat comprising a readily expansible support and a rod connected thereto, a flnger upon the rod and a lever supported and actuated by the finger, said lever bearing upon and adapted to actuate the brake lever.
5. In a device of the character described the combination with a valve, means operated therewith and a brake for said means, of a thermostat for actuating the brake and comprising a tubular support and a rod secured at one end within and extending through the tube. said rod and tube being capable of expanding to different degrees when heated.
6. In a device of the character described the combination with a valve, means operated therewith and a brake for said means, of a thermostat for actuating the brake and comprising a tubular support, readily expanded by heat and a rod less affected by heat, said rod secured at one end to and extending through the tube
7. In a device of the character described, a thermostat comprising a support, a tube extending therefrom and a rod secured at one end to one end of the tube and extending through the tube, said rod and tube being affected to different degrees by heat applied thereto.
8. In a device of the character described, a thormostat comprising a support, a tube mounted thereon and readily susceptible to the expansive action of heat. and a rod secured to one end of and extending through the tube, said rod being less affected by heat than the tube.

No. 102,109. Electrically Controlled Optical Appliances.
A"nareil optique actionné par l'électricité.


John C. Fredell, Potacello, Idaho, U.S.A., 20th November, 1906; 6 years. Filed 11th July, 1906. Receipt No. 137,709. Claim.-1. In an electrically controlled optical appllance, the combination of a lens tube, a shutter for controlling the opening of the lens tube, and instrumentalities including momentarily energized solenoids, one of which effects the opening of the shutter an dthe other of which releases the shutter at the end of a predetermined period, and means for automatically locking the shutter in open position during such period.
2. In an electrical optical appliances of the class described, a lens tube, a shutter for controlling the opening through the lens tube, means for opening the shutter, means operating automatically to engage the shutter opening means for locking the shutter in open position for a predetermined period, means operating upon said automatic locking means for releasing the shutter opening means at the end of said period, and means for closing the shutter.
3. In an electrically controlled optical appliance, the lens tube, a shutter for controlling the opening through the lens tube, a lever connected with the shutter for moving it out of the lens tube, a second lever disposed within the path of the first-mentioned lever and adapted to engage the latter and hold it with the shutter for a predetermined period in the position to which it has been moved, means to operate upon the second lever to release it from engagement with the first-mentioned lever, and means for restoring the first-mentioned lever to its normal position in the lens tube.
4. In an electrically controlled optical appliance, a lens tube, a shutter for controlling the opening through the lens tube, a solenold having an armature, a lever secured to said armature and engaged with the shutter, whereby the shutter is opened when the solenoid is energized, a second lever disposed within the path of the first-mentioned lever and adapted to lock the later against movement when the shutter is opened and a solenoid for operating upon the said second lever to release the shutter operating lever.
5. In an electrically controlled optical appliance, a barrel, a lens tube, an adjusting rod for the lens tube, a shutter fulcrumed upon said rod, a lever having one end engaged with the shutter and having an armature on its other end, a solenoid for operating said armature to open the shutter a locking lever normally held within the path of the shutter operating lever and adapted to be engaged by the latter to hold the shutter in an open position, an armature on one end of the locking lever. a solenoid for operating upon said armature to release the locking lever from engagement with the shutter operating lever, and a spring secured to the armature of the shutter operating lever for restoring the shutter to closed position, substantially as specified.

No. 102,110. Paint. Pcinture.
Handolph Harryson Goddin, Newport News, Virginia, U.S.A.. 20th Novemebr, 1906; 6 years. Filed 17th Jily. 1906. Receint No. 137,919
claim.-1. The process which consists in mixing gas tar with red lead, the adding paris green, then linseed oil, sulphur, a desiccating compound, and black asphaltum, suba drier, and finally adding a gloss giving compound, substantially in the proportions specifled.
2. The within described composition of matter, consisting of gas tar, red lead, paris green, linseed oil, sugar of lead. sulphur, a desiccating compound. and black asphaltum, substantially in the proportions specifled.

No. 102,111. Method of Rectifying Alcohol, Etc.
Méthode pour rectifler l'alcool, etc.


Emile Guillaume, Paris. France. 20th November. 1906: 6 years. Filed 12th July, 1906. Receipt No. 137,788.
Claim.-1. An improved process for rectifying alcohol or other product which is similarly treated. the said process ccosisting in combining the processes for the final purifcation of alcohol witn the process of pasteurizing alcohol discharged from the final purifying column through the circumstances that the extraction of pasteurized alcohol effected on the shelves of the rectifying column diminishes the quantity of tail products which it contains on its entrance into the final purifying column, the said process being advantageously completed by regulating the discharge of the head products by a means which consists in effecting, at the bottom of the condenser which surmounts the final purifying column and below the retrogradation connection which returns the condenser liquid into the latter, a withdrawal of the said liquid, in effecting a withdrawal of the condensed liquid at the bottom of the refrigerator which succeeds the condenser aforesaid, in connecting these two connections with a plpe running to the exit testing device of the head products, and in regulating the total discharge arising from these two connections by means of a tap placed on the pipe aforesaid.
2. An improved process for rectifying alcohol or other product which is similarly heated, the said process consisting in effecting a first withdrawal of pasteurized alcohol from one or the upper shelves of the rectifying column, and in sending this alcohol by means of a pipe provided with a regulating tap to the exlt testing device corresponding to the least pure alcohol, in effecting a second withdrawal of alcohol at the condenser outlet which comes after the rectifying column, and in sending this alcohol by means of a pipe provided with a regulating tap into the final purifying column, at the bottom of which the purest finished alcohol is discharged to pass to the corresponding testing device, in effecting at the bottom of the condenser which surmounts the inal
purifying column and below the retrogradation connection which returns the condensed liquid into the latter, a withdrawal of the said liquid, in effecting a withdrawal of condensed liquid at the bottom of the refrigerator which comes afler the said condenser, in connecting these two connections with the pipe running to the exit testing device of the head products, and in regulating the total discharge arising from these two connections by means of a tap placed on the sald piper
3. An improved process for rectifying alcohol or other product which is similarly treated, the said process consisting in combining the procrss of final purification of the alcohol, with the process of pasteurization of the alcohol and with a peculiar purifying process, from the point of view of the most volatile tail products carrled off in the rectified alcohol, which passes to the final purlifying column, by means which consists in arranging an intermediate cclumn between the discharge of alcohol made at the top of the rectifying column and the column of final purification.
4. An improved process cor rectifying alcohol or other product which is simflarly treated, the sald process consisting ing in effecting a withdrawal of alcohol at the exit of the condenser of the rectifying column and in sending this alcohol by means of a pipe provided with a regulating tap to the lower part of an intermediate column serving for the separation of the tall products and arranged between iar condenser and the final purifying column, in sending to the exit testing device corresponding to the least pure alcohol. the liquid alcohol arising from the lower part of the intermediate column, in sending the alcohol emerging from the condenser of the said intermediate column, by means of a nipe provided with a regulating tap, to the final purifying column, from the bottom of which the purest finished alcohol emerges, to go to the corresponding testing device, In effecting at the bottom of the condenser which surmounts the final purifying column, and below the place where the retrogra dation is withdrawn which returns into the latter the condensed liquid, a withdrawal of the same liquid, in effecting a withdrawal of condensed liquid at the bottom of the refrigerator which succeeds the aforesald condenser. In connecting these two withdrawals with the pipe passing to the exit condensing device for head products, and in regulating the total discharge arising from these two consertious by means of a tap placed on the said pipe.
5. An improved process for rectifying alcohol or other product which is similarly treated, the said process consisting in effecting a withdrawal of alcohol at the exit of the condenser of the rectifying column and in sending this alcohol by means of a pipe provided with a regulating tap to the lower part of an intermediate column serving for the separation of a tail products, and arranged between th. condenser and the final purifying cloumn in causing the liquid alcohol arising from the lower part of this intermediate column to pass into a distilling column suitably heated and actuated beneath the intermediate column, an in sending to the exit testing device corresponding to the least pure alcohol, the alcohol arising from the lower part of the distilling column in sending the alcohol discharged from the condenser of the said intermediate column by means of a pipe provided with a regulating tap to the final purifying column from the bottom of which the purest finished alcohol emerges to pass to the corresponding testing device in affecting at the bottom of the condenser which surmounts the final purifying column, and below the place where the retrogradation is withdrawn which returns into the latter the condensed liquid, a withdrawal of the same liquid, in effecting a withdrawal of the condensed liquid from the bottom of the refrigerator which succeceds the aforesald condenser, in connecting these two withdrawals with the pipe going to the exit testing device of the head products, and in regulating the total discharge arising from these two withdrawals by means of tap placed on the said pipe.
6. An improvement in the process of rectifying alcohol or other product which is similarly treated, the said improvement applying to any apparatus comprising a condenser and a refrigerator from which a withdrawal of liquid arising from the condensation which withdrawal is variable at will has to be effected, commencing with the liquid resulting from the condensation made in the last place in the refrigerator by means which consists in effecting at the bot tom of the condenser which surmounts the purifying column and below the place at which the retrogradation is withdrawn which returns into the latter the condensed liquid, a withdrawal of the same liquid, in effecting a withdrawal of condensed liquid at the bottom of the refrigerator which succeeds the said condenser, in connecting these two withdrawals with the plpe going to the exist testing device of the head products and in regulating the total discharge from these two withdrawals by means of a tap placed on the said plpe.

No. 102,112. Fruit Pioleer. Jaffet.


Andrew Murdock, Montreal, Quebec. Canada, 20th November, 1906; 6 years. Filed 12th September, 1906. Receipt No. 139,446.
Claim.-1. A fruit picker comprising an extensible handle, a pair of diverging fingers mounted on one end thereof and a basket below said ningers.
2. A fruit picker comprising an extensible handle, a pair of diverging fingers mounted on one end thereof, a cutter mounted between said fingers and a basket below sald fingers.
3. A fruit picker comprising a telescoping handl? a pair of diverging ingers mounted on one end thereof, a revoluble cutter mounted between sald fingers and a basket located immediately below said fingers.
4. A fruit picker comprising a telescoping handle, a pair of diverging fingers mounted on one end thereof, slots in said fingers, a cutter passing through said slots and a basket below said fingers.
5. A fruit picker comprising a telescoping handle, a pair of diverging fingers mounted on one end thereof, slots in said fingers, a cutter passing through said slots, means for rotating said cutter and a basket below said fingers.
6. A fruit picker comprising a telescoping handle, means for maintaining said handle in extended position, a pair of diverging fingers mounted on one end of said handle, a revoluble cutter mounted between said fingers, a housing for said cutter and a padded basket located below sald fingers.
7. A fruit picker comprising a telescoping handle, means for maintaining said handle in extended position, a pair of diverging fingers mounted on one end of said handle, a cutter mounted between said fingers, a housing for said cutter. means for rotating said cutter and a padded basket located below said fingers.

\section*{No. 102,113. Berpy Picker.}

Appareil à cueillir des bleuets.
Harry Allan Peters, Winnipeg. Manitoba, Canada, 20th November, 1906; 6 years. Filed 14th September, 1906. Receipt No. 139,498.
Claim.-1. In a device of the class described, the combination with a body of channel bar cross section having fingers extending forwardly therewithin, of a screened receptacle to the rear and attached to the body portion, and a handle attached to the side pieces of the body portion, as and for the purpose specified.
2. In a device of the class described, the combination with a body portion, having a longitudinal cavity therein, of a series of fingers extending forwardly within the body portion. a screened recentacle to the rear of the body portion and continuous with the inner face thereof. and a handle gecured to the body gortion, as and for the purpose specified.
3. In a device of the class described, the combination with the body portion, having a substantially channel bar rorm, of a series of fingers or teeth extending forwardly 11-15
within the body portion, a detachable receptacle to the rear of the body dortion, a screen top to the receptacle,

the said screen being substantially in a plane with the upper face of the body portion when in the closed position, and handles secured to the body portion, as and for the purpose specifled.
4. In a device of the class described, in combination, a body forming a runway for the berries, forwardly extending fingers intricate with the body, a screened receptacle forming a receiver for the berries, and a handle attached to the body portion, as and for the purpose specified.
5. In a device of the class described, the combination with the body of substantially channel bar-shaped cross section, and having a series of forwardly extending fingers, of a detachable receptacle secured to and extending across the body portion, a screen top to the receptacle, sald top being substantially in a plane with the inner upper face of the body, a set of carriage wheels secured to the body, and a handle secured to the body adaptable for use by the operator in a standing posture, as and for the purpose specified.
6. In a device of the class described, the combination with a body portion, of substantially channel bar cross section, and having a series of fingers arranged in the forward portion thereof, of a shaft extending across the body portion and bearing within the upright sides, a set of carriage wheels on the shaft, a gear wheel on the shaft, a set of rollers extending across the body portion parallel with the shaft, and bearing respectively in the upright arms, a pinion intricate with the rear rollers, and in mesh with the aforesaid gear, a set of arms secured forwardly to the sides of the body and extending upwardly and rearwardly, a set of supports reinforcing the said arms, a handle secured between the extending ends of the arms, a roller, bearing in the arms in proximity to the handles, an endless carrier belt passing over all of said rollers, and a receptacle or basket dependent from the arms adapted to act as a received from the carriers, as and for the purpose specified.
7. In a device of the class described, the combination with a body portion of channel bar section, having a series of fingers projecting within the body portion, of a set of carriage wheels supporting the body, and toward the rear, a gear wheel revolvable with one of the carriage wheels, a large and a small roller extending across the body portion, and bearing within its upright arms, the rear roller of the said rollers being of larger diameter than the forward, a pinion intricate with the shaft of the rear roller and in mesh with the gear, a set of reinforced upright arms supporting a handle in convenient position for an operator, standing, a roller extending between the arms and in proximity to the handle, an endless canvas belt extending over and around all of the said rollers, sets of pockets or carriers secured on the outer face of the belt and adapted to lift and carry the berries from the body portion, and a receptacle dependent from the arms adapted to receive the berries when deposited from the carriers, as and for the purpose specified.
8. In a device of thec lass described, the combination with the body portion of channel bar cross section, having fingers extending thereacross, the said receptacle being of an arcuate cross section, a sercen top adapted to close the top of the receptacle, and having the mesh of the screen varying from small at the outside to large at the inside next the body, and means for controlling the operation of the body portion, as and for the purpose specified.
9. A berry nicker comprising a body portion of channel bar cross section, having fingers extending forwardly therewithin, a set of detachable carriage wheels, a detachable screened receptacle to the rear of the body, a set of rollers bearing within the upright sides of the body, and extending
transversely thereacross, a set of gear wheels actuating one of the said rollers, and interchangeable means for controlling the operation of the body portion, said means being adapted for sitting and standing positions respectively, of the operator.
10. A berry picker comprising a receptacle having forwardly projecting fingers and means for supporting and manipulating the receptacle, as and for the purpose specifled.
11. A berry picker comprising a receptacle having forwardly projecting fingers, means for supporting and manipulating the receptacle and a screen for the top of the receptacle, as and for the purpose specified.

No. 102,114. Horseshoe Pad.
Bourrclet pour fer à checal.


August C. Tappe, Cincinnati, Ohio, U.S.A., 20th November, 1906; 6 yaars. Filed 25th October, 1906. Receipt No. 140,608.
Claim.-1. A horseshoe pad having a thickened heel portion, a thin flange so constructed as to receive a horseshoe, a raised hollow bead and partitions dividing said hollow bead.
2. A horseshoe pad having a thickened heel portion, a thin flange so constructed as to receive a horseshoe, a raised hollow bead, partitions dividing said hollow bead and a leather backing for the top of said pad.
3. A horseshoe pad having a thickened heel portion, a thin flange so constructed as to receive a horseshoc, a ralsed hollow bead, partitions dividing said hollow bead, a leather backing for said pad, said leather having air apertures over each chamber into which said hollow bead is divided.

No. 102,115. Cement Fence Post.
Potcau de clôture en ciment.

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John Francis McElroy and Joseph M. Denning, assignee of a half interest, both of Cedar Rapids, Iowa, U.S.A., 20th November. \(1906 ; 6\) years. Filed 3rd October, 1906. Receipt No. 140,011 .
Claim.-1. A fence post of substantially trianglar formation having front attaching flanges and an intermediate rar reinforcing flange, the attaching flanges having plerced
therethrough holes arranged in converging relation to each other from rear to front for the passage of attaching brackets, substantially as described.
2. A fence post of substantially triangular formation havIng front attaching flanges and an intermedate rear reinforcing flange, the attaching flanges having alternately pierced therethrough holes arranged in onverging relation to each other from rear to front for the passage of attaching brackets, substantially as described.
3. A fence post of substantially triangular formation having front attaching flanges and an intermediate rear reinforcing flange, the attaching flanges having alternately pierced therethrough holes arranged in staggered relation with respect to one another, said holes extending in a diagonally upward direction through the flanges and in a conrerging relation from rear to front with respect to one another for the passage of attaching brackets therethrough, substantially as described.
4. A fence post consisting of metallic framework and a cement body having front attaching flanges and a rear reinforcing flange all arranged in radial relation with respect to the center of the post the front flanges having extending therethrough a plurality of holes extending diagonally upward through the flanges and in converging relation from rear to front with respect to one another for the passage therethrough of attaching brackets, substantially as described.
5. A fence post consisting of metallic framework and a cement body having front attaching flanges and a rear reinforcing flange all arranged in radial relation with respect to the center of the post, the front flanges having extending therethrough a plurality of holes extending diagonally upward through the flanges and in converging relation from rear to front with respect to one another and attaching brackets hooked at their forwardly projecting attaching ends and turned down at thteir rear ends, substanially as described.
6. A fence post consisting of a metallic framework comprising three upright bars in triangular relation with respret to one another and a cement body within which the bars are imbedded. said body having front attaching flanges and an intermodiate reinforcing flange radially arranged with respect to the center of the post. the attaching flanges being separated by an intermediate channel or depression and being provided with a plurality of staggered holes extending diagonally upward through the flanges and in converging relation fron rear to front with respect to one another and attaching brackets provided at their forwardly projecting ends with hooks and turned down at their rear ends to prevent withdrawal, substantially as described.

No. 102,116. Telegraphy. Télégraphie.


Isidor Kitsee, Philadelphia, Pennsylvania, U.S.A., 12th November, 1906; 6 years. Filed 19th July, 1906. Recelpt No. 137,988.
Claim.-1. Means to transmit over a cable of comparatively great capacity simultaneously two mesages in one direction. said means embracing means adapted to transmit charactors of one message, each character comprising one impulse o! one polarity followed by a space impulse of opposite polarity, the difference in time between the two impulses symbolizing the character. and means adanted to transmit characters of a second message, a variable resistance for sntl means, each character comprising a series of impulses irduced in the line through the variation of said variable resistance, the number of said impulses symbolizing the character.
2. In combination with a transmitting line, two transinitting devices, one of said transmitting devices embracing a transmitting key and source of current. a. variable resistance, a source of current, and an inductorium for the second of sald transmitting devices, the primary connected to the sources of current, the secondary connected to the source of current, the secondary connected to the line, and means to change the value of said variable resistance in accordance with the impulses to be transmitted.
3. Means to transmit simultaneously two messages over a line, said means embracing two transmitters. a key adapted to be manually operated and source of current for one transmitter, a variable resistance, means to automatically vary sald resistance, a manually operated key, and a source of current for the second transmitter, both transmitters in operative relation to the line of transmission.
4. Means to transmit simultaneously two messages over a cable and receive the same at a second station. said means embracing at the transmitting station a key adapted to be manually operated and to transmit over the line of impulses of comparatively slow succession, a variable resistance, a second key adapted to be manually operated and to vary through said operation the value of a variable resistance, and adapted to transmit impulses in quick successlon over.the line, and embracing at the recelving station a device such as a polarized relay for the first-named impulse, and a second device such as a telephone recelver for the second-named impulse.
5. In combination with a transmitting line a telegraphic transmitting device embracing a variable resistance, automatic means to alter said resistance, and means to make operative said automatic means, in accordance with the characters to be transmitted, and means to induce in said line impulses in accordance with the variation of said resistance.
6. In combination with a transmitting line means to transmit two messages simultaneously over said line, said means embracing two sets of batteries inserted in the line in opposition to each other, a shunt around one of said sets and a transmitting key adapted to open and close said shunt in accordance with the characters to be transmitted, for one message, and embracing a secondary of an inductorium inserted in the line and localized means to induce impulses in said secondary in accordance with the characters to be transmitted, for the second message.

No. 102,117. Wire Strotcher. Tendeur dc fl.


John B. Adams, Jr., Malden, New York, U.S.A., 20th November, 1906; 6 years. Filed 23rd October, 1906. Receipt No. 140,509.
Claim.-1. A device of the character described comprising an S-shaped dog effective to be engaged with a bearing, and a manually actuated lever having a right angled terminal pivoted to one terminal of said dog and equipped with a clasp, said lever being adapted for movement toward said dog and means for limiting its movement in that direction.
2. A device of the character described comprising an \(S\) shaped dog effective for engagement with a bearing and having intermediately of its terminals an outstanding lug provided with a lateral stop, and a manually actuated lever having a right angled terminal pivoted to one terminal of said dog and equipped with a wire engaging clasp.
3. A device of the character described comprising an Sshaped dog equipped with a curved blade and a manually actuated lever having a right angled terminal and armed at its angle with a curved blade and having its right angled terminal pivoted to one terminal of said dog, said blades having their convexed and concaved cutting edges respectively to form a cutter as said lever is actuated.
4. A device of the character described comprising an \(\mathbf{S}\) shaped dog having intermediately of its terminals an outstanding lug provided with an adjustable lateral stop, and a lever having a right angled terminal pivoted to one terminal of said dog and equipped with a wire securing clasp. said lever being movable toward the dog and controlled in that direction by said stop.
5. A device of the character described comprising a dog effective for engaging with a bearing and a manually actuated lever having pivotal connection with said dog, said dog and lever having opposed terminals adapted to form pincers or pllers as shown.

No. 102,118. Wire Stretcher. Tendeur de 12.


Francis W. Bost and James W. Bolen, co-inventors, both of China Grove. North Carolina, U.S.A., 20th November, 1906: 6 years. Filed 1st October, 1906. Receipt No. 139,946.
Claim.-1. A wire stretcher comprising a frame, upper and lower inclined legs, said legs adapted to be driven into the post of a fence and braces adapted to engage opposite sides of said post, substantially as described.
2. In a wire stretcher the combination of a frame, a drum mounted on said frame and provided with ratchet teeth. a pawl adapted to engage said teeth, legs formed integral with said frame and adapted to be driven into a frame post. chain and hook devices adapted to engage opposite sides of said fence post, substantially as described.
3. A wire stretcher comprising a horizontally disposed frame, upper and lower inclined legs, said legs adapted to be driven into a vertical support, braces adapted to engage opposite sides of said support, a drum mounted on a rotating shaft, latches adapted to lock or release said shaft. a clinching device having a flexible connection connected with sald drum and means for rotating sald drum, substantially as described.
4. A wire stretcher comprising a frame, legs adapted to be driven into a suitable support and braces adapted to engage opposite sides of said support, substantially as described.

\section*{No. 102,119. Wire Fence Etretcher. \\ Tendcur de fl pour clôtures.}

Washington M. Dillon, Sterling, Illinols, U.S.A., 20th Novtmber, \(1906 ; 6\) years. Filed 6th October, 1906. Recelpt No. 140,096 .
Claim.-1. A device of the class named, comprising a frame adapted to be attached to the clamp bar of the fencing, a pair of similar ratchet wheels rotatably mounted in said frame a chain drum fixed between said ratchet wheels so as to rotate therewith, a chain engaged at one end by said drum and adapted to be secured to a ixture at tho
other end. a pair of ratchet arms engaging said pair of ratchet wheels, and means for actuating said ratchet arms

to alternately rotate the wheels engaged thereby, substantially as described.
2. In a wire fence stretcher the combination of a frame adapted to be attached to the clamp bar of the fencing, a pair of similar ratchet wheels rotatably mounted in said frame, a chain drum fixed between said wheels so as to rotate therewith, a chain actuated by said drum, a lever head pivoted on said frame centrally of such head, means for suitably oscillating such head, and means for imparting the movement thereof to said wheels to alternately rotate the same, substantially as shown and set forth.
3. In a device of the class named the combination of thte frame 1 , provided with the recess 10 , the pair of wheels 2,2 , rotatably mounted in said frame, the chain drum 3. fixed between the wheels 2 , the chain 8 , engaging the drum 3 , the head 5, provided with the recess 6 , and pivoted on the upper face of the frame 1, a pair of ratchet arms 7. 7, pivoted at one end in the recess 6 , on opposite sides of the pivotal point of the head 5 , and engaging the wheels 2 at their other conds to rotate such wheels, and means for sultably oscillating the head 5 , substantially as and for the purpose shown.
4. In a wire fence stretcher the combination of the frame 1 , adapted to be attached to the clamp bar of the wire fencing, a pair of ratchet whecls 2, rotatably mounted in said frame, a chain drum 3 , located between the wheels 2 , and rotating therewith, a chain 8 engaging the drum 3 , the head 5 pivoted on the frame 1 , and provided with recess 6 , a pair of ratchet arms 7 , pivoted in the recess 6 , and provided at their free ends with flanges 14 , engaging the wheels 2 , a block 13 fixed on the frame 1 , and limiting the movement of the head 5, and means for suitably oscllating such head, substantially as set forth.

No. 102,120. Wire Stretcher and Clamp.
Tendeur de fll de fer et crampon.


John W. Hardesty, Mount Eden, Kentucky, U.S.A., 20th November, 1906; 6 years. Filed 9th October, 1906. Receipt No. 140,161 .
Claitn.-In combination with a plate having an angled flange, a plurality of obliquely disposed slots in said plate, a gripping jaw positioned over said angled flange and having
serrations on the edge thereof, pins secured to sald jaw. one positioned in each of said slots, an apertured bar through which said pins pass. said bar being held upon the pins by the heads of the latter, a lever pivotally mounted upon said plate, a link pivotally connecting one of said pins with said lever whereby said jaw may be made to co-operate with the flange of said plate to securely hold a wire, as set forth.

\section*{No. 102.121. Lubricating Compound.}

Composé à lubrifler.
Edwin Ard Emery, Cripple Creek, Colorado, U.S.A., 20th November, 1906; 6 years. Filed 9th July, 1906. Receipt No. 137,654.
Claim-1. A solid lubricant for pneumatic machinery having lubricating ingredients incorporated one with the other at a consistency which secures disintegration under the erosive effects of an air current under pressure.
2. A solid lubricant for pneumatic machinery having lubricating agents and a solvent incorporated one with the other possessing an affinity for moisture in an air current under pressure and disintegrated by the erosive action of such current, and dissolved by the moisture contained therein.
3. A moulded solid lubricant for pneumatic machinery having lubricating ingredients, and an anti-refrigerating agent incorporated one with the other at a consistency which secures disintegration under the erosive effect of an air current, the ingredients of the solid charge having an affinity for the moisture present in the air current, and the lubricant as a whole resisting the freezing action of an air current thereon.
4. A substantially neutral lubricant for pneumatic machinery comprising a saponaceous substance, plumbago and mucilaginous extract of slippery elm bark incorporated with a neutral salt and a solvent.
5. \(\Lambda\) solid lubricant for pneumatic machinery having a saponaceous substance. plumbago and fluid extract of slippery elm bark as lubricating ingredients. salt as a nonrefrigerant, and water as a solvent, the whole being combined in substantially the proportions specified.
6. A lubricant consisting of soap. plumbago. mucilaginous extract of slippery elm bark. a neutral salt, and water in about the proportions specifled.
7. A substantially neutral lubricating composition. comprising lubricating ingredients, and an anti-refrigerating agent incorporated therewith.
8. A substantially neutral solid lubricant adapted for disintegration by air current. comprising soap, elm bark solution, plumbago, and an anti-refrigerating agent combined and incorporated one with the other.

\section*{No. 102,122. Protector for Telegraph Poles. Protection pour potcaux de télégraphe.}


Benjamin W. Hyder, Rutherforton, North Carolina, U.S.A.20th November, 1906; 6 years. Filed 24th October. 1906. Receipt No. 140,575.
Claim.-A device of the class described comprising a tubular metal casing designed to inclose the lower end of a pole. a shield fitted on the latter to house the upper end of the casing. said shield having a tubular portion, and a flexible. impervious guard fitted on the tubular portion of the shield and arranged to tightly embrace the pole at 2 point above the sama.

No. 102,123. Ewvolope Soelteg Machine.
Machine à sceller les enocloppes.


John A. Markoe, White Bear, Minnesota, U.S.A., 12th November, 1906; 6 years. Filed 10th May, 1906. Receipt No. 135,766.
Claim-1. The combination with a moistening device and co-operating movable upper and lower and intermediate feed devices, of means for directing the gummed flaps of the onvelopes to the said molstening device while subject to one of said feed devices, and yielding flap pressing rod or arm arranged to press the envelope flaps against the moistening device, substantially as described.
2. The combination with a moistening device including a water distributing roller, of a yielding flap pressing rod overlying said roller, upper and lower and intermediate feed rollers, and a deflecting device, said upper and intermediate rollers being arranged to feed the envelopes and to carry their gummed flaps over the water distributing roller, and said deflecting device being arranged to feed the inverted envelopes between said intermediate and lower feed rollers, to seal the same, substantially as described.
3. In an envelope sealing machine the combination with means for moistening the gummed flaps thereof. of upper and lower and intermediate feed rollers, a deflecting device arranged to receive the envelopes fed from between the upper and intermediate rollers, and to direct the same between the intermediate and lower roller, and a yielding stop rod overlying said feed rollers and arranged to assist in imparting an initial movement of the inverted envelope between said intermediate and lower feed rollers, substantially as described.
4. In an envelope sealing machine the combination with means for moistening the flaps thereof, of upper and lower and ylelding feed rollers, a deflecting plate arranged to receive the envelopes delivered from between the said upper and intermediate feed rollrs, and to deliver the same between sid intermediate and lower feed rollers, and a pivoted gravity actuated stop rod overlying sald feed rollers, and arranged to assist in imparting an initial movement of the inverted anvelope between said intermediate and lower feed rollers, substantially as described.
5. In an envelope sealing machine the combination with means for molstening the gummed flaps thereof, of upper and lower and intermediate feed rollers, a deflecting plate arranged to recelve the envelopes fed from between the upper and intermediate rollers and to direct the same between the intermediate and lower rollers, a stop plate rigidly but adjustably secured with respect to sald deffecting plate, and a y:elding stop rod loosely resting upon said stop plate, and adiustable therewith, substantially as described.
6. In an envelope sealing machine the combination with a moistening device, of upper and lower and intermediate feed devices extending parallel with and below said moistening device, of a yielding stop arranged to act upon the envelopes and to assist in directing the same between the intermediate and lower feed devices, substantially as described.
7. In an envelope sealing machine the combination with a ccrrugated intermediate feed roller, of a co-operating upper ffed roller corrugated ai its central portion only, a lower ffed device co-operating with said intermediate feed roller. means for directing the ellvelopes between said upper and intermediate feed rollers. and means for moistening the flaps of the envelopes while they are being thus fed to the said intermediate and upper feed rollers, substantially as described.
8. In an envelope sealing machine the combination of upper and lower and intermediate feed rollers, said intermediate feed roller being corrugated, and said upper feed roller being corrugated at its central portion only, and the said upper and intermediate rollers having smooth engaging end portions, substantially as and for the purposes set forth.
.9. In an envelope sealing machine the combination with upper and lower and intermediate feed rollers, of a deflecting device arranged to receive the envelopes from between said intermediate and upper feed rollers, and to deliver the same between said intermediate and lower feed rollers, a vertically adjustable receiving deck below said feed rollers, and a pair of clamping members for holding the envelopes upon said receiving deck, one of which clamping members is movable with respect to the other, to permit the accumulation of envelopes, substantially as described.

No. 102,124. Zarm. Fil.


Henry Ryder, New York City.• New York, U.S.A.. 20th Norember, 1906; 6 years. Filed 22nd October, 1906. Receipt No. 140.508 .
Claim.-1. A yarn comprising a core of wire and parallel Abres spun directly on, lengthwise of and spirally around said wire core.
2. A yarn comprising a core of wire and parallel flbres spun directly on, lengthwise of and spirally around said wire core, in such manner that the settlement of the flbres when the yarn is put under longitudinal strain is substantially equal to the elasticity of the wire core.
3. A yarn comprising a cole of wire, and fibres supplied lengthwise of and enveloping said wire and then spun collectively in parallel position about said wire core, in such manner that each fibre has substantially the same tension with respect to the others, and the fibres collectively have the same tension as the wire core, when the wire is put under lengitudinal strain.
4. The method of producing yarn which consists in supplying fibres to a core of wire lengthwise of and enveloping said core of wire. and then spinning said tibres collectively in parallel position about said core of wire in such a manner that when the yarn is put under longitudinal strains the individual fibres shall have substantially the same tension with respect to each other and the fibres collectively shall have the same tension as the core of wire.

No. 102,125. Tranamitter for Wireless Telegraphy.
Transmetleur pour télégraphic same Als.


Harry Shoemaker, Jersey City. New Jersey, U.S.A., 20th November. 1906; 6 years. Filed 9th March, 1906. Receipt No. 133,694 .
Olaim.-1. In a wireless telegraph transmitter, a rack, a plurality of Leyden jars mounted therein, a drum member mounted upon said rack, spark gap terminals within said
drum and mounted upon the heads thereof, and an inductance winding surrounding said spark gap terminals and supported by sald drum.
2. In a wireless telegraph transmitter, a rack, a plurality of Leyden jars mounted therein. spark gap terminals mounted uron said rack, and an inductance winding suronuding said terminals and rotatable with respect thereto and mounted uron sald rack.
3. In a wireless telegraph transmitter, rack, a plurality of Leyden jars mounted thereln. spark gad terminals mounted within a drum, sald drum bring mounted upon said rack, and ar inductance winding rotatable upon said drum.
4. In a wireless telegraph transmitter, a drum, spark gap terminals within said drum and mounted upon the heads thereof. an inductance winding intermediate said drum heads and rotatable with respect thereto.
5. In a wireless telegraph transmltter. a drum. spark gap terminals therein and supported by the heads thereof, a mufflor within said drum and inclosing said spark gap terminals, an inductance winding surrounding said spark gap terminals, a frame supporting sald winding. and means permitting the rotation of said trame with respect to sald drum.
6. In a wireless telegraph transmitter. a drum. spark gap treminals mountod therein and supported by the heads thereof. an inductance winding surrounding sald snark gap torminals. and rotatable upon said drum and means for maintaining elertrical communication between said winding and a spark gap terminal.
7. In a wireless telegraph transmitter a condenser. a container therefor, an inductaner winding supported upon said container and spark gap terminals surrounded by said winding.
8. In a wireless telegraph transmitter, a condenser, a container therefor, spark gap terminals supported upon said containcr, and an inductance winding surrounding said spark gap terminals and rotatable with respect thereto.
?. In a wireless telegraph transmitter, a condenser, a contalner therffor, an inductance supported upon said container. and means for rotating said inductance whereby the amount of inductance co-operating with said condenser may be varled.
10. In a wireless telegraph transmitter. a condenser, a container therefor. spark gap terminals supported upon said contained, an inductance winding surrounding said spark gap terminals and connections for the radiating conductor and earth at terminals of said condenser.
11. In a wircless telegraph transmitter, a plurality of condrnsers, a container therefor, spark gap terminals supported upon said container, an inductance winding. surrounding said spark gap terminals, said spark gap, inductance winding, and condensers being serially connected, and connections for the radiating conductor and earth at the terminals of a condenser.
12. In a wireless transmitter, a plurality of Leyden jars in series parallel grouping, a container therefor, spark gap terminals supported upon said contalner, an inductance winding surrounding said spark gap terminals, and connections for radiating conductor and earth at the terminals of a group of said Leyden Jars.
13. In a wireless telegraph transmitter, a plurality of Ieyden jars, a container therefor, an inductance winding supported upon said container, and spark gap terminals surrounded by said winding.
14. In a wireless telegraph transmitter, a plurality of Leyden jars, a contalner therefor, an inductance winding supported upon said container, spark gap terminals surrounded by said winding, and Leyden Jars, inductance winding and spark gap being serially connected.
15. In a wireless telegraph transmitter, a frame, an Inductance winding supported thereon, spark gap terminals supported by and surrounded by said inductance winding.
16. In a wireless telegraph transmitter, a frame, an inductance winding supported tereon, spark gap terminals supported thereby and surrounded by said inductance winding. and means permitting rotation of said inductance winding.
17. In a wireless telegraph transmitter, a condenser, a container therefor, an inductance supported upon said contalner, and means for rotating said inductance, said inductance and condenser being frequency determining elements of an oscillating circuit.
18. In a wireless telegraph transmitter. a condenser, a containes therefor. an inductance supported upon said container, spark gap terminals supported upon said container and surrounded by said inductance, said spark gap, inductance and condenser being arrially connected.
14. In a wireless telegraph transmitter, a condenser, a container therefor, an inductance supported upon said container, spark gap terminals surrounded by said inductance, and a muffler surrounding said spark gap terminals.
20. In a wireless telegraph transmitter, a condenser, a contalner therefor, an inductance supported upon sald con-
tainer, spark gap terminals supported on said container. and a muffier enclosing said spark gap terminals.
21. In a wireless telegraph tranimitter, a condenser. container therefor, an inductance supported upon said container, spark gap terminals surrounded by said inductance and a muffler enclosing said spark gap terminals
22. In a wireless telegraph transmitter, an inductance winding, and spark gap terminals co-operating therewith and surrounded thereby.
23. In a wireless telegraph transmitter, a condenser, a container therefor. an inductance winding supported thereon. spark gap terminals supported thereon, and means for con necting said condenser, spark gap, and inductance winding in series with each other.
24. A portable oscillator, comprising a condenser, an adjustable inductance and a spark gap.
25. In combination, spark gap terminals, a muming chamber enclosing the same, the walls of said chamber being composed of micanite.
26. In combination, an inductance winding. a support therefor. spark gap terminals mounted on sald support and surrounded by sald winding, and a mufling chamber enclosing said spark gap terminals.
27. In combination, spark gap terminals, a frame supporting the same, an inductance winding, a support therefor said support and frame being rotatable with respect to each other.

\section*{No. 102,126. Shock Loader.}

Machine de charger les gcrbes.


Thomas Robson and Walter George Fisher, co-iuventors both of Alliston. Ontario, Canada, 20th November. 16 in 6 years. Filed 29th August, 1906. Recelpt No. 13s.07:
Claim.-1. Io a shock loader the combination with ib. main frame and main wheel and end supporting wheel. \(s\) : the inclined picker elevator, located in front of the ma:s frame at one side, and comprising side boards, endles: chains carrying the bars and prongs, and the longitusibal shields extending from top to bottom of the elevator asd between which the prongs travel, as and for the purpose speciffed.
2. In a shock loader the combination with the main fram: and main wheel and end supporting wheel, of the inclines picker elevator located in front of the main frame at oz: side, and an extension bar at the opposite side and the leading wheels and draft tongue suitably connected to the fron: end of the extension bar, as and for the purpose speciar.
3. In a shock loader the combination with the main iramand main wheel and end supporting wheel, of an incline: picker elevator located in front of the main frame at nse side, an extension bar at the opposite side, a fore carriagpivotally connected to the extension bar, and compris!ne a crossbar pivotally connected to the end of the extens: bar. crank levers pivotally connected to the and of th. crossbar, co-acting toothed quadrants secured io tbu da: supporting wheels journalled on the ends of the crant levers and a tongue secured centrally to the croasbar \(s\) : the carrlage, as and for the purpose specifed.
4. In a shock loader the combination with the main frame and supporting wheels, of the inclined picker elevator located in front of the main frame at one side and comprising side boards, upper and lower cross spindles journalled in the side boards, sprocket wheels secured thereon to each side of the elevator, connecting spocket chains therefor. arc-shaped projections on the upper pair of sprocket wheels, crossbars provided with prongs and pivotally secured to the links of the endless sprocket chain, rearwardly extending arms designed to ride up onto the arc-shaped projections of the sprocket as the chain revolves, as and for the purpose specified.
5. In a shock loader, the combination with the main frame and supporting wheels, of the inclined picker elevator comprising side boards provided with upper and lower longitudinal guiding strips, upper and lower journalled shafts in the side boards, sprocket wheels secured to the spindles, arc-shaped projecting plates secured to the upper wheels and having laterally extending lugs, connecting sprocket chains between the upper and lower wheels, crossbars provided with prongs and extending between the sprocket chains in which they are journalled at their ends, arms extending from the crossbars in the direction of movement of the bars, rollers journalled on the ends of the bars and on the arms and designed to travel in the sald guiding strip, as and for the purpose specified
6. In a shock loader, the combination with the main frame and supporting wheels and inclined picker elevator, of a cross conveyer, and elevating conveyer, a supporting strut for the elevating conveyer pivoted at its lower end on the main frame, a roller journalled in proximity to the end of the strut, a bracket forming a guideway secured to the elevating conveyer and designed to receive the roller of the strut, an axle journalled in the side boards of the elevating conveyer, a crank handle for the axle and a flexible connection between the upper end of the strut and the axle, \(2 s\) and for the purpose specified.
7. In a shock loader the combination with the main frame and supporting wheels and inclined picker elevator, of a cross conveyer, an elevating conveyer provided with side boards having longitudinal slots therein, a supporting strut for the elevating conveyer pivotally supported at its lower end and designed to engage and have movement in the slotted side board at its upper end to support the elevating conveyer and means for swinging the strut on its pivot, as and for the purpose specified.
8. In a shock loader, the combination with the main frame and main wheel and end supparting wheel, picker elevator, cross conveyer and elevating conveyer, of a gear secured o the main wheel, a main shaft journalled on the frame, a pinion secured at one end and meshing with the main gear, a sprocket, a clutch connection between the sprocket and main shaft, a connecting sprocket chain between the sprocket on the main shaft and the driving sprocket of the picker elevator, a bevel gear on the main shaft, a counter shaft, a bevel pinion thereon meshing with the main bevel gear on the main shaft, a sprocket on the counter shaft connected thereto by a slidable clutch connection. a sprocket chain connecting the countershaft and the driving gear of the elevating and picker carriers, as and for the purpose specified.

\section*{No. 102,127. Boiler Cleaning Compound.}

\section*{Composé à nettoyer les chaudières.}

The John Callahan Co., assignee of John Callahan, both of Seattle, Washington, U.S.A.. 20th November, 1906; 6 years. Filed 5th February, 1906. Receipt No. 132.574.
Claim.-1. A cleaning compound having incorporated therein silicate of soda, cutch and glucose.
2. A cleaning compound having incorporated therein a sllicate, and an astringent extract and glucose.
3. A cleaning compound having incorporated therein an alkaline silicate, and an astringent.
4. A cleaning compound having incorporated therein a silica silicate and an astringent extract.
5. A cleaning compound composed of 75 per cent alkali, 10 per cent cutch, 10 per cent glucose and one per cent carmine.

No. 102,128. Method of Manufacturing MaltoDiastasted Milk. Méthode de fabrication de lait malto-diasté.
La Société Le Lait, assignee of Eugéne Terrien, both of Paris, France, 20th November; 1906. Filed 15th May, 1906. Receint No. 135,935 .

Claim.-1.-A malto-diastased milk for feeding infants. or convalescent adults, produced by mixing with an infusion of crushed malt, made at \(60^{\circ} \mathrm{C}\), a boiled food obtained by heating while cold, into a mixture of 3 , \(\frac{1}{3}\) of a litre of milk, according to circumstances, and of \(\frac{1}{2}\), or of water,
about 70 grammes of meal, cream, or flour of cereals, then cooking it at \(100^{\circ} \mathrm{C}\) for one quarter of an hour, and then allowing it to cool down to \(80^{\circ}\), at which temperature the mixture with the infusion of malt is effected, the said mixture being sweetened, and heated again to \(100^{\circ}\), then cooled.
2. The application to the malto-diastased milk characterized by a mixture of crushed malt, milk, water and meal as described, of known processes for the preservation and concentration of milk, and in particular the process of preservation under pressure of oxygen, which consists in enclosing the milk to be. preserved in hermetically closed receptacles in which it is subjected to a pressure of oxygen at the same time as it is agitated and slightly heated. or else to known processes of sterilization at a high temperature. care being taken in this case to avoid deterioration and coagulation of the milk, by previously alkalizing it after maltosing.

\section*{No. 102,129. Rubber Composition.}

Composition de caoutchouc.


James P. Crane, Chicago, Illinois, U.S.A.. 20th November
1906; 6 years. Filed 22nd June, 1906. Receipt No. 137,150 Claim.-1. A new composition of matter consisting of elastic vulcanized rubber as a base and elongated, crumpled and interlocking metallic flbres incorporated therewith throughout the mass.
2. A new composition of matter consisting of a mass composed of vulcanized rubber in an elastic and flexible condition substantially throughout which is distributed metallic wool in proportions by which elasticity and pliability of the mass is due to the rubber and at the same time producing a resisting wearing surface therefor, substantially as described
3. A new composition of matter consisting of vulcanized rubber, having steel wool uniformly distributed therethrough in such proportions as to produce a resisting wearing surface for a mass of rubber the elasticity and pliability of which is due to the rubber, substantially as described.
4. A new composition of matter consisting of a vulcanizable gum as a base, and a resilient metallic fibre incorporated therewith.

\section*{No. 102,130. Rubber Compound.}

\section*{Composé de caoutchouc.}

Lucien Roland, Paris, France, 12th November, 1906, 6 years. Filed 29th May, 1906. Receipt No. 136,378.
Claim.-An elastic substance analogous to rubber, obtained by combining a mixture of gelatine and glycerine taken in a liquid state, with an aqueous solution of chromates or chromic acids, the quantity of glycerine employed surpassing by one-tenth in weight that of the gelatine, while the quantity of chromates is equal to about five hundredths of such quantity of gelatine, the weight of water employed to dissolve the chromates being equal to about twice the weight of such chromates, a little more or a little less according as the proportion of glycerine in the mixture is more or less strong, such water remaining enclosed in the substances under the form of water of constitution.
No. 102,131. Check Valver Soupape d'arrêt.
George W. Rich, Memphis, Tennessec, U.S.A., 20th November. 1906; 6 years. Filed 24th October, 1906. Receipt No. 140,574.
Claim.-1. A check valve for the purposes set forth embodying in its construction a casing provided with a screwthreaded stem, two connections, each provided with a valve seat, one connection being adapted to be screwed into the casing and the other adapted to be attached to the firstnamed by screw-threaded means, a wing valve seated in
cach connection, a stuffing box in the casing over the center of the upper valve, a seem extended through said stufing

box and a handle on the outer end of the said stem to enable it to be turned down on the upper valve and press it down to the steam tight degree upon its seat.
2. A check valve for the purposes set forth embodying. in its construction a casing provided with a screw-threaded stem, two connections, each provided with a valve seat, one connection being adapted to be screwed into the casing and the other adapted to be attached to the first-named by screw-threaded means, a wing valve seated in each connection, a stuffing box in the casing over the center of the upper valve, and means extended through said stuffing box and adapted to act upon the valve therebelow to press it down and hold it upon its seat.
3. A check valve comprising a casing, means for securing the casing to a steam boiler, two connections each provided with a valve seat, and a wing valve seated in each connection, in combination with means for securing one valve rigidly upon its seat.
4. A cheok valve comprising a casing. moans for securing the casing to a steam boller, two connections each provided with a valve seat, and a wing valve seated in each connection one above the other, in combination with means for securing the upper valve rigidly upon its seat and permitting the lower valve and its connection to be removed.

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John H. Chandler, Indian Orchard. Massachusetts, U.S.A.. 20th November. 1906: 6 years. Filed :1th October, 1906. Recoint No. 140,16 :
Claim.-1. The combination in a plug valve of a body havInz a spirally dis!osed projection theruin, a plug, a stem confircted with the plug and arranged to impart a rotary and a lifting movement thereto, and means of engagement between
the plug and said projection to effect the rotation of the plug by the downward movement of the latter.
2. A plug valve comprising a body, a tapered plug. a stem ccnsisting of two parts, one of which extends outalde of the body and is revoluble in a subatantially fixed plane, a atem on a plug having a screw engagement with the first-named stem to raise the plug to a seating position agalnst the under side of the cap, and to rotate it in one direction.
3. A plug valve comprising a body, a tapered plug, a stem consisting of two parts, one of which extends outside of the body and is revoluble in a substantially fixed plane, a stom on the plug having a screw engagement with the first-damed stem whereby the latter, when turned in one direction will raise the plug to a seat against the under side of the cap. In the body, the plug rotating with the stem, the rotation of the latter in the opposite direction imparting vertical movements only to said plug together with a device to effect the rotation of the plug during the said vertical movement.

No. 102,133. Chatix Irom. Chaise de fer.


Juhn Gilson, Jr., Port Washington, Wisconsin, U.S.A.. soth November, 1906: 6 years. Filed 20th August. 1906 Rccelpt No. 138,869 .
('laim.-1. The combination in a chair spider, of a traasverse spreader plate terminating in ears, a yoke for conneciion with the adjusting post and provided with a central standard and at opposite sides thereof with rocker arms. a pintle between the yoke and ears, a \(U\)-shaped plate arranged under the spreader plate at opposite sides of the rocker arma. said U-shaped plate being provided at its rear with one member of a spring support and having its opposite branohes recessed to recelve the upper ends of the rocker arms, an adjusting rod extending beyond the rear spring support of sald U-shaped plate and the central standard of the yoke, an adjusting wheel at the front end of said rod, a yoke plece at the rear end thereof, and colled springs interposed between the yoke plece and the spring support at the rear end of the U-shaped plate.
2. The combination in a chair spider, of a transverse spreader plate having depending ears. spider arms arranged or the plate, a yoke having an eye for receiving the adjusting post and provided with a central standard and opposite rocker arms, a transverse pintle passing through the yoke and the ears of the spreader plate, a spring supportine plate arranged under the spreader plate to reinforce the same. said spring supporting plate being of \(U\)-shape and having its opposite arms or branches recessed to reocive and form stops for the rocker arms and at its rear end providod with a tiansverse spring support extending above its arzis or bianches and having the shoulder 9 against which the spreader plate abuts, a tension rod mounted in the central standers and spring support of said \(U\)-shaped plate, a yoke plece as the rear ond of the rod, springs interposed between the yoke piece and the spring support of said U-shaped plate, an atjusting wheel at the front end of said rod, and rivels paned through the spider arms, spring plate and arms or branche of the \(U\)-shaped plate.
3. The combination in a chair spider, of a transvers spreader plate having depending bearing ears, spider arms arranged on the plate, a yoke having an eye for recelving the adjusting post and provided with a contral standard and opposite rocker arms, a transverse pintle passing through thr yoke and the ears of the spreader plate, a spring supportion plate arranged under the spreader plate to relnforce tar same. said spring supporting plate being of \(\mathbb{C}\)-shape and havirg its opposite arms or branches recessed to receive asd fcrm stops for the rocker arms, and at lts rear end provided with a transvirse spring support extending above tis arm or branches and having the shouliar 9 agminst which the spreader plate abuts, a tension rod mounted in the retital
standard and spring support of said \(U\)-shaped plate, a yoke plece at the rear end of the rod, springs interposed between the yoke piece and the spring support of said \(\mathbb{U}\)-shaped plate, and an adjusting wheel at the frint end of said rod.

No. 102,134. Chair Iron. Chaise de fer.


Harry W. Bolens, Port Washington, U.S.A., 12th November. 1906; 6 years. Filed 20th September, 1906. Recelpt No. 139,663.
Claim.-1. The combination in a chair iron, of a spreader plate, a pivotal supporting meaus therefor, a substantially U-shaped spider arm frame formed of angle iron baving its central portion shaped to form a point of contact and perforated to receive attaching scraws, and its opposite terminals constituting spider arms secured upon the spreader plate, and a rear transverse spider arm mounted on the terminals of the \(U\)-shaped spider arm frame and the spreader plate and having its ends shaped to form opposite contacts and perforated to receive attaching screws.
2. The combination in a chair iron, of a spreader plate, a plvotal support therefor, a substantially \(U\)-shaped spider arm frame formed of angle iron having its central portion upwardly disposed to form a contact point and perforated and its opposite terminals forming spider arms and embracing the opposite edges of the spreader plate, a rear transverse spider arm formed of angle iron and mounted upon the terminals of the spider arm frame and the rear end of the spreader plate, and rivets passing through the arms and plates.
3. The combination in a chair iron, of a spreader plate, opposite spider arms formed of angle iron embracing the opposite side edges of sald spreader plate, a rear transverse spider arm formed of angle iron and embracing the rear edge ot the spreader plate and surmounting the rear terminals of the spider arms, and rivets passed through the two sets of spider arms and the spreader plate.
4. The combination in a chair iron, of a yoke having opposite stop shoulders, a spreader plate pivotally mounted on the yoke, and spider arms formed of angle iron mounted on the spreader plate and embracing the same, whereby the lower edges of the spider arms are adapted to contact with said stop shoulders and limit the pivotal movement of the spreader plate.
5. The combination in a chair iron, of a yoke, a spreader plate pivotally supported therein, a bridge plece engagin: the front of the spreader plate and extending between the yoke terminals and out of contact therewith, and a tension device carried by the bridge piece.
6. The combination in a chair iron, of a yoke, a spreader plate pivotally mounted therein, a bridge piece depending from the front edge of the spreader plate and having an extension passed under and braced against the spreader plate, and a tension device carried by the bridge piece.
7. The combination in a chair iron, of a yoke. a sheet metal spreader plate pivotally supported in the upper end thereof, a bridge piece formed indegendent of the spreader plate and comprising an upper widened engaging end taking over the edge of the spreader plate, a depending apron out of contact with the yoke, a brace extending rearwardly and contacting with the spreader plate, and a tension device carried by the apron.
8. The combination in a chair iron, of a yoke, a spreader plate pivotally mounted therein, a bridge piece comprising a widened bifurcated upper end terminating in spreader plate engaging fingers, a depending apron, a rearwardly disposed plate passing under the spreader plate. a bracing web between the apron and plate, and a tension device carried by the apron.

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9. The combination in a chair iron, of a yoke, a spreader plate pivotally mounted therein, a bridge plece comprising a widened bifurcated upper end terminating in spreader plate engaging fingers, a depending apron, a rearwardly disposed plate passing under and braced against the spreader plate, and a tension device carried by the apron.
10. The combination in a chair iron, of a spreader plate means for supporting same, a spider arm frame formed of an angle Iron. said frame having a V-notch formed in its upper horizontal flange and its edges brought substantially in contact to form a point of contact, the terminals of sald frame being secured to the spreader plate.
11. In a chair iron the combination with a spreader plate and a yoke for supporting the same, of an apron bearing at its front end against the front endge of the spreader plate and having its rear portion extended under and bearing against the spreader plate, and a tension device carried by said apron.
12. In a chair iron, the combination with a spreader plate and a yoke for supporting the same, of an apron connected at its front end to the front of the spreader plate and having its rear portion extending under and bearing against the under side of the spreader plate, and a tension device carried by said amron.

No. 102,135. Folding Eeat and 8tep.
Sieges et marches pliants.


Charles N. Hazelton, Morrison, Illinois, U.S.A., 20th November, 1906; 6 years. Filed 8th August, 1906. Receipt No. 138,485 .
Claim.-1. In a combined folding seat and step, the combination of an inner pair of legs, a step rigidly uniting such legs at their central points, an outer pair of legs spaced apart from said inner pair, and pivotally secured thereto at their central points, the upper parts of said outer pair of legs being hingeably secured to the lower parts, above the pivotal points thereof, so as to fold over into proximity with the inner pair of legs, means for holding the upper parts of each adjacent pair of legs from accidental closing. means for limiting the separation of the lower parts of said legs, when in use, and a folding back, pivotally secured to the outer pair of said legs, and adapted to fold downwardly to form a support, when said device is in use as a step, substantially as shown and set forth.
2. The combination with a pair of spaced apart legs 1 and 4, pivotally attached at their central points, of a brace 11, pivotally secured at each of its ends to one of said legs, and comprising two plates 12 and 13 , pivotally united centrally of said brace, so as to fold downwardly into the space between said legs, the inner ends of sald plates being projected beyond the givotal point. the inner end of the plate 12 coming in contact with a stud 15 fixed on the plate 13 , and the inner end of the plate 13 engaging a boss 16 on the plate 12, so as to lock said brace from accidental closing, substantially as shown and described.
3. In a folding seat and step the combination of a pair of legs 1, provided with a cross piece 2, the pair of legs 4 plvotally attached to the legs 1 at their central points, and provided with the cross piece 6 , a pair of supports 18 . pivoted on the legs 4 , and united by the back 17 , and the buttons 23 pivoted on the strips 18, and adapted to be turned inwardly into engagement with the ends of the cross piece 2, to support the back thercon, substantially as and for the purpose named.

Ne. 102,136. Apparatus for Manufacturing Uphelatery.
Appareil pour la fabrication de tapisserie.


Edwin M. Hulse, Columbus, Ohio, U.S.A., 20th November, 1906; 6 years. Filed 4th August, 1906. Receipt No. 138,410.
Claim.-1. In apparatus for the manufacture of upholstery, a table comprising two parts each having its edges provided with button holders and means for moving the parts of the table asunder.
2. In apparatus for the manufacture of upholstery, a table upon which the upholstery can be supported having its opposite edges provided with grooved botton holders and means whereby said button holders can be moved asunder.
3. In apparatus for the manufacture of upholstery, a table upon which the upholstery can be supported having its edg. provided with a grooved button holder into which the buttons can be slid and from which button holder the said buttons can be slid after the application of the upholstery covering material thereto.
4. In apparatus for the manufacture of upholstery, a table upon which the upholstery can be supported having its opposite edges provided with grooved button holders into which the buttons can be. slid and from which button holders the said buttons can be slid after the application of the upholstery covering material thereto and means for moving said button holders asunder.
5. In apparatus for the manufacture of upholstery. a table upon which the upholstery can be supported, said table having near its edge a grooved button holder into which buttons can be slid and from which they can be removed after application to the upholstery. said button holder being movable with respect to the supported upholstery.
6. In apparatus for the manufacture of upholstery, a table upon which the upholstery can be supported, sald table having near its edge a grooved button holder into which buttons can be slid and from which they can be removed after application to the upholstery, said button holder being movable with respect to the supported upholstery, combined with means whereby sald button holder may be moved with respect to the supported upholstery and for retaining the same in the position to which it is to be moved.
7. In apparatus for the manufacture of upholstery. the combination of a table for supporting the upholstery, a holder for a pronged fastening device at the cdge of said table, said holder adapted to support said fastening device with its prong lying in a plane substantially parallel to the plane of the top of the table, and means tending to provent the removal of the rastening device from said holder in a direction colnciding with the direction of the prong.
8. In apparatus for the manufacture of upholstery, the combination of a table for supporting the upholstery, a holder for a pronged fastening device at the edge of sald table, said bolder adapted to support sald fastening device with its prong lying in a plane substantially parallel to but below the plane of ho top of the table, and means tending to provent the removal of the fastening device from said
holder in an outward direction coinciding with the direction of the prong.
9. In apparatus for the manufacture of upholstery, the combination of a table for supporting the upholstery. a holder for a pronged fastening device at the edge of sald table adapted to support said fastening device with its prong lying in a plane substantially paralled to the plane of the top of the table, said holder being movavble with respect to the supported upholstery and means tending to prevent the removal of the fastening device from said holder in an outward direction coinciding with the direction of the prong.

No. 102,137. Biscuit Machine and Baldig Devico. Apparcil d faire et cuire les biscuits.


Yasuke Kawasaki, Vancouver, British Columbia, Canada, 20th November, 1906; 6 years. Filed 18th June. \(1900^{\circ}\). Heceipt No. 137,007.
Claim.--1. As a means for forming and baking wafer bis. cuits of the class described. the combination with upper and lower plane surfaced plates hinged together so that the plates may be laid open and their adjacent surfaces exposed. means for maintaining both plates at a constan: temperature whether open apart, or closed one on the other. stops to regulate the distance apart of the plates when closed one on the other, means for securing the plates tightly together in the closed position, an open batter containing box mounted on wheels and a track so as to be movable over one of the plates, the bottom of such box having a series of apertures through it. and means for simultantously opening and closing said apertures.
2. As a means for forming and baking water biscuits. the combination with plane surfaced plates hinged together no that one may be folded on the other, means for uniformir and uninterruptedly heating said plates, a batter holding riceptacle movable over one of said plates, said receptacle. having a series of apertures through its bottom and mean: for opening and closing said apertures.
3. As a means for forming and baking wafer blscults, th. combination with plane surfaced plates hinged that th. plane surfaces may be exposed upward or closed one on the other, means for uniformly and uninterruptedly beatink said plates, a batter holding receptacle having a series " apertures through its bottom, said receptacle being morabl-. on a carriare which itself is movable over one or other othe plates and has a plane surface provided with apertures corresponding with those in the bottom of the aforementioned recuptacle, and means for moving the recoptacle in relation to its carriage so as to open or close the apertures in the botiom of the receptacle.
4. As a means for forming and baking wafer biscuits, the combination with plane surfaced plates hinged that the plane surfaces may be exposed upward or closed one on the other. means for uniformly and uninterruptedly heating said plates, a batter holding receptacle movable over one or other of the plates having a series of apertures in the bottom which may be opened or closed, bridge bars across the receptacle having a series of screws threaded therethrough corresponding to the apertures in the bottom of the receptacle. said screws having conical lower ends which may be inserted in the apertures to regulate the flow of the batter through them.

No. 102,138. Umbrella Frame. Cadre de parapluie.

Alphonse Lenoir, administrator of the estate of Patil SergeKisslow, deceased, Portland, Oregon, U.S.A., 20 th November, 1906; 6 years. Filed 11th September, 1905. Receipt No. 128,369.
Claim.-1. A runner comprising in combination a stem a, and a longitudinally movable spring controlled sleeve on said stem, the said stem and said sleeve each being made with a flaring lower end, provided with an inwari taper or chamfer and adapted to depress the detaining spring on the umbrella stick, so that the runner may be drawn over the same, substantially as described.
2. A runner comprising a stem and a longitudinally movable spring controlled sleeve on said stem, said stem and said sleeve each being made with a flaring lower end provided with an inward taper or chamfer, and adapted to depress the detaining spring on the umbrella stick, so that the runner may be drawn over the same, and the lower end of said sleeve being further made with an integral socket head \(e\). adapted to be slipped over and hold the free ends of the ribs, when arranged together. substantially as described.
3. A runner comprising a stem \(n\) and a longitudinally movable sleeve \(r\), on said stem, which sleeve comprises a contracted upper end sliding on said stem, and a body of greater diameter than said stem. a coil spring within the sleeve holding the latter in its normal position, the lower and of said stem a being made with a bearing for the lower end of the sleeve \(r\) to slide on, said stem and said sleeve each being made with a flaring lower end provided with an inward taper or chamfer, and adapted to depress the detaining spring on the umbrella stick. so that the runner may be drawn over the same, and the lower end of said sleeve being further made with an integral socket head \(e\), adapted to be slipped over and hold the free ends of the ribs, when arranged together, substantially as described.

No. 102,139. Wigwam. Futte indicnnr.


John Albert Lynn. Charlevois. Michigan, U.S.A., 20th November, 1906; 6 years. Filed 24th July, 1906. Receipt No. 138,134.
Claim.-1. In a sectional knock-down pyramidal wigwam, a triangular section consisting of side bars bevelled on their outer faces and upper ends, inner transverse braces, outer transverse tie rods, and bark layers attached to said side bars and clamped between said braces and tie rods, substantially as speciffed.
2. A knock-down pyramidal wigwam, consisting of detachable sections having bevelled frame bars, transverse braces and tie rods, lining layers and outer overlapping layers og bark. connecting bolts, and a detachable knocklown top binder, substantially as specified.
3. A sectional nyramidal wigwam having long angular detachable sections, a short triangular detachable section, their connecting bolts, and a detachable pyramidal top binler. substantially as specified.

No. 102,140. Cock for Water Supply Apparatus. Robinet \(\dot{\text { à eau. }}\)


Joseph Mouhlen, Dusseldorf. Germany, 20th November, 1906;
6 years. Filed 6th September, 1906. Receipt No. 139,307. Claim.-1. Controlling the supply of water to domestic and similar service pipes and taps by the insertion in the water pipe immediately behind the service tap of a three-way cock, the plug \(e\) of which is so constructed that the supply of water to the service tap \(a\) or to the service pipe \(h\) or to both simultaneously can be shut off, in which latter case the service pipe \(h\) is put in communication with the service tap \(a\).
2. A service tap with a shut-off cock for water supply pipes an dthe like distinguished by a device for preventing the unscrewing of the service tap and of its upper part whilst the supply pipe is open, said device comprising a ring which is mounted to rotate and move axially on the service tap engaging by means of an extension in a recess in the upper part of the service tap and also engaging by means of a second extension which is furnished with a circular recess, a suitably formed part \(e\) of the plug circular recess, a suitably formed part \(e^{1}\) of the plug this clip being furnished with a recess which in the position of the plug \(e\) in which the liquid is shut off from the service tan allows the ring to be moved to release the servier tap to allow it to be unscrewed.


No. 102,141. Machine for Making Bale Ties.
Machine à faire des liens de ballots.


Charles B. Post, New London, Ohio, U.S.A., 20th November, 1906; 6 years. Filed 26th March 1906. Receipt No. 134,301.
Claim.-1. In a bale tie machine, means for stretching the wire, means for relieving the tension on the wire after it has been stretched, and cutting means for severing the wire after it has been released, substantially as described.
2. In a bale tie machine the combination with loop forming mechanism of a stretching device arranged to engage the loop and stretch the wire before it is cut. means for relieving the tension on the stretched wire, and a cutter arranged to sever the wire after its tension has been relieved, substantially as described.
3. In a bale tie machine, an endless carrier having means for engaging the loop of the tie before the latter has been severed from the wire, a wheel over which said carrier passes, a holding device for gripping the wire while engaged by the carrier, cutting means for severing the wire, and mechanism arranged to operate the cutting means after that point of the carrier which is engaged with the loop of the wire has passed beyond the center of the whecl, substantially as described.
4. In a bale tie machine, an endless carrier having a laterally projecting loop engaging hook. a wheel over whirh the carrier passes, means for gripping the wire, a cutter, and means for operating the cutter after the loop engaging hook has passed beyond the center of the wheel, substantially as described.
5. In a bale tie machine, devices for bending or looping the wire and for twisting the loop, a cutting device, a wire gripping device. an endless carrier having a loop engaging hook, a wheel over which the carrier passes. and means for operating the cutting device after the loop engaging hook has passed beyond the center of the wheel, substantially as described.
6. In a bale tie machine, an endless carrier having a loop engaging hook, a tension device for the wire, a loop forming device, a twisting device, means for holding the wire while the loop is being twisted. a stretcher arranged to stretch the wire before it is cut, and means for relleving the tension on the wire before cutting. substantially as described.
7. In a machine for the purpose described, instrumentalitles for looping the wire, a stretcher device comprising \(\Omega\) carrier, adapted to engage the loop of the wire. a wheel over which said carrier passes, a gripping device adapted to angage and hold said wire and to operate slightly before
the carrier reaches its extreme point of travel beyond the gripping device, and instrumentalities adapted to operate to release the loop and cut off the wire, substantially as described.
8. In a machine for making a bale tin having a loop in one end, in combination, a device for bending the wire, a twisting device, a device for holding the free end and body of the wire while the loop is being twisted, a carrier adapted to engage the loop and draw the wire forward to the required length, a gripping devior arranged to engage and hold the wire, just before it has reached the limit of travel, whereby the wire is stretehed and straightened. and devices for reloasing the loop from the carrier and for cutting off the wirc. subsiantially as described.
9. In a machine for making a bale tie. having a loop in one end, in combination, a device for bending the wire to form a loop. a twisting drvice, an endless carrier adanted to engage the loop and to draw the wire forward to the required longth. wherls upon which the carrier is mounted, and a vis. ada!otel to congage the wire as its forward and arrives at a point near the vertical center of the said outer wheel, whereby the movement of this part of the wheel to the horizontal position will stretch the wire, substantially as desrribed.
10. In a machine for making a bale tie having a loop in one and, in combination, a device for bending the wire to form loop, a twisted device, an endless carrier adapted to engage the loop and to draw the wire forward to the required length, outer and inner sprocket wheels upon which the carrier is mounted, a vice adapted to engage the wire as its forward end arrives substantially at the vertical center of the said outer snrorket wheel. whereby the movenent of this part of the wheel to the horizontal position will stretch the wire, a releasing device for the loop located below the conter of the saidoutcr sprocket wheel. whereby the strain upon the wire will be relaxed as the wheel continues to rotate, and a cutting device for the other end of the wire organized to operate as soon as the strain is removed from the wire substantially as described.
11. In a bale tie machine the combination with loop forming means. of stretching means comprising \(u\) carrier arranged to engage the loop, a gripping device, and means for releasing the gripping device after the carriage has brought the loop to a position below the center of the wheel, substantially as described.
12. In a bale tie machine, a tension roll, a tipping bearing therefor, and a belt shifter operated by the tipping bearing, substantíally as described.
13. In a bale tic machine, a twisting pin, a looping device, a link and lever mechanism for actuating said device to carry the wire around the twisting pin, and a cam for actuating link and lever mechanism, substantially as described.
14. In a bale tie machine, a pin, a looping device, lever mechanism arranged to carry the looping device around the pin, a cam for actuating the lever device, and an intermittently operating twisting device, substantially as described.
15. In a balc tie machine, a pin, a looping device, an arm to which said device is attached, a plvoted link carrying said arm, a bell crank lever connected to the link, a cam for artuating the bell crank lever. and guiding means for the link, substantially as described.
16. In a bale tic machine, an endless caprier having a loop rngaging hook. a wheel over which said hook passes, and a loop disengaging device located beyond the center of said wheel, substantially as described.
17. In a bale tie machine, loop forming and twisting devices, an endless carrier arranged to engage the formed loop and to draw the wire forward to the required length, wheels upon which the carrier is mounted, a gripping device arranged to engage the wire as its forward end arrives at a point near the vertical center of the outer wheel, whereby the movement of this part of the wheel will stretch the wire and its movement beyond this point will releasc and relax the tension of the wire, a cutting device arranged to operate after the tension is thus relaxed. and means for disengaging the loop from the carrier, substantially as described.
18. In a machine for forming a wir, bale tie having a looped end, in combination. a guide for the wire, a wire bending and loop twisting device. a roller vise member and die, adapted to hold the wire while the loop is being twisted. an endless chain and loon engaging device thereon, sprocket wheels over which said rhain passes. said loop engaging device being arranged to engage the inop when in the horizontal position, and raise said loop to the top of one whel and carry it to the other wheel, and the said roller vise momber serving as a gulde over which the wire is drawn. substantially as described.
19. In a machine for the purpose described, a device for stretching the wire, and for giving one end thereof a swing ing motion, and a counting device having a rotating member arranged in the path of the swinging end of the wire, and adapted to be rotated thereby. substantially as described.

No. 102,142. Malt House. Germoir.


William P. Rice, Chicago, Illinois, U.S.A., 20th November,
1906; 6 years. Filed 6th July, 1906. Receipt No. 137,577.
Claim.-1. In a malting apparatus, a plurality of malting units located side by side, each comprising a plurality of closely spaced shelves located one above the other, for supporting the grain or malt in separate thin layers, a frame common to and supporting all said shelves, means for turning the grain or malt comprising means for discharging the same from a unit, and depositing it on the shelves of another or the same unit, and means for separately admitting air to the contents of the several shelves in a manner to limit the passage of the same air through a single layer.
2. A malting device comprising a plurality of shelves located one above the other for supporting the grain or malt in separate layers, a frame common to and supporting all of said shelves, and a plurality of air openings in the side walls of said frame opening separately to the exterior of the device through which air is directed horizontally to said layers, said shelves being movable in the frame to discharge the contents or the shelves.
3. A malting device comprising a plurality of perforated shelves arranged one above the other for supporting thereon malt or grain in layers, a frame common to and supporting all of said shelves, and side and end plates of said frame constituting the side and end walls of compartments, of which the shelves constitute the bottoms, each of the compartments being provided in one wall with an air admission opening, and being closed at its opposite wall, the air openings of arjacent compartments being located alternately on opposite sides of the device or unit.
4. A malting device comprising a plurality of perforated shelves arranged one above the other for supporting thereon malt or grain in layers, a frame common to and supporting all of said shelves, means for discharging the contents of sai slelves therefrom, and side and end plates on said frame constituting the side and end walls of compartments, of which the shelves constitute the bottoms, the upper pait of one vertical wall of each compartment terminating short of the bottom or shelf of the superjacent compartment, the compartments being otherwise closed and the openings of the adjacent compartments being located alternately on opposite sides of the device or unit, each compartment being adapted to be filled to the level of its opening, whereby there is provided above said layer a space constituting an air passage through which air is distributed to the malt below.
5. A malting device comprising a plurality of superposed compartments having perforated bottoms and upon which the grain or malt is supported in layers, each compartment being open at one side at the top thereof and the openings of adjacent compartments being arranged alternately on opposite sides of the compartments.
6. An improved system or apparatus for producing malt comprising a single story room or apartment, a plurality of malting units located side by side on the floor of said room and separated by aisles constituting air passages, said units filing the principal part of the space between the floor and ceiling of the room, and means for directing air through certain of said aisles, horizontally through the units, and dis charging it through other adjacent aisles.
7. An improved system or apparatus for producing malt comprising a room or apartment, a plurality of malting units lucated side by side on the floor of said room, each embracing a plurality of shelves located one above the other, and upon which the grain or malt is arranged in layers, and sup ported upon a frame common to all, said units being sepa-
rated by spaces arranged to constitute defined aisles or air passages, and means for directing air through said aisles and over the layers of malt or grain on said shelves.
8. An improved system or apparatus for producing malt, comprising a room or apartment, a plurality of malting units located side by side on the floor of said room and separated by aisles constituting air passages, said units filling substantially the space between the floor and celling of the room, means for directing air through certain of said aisles and korizontally through the units and discharging it through other adjacent aisles, and independently operable doors or valves, one at the end of each aisle, whereby the aisles may tr: changed from high to low pressure aisles, and the direction of the air through the units reversed.
9. An improved system or apparatus for producing malt comprising a suitable room or apartment, a plurality of units lecated side by side on the floor of said room, each comprising a plurality of compartments located one over the other is which the malt or grain is supported in layers, said units slibstantially filling the vertical space between the floor and ceiling of the said room, said units being separated by spaces constituting aisles or air passages, and the compartments being provided in their vertical walls with openings through which air enters for contact with the layers of grain or malt in the compartments, and means for directing air through said aisles or passages to the units.
10. An improved system for producing malt comprising a suitable room or apartment, a plurality of units on the floor of said room, and substantially filling the space between the floor and ceiling of the room, and means for turning the grain or malt comprising means for discharging the same from the units and redepositing it therein.
11. The improved malt house and apparatus described comprising a germinating room, a drying room, a plurality of steep tubs, a plurality of malting units located side by side in said germinating and drying rooms and substantially filling the vertical spaces between the floors and ceilings of the germinating and drying rooms, said units each comprising a plurality of shelves located one above the other, upon which the malt or grain is arranged in layers, means for directing steeped grain from the steep tubs to the units in the germinating room, means for directing the green malt to the units in the drying room, and means for directing air through said usits in contact with said layers of grain or malt on said sbelves.
12. The improved malt house and apparatus described comprising a germinating room, a drying room, a plurality of steep tubs, a plurality of malting units located side by side ir. said germinating room, and substantially filling the vertical space between the floor and ceiling of the germinating rom, said units each comprising a plurality of shelves located one above the other, upon which the malt or grain is arranged in layers, means for directing steep grain from the steep tubs to the units in the germinating room, means for directing the green malt to the drying room, and means for directing air to the germinating and drying malt.
13. The improved malt house and apparatus described comprising a germinating room, a drying room, a plurality of steep tubs, a plurality of malting units located side by side in said germinating and drying rooms, and substantially filling the vertical spaces between the floors and ceilings of the germinating and drying rooms, said units each comprising a plurality of shelves located one above the other upon which the malt or grain is arranged in layers, means for directing steeped grain from the steep tubs to the units in the germinating room, means for directing the green malt to the units in the drying room, means for directing air through said units in contact with said layers of grain or malt on said shelves and means for discharging the malt or grain from said units and re-depositing thereon for the purpose of turning the grain or malt.
14. An improved system or apparatus for producing mal comprising a room or apartment, a plurality of malting units located side by side on the floor of said room and separated by aisles constituting air passages, said units each comprising a plurality of vertically separated, closely spaced shelves on which the malt is supported in thin layers and units filling substantially the space between the floor and ceiling of the room, means for directing air through certain of the aisles and through the units and discharging it through other adjacent aisles, and means for reversing the direction of the air currents through said units whereby either of two aisles at the sides of a unit may be a plenum or vacuum aisle.
15. The improved system or apparatus for producing malt comprising a single story room or apartment, a plurality of malting units located side by side on the floor of the room, each comprising a plurality of vertically separated. closely spaced shelves on which the malt is supported in thin layers, said units substantially filling the space between the floor and ceiling of the room, and means afford ing prescribed air passages located on opposite sides of
each unit whereby air is directed from one passage, through the unit and to the other passage.
16. The improved system or apparatus for producing malt comprising a single story room or apartment, a plurality of malting units located side by side on the floor of the room, each comprising a plurality of vertically separated closely spaced shelves on which the malt is supported in thin layers, said units substantially filling the space between the floor and ceiling of the room, means affording prescribed air passages located on opposite sides of each unit whereby air is directed from one passage, through the unit and to the other passage and means whereby the direction of air through sald passages and through the units may be changed.
17. An improved system or apparatus for producing malt comprising a single story room or apartment, a plurality of malting units located side by side on the floor of said room and separated by aisles constituting air passages, said units filling the principal part of the space between the ceiling and floor of the room and nach comprising a plurality of closely spaced shelves constituting the bottom of superposed compartments upon and in which the malt is supported in thin layers, and means for directing air through certain of said aisles and through the units and discharging it through other adjacent aisles.
18. An improved system or apparatus for producing malt comprising a single story room or apartment, a plurality of malting units side by side therein each comprising a single vertical series of closely spaced superposed shelves, said shelves being movable to permit the layers of malt supnorted thereon to be dumped therefrom. the units substantially filling the space between the reiling and fioor of the room, and means affording prescribed air passages located on opposing sides of each unit, the air directed from one passage, through the unit and into the other passage.
19. In a malting unit, a plurality of closely spaced, verti cally separated shelves and a frame common to and supmorting all said shelves, said shelves being made of a pluraliy of dumping sections and means for moving the shelves severally towards and out of one end of the unit to dump the contents of each of said shelves from the unit.
20. In a malting unit, a plurality of vertically separated, closely spaced shelves each comprising a plurality of dumping sections joined nexibly together, a frame provided with a series of tracks on which said shelves are severally supported, and means for advancing said shelves severally to ward and out of one end of the unit for dumping the contents of each shelf from the unit.
21. A malting unit comprising a plurality of vertically separated, closely spaced shelves, a frame therefor, walls enclosing sald shelves, means for directing air to the contents of said shelves, said shelves comprising a plurality of short sections joined flexibly together, and means for severally advancing the shelves towards and out of one end of the unit for dumping the contents thereof.
22. In a malting unit, a plurality of closely spaced vertically separated shelves, and a frame therefor embracing side and end enclosing walls. said shelves each embracing a plurality of short sections joined flexibly together tracks on the frame for supporting said shelves means for moving said shelves severally toward and out of one end of the unit to dump the contents of the same at the end of the unit, and means for directing said shelves backwardly and into the unit.
23. In a malting unit, a plurality of closely spaced vertioally separated shelves, and a frame therefor including side ad enclosing walls, said shelves each embracing a plurality of dumping sections joined flexibly together, tracks on the frame for supporting said shelves, means for moving said shelves severally toward one end of the unit to dump the contents thereof. means for again directing said shelves into he unit, and means for loading each shelf as it passes into place in the unit.
24. A malting unit comprising a plurality of vertically separated closely.spaced shelves, a frame therefor including enclosing side and end walls. means for admitting air to said shelves, tracks in the frame for supporting said whelves, said shelves each comprising a plurality of tray sections foined flexibly to each other and provided at their ends with rollers which rest and roll on said tracks. and means for advancing said slecves severally to and through one end of the unit for dumping the contents thereof
25. An improved system or apparatus for producing malt comprising a room or apartment, a plurality of malting units located side by side on the floor of said room, each embracing a plurality of shelves located one above the other, and upon which the grain or malt is arranged in layers, and the shelves substantially filling the space between the ceiling and floor of the room, means for directing air through defined air passages to the several shelves of said units, said shelves each embracing a plurality of flexibly connected short dumping sections, means for advancing
each shelf towards and through one end of its unit for dumping the same and for redirecting the shelf into the unit.
26. An improved system or apparatus for producing malt comprising a single story room or apartment, a plurality of malting units, each including a series of closely spaced. separated shelves constituting the bottoms of compartments for the grain or malt. the compartments of the units substantlally filling the space between the ceiling and floor of the room, means affording prescribed air passages located on opposing sides of each unit, the air being directed from one passage through the unit and into the other passage. and each shelf constituting a plurality of short flexibly connected sections, and means for advancing the shelves toward and through one end of the unit to dump the contents thereof.
27. In a malting unit, a plurality of closely spaced vertically separated shelves, a frame common to and supporting said shelves, means for moving th:- shelves severally toward and out of one end of the unit to dump the contents thereof from the unit. and a conveying mechanism located in receiving proximity to the dumping contents of each shelf and constructed to redeposit such contents upon the shelf from which it was dumped, as well as upon either of the other shelves of the units.
28. A malling unit comprising a frame provided with a plurality of horizontal tracks. a plurality of closely spaced vertically separated shelves having rollers which rest on said tracks whereby the weight of the shelves and their contents are supported on said tracks, means for withdrawing the shelves from the unit to discharge the contents thercof outside the unit and means for directing air from the space outside the unit in prescribed paths over and through the contents of the shelves.
29. In a malting apparatus, two malting units arranged end to end and separated by a space, each embracing a plurality of closely spaced, vertically separated shelves to receive the malt, the shelves of each unit being movable into spaces in the other unit, and arranged to dump the contents there of while passing through the spare separating said units.
30. In a malting apparatus, two malting units arranged end to end and separated by a space. each embracing a plurality of closely spaced vertically separated shelves to re ceive the malt, the shelves of each unit being movable into spaces in the other unit, and arranged to dump the contents thereof while passing through the space separating said units, and conveying mechanism for redepositing said mal into the same or other shelves while passing through the spare separating said units.
31. In a malting apparatus, two malting units arranged ndd to end and separated by a space, each embracing a plurality of closely spaced vertically separated shelves to re ecive the malt, the shelves of each unit being movabl into spaces in the other unit, and arranged to dump th contents thrreof while passing through the space separating said units, a conveyer at the bottom of said spare arparating the units and a conveyer at the top of said space receiving malt from the lower conveyor, said shelves being cach ada!ted to be redirected to its unit and to be loaded from said overhead conveyer.
32. In a malting apparatus, two malting units arranged end to end and separated by a space, shelves to receive the malt and a track spanning said space, each shelf being mad of a plurality of dumping sections and the track being arranged to permit the sections of the shelves to dump the contents thereof while passing over said track
33. In a malting apparatus, two malting units arranged end to end and separated by a space, shelves to receive the malt and a track spanning said space, each shelf being made of a plurality of dumping sections and the track being ar ranged to permit the sections of the shelven to dump the contents thereof while passing over sald track, said shelves each passing backwardly into its unit over sald track, and means for loading each shelf as it passes into its unit.
34. In a malting apparatus, two malting units arranged nd to end and separated by a space, shelves to receive sail malt and a track spanning sald space and provided with depressed guides, each half consisting of a plurality of flexibly joined sections, arranged to drop at one end int contart with said guides when the shelf passes over said track and thereby dump the contents of the same.
35. In a malting apparatus, a malting unit provided with a shelf which is movable toward and out of one end of the unit for dumping the contents thereof. means for returning the shelf to the unit through he same and from which it emerged and means for loading said self as it passes backwardly into the unit.
36. In a malting apparatus, a malting unit provided with a shelf movable out of one end of the unit and backwardly into the same end thereof for the purposes of dumping th contents thereof, and reloading the shelf, said shelf com
prising a plurality of sections joined flexibly together by cables or bars.
37. In a malting apparatus, a malting unit provided with a shelf movable out of one end of the unit and backwardly into the same end thereof for the purposes of dumping thi contents thereof and reloading the shelf, said shelf comprising a plurality of sections joined flexibly together by cables or bars, said sections being provided with rollers which rest and roll on tracks on the frame of said unit.

No. 102,143. Spark Arrester. Arrête-ćtincelles.


Herbert L. Lapham, Wllmington, Minnesota, U.S.A., 20th November, 1906; 6 years. Filed 7th July, 1906. Receipt No. 137,605.
Claim.-1. In a spark arrester the combination with a smoke stack, of an outer shell engaged with the stack, a screen cone disposed within the smoke stack, an exhaust plpe communicating with the lower end of the cone, and a deflecting hood secured to the upper end of the cone and extending outwardly and downwardly around the smoke stack and with the outer shell.
2. In a spark arrester the combination with a shell, of a smoke stack disposed within the shell, a foraminous pipe located within the smoke stack, a deflecting hood secured to the foraminous pipe and arranged to deflect sparks from the upper end of the stack downwardly within the outer shell, said foraminous pipe being adapted for connection with an exhaust at its lower end.
3. In a spark arrester the combination with a shell, of a smoke stack inside of the shell, a screen cone inside of the smoke stack, a deflecting hood connected to the top of the screen cone below the top of the smoke stack and extending outwardly and downwardly over the outer surface of the stack in spaced relation thereto and terminating at a point lower than the top of the screen cone.
4. In a spark arrester the combination with a smoke stack, of an inverted screen cone located within the stack, an outer shell surounding the stack in spaced relation thereto, a denecting hood secured to the upper end of the screen cnin within the stack and extending outwardly and downwardly around the stack in spaced relation thereto, and a removable roceptacle located within the lower portion of the shell exteriorly of the stack.

\section*{No. 102,144. Flne Cleaner. Netloyeur de tubes.}

Christ C. Schrank. Batesville. Indiana. U.S.A.. 20th November. 1906; 6 years. Filed 14th March, 1906. Receipt No. 133,891.
Claim.-A flue cleaner comprising in combination a body portion having a longitudinal opening formed centrally therethrough, and provided with an annular groove, broomstraw cut in even lengths doubled at the middle into bights, wires arranged to draw and hold the said bights in said
grooves, bringing the other portions of the said straw together, and causing them to stand out radiately from the

body, and a spindle having a stem extending through said opening and provided with an integral flange adapted to bear against the corersponding end of said body, said spindle having its flange end threaded and adapted to be turned in the end of a handle, and having its opposite end threaded and carryinfg a washer and nut to hold sald body against said flange.

No. 102,145. Fan or Ventilator. E'vantail ou ventilateur.


Sergius Timokhovitch, Moscow, Russia, 20th November, 1906; 6 years. Filed 1st March, 1906. Receipt No. 133,416.
Claim.-1. A motor fan comprising the motor with its shaft, the fan mounted to rotate on a shaft separate from the motor shaft though attached to the motor frame or stand and driving connection between the two shafts, substantially as described.
2. A motor fan comprising the motor with its shaft, the fan mounted to rotate on a shaft separate from the motor shaft, though attached to the motor frame or stand and a frictional driving connection between the two shafts, substantially as described and shown.
3. A motor fan comprising the motor with its shaft the fan mounted to rotate on a shatt separate from the motor shaft, though attached to the motor frame or stand, and a helicoidal or toothed wheel driving connection between the two shafts, substantially as described and shown.

No. 102,146. Non-Refllable Bottle.
Boutcille non-ricmplissuble.


Michael Loftus, Chicago, Illinois, U.S.A., 20th November, 1906; 6 years. Filed 17th January, 1906. Receipt No 131,939.
Olaim.-A bottle having a guide socket in the bottom and a valve seat in the neck, a valve ball fitting the seat and having a stem extending into the socket and movable theren to guide the ball to its seat, and a weight comprising a loose movable piece of material partially filling the space in the neck above the ball

No. 102,147. Non-Refillable Bottle.
Boutcille non-rćcmplissable.


Emile C. Ricard, Verner, Ontario, Canada, 20th November, 1906; 6 years. Filed 19th January, 1906. Receipt No 132,014.
claim.-1. In combination with a bottle having a bulged neck, a pair of insertible members, one of which is provided with openings, springs disposed in the openings, rods disprised in the openings and adapted to be forced outward by the springs, and means adapted to prevent the inward flow of a liquid.
2. In combination with a bottle having a bulged neck, an insertible member provided with openings and provided with a central tubular body, means for locking the insertible member within the neck of the bottle, a second insertible member locked in position by the first insertible member, a valve disposed within the second insertible member, a rod conneeted to the valve, a spring disyosed around the rod, and a ccating disposed around the valve, said rod being adapted to extend into said tubular body.
3. In combination with a bottle having a bulged neck, an insertible member provided with a recess and provided with openings therein, means for locking the insortible member within the neek of the bottle. a web disposed beneath the irsertible member and provided with a flange adapted to interlock with said recess. standards connected to said web and provided with a flange, a valve seated on said flange and provided with an annular channel, a resilient coating for the valve, and means adapted to normally maintain the valve seated.

No. 102,148. Non-Refllable Bottle.
Bouteille non-réemplissable.








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The Universal Patent Bottle Company, Tighes Hill, assignee of Alexander Houseman and Louis Weichert, Charlestown, New South Wales, Australia, 20th November, 1906; 6 years. Filed 3rd November, 1905. Recelpt No. 129,785.
Claim.-1. In an anti-fraudulent bottle, a neck formed with an annular internal groove forming a line of weakness therein a stopper of impenetrable material such as porcelain adapted to pass within the neck of the bottle and extend below the annular groove, said stopper having an aperture thereacross, and in such aperture a resilient member the euds of which are downwardly turned toward the lower end of the stopper and upwardly turned to engage and secure a hold in the annular groove.
2. In an anti-fraudulent bottle, a neck having an internal alnular groove forming a line of weakness therein, the bore of such neck being plainly cylindrical from the mouth to the an nular groove and about an equal distance beyond it and thereafter restricted in a gradual convex curvature, an impcnetrable stopper loosely fitting the cylindrical portion and an outwardly expansible resilient catch engaging the stopper and the annular groove.
3. In an anti-fraudulent bottle, a neck formed with an icternal annular groove forming a line of weakness therein, the bore o fthe neck being plainly cylindrical from the mouth to beyond the annular groove and thereafter restricted in a gradual convex curvature, an impenetrable stopper loosely fitting the cylindrical portion, said stopper having an aperture across and a resilient member inserted in such aperture, the ends of which member are downwardly and then upwardly turned to enter and engage the upper edge of the annular groove.
No. 102,149. Fiberizer for Reducing Wood.
Appareil à réduive le bois.
The Wood Distillates and Fibre Company, Chicago, Illinois, assignce of Arthur William Hanford, Evanston, Illinois, U.S.A., 20 th November, 1906; 6 years. Filed 9 th November, 1906. Receipt No. 141.052.
Claim.-1. In a fiberizing apparatus in combination with a pair of rolls and a frame in which they are journalled. throlls having circumferential intermeshing V-shaped grooves and ribs, means for rotating the rolls while thus intermeshed, means for delivering to the rolls the materials to be operated upon, and a steam discharge pipe directed for cischarge of steam jet through the material at the entering side of the rolls.
2. In a fiberizing apparatus in combination with a pair of rolls, a frame in which they are jourualled and a housul? which encloses the frame and rolls, a condult whose cavity is continuous with that of the housing and which communicates therewith at the top, a conveyer in such conduit and a hopper mouth into which such conveyer discharges, said hop-
per mouth being located for directing the material to the inwardly revolving side of the rolls, a conveyer at the lower

part of the housing and an outleading condult in which such conveyer operates and a steam pipe leading into the housing and terminating for discharge of the steam jet through the material at the entering side of the rolls.
3. In a fiberizing apparatus in combination with a housing, a conduit having its cavity continuous with that of the housing and communicating therewith at the top of the latter, a second conduit having its cavity continuous with the housing and communicating therewith at the bottom of the latter, a conveyer in each conduit, fiberizing rolls and the frame in which they are mounted enclosed by the housing, means for receiving material from the conveyer in the first-mentioned conduit and guiding the same to the entering side of the rolls, means for conducting the material from the discharge side of the rolls to the second conveyer, means for heating the rolls and for discharging steam through the material at the entering side thereof.
4. In a fiberizing apparatus in combination with a housing, a plurality of pairs of flberizing rolls and a frame in which they are mounted enclosed by the housing, said pairs of rolls bein: arranged successively one pair above another in positlon for discharging the material operated upon from each upper to the next lower pair, a conduit leading into the upper part of the housing and a conveyer therein discharging irto the housing and onto the upper pair of rolls, means for heating the rolls and for discharging steam through the material supplied thereto at the entering side of the pairs of rolls respectively.
5. In a flberizing apparatus in combination with a housing, a plurality of pairs of flberizing rolls and a frame in which they are mounted enclosed by the housing, said pairs of rolls being arranged successively for delivering from cach preceding pair to the next succeeding pair. the final pair of rolls in the series being hollow and having hollow trunions, and steam pipes extending into the hollow trunfons for discharging steam thereinto at one end, drainage pipes extending through the hollow trunions at the other end and having within the rolls respectively downwardly extending terminals terminating near the lower side of the roll cavity, and stuffing boxes on the trunnions through Which the pipes respectively extend thereinto.

\section*{No. 102,150. Boat Launching and Stowing Apparatus.}

\section*{Appareil d̀ lancer et arrimer un vaisseau.}

William J. Kivel and Stephen B. Dawson, Toronto, assignees of Fred. Ellsworth Martin, Oakville, Ontario, Canada, 20th November, 1906; 6 years. Filed 5th March, 1906. Receipts No. 133,521.
Claim.-1. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, davit cranes movable an said trackways, a releasable bolt fo: securely holding the davit cranes in their inboard position, means for arresting the davit cranes at the limit of their outboard position and other releasable means to resist the return of the davit cranes to thelr inboard position.
2. A boat Iaunching and stowing apparatus comprising fixed trackways leading to the ship's side, davit cranes movable on the trackways, releasable means for securely holding the davit cranes at their inboard position, means for arresting the davit cranes at their outboard position, means for resisting the return of the davit cranes to their inboard position and means for releasing the resisting means comprising a rock shaft engaging therewith.

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3. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, two davit cranes

rigidly coupled together, a carriage for each davit crane movable on its respective trackway, a winding shaft journalled in bearings connected with the davit cranes comprising two shaft sections coupled together by an universal coupling, winding drums mounted on the winding shaft, guide pulleys connected with the davit cranes, davit falls passing over the guide pulleys and wound on the winding drums, and means for causing the revolution of the winding shaft.
4. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, two davit cranes rigidly coupled together, a carriage for each davit crane movable on its respective trackway, a winding shaft journalled in bearings connected with the davit cranes comprising two shaft sections coupled together, winding drums mounted on he winding shaft, gulde pulleys connected with the davit cranes, davit falls passing over the guide pulleys and wound on the winding drums, means for causing the revolution of the winding shaft consisting of a pinion shaft journalled in a bearing connected with one of the davit cranes, a pinion mounted on the pinion shaft, means for causing the revolution of the pinion shaft and pinion, and a spur wheel mounted on the winding shaft meshing with the pinion.
5. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, two davit cranes rigidly coupled together, a carriage for each davit crane movable on its respective trackway, a winding shaft journalled in bearings connected with the davit cranes, comprising two shaft sections coupled together, winding drums mounted on the winding shaft, guide pulleys connected with the davit cranes, davit falls passing over the guide pulleys and wound on the winding drums, means for causing the revolution of the winding shaft consisting of a pinion shaft journalled in a bearing connected with one of the davit cranes, a pinion mounted on the pinion shaft, means for causing the revolution of the pinion shaft and pinion, a spur wheel loosely mounted on the winding shaft meshing with the pinion, and a removable locking means for causing the united revolution of the spur wheel and winding shaft.
6. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, two davit cranes rigidly coupled together, a carriage fo each davit crane movable on its respective trackway, a winding shaft journalled in bearings connected with the davit cranes, comprising two shaft sections coupled together, winding drums mounted on the winding shaft, guide pulleys connected with the davit cranes, davit falls passing over the guide pulleys and wound on the winding drums, means for causing the revolution of the winding shaft consisting of a pinion shaft journalled in a bearing connected with one of the davit cranes, a pinion mounted on the pinion shaft, means for causing the revolution of the pinion shaft and pinion, and a spur wheel mounted on the winding shaft meshing with the pinion, a brake wheel fixed on the winding shaft, a movable
brake lever and a band passing partly around the brake wheel and connected at one end with one of the davit cranes and at the other end with the movable brake lever.

A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, two davit cranes rigidly coupled together, a carriage for each davit crane movable on its respective trackway, a winding shaft jour nalled in bearings connected with the davit cranes comprising two shaft sections coupled together, winding drums mounted on the winding shaft, guide pulleys connected with the davit cranes, davit falls passing over the guide pulleys and wound on the winding drums, means for causing the revolution of the winding shaft consisting of a pinion shaft journalled in a bearing connected with one of the davit cranes, a pinion mounted on the pinion shaft, means for causing the revolution of the pinion, shaft and pinion, a spur wheel mounted on the winding shaft meshing with the pinion, a brake wheel fixed on the winding shaft a movable brake lever, a brake band passing partly around the brake wheel and connected at one end with one of the davit cranes and at the other end with movable brake lever, a detent dog for the brake lever, a link connected with the detent dog and having a hand grip whereby it can be actuated, and a toothed segment connected with the davit crane to be engaged by the detent dog.
8. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, guards at the sides of the fixed trackways and extending above the same with inturned flanges at their upper ends and an unoccupied interval between the flanges, two davit cranes rigidly coupled together and movable above the guards, a carriage for each davit crane movable between the guards, antifriction rollers for the carriages movable upon the trackways, other anti-friction rollers connected with the carriages movable between the guards to engage the top flanges thereof and a boat raising and lowering means carried by the davit cranes.
9. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, guards at the sides of the fixed trackways and extending above the same with inturned flanges at their upper ends and an unoccupied interval between the flanges, two davit cranes rigidly coupled together and movable above the guards, a carriage for each davit crane movable between the guards, antifriction rollers for the carriages movable upon the trackways, other anti-friction rollers connected with the carriages movable between the guards to engage the top flanges thereof, a boat raising and lowering means carried by the davit cranes releasable means for securely holding the davit cranes at their inboard position, and means to arrest the movement of the davit cranes at their outboard position.
10. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side guards at the sides of the fixed trackways and extending above the same with inturned flanges at their upper ends and an unoccupied interval between the flanges, two davit cranes rigidly coupled together and movable above the guards, a carriage for each davit crane movable between the guards, a carriage for each davit crane movable between the guards, antifriction rollers for the carriages movable upon the trackways, other anti-friction rollers connected with the carriages movable between the guards to engage the top flanges thereof, a boat raising and lowering means carried by the davit cranes, releasable means for securely holding the davit cranes at their inboard position, means to arrest the movement of the davit cranes at their outboard position, and a releasable resisting means to prevent the inboard movement of the davit cranes when the latter are at their outboard position.
11. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, guards at the sides of the fixed trackways and extending above the same with inturned flanges at their upper ends, and an unoccupied interval between the flanges, two davit cranes rigidly coupled together and movable above the guards, a carriage for each davit crane movable between the guards, antifriction rollers for the carriages movable upon the trackways to support the davit cranes therefrom, other antifriction rollers connected with the carriages movable between the guards to engage the top flanges thereof, a boat raising and lowering means carried by the davit cranes, releasable means for serurely holding the davit cranes at their inboard position, means to arrest the movement of the davit cranes at their outboard position, releasable resisting means to prevent the inboard movement of the davit cranes when the latter are at their outboard position, and means for releasing the resisting means.
12. A boat launching and stowing apparatus comprising two davit cranes rigidly coupled together, a carriage for each davit crane, a winding shaft consisting of two shaft sections journalled in bearings connected with the davit cranes, an universal coupling uniting the inner ends of the winding shaft, winding drums mounted on the winding shaft,
suide pulleys connected with the davit cranes, davit falls passing over the guide pulleys and wound on the winding drums, and means for causing the revolution of the winding shaft and winding drums.
13. A boat launching and stowing apparatus comprising two davit cranes rigidly coupled together, a carriage for each davit crane, a winding shaft consisting of two shaft sections journalled in bearings connected with the davit cranes, an universal coupling uniting the inner ends of the winding shaft, a winding drum mounted on the winding shaft, davit falls passing over the guide pulleys and wound on the winding drums, means for causing the revolution of the winding shaft and winding drums, consisting of a pinion shaft journalled in a bearing connected with one of the Cavit cranes, a pinion mounted on the pinion shaft, a spur wheel mounted on the winding shaft and meshing with the teeth of the pinion and means for causing the revolution of the pinion shaft.
14. A boat launching and stowing apparatus comprising two davit cranes rigidly coupled together, a carriage for each davit crane, a winding shaft consisting of two shaft sections journalled in bearings connected with the davit cranes, a universal coupling uniting the inner ends of the winding shaft, a winding drum mounted on the winding shaft, a winding drum mounted on the winding shaft, guide pulleys connected with the davit cranes, davit falls passing over the guide pulleys and wound on the winding drums, means for causing the revolution of the winding shaft and winding drums, consisting of a pinion shaft journalled in a bearing connected with one of the davit cranes, a pinion mounted on the pinion shaft, a spur wheel mounted on the winding shaft and meshing with the teeth of the pinion, means for causing the revolution of the pinion shaft, and a braking mechanism for the winding shaft consisting of a brake wheel mounted thereon, a toothed segment, a movable Sever having a releasable detent dos to engage with the toothed segment and a brake band to engage the brake wheel connected at one end with the davit crane and at the other end with the brake lever.
15. A boat launching and stowing apparatus comprising two davit cranes rigidly coupled together, a carriage for each davit crane, an arm connected with the davit cranes having a bolt aperture therein, bolt guides at the inboard position of the davit cranes, a locking bolt movable in the bolt guides to enter the bolt aperture in the arm, a lever to actuate the bolt, stops to arrest the movement of the davit cranes at their outboard position, racks and gravity dogs carried by the davit cranes adapted to engage with the racks to resist the return of the davit cranes from their outboard position.
16. A boat launching and stowing apparatus comprising two davit cranes rigidly coupled together, a carriage for each davit crane, an arm connected with the davit cranes having a bolt aperture therein, bolt guides at the inboard position of the davit cranes, a locking bolt movable in the bolt guides to enter the bolt aperture in the arm, a lever to actuate the bolt. stops to arrest the movement of the davit cranes at their outboard position, racks, gravity dogs carried by the davit cranes to engage with the racks to resist the return of the davit cranes from their outboard position, and a rock shaft carried by the davit cranes having cranks to engage with the gravity dogs and raise them out of engagement with the racks.
17. A boat launching and stowing apparatus comprising two davit cranes rigidly coupled ogether, a carriage for each davit crane an arm connected with the davit crane having a bolt aperture therein, bolt guides at the inboard position of the davit cranes, a locking bolt movable in the bolt guides to enter the bolt aperture in the arm, a lever to actuate the bolt, stops to arrest the davit cranes at their outboard position, racks, gravity dogs carried by the davit cranes to engage with the racks to resist the return of the davit cranes from their outboard position, a rock shaft carried by the davit cranes having rock shaft cranks to engage with the gravity dogs and rise them out of engagement with the racks in combination with boat supporting saddles to engage the boat at its inboard position, an actuating lever and links connected with the actuating lever to cause the saddles to fall outwards when operated.
18. A boat launching and stowing apparatus comprising two davit cranes rigidly coupled together a carriage for each davit crane, fixed trackways, an arm connected with the Javit cranes having a bolt aperture therein. bolt guides at the inboard position of the davit cranes, a locking bolt movable in the bolt guides to enter the bolt aperture in the arm, a lever to actuate the bolt, stops to arrest the davit cranes at their inboard position, racks, gravity dogs carried by the davit cranes adapted to engage with the racks to resist the return of the davit cranes from their nutboard position, a rock shaft carried by the davit cranes having cranks to engage with the gravity dogs and raise them out of en gagement with the racks. in combination with boat supporting saddles to engage the boat at its inboard position an
actuating lever, links connected with the actuating lever to cause the saddles to fall outwards when operated, and lashing arms pivotally connected with the deck to engage the gunwales of the boat when seated upon the saddles and automatically disengage themselves therefrom by gravity when the saddles have been lowered by the saddle actuating means.

\section*{No. 102,151. Grain Weighing Device.}

Appareil d peser le grain.


Elling O. Berg, Madison, Minnesota, U.S.A., 20th November, 1906; 6 years. Filed 19th July, 1906. Receipt No. 137,959. Claim.-1. The combination with a weighing hopper yieldingly supported for vertical movements, means for delivering grain into the upper end of said hopper, a partition plate pivotally mounted within said hopper and provided at its upper portion with a wheel, and a fixed cam plate with which said wheel engages, the said wheel and cam plate tending te hold said partition plate in either of its two extreme positions when the said hopper is held in its uppermost position and a tally arranged to register the number of vibratory movements of said partition plate, substantially as described.
2. The combination with an elevator leg having and an endless conveyer working therein. of a weighte
hood S pivoted to said hood, a hopper 6 supported by said lever, a partition plate 17 intermediately pivoted within said hoppcrand provided at its upper portion with a wheel 19. a cam plate 20 fixed on said hood and co-operating with said roller to hold said partition plate in either of its extreme positions when said hopper is raised, an arm mounted to vibrate with said partition plate, and a tally arranged to be actuated by said arm under movements therof in both directions, substantially as described.
3. The combination with a weighing hopper yieldingly supported for limited vertical movements and provided within with a vibratory partition plate, of means for supplying grain to the upper end of said hopper, and reversely acting pivoted lock dogs arranged to act upon said vibratory partition plate to lock the same against vibratory movements when the hopper is in its uppermost position, substantially as described.

\section*{Yo. 102,152. Machine for Surfacing Paper.}

Machine pour faire une surface all papier.
Chauncey W. Gay, West Springfield, Massachusetts, U.S.A., 20th November. 1906; 6 years. Filed 31st July, 1906. Receipt No. 138,311 .
claim.-1. In a surface finishing machine for paper, the combination with a pair of sidewis adjacent rotary cylinders. peripherally covered with cloth. of a further pair of rotary cylinders having metallic peripheries, and means for carrying sheets of paper, to be subjected to pressure, between said two pairs of rolls.
2. In a surface finishing machine for paper, the combination with a pair of sidewise adjacent rotary cylinders peripherially covered with cloth, of a further pair of rotary cylinders having metallic peripherial surfaces with inequalities therein like those in the surface of cloth, and means for carrying sheets of paper, to be subjected to pressure, between said two pairs of rolls.
3 In a surface finishing machine for paper the combination with a pair of sidewise adjacent cylinders peripherally covered with cloth, a further pair of cylinders having peripherial coverings of cloth, and thin sheet metal overlying the cloth and formed with a multiplicity of indentations and
prominent portions conforming to the inequalities in the surface of the cloth next thereunder, and means for carry-

ing sheets of paper, to be subjected to pressure between said two pairs of cylinders.
4. In a surface finishing machine for paper the combination with a pair of sidewise adjacent rotary cylinders having metallic peripheral surfaces formed with inequalities like those in the surface of cloth, and means for carrying sheets of paper, to be subjected to pressure, between said pair of rolls.
5. In a surface finishing machine for paper, a pair of sidewise adjacent rotary cylinders having peripherally continuous end portions, having paper surfacing ptripheral portions between said end portions, and having longitudinal niches endwise terminating within said continuous peripheral end portions of the cylinders, and means for feeding sheets of paper between, and subject to the surfacing action of said cylinders.
6. In a surface filinishing machine for paper, a pair of sidewise adjacent rotary cylinders having coverings of cloth therearound, and having further coverings of thin sheet metal, overlying the cloth covering which are conformed to the inequalities of the cloth.
7. In a surface finishing machine for paper the combination with a supporting frame, of two pairs of rotary cylinIfrs. each peripherially adjacent the next and having paralipl end journals, one of the intermediate cylinders having its journals in fixed bearings. means for adjusting the other of the intermediate cylinders transversely of its axis in opnosite dircetions, and adjustable means for resisting the journal bearings for the outer cylinders of the two pairs against transversely outward displacements, cloth surfacing on one or more of the cylinders, and means for carrying shects of paper between the cylinders of both said pairs.
8. In a surface finishing machine for paper, a pair of peripherially adjacent rotary cylinders having longitudinally extending niches, clamping plates provided at opposite walls of said niches having rib and groove engagements with said walls. surface filnishing sheet material covering the peripheries of the said cylinders and marginally extending within said niches and engaged between the ribbed and grooved surfaces of the niche walls and said clamping plates, means for maintaining said plates in their clamping confinements. and means for carrying paper sheets between said paired cylinders.
9. In a surface finishing machine for paper, a pair of peripherially adjacent rotary cylinders having longitudinally extending niches clamping plates provided at opposite walls of said niches having rib and groove engagements with said walls, surface finishing sheet material covering the peripheries of the said cylinders and marginally extending within said niches and engaged between the ribbed and grooved surfaces of the niche walls and said clamping plates, means for maintaining said plates in their clamping confinements, rock shafts carried by the cylinders and located in said niches, grippers carried by said rock shafts and co-acting with peripheral portions of the cylinders at the margins of the niches, levers on the ends of the rock shafts, and statinnary cams with which said levers in their revolutions co-act for alternately opening and closing said grippers.
10. In a surface finishing machinc for paper, the axially wrallel cylinders \(1,2,3\) and 4. having peripheral paper finishing surfaces, the cylinder 2 having fixed journal bearings therefor, and the cylinder 3 having an adjustable journal bearing provided with an inclined side, a block having an inclined side and in sliding engagement with the in-
clined side of the fournal bearing for the third cylinder, oppositely arranged screws engaging through the machine frame and against the upper and lower portions of said block, and the adjusting screws horizontally engaged through the machine frame and forming adjustable abutments for the movable journals of the first and forth cylinders.
11. In a surface finishing machine for paper, the combination with a plurality of sidewise adjacent rotary cylinders having paper surfacing peripheral portions and having longitudinal niches, grippers therein, and means for operatIng the grippers, a rotary cylindrical part located above one of the surfacing cylinders, carrying a series of grippers and having gripper operating means therefor, a horizontally journalled shaft having tape solls thereon and deivery tapes around said rotary cylindrical part and saia tape rolls.
12. In a surface finishing machine for paper, the combination with a plurality of sidewise adjacent rotary cylinders having paper surfacing peripheral portions and having longitudinal niches, grippers therein, and means for operating the grippers, a rotary cylindrical fart located above one of the surfacing cylinders, carrying a series of grippers and having grippar operating means therefor, a horizontally journalled shaft having rolls thereon forwardly beyond said tary cylindrical part and said tape rolls, and a recelver for around said rotary parts and said tape rolls, and series of guide rolls above and in rolling contact with said rotary cylindrical part and said tape rolls, and a receiver for the sheets of surface finished paper in advance of snid tape rolls.
13. In a surface finishing machine for paper, the combination with a plurality of sidewise adjacent rotary cylinders having paper surfacing peripheral portions, and having longitudinal niches, grippers therein, and means for operating the grippers, a rotary cylindrical part located above one of the surfacing cylinders, carrying a series of grippers and having gripper operating means therefor, a horizontally journalled tape shaft, delivery tapes running around sald rotary cylindrical part and sald tape shaft, and means adjacent the forwardly located portions of the tapes for imparting a movecment to the sheets in delivery faster than the travel of the tapes.
14. In a surface finishing machine for paper, the combination with a plurality of sidewise adjacent rotary cylinders having paper surfacing peripheral portions, and having longitudinal niches, grippers therein, and means for operating the grippers, a rotary cylindrical part located above one of the surfacing cylinders, carrying a serles of grippers and having gripper operating means therefor, a horimontally journalled tapt shaft, delivery tapes running around said rotary cylindrical part and said tape shaft, rolls on said tape shaft of greater diameter than said shaft, and friction rolls running peripherally on said rolls.

No. 102,153. Euotion Boz. Boite d'aspiration.


William F. Harbrecht and Frederlc Boarger, Delphos, Ohio, U.S.A., co-inventors, 20 th November, 1906 ; 6 years. Filed 24th September, 1906. Recelpt No. 139,746.
Claim.-1. A perforated rotating cylinder, combined with axtd end castings having flanges at thelr margins against which the ends of the cylinders abut, radially disposed rollers within the castings for supporting the cylinder and a suction box.
2. A perforated rotating cylinder, combined with fixed end castings, each having an obliquely disposed hollow bracket, screws threaded upwardly througb the upper porlions of said brackets, and a suction box within the cylinder and adjustably supported on sald screws.
3. A perforated rotating cylinder having open ends. combined with fixed end castings each of which has at its ton a recess having a flat bottom, parallel guiding faces. and above the latter diverging side faces, a suction box of an exterior conflguration corresponding to the shape of the recesses within which its extremities rest, and means for adjusting the box vertically therein.
4. A perforated rotating cylinder having open ends. combined with fixed end castings each of which has at its top a recess having a flat bottom, parallel guiding faces, and above the latter diverging side faces, a suction box of an exterior conflguration corresponding to the shape of the recesses within which its extremities rest, hollow brackets on the end castings, and screws threaded upwardly through said brackets against the bottom of the suction box. for the purpose set forth.
5. A rotating hollow cylinder, and a stationary suction box therein, combined with fixed end castings at the ends of the cylinder, means on the castings for adjustably supporting the box, a block in each recess carrying a roller contacting with the inner face of the cylinder, and an adjusting screw between the inner side of the block and the inner wall of the recess.

No. 102,154. Carbureter. Carburatcur.


Ozro Haden Hinds, Le Mars, Iowa, U.S.A., 20th November. 1906; 6 years. Filed 29th October, 1906. Receipt No. 140,717.
Claim.-The combination of the tank, an air supply pipe. a coupling \(J\) on said pipe, couplings \(J^{1}\) connected with the coupling \(J\), branch pipes leading from the couplings \(J^{2}\) and provided with devices for discharging air into a body of gasolene and also with air discharge openings or outlets. independent of those which discharge to the gasolene, and valves controlling said independent air discharge openings of the several branch pipes, substantially as set forth.

No. 102,155. Pulp Screen. Tamis d pulpe.
Orville H. Moore, Fort Edward, New York, U.S.A., 20th November, 1906; 6 years. Filed 3rd July, 1906. Recelpt No. 137,485.
Claim.-1. A machine of the character described the combination with a horizontal revoluble hollow shaft carrying fan blades and having openings theroin between said blades. of a screen enclosing said fan, and means to feed material to said hollow shaft.
2. In a machine of the character defcribed the combination with a horizontal revoluble hollow shaft carrying fan bladts and having openings therein between said blades. of a screen enclosing said fan, and an inlet pipo registeriag with the end of the hollow shaft and adapted to feed material thereto.
3. In a machine of the character described the combination with a revoluble shaft carryinf fan blades and hariag openings therein between sald blades, of a screen enclosing said fan, a pipe arranged above sald screen and adapted to
direct a shower thereon, and means to feed material to sald bollow shaft.

4. In a machine of the character described the combination with a horizontal revoluble shaft comprising a hollow portion and a solid portion of blades mounted on said hollow portion, the latter being provided with openings between said blades, a screen enclosing said fan, and means to feed material to the hollow portion of said shaft.
5. In a machine of the character described the combinaportion and a solid portion, of fan blades mounted on said hollow portion, the latter being provided with openings between said blades, a screen enclosing said fan, and an inlet pipe registering with the end of the hollow portion of said shaft ad adapted to feed material thereto.
6. In a machine of the character described the combination with a horizontal shaft comprising a hollow portion and a solid portion, of fan blades mounted on sald hollow portion, the latter being provided with openings therein between said blades, a screen enclosing said fan, means on the solld portion of the shaft for rotating the same, and means to feed the material to said hollow portion of said shaft.
7. In a machine of the character described, a revoluble screen, a fan adapted to be revolved in the same direction but at a different speed from said screen, a casing enclosing said screen, provided with separate compartments for the refined material and the sllver, said compartments being separated from each other by a double flange on the screen adapted to move in juxtaposition to the opposition sides of a single flange on the casing.
8. In a machine of the character described the combination with a revoluble shaft comprising a hollow portion and a solid portion of fan blades mounted on said hollow portion, the latter having openings between said blades, an independently revoluble screen enclosing said pan, a casing enclosing the screen, said screen having a supporting disc at one end bearing on the solid portion of the shaft. an inwardly extending flange arranged on the other end of the screen and bearing on a projection from the casing, and means to feed material to the hollow portion of the shaft.
9. In a machine of the character described the combination with a revoluble shaft comprising a hollow dortion and a solid portion of fan blades mounted on said hollow portion, the latter having openings between said hlades. an independently revoluble screen enclosing said fan. a casing enclosing the screen. said screen having a sumporting dise at one end provided with an extending flange having bearings in the casing and provided with gear teeth on its interior surface, and a system of gearing between the shaft and said toothed flange for rotating the screen.
10. In a machine of the character described the combination with a revoluble shaft comprising a hollow portion and a solid portion, fan blades mounted on said hollow portion, the latter having openings between caid blades, of a revoluble screen enclosing said tan, ai casing enclosing the ncreen having slots for the escape of the sliver and means to one end bearing on a flange on the casing, said flange on the scree having slots for the escape of the sliver, and means to feed material to the hollow portion of the shait.
11. In a machine of the character described the combination with a revoluble shaft comprising a hollow portion and a solid portion, fan blades, mounted on said hollow portion, the latter having openings between said blades, of a revoluble screen enclosing said fan, a casing enclosing the screen, said screen having an inwardly extending flange on one end bearing a flange on the casing, sald flange on the screen having slots for the escape of the silver. said screen having an outwardly extending double flange embracing a single flange on the casing thereby separating the compartment for the screened stock from that of the silver, the inwardly extending flange on the screen having slots for the escape of the silver, and means to feeed material to the hollow portion of the shaft.
12. In a machine of the character described the combination with a revoluble shaft comprising a hollow portion and a solid portion, of fan blades mounted on said hollow portion, the latter having openings between said blades, an independently revoluble screen enclosing said fan, a casing enclosing the screen, said screen having a supporting disc at one end provided with an extending flange having bearings in the casing and provided with gear teeth on its interior surface, a gear wheel on the solid portion of said shaft, an auxiliary shaft carrying gears meshing with said toothed flange and said gear, and means for rotating the main shaft.

No. 102,156. Churn. Baratte.


Frank D. Merrill, Seattle, Washington, U.S.A., 20th November, 1906; 6 years Filed 22nd October, 1906. Receipt No. 140,532.
Note.-Frank D. Merrill is an assignee of the patent No. 96,966 issued to Thomas J. Cheney, Lodi, Ohio, bearing date the sixteenth day of January, 1906, of which the present patent is a reissue.

Claim.-1. In a churn the combination of a reception for the liquid, a combined agitation and aerator comprising a body portion and a stem provided with an air inlet, the walls of which agitator present a smooth and unbroken surface displacing the liquid, and inducing a downward current of air into the liquid, and means for actuating sald agitator substantially as described.
2. In a churn the combination of a receptacle for the liquid, a combined agitator and aerator comprising an outwardly extending end portion, a tubular stem provided with an air inlet, the walls of which agitator present a smooth and unbroken surface displacing the liquid and inducing a downward current of air into the liquid, and means for actuating said agitator, substantially as described.
3. In a churn the combination of a receptacle for the liquid, a combined agitator and aerator comprising an outwardly extending hollow end portion, and a tubular stem provided with an air inlet, the walls of which agitator present a smooth and unbroken surface displacing the liquid inducing a downward current of air into the liquid and means for actuating said agitator, substantially as described.
4. In a churn the combination of a receptacle for the liquid, a combined agitator and aerator comprising a hollow bell-shaped body provided in its upper end with air inlets, the inner and outer walls of which bell-shaped body present a smooth and unbroken surface displacing the liquid and inducing a downward current of air into the liquid, and means for actuating said agitator, substantially as described.
5. In a churn the combination of a receptacle for the liquid. a combined agltator and aerator comprising a hollow bell-shaped end portion, and a tubular stem opening therein. and provided with air inlets, the inner and outer walls of which stem and agitator present a smooth and unbroken surface displacing the liquid by centrifugal force, and inducing a downward current of air into the llquid, and means for actuating said agitator, substantiallv as described.
6. An improved dasher for aerating churns comprising a tubular portion adapted to extend above the surface of the linuid and provided with a gradually enlargel lower end.
7. An improved dasher for aerating churns comprising a tubular portion adapted to extend above the surface. of the liquid and a gradually enlarged smooth lower end portion integral therewith.
8. An improved dasher for aerating churns comprising a tubular portion adapted to extend above the surface of the liquid and a bell-shaped smooth lower end portion integral therewith.
9. In a churn a smooth bell-shaped dasher and means for Introducing air centrally thereto.

No. 102,157. Power Hammer. Marteau mécanique.

Fiュ. 1


Fig. 3
Fig. 2


The Climax Patents Limited assignee of Harry Benwell Stocks, Stanton, Barlow Moor Road, Chorlton-ComHardy, Manchester. Lancaster, 20th November, 1906; 6 years. Filed 7th September, 1905. Receipt No. 128,244.
Claim.-1. In power hammers and like percussive tools in which each tool is worked in conjunction with a separate air compressor, building up the air pressure within two conducting tubes until normal predetermined pressures are attained within such tubes the sald normal predetermined pressures acting on a valve or valves in the tool holding it or them in equilibrium, such equilibrium being destroyed by excess of the predetermined pressures the valve or valves being actuated by such excess pressure to admit air from the tubes to one side or the other alternately of a piston of the tool to drive such piston back and forth, substantially as described.
2. In power hammers and like percussive tools the combination of an air compressor and a power hammer, two air tubes connecting such compressor with the hammer, back pressure valves in the compressor and a valve or valves in the tool held in equilibrium by predetermined pressure in the tubes, the air pressure in the tubes when such predetermined gressure is exceeded overcoming the valve or valves in the tool on each impulse of the air compressor. whereby the pressure within the tubes is admitted to the piston of the tool, substantially as described.
3. In power hammers and like percussive tools. a slidable valve within a valve box. air tubes conducting air pressure, which is greferably high and low pressure. from an air compressor to the valve box at each side of the valve whereby the valve is held in equilibrium, ports leading from the valve box to a distributing valve which is actuated when the equilibrium of the valve is destroyed to conduct air pressure from the tubes to one side or other of the hammer of the tool and exhaust air of the previous stroke, subsantially as described.
4. In a power hammer a valve box, a valve slidable in such valve box, ports formed in the valve box, an inner and an outer shell a distributing valve slidable between such shells, ports formed in such shells and the distributing valve, a cylinder formed with ports and a hammer or piston sldable within such cylinder, substantially as described.
5. In a power hammer consisting of a cyllnder, a hammer or piston slidable within such cylinder, means for carrying a chisel or tool in the mouth of the cylinder, a handle securcd to such cylinder, a valve box, a slidable valve contained in such valve box, ports leading to each end of the slldable valve, air tubes connected to stuch ports and an alr enmpressor wheruby on a predet.rmined pressure of air being obtained with the tubes and valve box the value is
held in equilibrium, an annular distributing valve, ports governed by the slidable valve for acturating the distributing valve to conduct air pressure on one impulse of the alr compressor to the front of the piston of the tool to return the piston to starting point and for exhausting alr behind the piston, ports governed by the valve to actuate the annular distributing valve to conduct air pressure on the next impulse of the air compressor to the back of the piston of the tool to effect the blow stroke, and for exhaust ing alr of the previous stroke in front of the piston, substantially as described.
6. A power hammer consisting of a cylinder, a hammer or piston slidable within such cylinder, means for carrying a chisel or tool in the cylinder end, a handle secured to the cylinder, a valve box in such handle. a slidable valve contained within such valve box formed with heads or valves of unequal area and an annular groove, ports leading to each head of the slidable valve, air tubes connected to such ports and to an air compressor whereby on a predetermined pressure of air being obtained within the tubes and valve box the valve is held in equllibrlum, rings or shells arranged between the cylinder end and the valve box, an annular distributing valve arranged to slide between such shells, ports governed by the equilibrium valve for actuating the distributing valve to conduct air on one impulse of the alr compressor along ports to the front of the piston of the tool to return the piston to its starting point and for exhausting the air behind the piston, ports governed by the equilibrium valve to actuate the annular distributing valve conducting air pressure on the next impulse of the air compressor to the back of the piston of the tool to effect the blow stroke and for exhausting air of the previous stroke in front of the piston, means for assisting the opening of the equilibrum valve to admit air pressure to the back of the piston of the tool and for reversing the movement of the equilibrum valve to cut off pressure behind he piston of the tool when the plston has completed a portion only of its stroke. a bye-pass for the low pressure air, and means for starting and stopping the tool gonsisting of an exhaust governed by a valve whereby pressure in the conducting tubes can be relieved, substantially as described.
7. In combination in a power hammer air ports conducting air pressure to the actuating valve of thehammer. an exhaust port communicating with such air ports a valve governing such exhaust port and a lever to actuate the valve for starting and stopping the hammer, substantially as described.
8. In power hammer and like percussive tools the combination of a separate air compressor to each tool and back pressure valves in the compressor and loaded valres in the tool for holding up the air pressure generated at each stroke of the compressor until a predetermined pressure is attained in two tubes conducting the air pressure to the tool the excess of such pressure on each stroke of the alr compressor being conducted to the piston or hammer of the tool, substantially as desribed.
9. In power hammers like percussive tools the provisinn of spring loaded valves permitting the admission of air to the ports leading to the front and rear of the reciprocating hammer when the presure in the air conducting tubes exceeds the load of the valves, a piston or plstons actuated by the air pressure to admit air pressure from the tubes aiternately to one port, and open the port not under alr pressure to exhaust at each stroke of the compressor, substantially as described.
10. The power hammer consisting of a cylinder containing a reciprocating hammer or piston, an exhaust port or ports arranged in the cylinder to exhaust the pressures at the end of each stroke of the hammer, ports provided in the cylinder to conduct the pressure to the front and back of the hammer, spring loaded valves governing such ports. a double piston actuated by the air pressure to alternately open one port to pressure and the other to exhaust, and means for conductingethe exhaust to atmosphere from the port not under pressurc. an exhaust port governed by a valre actuated by the operator to start and stop the tool, all arranged and acting in the manner substantially as described.
11. An air compressor having back pressure valves and conducting air in impulses alternately to two tubes, in combilation with a hammer connectid to the two tubes having valves to assist with the back pressure valves in the compressor in rutaining the air in the tubes until a predeter. mined pressure is attalned, substantially as described.
12. The combination of a power hammer having valves loaded to control the admission of air to the front and rear of the piston, with an air compressor provided with back pressure valves and two tubes to conduct the pressure to the hammer the cubic capacity of the hammer crlinder boing greater that the volume of air displaced at each stroke of the compressor when the preditermined pressure has b.wn attathed in the tibhes to enable the atr to be wortond caransively. substantially as described.

No. 102,158. Metal Axle. E'ssien de métal.


The Bettendorf Metal Wheel Company, assignee of Emil Einfeldt, all of Davenport. Iowa, U.S.A.. 20th November, 1906; 6 years. Filed 27th September, 1906. Recelpt No. 139,860.
Claim.-1. A metal axle comprising a body portion and integral bearing spindles, the body portion being composed of a web and flat longitudinal flanges, and the bearing spindles being composed of a web of greater thickness and of less height than that of the body portion, and forming an integral continuation of the latter, and curved flanges forming integral continuations of the flat fianges of the body portion.
2. A metal axle consisting of a single section of commercial I-beam, comprising a main body portion and integral bearing spindles, the body portion having flat flanges and a longitudinal connecting web, and the bcaring spindles having a thickened web and inwardly curved flanges with longitudinal spaces between the flanges and the web, and two bearing shoulders at opposite sides of the bearing spindle at its inner end, said shoulders being formed wholly of the metal of the flanges and presenting projections at two sides only of the spindles.
3. An axle embodying a section of I-beam having the web at the end of the section thickened, condensed and reduced in height, and the flanges at the end curved inward toward each other to present a rounded bearing surface with longitudinal spaces between the curved flanges and the web.
4. An axle embodying a section of flanged bar having the flanges at the end curved to form a bearing spindle, and integral shoulders at the inner end of the bearing spindle. said shoulders being formed of the upset metal of the flanges.
5. A metal axle comprising a section of I-beam, with the web at the end condensed and thickened, and the ends of the flanges curved inward to form a bearing spindle, and shoulders at the inner end of the spindle, consisting of the upset metal of the flanges.

No. 102,159. Telephone Repeater.
Répétiteur de téléphone.


George Washington Kretzinger, assignee of David H. Wilson both of Chicago, Illinois, 20th November, 1906; 6 years. Filed 5th July, 1905. Receipt No. 126,643.
Claim.-1. A telephone repeater comprising a core having two coils thereon adapted to be connected in the talking circuit, a telephone recelver associated with said core, a telephone transmitter associated with said receiver so as to be actuated therefrom, a coil on said core in circuit with said transmitter, and a source of electric supply in circuit with said coil and transmitter whereby the impulses from one station are reinforced so as to be transmitted to the next.
2. A telephone apparatus which consists of a continuous circuit connecting two telephone stations with two separated coils in said circuit between said stations and wound upon the same core, a telephone receiver having its diaphragm in proximity to said core so as to be actuated thereby, a transmitter associated with said receiver, another coil on said core in circuit with said transmitter and a source of electric supply in the transmitter circuit.

No. 102,160. Repair Band for Pneumatic Tires Bande à réparer les bandagrs pnetmatiques.



Frederick William Hoare and Charles Wainman Cole, assignee of a half interest, both of Collingwood, Ontario, Canada, 20th November, 1906; 6 years. Filed 17th August, 1906. Receipt No. 138,756.
Claim.-1. A repair band for tires comprising a partial band shaped to fit the distended cover of the tire and provided with a retaining edge designed to be inserted between the edges of the cover and the sides of the groove in which it fits, as and for the purpose specifled.
2. A repair basd for tires comprising a ptartial band shaped to lt the distended cover of the tire and provided with a retaining edge having a bead formed thereon designed to be inserted between the edges of the cover and the sides of the groove in which it its, as and for the purpose specifled.
3. The combination with the rim having the peripheral groove, of the cover fitting the edge therein at each side of the groove, the air tube fitting within the cover and the repair band fitting outside of the cover and having the retaining edges fitting between the edges of the cover and the sides of he groove, as and for the purpose specifled.

No. 102,161. Bioycle Pump. Pompe de bicycle.


Frank Bruckner Murray and Bradford Merry, assignee of a half interest, all of Augusta, Georgia, U.S.A., 20th November, 1906 ; 6 years. Filed 1st August, 1906. Receipt No. \(138,317\).
Claim.-1. The combination with a vehicle wheel including a hub and an inflatable tire, of a pump cylinder fixed for rotation with the wheel, a duct connecting the cylinder and tire for communication, a piston arranged for reciprocation within the cylinder and having its rod extended beyond one end of the latter, a pivoted cam member adapted to swing to an inclined position for action upon the rod to reciprocato the piston, an operating rod under control of the operator and having an annular portion adapted when the rod is ro-
tated to move the cam member to active position, supporting bearings for said rod, one of said bearings being provided with a notch, a head fixed upon the rod and having a tooth for engagement with the notch to lock the rod against rotation and a spring acting upon the rod for maintaining the notch and tooth normally in locking engagement.
2. The combination with a vehicle wheel including a hub ed an inflatable tire, of a pump cylinder fixed for rotation with the whiel \(a\) duct communicating with the cylinder and tire, a guide rod mounted in the cylinder a piston arranged for reciprocation in the latter and having a tubular piston rod in telescopic engagement with the guide rod, a spring arranged on the guide rod between the piston head and adjacent end of the cylinder and adapted for moving the piston in one direction, the piston rod being extended beyond the other end of the cylinder and equipped with a bearing roller, a pivotetd bearing disc adapted to be moved to an inclined position and act upon the bearing roller for reciprocating the piston against the action of the spring, and means under control of the operator for swinging the bearing disc to active position.

No. 102,162. Whoel Making Machine.
Machine d faire des roues.


The International Harvester Company, Chicago, Illinois, U.S.A., assignee of Charles Walrath Robinson, Hamilton, Ontario, Canada, 20th November, 1906; 6 years. Filed 6th August, 1906. Receipt No. 138,449.
Claim.-1. In a machine of the class described in combination, a base sultably mounted, driving gears, two reciprocating crossheads slidably mounted on said base and opersted by sald driving gears, said crossheads moving as a single plece, means fixed to the adjacent sides of said crossheads for actuating the spoke gripping jaws and for upsetting the spoke ends and spoke gripping jaws mounted on said base.
2. In a machine of the class described in combination a base suitably mounted, driving gears journalled on one end thereof, two reciprocating crossheads slidably mounted on sald base and operated by said driving gears, side bars for adjustably connecting the two crossheads with each other, rams flxed to the adjacent sides of said crossheads, spoke heading tools fixed to said rams and two pairs of spoke gripping jaws actuated by the rams.
3. In a machine of the class described in combination a base suitably mounted, driving gears journalled one one end thereof, two reciprocating crossheads slidably mounted on sald base and operated by said driving gears, side bars for adjustably connecting the two crossheads with each other, two pairs of spoke gripping jaws mounted on sald
base, a ram mounted on each of said crossheads, one of said rams arranged to actuate one pair of said spoke sripping jaws on the forward movement of the crossheads, and the other ram to actuate the other pair on the return movement of same and spoke heading tools carried by said rams.
4. In a machine of the class described in combination a base, driving gears journalled on one end thereof. two pairs of spoke gripping jaws mounted on said base, opposing spoke heading tools and single reciprocating means operated by said driving gears for actuating said spoke sripping jaws and for carrying said heading tools.
5. In a machine of the class described. in combination a base, driving gears journalled on one end thereof. two palrs of spoke gripping jaws mounted on said base, opposing spoke heading tools operated by said driving gears and single reciprocating means for actuating said spoke gripplag jaws and for carrying said heading tools. said means in its forward movement operating to secure the hub end of the spoke and in its return movement to secure the rim end of same.
6. In a machine of the class described, in combination a base, driving gears journalled at one end thereof, two pairs of spoke gripping jaws mounted on said base, a vertically movable wheel member support, opposing spoke headins tools and single reciprocating means actuated by said driving gears for operating said spoke gripping jaws for ralaing and lowering said wheel member support and for carring said heading tools.
7. In a machine of the class described, in combination a base, driving gears journalled on one end thereof, two pairs of spoke gripping jaws mounted on said base, a vertically movable longitudinally yielding wheel member support, opposing spoke heading tools and single reciprocating means actuated by said driving gears dropping the said wheel member support in its forward movement and raising it in its return movement for operating the said jaws and for carrying the spoke heading tools.
o. In a machine or the classs described, in combination a base, driving gears journalled on one end thereof, two bed pieces fixed to and longitudinally adjustable upon said base, a pair of spoke gripping jaws mounted upon each bed plece, crossheads operated by the driving gears and located outside the bed pieces and slidably mounted thereon, jaw actuating rams and spoke heading tools carried by said crossheads and a wheel member support.
y. In a machine of the class described, in combination a base, driving gears journalled on one end thereof, two pairs of spoke gripping jaws mounted on sald base, a vertically movable, longitudinally yielding wheel member eupport clastically held normally in a central position by opposiag springs, and single reciprocating means actuated by said driving gears for controlling the movement of the spoke gripping jaws and the said wheel member support.
10. In a machine of the class described, in combination with the spoke fastening devices, a wheel member support adapted to yield longitudinally independently of said spoke lastening devices as the spokes are being secured to the hub.
11. In a machine of the class described in combination fixed spoke gripping jaws, spoke heading tools co-operating with said jaws and movable with each other, and a vertically movable longitudinally yielding platen for supporting the wheel members, said platen being actuated in its longitudinal movement by the upsetting of the apoke.
12. In a machine of the cass described in combination. spoke fastening devices, a vertically movable longitudinally yielding wheel member support, and a yielding presser head inounted on said wheel member support and adapted to bear against the inside of the wheel rim.
13. In a machine of the class described, in combination with the vertically movable and longitudinally yielding wheel member support, a yielding inside presser head adapted to bear against and spring outwardly a segment of the wheel rim during the initial upsetting of the rim ond of the spoke, sald presser head being mounted on the wheel member support.
14. In a machine of the class described in combination 2 hub end and rim end spoke fastening mechanism, each comprising a pair of fixed spoke gripping jaws and a longitudinally movable heading device, a wheel member support, a yielding independently actuated inside presser head mounted on said support, and an outside presser head actuated by the rim end heading device.
15. In a machine of the class described in combinatio: a hub end and a rim end spoke lastening mechanism. each comprising a pair of fixed spoke gripping jaws and a longitudinally movable heading device, a wheel member support. a yielding independently actuated inside presser head mount. ed on said support, and an outside presser head operatirely connected to said heading device and actuated only during the initial forward movement thereof.
16. In a machine of the class described. In comblnatioa with a vertically movable longitudinally ylelding wheel
member support, an independently actuated ylelding presser head mounted on said support and arranged to bear against and spring a segment of the rim outwardly, hub and rim end spoke fastening devices, each comprising fixed jaws and a heading tool, and an outside presser head adapted to bear against and move the wheel member support inwardly and bring the rim to position at a predetermined distance from the fixed jaws of the rim end spoke fastening device.
17. In a machine of the class described, in combination with a vertically movable longitudinally yielding wheel member support, an independently actuated yielding presser head mounted on said support and arranged to bear against and spring a segment of the rim outwardly, hub and rim end spoke fastening devices, each comprising fixed jaws and a heading tool, an outside presser head adapted to bear against and move the wheel member support inwardly and bring the rim to position at a predetermined distance from the fixed jaws of the rim end spoke fastening device, and both positive and elactic means for returning the said outside presser head.
18. In a machine of the class described in combination, spoke fastening devices, a vertically movable longitudinally yielding wheel member support, counterbalancing springs interposed between said wheel member support and the machine frame, and a yielding presser head mounted on said support and adapted to bear against the inside of the wheel im.
19. In a machine of the class described in combination, spoke fastening devices, a vertically movable longitudinally ylelding wheel member support, an adjustable stop for controlling the lower position of sald support, counterbalancing springs interposed between the wheel member support and the machine frame, and a yielding presser head mounted on said support and adapted to bear against the inside of the wheel rim.
20. In a machine of the class described in combination a hub and a rim and spoke fastening device, a vertically movable hub and rim support arranged to yield longitudinally as the hub end of the spoke is being secured, means for positively raising the said hub and rim support after a spoke has been secured in place, an inside presser head mounted on said support and constructed to bear against and spring a segment of the rim outwardly and yield inwardly as the rim end spoke fastening device secures the rim end of the spoke in place, and an outside presser head actuated by the rim end spoke fastening device and operating to move the hub and rim support to a gauge position with respect to the rim end jaws.
21. In a machine of the class described in combination with the heading tool and spoke gripping jaws, a vertically movable longitudinally yielding hub and rim support, an inside presser head mounted on said support, an outside presser head comprising a sliding plunger arranged to press against the hub and rim support, a lever pivotally mounted on the machine frame, a link connecting said plunger and lever, and a spring operating to hold the plunger in its rearward position, and means in connection with said heading tool for actuating the said outside presser head.
22. In a machine of the class described in combination a reciprocating crosshead, a jaw actuating ram and a heading tool fixed to said crosshead, spoke gripping jaws, a cam block mounted on said ram, a vertically movable longitudinally yielding hub and rim support, an inside presser head mounted on said support an outside presser head comprising a siding plunger arranged to press against the hub and rim support, a lever pivotally mounted on the machine frame, a link pivotally connecting said plunger and lever, a roller fournalled at the pivotal connection thereof and adapted to be engaged by the cam on said ram, thereby positively moving said presser head forwardly and a spring operating normally to hold the plunger in its rearward position, and means for positively returning said presser head consisting of a downwardly projecting arm, or hook integral with the said lever of the presser head and a stop on sald ram adfacent to the cam block, the said stop lying in the path of said arm or hook, when the said presser head occupies its forward position.
23. In a machine of the class described in combination with the spoke fastening devices, a vertically movable longitudinally yielding wheel member support comprising a circular rim holding platen having longitudinally extending guideways on its under side and a large central opening, a bridge secured to said platen and extending across said opening, a hub mandrel mounted on said bridge, vertically extending guides secured to the machine frame, slides provided with transversely extending guides at their upper ends which engage the longitudinally extending ways on the other side of said platen, horizontally arranged springs for holding the platen yieldingly in a central position, a vertically adjustable block placed at the lower end of said vertically extending guides for limiting the drop of said platen, springs for counterbalancing the weight of said pla-

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ten, and means in connection with said spoke fastening de vice for positively raising the platen
24. In a machine of the class described in combination with the reciprocating crossheads and the side bars for connecting same, a platen provided with suitable guides for permitting both a horizontal and a vertical movement, springs acting to hold said platen in its central position horizontally, cam blocks fixed to said side bars and depending arms movable in one direction pivotally secured to said platen and arranged to engage said cam blocks and lift the platen as the bars are reciprocated.
25. In a machine of the class described in combination, a vertically movable longitudinally yieding wheel member support and an inside presser head mounted thereon, said presser head comprising a frame, a plunger longitudinally movable therein, a cylinder and platen pivotally mounted at the lower end of the frame, a vertically arranged lever pivoted on the frame and connecting above with sald plunger and below with said piston, and means for controlling the admission and release of air to said cylinder.
26. In a machine of the class described in combination, a vertically movable longitudinally yielding wheel member suport and an inside presser head mounted thereon, said presser head comprising a frame, a plunger longitudinally movable therein, a cylinder and piston pivotally mounted at the lower end of the frame, a vertically arranged lever pivoted on the frame and connecting above with said plunger and below with said piston, manually operated valve for controlling the admission of air to said cylinder, and automatically actuated mechaniom for releasing the air pressure at a predetermined time.

No. 102,163. Smoke Consumer. Foyer fumivore.


Charles Stewart Ferry and Malcolm Gregory, assignee of a
fourth interest, both of Montreal, Quebec, Canada,
20th November, 1906; 6 years. Filed 7th December, 1906 Receipt No. 130,779.
Claim.-1. The combination with a fire chmaber contalning a fire grate, a tubular member extending transversely to such chamber at the front thereof above the level of the fire grate, a series of tuyeres extending from such tubular member, a steam pipe within and extending longitudinally through the said tubular member, a series of nozzles also within the tubular member and extending from the steam pipe and each being located in line with one of the tuyeres, means whereby heated air is supplied to the tubular member consisting of a single pipe extending from one end of the tubular member to a point in the furnace room above the furnace, and means whereby steam is supplied to the steam plpe, substantially as described.
2. The combination with a fire chamber containing a fire grate, a tubular member extending transversely to such chamber at the front thereof above the level of the fire grate, a series of tuyeres extending from such tubular member, a steam pipe within and extending longitudinally through the said tubular member, a series of nozzles also within the tubular member and extending from the steam pipe and each being located in line with one of the tuyeres, means whereby heated air and the products of combustion from the furnace are supplied to the tubular member consisting of a pair of pipes extending from one end of the tubular member, one of such pipes leading to a point in the furnace room above the furance and the other to a point with in the upper portion of the furnace, the upper end of the first-mentioned air conducting pipe being flared and the upper end of the second-mentioned pipe terminating in a hood, and means whereby steam is supplied to the steam pipe. substantially as described.
3. In a furnace the combination with a fire chamber containing a fire grate and the fire door, of a tubular member extending transversely to such chamber at the front thereof above the fire grate, one end of such tubular member being losed and the other open, a series of tuyeres extending from such tubular member. a stram conductor in close relathon with and adapted to transmit heat to the tubular member, a series of nozzles within the tubular member and receiving steam from the stram conductor, such tuyeres being located one in line with each of the tuyeres, an air conducting pipe connected at one end to the open end of the tubular member and having is opposite end flared and located above the furnace, a second pipe connected at one end of said tubular member and having its opposite end located within the furnace, a pair of valves controlling such conducting pipes a steam supply pipe connteted to the steam conductor a valve controlling such steam supply pipe, a spring controlled lever operatively connected to the stem of the steam valve means detachable operatively connecting the fire door to the lever, a cylinder containing a piston with a piston rod extending therefrom the sald piston also having a port therein and a flexible disc secured to the side thereof. means pivotally connecting the lever to the piston rod infans operatively connecting the lever to the valves of the conducting plpes, a conductor extending from one end to the other of the cylinder, and a valve for controlling the lastmentioned cylinder, substantially as described.
4. In a furnace the combination with a fire chamber containing a fire grate, and the fire door, of a tubular member extending transversely to such chamber at the front thereof above the fire grate, one end of such tubular member being -losed and the other open, a sorics of tuyres extending from such tubular member, a steam conductor in close relation with and adapted to transmit heat to the tubular member, a series of nozzles within the tubular member and reeiving steam from the steam conductor, such tuyeres being located one in line with each of the tuyeres, an air conducting pipe connected at one end to the open end of the tubular member and having its opposite end flared and located above the furnace. a second pipe connected at one of the sald tubular member and having its opposite end located within the furnace, a palr of valves controlling such conducting pipes, a lever fulcrumed between the said pair of valves. means connecting the said valves to the lever at opposite sides of the fulcrum point, a steam supply pipe connected to the steam conductor, a valve controlling such steam supply pipe, a spring controlled lever operatively connected to the stem of the steam valve, means detachably operatively connecting the fire door to the spring controlled lever. means operatively connecting the spring controlled lever to the first-mentioned lever, a cylinder containing a piston with a piston rod extending therefrom. the said piston also having a port therein and a flexible valvulal disc secured to the side thercof, means pivotally connecting the lever to the piston rod, a conductor extending from one end to the other of the cylinder a valve for controlling the last-mentioned conductor, a crank shaft, means effecting a detachable connection between the crank and spring controlled levr, a bevel gear mounted rigidly upon such crank shaft and a bevel gear notatable with the door and intermeshing with the bevel gear just mentioned, substantially as described.

\section*{No. 102,164. Electric Muscle Exercising Apparatus.}

Appareil d'exercice pour les muscles.
Robert O'Connor, Hammond and Charles William Humphrey. assignee of a fourth interest, 20th November, 1906; 6 years. Filed 20th June, 1905. Receipt No. 126.216.
Claim.-1. The combination with a suitable frame, of a magneto-electric generator movable on said frame, and electric conducting and operating cords arranged in circuit and connected to convey the current through the operator when moving the generator on the frame.
2. The combination with a suitable frame, of a weight guided on said frame, an electric generator in said weight. and electric conducting and operating cords arranged in circuit and connected to convey the current through the operator when actuating the device.
3. The combination with a sultable trame, of a pair of movable weights guided on said frame, an electric generator movable with one of sald weights, and combined electric conducting and operating corils for said weights In suitable electric connection with the generator to convey the current through the body of the operator.
4. The combination with a suitable frame, of a magneto-- ectric generator movable one sald frame and having a bulley on the armature thercof, and elrctric conducting and oprerating cords in circuit, one of said cords pasistig ovor sald pulley to simultaneously catise the generator to move on the frame and revolve the armature of sald generator.
0. The combination with a sultable frame having guldes. of a pair of weights movable on said guldes, a magneto-

electric generator within one of said weights and having a pulley on the armature thereof, a pulley within the other weight, suitable pulleys on the frame, electric conduc:ing and operating cords passing over said pulleys and provided with handles, and an electric conducting cord Letween the generator and the last-mentioned weight, salid cords being arranged in circuit to conveg the current through the operator
6. The combination of a frame having non-conducting side guide rods and a center conducting guide rod, weighe guided on said rods with the conducting guide rod between them, an electric generator within one of said weights and having electric connection therewith, and combined conducting and operating cords, one of sald cords being connected to said generator and adapted to actuate the same and the other cord having electric connection with the other of said weights.

No. 102,165. Bicyole Seat Eprins.
Ressort de sidge de bicycle.


Clysses G. Sweeney, and Melvin L. Mayes, Orosi, Callforna l.S.A., 20th November, 1906; 6 years. Flled 2ith Aus. ust, 1906. Receipt No. 139,003.
C'laim.-A saddle supporting spring comprising a pair of horizontally disposed arms the ends of which are ben: in form colncident coils, sald coils being provided with offsets defining upwardly curved arms for attachment to a bicycle saddle post, and a tubular clamping slenve engaging sald horizontal arms and adapted to support the saddle.

No. 102,166. Tandem Bicyole. Bicycle double.


Joseph Delanchamp, Jr., Marieville, Quebec, Canada, 20th November, 1906; 6 years. Filed 16th August, 1906. Receipt No. 138,732.
Olaim.-1. In combination with two bicycles, connecting rods secured to the bicycles, steering means operable from both blcycles, and means for supporting a seat and a receptacle on said rods intermediate of the bicycles.
2. In combination with two bicycles, connecting rods secured to the bicycles, steering means operable from both bicycles, means for supporting a seat and a receptacle on said rods intermediate of the bicycles, and a canopy support carried by the connecting rods.
3. In combination with two bicycles, connecting rods removably secured to the bicycles, steering means operable from either bicycles, and means for supporting a seat and a receptacle on said rods intermediate of the bicycles.
4. In combination with two bicycles, connecting rods secured to the bicycles, steering means onerable from either bicycle, means for supporting a seat and a receptacle intermediate of the bicycles, and means for bracing the bicycles against lateral stress.
5. In combination with two bicycles, a front connecting rod secured to the heads of the bicycles, a rear connecting rod secured to the rear of the frames of the bicycles, a seat and a receptacle carmed by the rods, and means for steering the bicycles synchronously.
6. In combination with two bicycles, a front connecting rod provided with bifurcated ends adapted to engage the heads of the bicycles, means for maintaining the rods in position, a rear rod secured to the rear of the frames of the bicycles, a seat and a receptacle carried by the rods, and means for steering the bicycles synchronously.
7. In combination with two bicycles, a front connecting rod brovided with screw-threaded bifurcated ends, shoes disposed in the bifurcations and adapted to engage the heads of the bicycles, wing nuts on the screw-threaded portion of the bifurcations adapted to secure sald shoes, a rear connecting rod secured to the rear of the frames of the blcycles, a seat and a receptacle carried by the rods, and means for steering the bicycles synchronously.
8. In combination with two bicycles. a front rod secured to the heads of the bicycles, a rear rod provided with recesses disposed around the rear forks of the bicycles. plates disposed on the opposite sides of the rear forks. bolts disposed through the plates and the ends of the rear rod, a seat and a receptacle carried by the rods, and means for steering the bicycles synchronously.
9. In combination with two bicycles, a front connecting rod, a rear connecting rod, intersecting horizontal rods carried by the front and rear rods, a seat and a receptacle carried by the intersecting horizontal rods, and means for steering the bicycles synchronously.
10. In combination with two bicycles, connecting rods removably secured to the bicycles, means for supporting a seat and a receptacle intermediate of the blcycles, means for steering the bicycles synchronously, and a canopy supporting the framework disposed on the connecting rods,
11. In combination with two bicycles, rods having their ends removably connected to the bicycles, Inclined braces connecting the rods and the bicycles, yokes connected to the handle bar stems of the bicycles, links pivotally connected to the yokes, and a rod pivotally connecting the links.

No. 102,167. Rotary Machine. Machine rotatoire.


Daniel Appel, Cleveland, Ohio, U.S.A., 20th November, 1906; Filed 22nd January, 1906. Receipt No. 132,092.
Claim.-1. In a rotary machine, a casing having inlet and exhaust ports and a rotatable power transmitting abutment wall sub-dividing said casing, a piston extending centrally through the said wall to opposite sides thereof and adapted to oscillate and thereby impart a rotary motion to said wall, said piston having its entire active surface exposed to the power fuid from inlet to exhaust.
2. In a rotary machine, a spherical casing, power transmitting wall rotatably mounted in said casing, and an oscillating power piston hinged across the center of said wall and equally exposed on opposite sides thereof, said piston and wall having uniform and unchanging active surfaces and rotatable together.
3. In rotary machines, a casing having inlet and exhaust ports and \(\begin{gathered}\text { atatable wall centrally thereof adapted to }\end{gathered}\) transmit power in combination with a piston intersecting said wall at right angles across its center, and means to cause said piston to oscillate obliquely to the axis of said wall and thereby impart a rotary motion to sald wall and piston.
4. In a rotary machine, a chamber and a rotatable power transmitting wall sub-dividing said chamber, a piston pivoted across the center of said wall at right angles to its axis and adapted to swing from side to side in respect to said wall and means to cause said piston to assume an oblique angle to the plane of said wall and thereby convert the power into a rotary motion for said piston and wall together.
5. A rotary machine having a rotatable shaft and an abutment wall fixed on said shaft and axially in the same plane and a piston-like disc hinged at its center and adapted to oscillate on said hinge in respect to sald abutment wall.
6. In a notary machine, a spherical casing, a rotatable abutment wall therein and a piston disc centraily across the same and in hinged relation therewith, a guide having an orbit in said casing at an oblique angle to the axis of said abutment wall and provided with pivots on which the said piston disc is adapted to osi:illate across the plane of the orbit of said gulde.
7. In rotary machines, \(\varepsilon\). casing and a rotptable sub-dividing wall therein and a piston hinged at its middle in said wall and having a portion of its edge pivotally confined to an orbit at an angle to the axis of sald wall.
8. In rotary machines, a spherical chamber, a rotatable abutment wall therein having fixed bearings, a piston disc having its axis centrally across said wall, and means engaged with the edge of said disc to cause the disc to oscillate obliquely as it rotates.
9. In rotary machines, a spherical chamber, a rotatable abutment wall therein having fixed bearinga, a piston hinged centrally at right angles to said wall and rotatable therewith, and rotatable means in the wall of said chamber adapted to travel at an angle of inclination to the axis of said abutment wall and having sald piston pivotally engaged therewith whereby said disc is caused to oscillate as it rotates.
10. In a rotary machine. a rotatable abutment disc and a piston disc extending through said abutment disc and a travelling pivot point for said piston disc at its edge on which it is adapted to oscillate.
11. A rotary machine having an abutment disc rotatable about a fixed axis and a piston disc hinged at its middle midway across said abutment disc and rotatable therewith. and a rotatable gulde outside both sald discs with which the piston disc has pivoted connection.
12. In a rotary machine, a rotatable abutment wall having a fixed axis and a piston disc hinged at right angles to the said axis across the middle of sald abutment wall and a guide provided with pivots for said piston disc and adapted to travel in a fixed orblt at an inclined angle to the place of sald abutment wall.
13. In rotary machines. a spherical casing comprising base and cover sections dividing at the center of the nower shaft and supply and exhaust connections on the said base section therebr leaving the cover section free to be detached without disturbing the sald connections, In combination with an abutment and a niston miotahin with aqid abutmont adanted to traverse the sald supply and exhaust connection.
14. A snherical casing having its line of division central and lengthwise to the Dower shaft and provided with a guide channel centrally at right angles to said division line, and supply and exhaust connections on said base section whereby the working parts may be readly inspected and removed by taking off the cover section and without disturbing the permanent supply and exhaust connections.
15. In a rotatable machine having a nower shaft. a rotatable ahutment disc havine said shaft extending diametrically through its center and provided with port controlling enlargements on oddosite sides of said shaft, and a casing having ports controlled in the nath of said enlargements.
16. In a spherical rotary machine. a casing comprising a hase section and a nower shaft on which said sections divide. suoply and exhaust connertions secured to sain base section and an endless guide rhannel acrose both said sections at an inclination to the axis nf said shaft. Whereby the rover section mav he convenientlv taken off and the working memhers inanected or remnved from the casing withoit disturbing anv nermanent connections.
17. In a rotary machine. an ahutment dise.. a piston dise engaged at its center acrose the center of the abutment diac and at right angles to the aris thersof and a travelling circular pulde with which said plston disc is pivotally engaged at its periphery.
18. In a rotary machine. a rotatable abutment disc. ian oacillating piston disc hinged rentrally arross the middle of said abutment dise. and a quide ring operativelv connected with arid piston disc and encomnassing both said discs.
19. In a rotary machine. a anitahle rasing. a rotatable abutment disc therein having fixed bearings, a piston disc hinged across the renter of sald abutment disc. 'a ring adapted to travel rotarilv in said rasing and onnosite pivot connertions between said ring and the sald piston disc.
20. In a rotary machine. a casing having a apherical chamher nrovided with a channel extending aroind the wall theroof a gulde ring slidahly mounted in said channel. a nistnn disc oivntallv encaged with said ring at its:edge and an abutment disc traversed by said piston disc.
21. In a rotary machine. a casing having a spherical chamber and a ring-shaned channel extending around the same. a quife ring mounted in said channel. an abutment dise rotatably sunoorted in said chamber and having its axis extendine centrally through the same at an angle to the said ring. and a piston disc hinged at its center and engaged at opnosite points at its edge with the said guide ring.
22. The casing having a chamber with a channel about the same, an abutment disc rotatably mounted in said chamber at an angle to said channel, a guide ring rotatably mounted in said channel and a piston disc hinged at its center across the center of said abutment disc, and having opposite pivot connections with said guide ring.
23. The casing having a spherial chamber and a guide channel about the same, a main shaft and an abutment disc mounted thereon at an angle to said channel, a piston disc hinged at an angle across sald abutment disc, and a guide ring in said channel operatively engaged with the edge of saidiabutment disc and flush with the wall of sald chamber.
24. The casing having a spherical chamber and a ringshaped guide channel about said chamber, a guide ring occupying said channel and having its inner surface flush. with the surface of the said chamber, a piston disc and pivots connecting the edge thereof with sald. ring, an abutment disc in said chamber at an angle to the said ring and a shaft on which said abutment disc is fixed.
25. The casing having inlet and exhaust ports, and abutment disc constructed to control said ports, a piston disc mounted at an angle across said abutment disc, and a rotatable guide with which the said piston disc is operatively engaged at its elge.
26. The casing having a spherical chamber and inlet and exhaust ports. a shaft centrally through said chaniber and an abutment disc fixed thereon and constructed to control the said porte, a piston disc hinged across sald abutment
disc and means to caure said disc to oscillate to and fro in respect to the said abufment disc.
27. A rotary machine having an inlet and an outlet for fluid pressure and comprising rotating and oscillating members, in combination with an automatic relief valve for the fluid inlet of cald machine.
28. In a rotary machine, a set of rotatable power members having opposed working surfaces, of a fixed area during an entire cycle of rotation, and one of said members adapted to oscillate obliquely in respect to the axis of rotation of both members.
29. In a rotary machine, a get of power membere comprising a rotatable abutment and an oscillating piston adapted to rotate with sald abutment, said abutment and said piston having opposed working surfaces of a given area adapted to operate with an unvarying exposure during their entire travel.

No. 102,168. Windmill. Moulin d oent.


\section*{5}

Robert S. Bartlett, Nocona, Texas, U.S.A., 20th November, 1906. 6 years Filed 25th September, 1906. Recelpt No 139,767.
Claim.-1. A wind wheel comprising spaced apart hoads, a circular series of transversely curved blades secured to said heads and held therebetween. the outer edges of sald blades being arranged in a circle and the inner edges of said blades belng also arranged in an inner circle which forms a wind chamber at the center of the wheel, the inner edge of each curved blade being located at a point where a line drawn tharethrough and through the center of the wheel will intersect the outer edge of the next blade in advance, and each of said blades being concaro-convex in cross section, the cross section thereof lying in an arc struck from the outer circle of the wheel to the inner circle forming the wind chamber. the radius of said are being equal to one-quarter the diameter of the wheel.

No. 102,169. Display Cabinet. Cabinet de montre.


Martin T. Brennan, Montreal, Quebec, Canada, 20th Norember, 1906; 6 years. Filled 29th September, 1906. Recelpt No. 139,895 .
Claim.-1. A display cablnet comprising the comblation of a glass cylinder, casings arranged at the top and bot-
tom of the cylinder, a locking rod disposed through the casings and means for displaying collars in the cylinder on the rod.
2. A display cabinet comprising the combination of a glass cylinder, casings arranged at the top and bottom of the cylinder, a locking rod disposed through the caslngs, a reflector disposed in each of the casings, and means for displaying collars on the rod in the cylinder.
3. A display cabinet comprising the combination of a glass cylinder, casings arranged at the top and bottom of the cylinder, a rod disposed through the casings, bracket arms provided with collars adapted to engage the casings, screw-threaded caps adapted to lock the collars on the casings, brackets adapted to support the arms, and means for displaying collars on the rod in the cylinder.
4. A transparent display cabinet having a rod therein disposed centrally and longitudinally thereof and adapted to maintain the parts of the cabinet together, in combination witli a collar on the rod provided with radial arms, some of which arms are provided with hooks adapted to support a collar, and one of which arms is provided with a button adayted to be inserted through the front button holes of the supported collar, and set screws adapted to secure sald collars on the rod.
5. A display cabinet comprising the combination of a transparent cylinder, a lower casing having an interiorly and exteriorly screw-threaded projection, an upper casing having a projection with a screw-threaded bore and having external screw threads, bracket arms having collars disposed around the projections, screw-threaded caps on the projections adapted to lock the collars against the casings. a screw-threaded rod disposed with one end in the screw-threaded recess and the other end in the bore of the other casing, an interiorly and exteriorly screwthreaded nut on the rod and in engagement with the bore of the casing, reflectors in the casing, and display racks on the rod.
6. In combination with a supporting roa, a collar disposed on the rod and provided with a plurality of radial arms, some of which are provided with hooks adapted to support a collar, and one of which is provided with a button adapted to be inserted through the button holes in the collar, and a set screw adapted to lock the collar on the rod.

No. 102,170. Metallic Bar Bender.
Apparell pour plier les barres de metal.


Alvin C. Busby, Ellenburg, Washington, U.S.A., 20th November, 1906; 6 years. Filed 20th October, 1906. Receldt No. 140,465.
Claim.-1. An apparatus for bending metallic bars comprising a frame, rollers journalled therein, standards which are connected together, one of said standards being hinged to the frame, a corrugated roller adjustably mounted upon said standards, a longitudinally movably key mounted upon the frame, a pivotal lever for operating said key whereby the same may be moved into and out of a recess in one of said standards, as set forth.
2. An apparatus for bending metallic bars comprising a frame, rollers journalled therein, standards which are connected together, one of said standards being hinged to the frame, a corrugated roller adjustably mounted upon said standards, a longitudinally movable key mounted upon the frame, a pivotal lever for operating said key whereby the same may be moved into and out of a recess in one of said standards, and a stop to limit the movement of said key in one direction, as set forth.
3. An apparatus for bending metallic bars comprising a frame with rollers mounted therein, standards, connections between the same, an adjustable roller carried by said
standards, one of said standards hinged to the frame, and the other having a recess in the face thereof adapted to register with a recess in the face of said trame, a longitudinally movable key adapted to move in said recesses which in registration with each other, and an angle lever mounted upon the frame and having sliding pivotal connection with said key, as set forth.
4. An apparatus for bending metallic bars comprising a frame with rollers mounted therein, standards, connections between the same, an adjustable roller carried by said standards, one of sald standards hinged to the frame, one of the faces of the frame having a longitudinal recess with an off-set therein, which latter is adapted to recelve the lower end of one of said standards, a key adapted to work in registering recesses in said frame and one of said standards, and a pivotal lever having sliding connection with said key and adapted to move the same longitudinally, as set forth.

No. 102,171. Relay for Reinfording Sound.
Relaf pour renforcir le son.


Jens Herman Christensen, Sovejen, Sollerod, Denmark, 20th November, 1906; 6 years. Filed 5th April, 1905. Receipt No. 123,981.
Claim.-1. A telephone relay comprising a diaphragm, a pendulum freely adacent said diaphragm and bearing lightly thereagainst, and. a repeating circuit including a receiver and arranged in series with contacts formed by said pendulum and the diaphragm respectively.
2. A telephone relay, comprising a diaphragm. a pendulum depending freely adjacent thereto and having a carbon block at its exremity, said diaphragm and carbon block being lightly in contact, and a repeating circuit including a receiver and arranged in series with the contacts formed by said diaphragm and carbon block.
3. A telephone relay. comprising a diaphragm having a carbon plate forming a part thereof, a plurality of pendulums each depending freely adjacent said diaphragm and having a carbon block bearing lightly against said plate, and a repeating circuit arranged in series with the contacts formed by the engagement of said carbon blocks with said plate.
No. 102,172. Means for Inflating Pneumatic Tires.
Moyen. de soufler les bandages pncumatiques.
Roger Connell, Westport, Westland. New Zealand, 20 th November, 1906; 6 years. Filed 11th July, 1906. Receipt No. 137,698.
Claim.-1. Apparatus for the purpose indicated, comprising in combination with a pneumatic tire, a pump barrel, means for connecting the barrel to the tire, a plunger within the barrel having a cupped leather washer, a rod extending from the plunger to the tire, means for attaching the rod to the inside of the outer periphery of the air tube of the tire, a perforated screw cap attached to one end of the rod and screwed upon the plunger, a valve within the plunger, a spiral in compression between the valve and the screw cap, a cap screwed upon the upper end of the pump
barrel, a neck integral with the screwed can and a nonreturn valve within the neck, substantially as set forth.

2. Apparatus for the purpose indicated, comprising in combination with a peumatic tire, a pump barrel, means for connecting the pump barrel to the tire, a plunger within the barrel, having a cupped leather washer, a rod extending from the plunger to the tire, means for attaching the rod to the inside of the outer periphery of the air tube of the tire, a perforated screw caf attached to one end of the rod and screwed upon the plunger, a valve within the plunger, a spiral spring in compression between the valve and the screw cap, a cap screwed upon the upper end of the pump barrel, a neck integral with the screwed cap. a nipple having a hole throughout its length and fitting the neek, a spindle having one end flattened and entering the hole of the nipple. a pin passed through the nipple and through a slot in the spindle, a rubber tube provided with a slit and fitting upon the spindle and the end of the nipple. a screw cap upon the neck, and means for excluding dirt from the interior of the pump, substantially as set forth.
3. Apparatus for the purpose indicated comprising in combination with a pneumatic tire, a pump barrel, means for connecting the pump barrel to the tire, a plunger with in the barrel having a cupped leather washer, a rod extending from the plunger to the tire and having a screwed end, a flanged nipple screwed to receive the screwed end of the rod, washers and a nut upon the nipple for making an air tight joint between the nipple and the tire, a perforated screw cap attached to the other end of the rod and screwed upon he plunger, a valve within the plunger a spiral spring in compression between the valve and the sorew cap. a cay screwed upon the upper end of the pump barrel, a neck integral with the screwed cap and a non-return valve within the neck, substantially as set forth.

No. 102,173. Writing Guide. Guide pour écrire.
Joseph Castle Dana, Boise. Idaho. U.S.A., 20th November. 1906: 6 years. Filed 16th August, 1906. Receipt No. 138,737.
Claim.-1. A device of the class described, comprising a bed or platen, line guides associated therewith, and a line indicator carried by the bed or platen.
2. A device of the class described, comprising a bed or platen, line guides associated therewith, and a line indicator permanently and movably mounted upon the bed or platen.
3. A device of the class described, comprising a bed or platen. line guides associated therewith, a gulde member mounted upon the bed or platen, and a line indicator movably mounted upon the guide member.
4. A devlce of the class described. comprising a bed or platen, line guides associated therewith, a guide member secured to the platen, and a line indicator movably mount-
ed upon the guide member, said line indicator being provided with a turn down engaging portion.

5. A bed of the class described comprising a bed or platen, line guides associated therewith, and a line indicator movably mounted unon the bed or platen, said line indicator being provided with a turn down engaging portion.
6. A device of the class described, comprising a bed or platen provided with flanges, a frame provided with guide elements, said frame being hingedly secured to one of the flanges of the bed or platen, and a line indicator movably mounted upon the bid or platen.

No. 102,174. Calculating Machine.
Machine d calculer.


William Robert Gaither, Chicago, Illinois, U.S.A., 20th Novvember, 1906; 6 years. Filed 20th August, 1906. Receipt No. 135.815.
- Ulaim.-1. In a calculating machine of the character described employing a printing attachment containing a laterally shiftable carriage and a platen and paper feeding means, the combination with the carirage of a web guide thereon, a roller carrier rigidly connected with said carriage to move with it, and lower and upper web carrying rollers journalled on said carrier and adanted for winding and unwinding a web extending from one to the other of said rollers between said platen and feeding means, for the purnose set forth.
2. In a calculating machine of the character described employing a printing attaclment containing a laterally shiftable carriage and a platen and pader feeding means.
a frame for said carriage extending across the back of the machine casing and projecting beyond the sides thereof, a track extending between the ends of said frame and on which the carriage is movably supported, a web guide secured on the carriage to move with it, a roller carrier rigidly connected with said carriage to move with it, and lower and upper web carrying rollers journalled on said carrier and adapted for winding and unwinding a web extending from one to the other of said rollers betwoen said platen and reeding means, for the purpose set forth.
3. In a calculating machine of the character described employing a printing attachment containing a laterally shiftable carriage, and a platen and paper feeding means a frame for said carriage extending across the back of the machine casing and projecting beyond the sidis thereof, a track extending between the ends of said frame and on which the carriage is movably supported, a web guide secured on the carriage to move with it, a supplemental frame rigidly connected with said carriage to move with it, and lower and upper web carrying rollers journalled on said supplemental frame and adapted for winding and unwinding a web extending from one to the other of said rollers between said platen and feeding means, for the purpose set forth.
4. In a calculating machine of the character described employing a printing attachment containing a latterly shiftable carriage and a platen and paper feeding means, a frame for sald carriage extending across the back of the machine casing and projecting beyond the sides thereof, a track extending between the ends of said frame and on which the carriage is movably supported, a web guide secured on the carriage to move with it, a supplemental frame rigidly connected with said carriage to move with it, a bearing on said casing on which the supplemental frame travels and lower and upper web carrying rollers journalled on said supplemental frame and adapted for winding and unwinding, a web extending from one to the other of sald rollers betweed said platen and feeding means, for the purpose set forth.
5. In a calculating machine of the character described, employing a printing attachment containing a laterally shiftable carriage and a platen and paper feeding means, a frame for said carriage consisting of a bar extending across the back of the machine casing and projecting beyond the ends thereof, and brackets projecting upward from the ends of said bar, a track supported at its ends on said brackets and on which the carriage is movably supported, a bearing bar connecting said brackets below the track, arms extendrearward from the carriage and carrying vertical bars provided at their lower ends with rollers riding on said bearing bar and having lower and upper foller bearings, and web carrying rollers journalled in said roller bearings and adapted for winding and unwinding a web extending from one to the other of said rollers between said platen and feeding means, for the purpose set forth.

\section*{No. 102,175. Feed. Water Feater, Separator and Purifier.}

Chauffeur d'eau d'alimentation, séparateur et purificateur.
William Asa Gibson, Muscatine, Iowa, U.S.A., 20th November, 1906; 6 years. Filed 23rd June, 1906. Receipt No. 137,199.
Claim.-1. In a heater and purifier the combination with an inlet pipe and means for forcing the fluld to be heated therethrough, of a restricted nozzle continuous with the inlet pipe, a baffle plate opposite the end of the nozzle, means for heating the baffle plate to a high temperature, a separating chamber, an annular spiral passage concentric with said nozzle and having one hot and one cold wall and leading from said baffle plate into the separating chamber and delivering the heated water thereinto under rapid gyratory motion, a discharge pipe in the bottom of the mud drum through which the heavier solids in suspension escape, superheating pipes through which the water flows from the mud drum, a separating chamber adapted to receive the heated water from said superheating pipes and means thereing the lighter precipitate therefrom.
2. In a feed water heater and purifier the combination with an inlet pipe, of a restricted nozzle thereon, means for spraying and heating to a high temperature the water ejected therefrom, a spiral restricted passage through which the heated water is passed letween an inner cold wall and an outer hot wall, a centriiugal separating chamber into which said water is delivered with rotary motion. a waste pipe connected peripherally in the wall of the chamber and from which the heavier solids in suspension escape, a centripetal separating chamber, superheating pipes leading from the centrifugal chamber into the centripetal separating chamber, means for directing the water therefrom obliquely against the walls of said chamber, and means located centrally of said chamber acting to divert the lighter solids in suspension into a discharge passage.
3. A water heater and purifler provided with means for admitting cold water under pressure thereinto, and first

spraying and highly heating the same, then partly cooling and delivering the same with rotary motion into a centrifugal separating chamber provided with means permitting the separation of the heavier solids in suspension therefrom, means for again highly heating the water, a centripetally operating separating chamber into which the heated water is delivered with a gyratory movement, a deflector located centrally of sald chamber and acting to remove the lighter solids in suspension, said chamber having peripherally disposed apertures through which the heated and purified water escapes to the boiler under pressure.
4. The combination in a water heater and purifier, of means for removing the heavier solids therefrom, a separating chamber, means for superheating the water thereafter and delivering the same with great force obliquely against the sides of said separating chamber, a spiral deflector located axially of said chamber and having its edges presented to the whirling mass of water and acting to direct the lighter impurities therefrom into a passage opening axially from said chamber, said separating chamber having peripherally disposed exit passages leading to the boiler feed pipe.
5. The combination in a boiler feed heater and purifier, of means for highly heating the water and directing the same alternately against a hot and a cold surface, precipitating the solids in suspension thereby, a separating chamber into which the water is delivered under high rotary motion, a blow-off pipe leading therefrom and from whence the heavier solids are delivered, an auxiliary centripetally operating separating chamber and a pipe leading therefrom to the boiler or the like, superheating pipes from whence the water is conducted into said auxiliary separating chamber.
6. The combination with means acting to precipitate the solids from feed water, of a centripetally operating separating chamber connected therewith and into which the water is delivered therefrom, immovable means located centrally therein and acting to separate from said water the solids in suspension and to deliver the same from the heater and a passage communicating with said chamber and the boiler.
7. The combination in a water heater and purifier, of means acting to precipitate the solids therein, a mud drum in which a part of the solids are separated and removed, superheating pipes leading therefrom, a separating chamber into which said pipes open obliquely, and a deflector located therein acting to remove the remaining solids therefrom.
8. The combination with a water heater and purifier acting to precipitate the solids contained in solution in the water and to remove the heavier solids therefrom. of a separating chamber, superheating pipes acting to deliver the partly purified water obliquely into said separating chamber under pressure and producing a centrifugally flowing current of high velocity, a rigid deflector in said chamber
acting to draw the impurities inwardly to a centrally located exit passage, and an outlet pipe leading to the boller or the like.
9. The combination with a water heater and separator, of reheater pipes leading therefrom, a separator chamber into which said pipes open obliquely and outwardly acting to produce rotary motion in the water therein, of a deflector located axially of sald chamber and having its edges directed against the current on the inner side and acting to engage the precipitated solids in the current and direct the same to an exit aperture at the axis of said chamber and discharge passages near the periphery of the chamber communlcating with the boiler or the like.
10. The combination with a water heater and purifier acting to highly heat the water and precipitate the solids therein and to eliminate the heavier solids centrifugally of a separating chamber, superheating pipes acting to dellver the heated and partly purified water thereinto, axially disposed separating means in said chamber acting to draw the remaining solids inwardly to a point of discharge located axially of the chamber, and a pipe communicating with sald chamber and the boiler or the like.
11. In a device of the class described a separating chamber comprising a cylindrical shell, inlet passages opening thereinto and directed obliquely against the side wall thereof, a spiral deflector in said chamber, a deflecting plate at the end of the chamber having a central exit aperture therein and registering with the end of sald deflector and a delivery pipe opening from said chamber
12. In a device of the class described the combination with a centrifugal separating chamber, of means for delivering water thereinto with a gyratory motion, a centripetal chamber, superheating pipes connecting said chambers, a steam chest enclosing said pipes, a laterally directed nozzle on said pipes, within the centripetal chamber, a deflector in said chamber and means for carrying off the separated solids.
13. The combination in a water heater and purifier, of a centrifugal separating chamber, means for delivering water thereinto with a gyratory motion, a centripetal separating chamber, a plurality of superheating pipes connecting said chambers and extending into the centripetal chamber, a laterally directed nozzle on each pipe, an axially disposed spiral deflector in said centripetal chamber, a radially ribbed disc and means thereon for collecting and discharging the senarated solids.
14. The combination in a water heater and purifier, of a centrifugal separating chamber, a casing having an outer chamber therein and an inner centripetal separating chamber a plurality of superheating pipes connecting said centrifugal chamber with said centripetal separating chamber, means for separating and forcing solid matter from the water to the center of said chamber through a discharge exit and forcing the purified water to the outer side of said chamber and into said outer chamber.

No. 102,176. Compler for Whifiletrees.
Joint pour palonniers.


Andrew W. Gilchrist, Manchester, Iowa, U.S.A., 20th November, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137.235.
Claim.-1. In a device of the character described the combination with a pivoted base having a headed extension at one end. of a retaining strap having an aperture for the reciption of the head, and means for securing the stran to the base.
2. In a device of the character described the combination with a base having a headed extension at one end and a
whiffletree engaging projection upon the extension, of a retaining strap having an aperture therein for engagement by the head, and means for securing the strap to the base.
3. In a device of the character described the combination with a supporting plate and an ear integral and parallel therewith, of a base mounted between the supporting plate and ear, a headed extension at one end of the base, a projection upon the extension and an apertured retaining strap adapted to be engagec by the head, and means for securing the strap and base to the ear and plate respectively.
4. The combination with a supporting plate and a strap integral therewith for holding the plate upon a support, of an ear integral with the supporting plate and parallel therewith, a base mounted between the plate and ear, a headed extension at one end of the base, a projection upon the extension an apertured retaining strap for engagement by the head and means for pivotally connecting the strap and base to the ear aud supporting plate.

\section*{No. 102,177. Non-Refllable Bottle.}

Boutcille non-ríemplissable.


Angelo Feraro, Brooklyn, New York, U.S.A., 20th Norember, 1906; 6 years. Filed 23rd February, 1906. Recelpt No. 133,215.
Claim.-1. In a device of the class described, a bottle having a neck provided with a valve seat, a valve designed to rest upon the seat and comprising a pair of discs and an interposed tubular weight, and a shield arranged above the valve.
2. In a derice of the class described a bottle having a neck provided at its inner end with a shoulder, a tubular section affixed above said shoulder, and constituting a valve seat, a valve arranged to close on said seat, a second tubular section fixed in the neck above and remote from the valve, a guard member designed to seat on said section.* and a shield arranged above the guard member.
3. In a device of the class described, bottle having a neck provided with a valve seat, a valve desigaed to rest upon the seat and comprising a pair of discs and an interposed weight, and a shield arranged above the valve.
4. In a device of the class described, bottle having a neck provided with a valve seat, a valve designed to rest upon the seat and comprising a pair of discs and an interposed weight, one of suid discs being composed of buoyant material, and a shield arranged above the valve.

\section*{No. 102,178. Closure for Bottlea.}

\section*{Fermeture de bouteilles.}

Carl Lohmann, No. 4 Newmarket Gelsenkirchen, Germany 20th November, 1906; 6 years. Filed 23rd May, 1906. Receipt No. 136,173.
Claim.-1. A closing device for bottles, comprising a ring of resilient material introduced into the neck of the bottle and suitably supported and having a passage therethrough. a tap inscrted in said ring and having its passage therethrough arranged to register with said ring passage, and means for retaining said tap in said ring, as and for the purpose specified.
2. A closing device for bottles, comprising an india rub ber ring introduced into the neck of the bottle in an annular recess formed in a collar surrounding sald neck fotermediate of its length, said ring having passage leading from the inner wall of the ring opening through to the lower side. a tap having a stopper portion closing sald ring opening and a passage therethrough adapted to register with said pas sage in the ring on the turning of sald stopper portion, eatd tap having suitable shoulders intermediate of its lensth,
and a cap encircling the shank of said tap above said stopper portion and having inturned outer edges adapted to

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grip a bead at the top of the neck of the bottle, as and for the purpose specided.
3. A closing device for the bottles. comprising an india rubber ring having a passage through the wall thereof and introduced into the neck of the bottle, a tap having a stopper portion adapted to close the opening in said ring and shoulders formed in the shank portion above said stopper portion and a passage therethrough registering at its lower end with said passage in said ring portion, and a gripping device encircling the said stopper at said shoulders and engaging the neck of the bottle, as and for the purpose specified.

No. 102,179. Wire Drawing Machine.
Laminoir pour fils de fer.


William John Herald, Hamilton, Ontario. Canada, 20th November, 1906; 6 years. Filed 29th June, 1906. Receipt No. 137,402 .
Claim.-1. The combination with the dies, of a drum located between the same supported on a suitable shaft and provided with slits extending radially in the face of the drum and longitudinal in the periphery, and a friction wheel secured on the chaft and with which the interior periphery of the drum is caused to contact as the drum is contracted upon the call of the wire, as and for the purpose specified. 11-19
2. The combination with the dies, of a drum located between the same supported on a suitable shaft and provided with slits extending radially in the face of the drum and longitudinal in the periphery, the said drum fiaring internally outwardly and a friction wheel having a taper substantlally corresponding to the internal flare of the drum and adjustably secured on the shaft and with which the interior perlphery of the drum is caused to contact as the drum is contracted upon the call of the wire, as and for the purpose specified.

No. 102,180. Shelf Bracket.
Console de tablettes.


John Henry Morgan, The Grange, Harlow Oval, Harrogate,
York, England, 20th November, 1906; 6 years. Filed 29th September, 1906. Receipt No. 139,907.
Claim.-1. As an improved article of manufacture, the herein described sheet metal braceless bracket, consisting essentially of the wall and shelf plates, each plate being provided with tapering flanges and each having a tapering strengthening web formed by folding a portion of the blank on a longtitudinal line, and having a sllt cut in the web for dividing it into two portions, and a portion of its folding part removed, and the web afterwards opened out to enable one of its portions to overlap and enclose the upper and widest part of the remaining portion of the web, and to abut against the inner surface of the flanges wall plate bracket at the point of juncture.
2. A sheet metal bracket formed from a single elongated diamond-shaped blank of which a tapering strengthening web is formed by a longitudinal fold of the metal, the tapering portions of the web being arranged to terminate at a transverse slit and a recess formed in one portion of the upper surface of the said web by removing a portion thereof, a tapering flange formed out of a blank on each side of the web and made to taper from each of its ends towards the point of meeting at the said slit, and afterwards bending a portion of each of the sald flanges over at a right angle to the other portion for enabling the web connected to the bent over flanges to overlap the top of the web on the other portion, and its ends so impinge upon the outer surfaces of the vertical flanges, and the means comprising two rivets passing transversely through the widest portions of the web for preventing any movement of the horizontal arm when a plate is placed upon its upper surface, as set forth.
3. A bracket in which the wall and shelt plates are provided with a strengthening tapering web is first formed by a longitudinal fold of the blank, and having a slit cut therein for dividing the web into two portions, and a recess formed in the upper surface of one of the portions of the web, a tapering flange formed out of a blank on each side of the
 comprising two rivets for securing the broad ends of the web together at the points of juncture where they overlap each other, substantially as set forth.

No. 102,181. Grindstone Mill. Moulin à broyer.
Ol:ver J. Mousette, New York City, New York, U.S.A., 20th November, 1906; 6 years. Flled 6th March, 1906. Receipt No. 133,602.
Clain-1. A grinding mill comprising a rotary case tapering from the center towarls each end, and a crusher arranged within the case and composed of flexibly connected sections of a conicity different from that of the case and
adapted to grind or comminute material between their adjacent faces, each of said crusher sections tapering from

the inner toward the other end thereof and conforming in contour to the shape of the casing so as to nest therein, and prevent displacement of the crusher during rotation of the casing, the taper of the crusher being of somewhat different degree to the taper of the case so as to cause the meeting edges of the crusher sections to gape or stand at an angle to one another.
2. A grinding mill comprising a rotary case tapering from the center towards each end, and a crusher arranged within the case and composed of sections of a conicity different from that of the case linked together and adapted to grind or comminute material between their adjacent faces, each of said crusher sections tapering from the inner toward the outer end thereof and conforming in contour to the shape of the casing so as to nest thereis and prevent displacement of the crusher during rotation of the casing, the taper of the crusher being of somewhat different degree to the taper of the case so as to cause the meeting edges of the crusher sections to gape or stand at an angle to one another.
3. In a grinding mill a rotary case and tubular or open crusher sections each having a web in its interior clear of the edges, and link bolts respectively secured to the webs and connected to one another.
4. In a grinding mill, a tapered rotary case and crusher sections of different taper than the case and having their opposing end faces indented.
5. In a grinding mill, a rotary case tapering from the center towards each end and having openings along the axis of rotation and crusher sections of tubular shape placed end to end and extended in like direction so as to allow flow during the operation through the crusher and both ends of the case.
6. In a grinding mill a rotary case tapered from its center portion in each direction in the axis of rotation, tubular or hollow crusher sections of different taper from the case, and a connection between the sections, sald case having openings for the passage of fluid during the operation and a withdrawing opening with cover therefor, said crusher sections being placed end to end and being detached from the case so as to roll freely therein.

\section*{No. 102,182. Compring Cheese Criter. \\ Couteau d fromage calculateur.}

John H. Osborne, Anderson, Indiana, U.S.A., 20th November, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,818 .
Claim.-1. In a computing cheese cutter the combination of a cheese table, an operating lever therefor bearing a cheese total scale, a radial arm having a clutch connection with said table, a movable connection device between said lever and arm, an indicator for said scale, and means carried by said lever for changing the. position of said connection device in accordance with the adjustment of said indicator, substantlally as specifled.
2. In a computing cheese cutter the combination of a cheere table, an operating lever for the fame bearing a cheese total scale. a radial arm plvoted centrally of said table and having a clutch connection therewith, a connection device between said lever and arm, an indicator for said scale, and means carried by sald lever for simultaneously adjusting sald connection device and indicator, substantially as specified.
3. In a computing cheese cutter the combination of a checse table, an operating lever for the same bearing a
cheese total scale, an indicator for said scale, a radial arm having a clutch connection with said table, a connection

device between said lever and arm, and means for simultaneously adjusting said indicator and connection device, substantially as specifled.
4. In a computing cheese cutter the combination with a rotary cheese table, of an operating lever therefor bearing a cheese total scale, an indicator for said scale, a radial arm having a clutch connection with said table, a connec tion device between said arm and lever, and a longitudinal adjusting rod engaging said connection device and indicator, substantially as specified.
5. A computing cheese cutter, having in combination a rotary cheese table, an operating lever therefor having a fulcrum at its rear end and bearing a cheese total ecale, a radial pivoted arm having a clutch connection with sald table, a connection device between said arm and lever, and means for simultaneously adjusting said connection device and indicator, substantially as specified.
6. A computing cheese cutter, having in combination a rotary cheese table, an operating lever therefor having a fulcrum at its rear end and bearing a cheese total scale, a radial pivoted arm having a clutch connection with said table and having a longitudinal slot, an indicator for eaid scale, a connection device engaging said slot, and a longitudinal rod carried by said lever and having threaded end portions engaging said indicator and connection device, substantially as specified.
7. In a cheese cutter the combination of a base frame, a cheese table mounted rotatably thereon, an actuating part carrying a clutch, said clutch carrylng a pair of plas adapted to grip annular part of the table and belng piroted 10 the actuating part and having a longitudinal movement thereon, a spring for normally actuating the clutch, and means for operating said actuating part.
8. In a cheese cutter the combination of a base frame and a rotatable table mounted thereon and provided with in annular rim, means for actuating the table embodying a clutch consisting of a radially movable plate provided with gripping means adapted to grip the opposite sides of said annular rim of the table, and a spring for normally keeplas said gripping means against said annular rim.
9. In combination with a base and a table rotatably mounted thereon and having an annular gripping rim, and means for rotating the table, said means embodying a radially morable plvoted plate carrying pins which normally grip aaid rim, said pins being so disposed that they grip the rim while moving in one direction and release it when moving in the opposite direction.
10. In a cheese cutter the combination of a base frame and a rotary table mounted thereon, a vibrating lever an 1 means for actuating the table therefrom, a spring retracted stop pin carried on the handle of said lever, and a serles of stops mounted on the base fame, these stops marking of fractions of a pound, for the purposes set forth.
11. In a cheese cutter the combination of a base frame and a rotary table mounted thereon, a vibrating lever and means actuated thereby for rotating the table, a scale adjacent to said lever, and a slide on said scale carrying a movable stop pin adapted to be projected into the path of said lever, for the purpose set forth.
12. In a cheese cutter the combination of a base frame and a rotary table mounted thereon, a vibrating lever and means actuated thereby for rotating the table, a pair of maximum throw stops carried by the base, intermediate stops, for measuring off fractions of a pound, a part on the lever adapted to co-act with sald intermediate stops, a price anit scale extending between said maximum throw stops, and an adjustable stop on said price unit scale.
13. In a cheese sutter the combination of a base frame and a rotary table mounted thereon, a vibrating lever and means actuated thereby for rotating the table, maximum throw stops on the base, a price unit scale bar extending between these stops and along which the lever works, and an adjustable slide on the scale bar carrying a movable stop adapted to be projected into the path of the lever and arrest in at points intermediate of the maximum throw stops, for the purpose set fonth.
14. In a cheese cutter the combination of a base frame, and a rotary table journalled thereon, an arm pivoted concentrically with respent to the table and lying thereunder and carrying at its outer end means for aripping an annular part of the table. said arm being longitudinally slot ted, a fulcrum pin engaging said slot. and means for adjusting said fulcrum pin in said slot. means for vibrating said fulcrum pin, and means for limiting the movement of said vibrating means. for the purpose set forth.
15. In a cheese cutter the combination of a base frame and a rotary table mounted thereon, a vibrating lever, and means actuated thereby for rotating the table. stops on the base for determining the maximum throw of the lever, a price unit scale bar extending between sald stops and across the lever, an adjustable stop on the scale bar, and means whereby the lever may be permitted to vibrate between the maximum throw stops or confined in its vibrations between one of said stops and the adjustable stop, for the purpose set forth
16. The method herein described for measuring off cheeses either by weight or by money value, consisting in the omployment of two co-operating and juxtaposed scales for governing the actuating mechanism, one of said scales being a weight scale and the other a price scale, whereby pieces of cheese may be measured off by a single actuating means according to weight or according to price alternately and without disturbing the adjustment of either scale.
17. In a commuting cheese cutter. the combination of a rotary table and means for actuating the same, two scales for controlling the action of the actuating means, one of said scales being a weight scale and the other a price scale and the two scales being co-operatively related so as to control the single table actuating means, being provided whereby elther scale may be brought into requisition without disturbing the adjustment of the other scale.
18. In a cheese cutter, the combination of a base frame and a rotary table mounted thereon. a lever and means actuated thereby for rotating the table, fixed maximum throw stops for the lever, and a weight scale for regulating the influence of the lever upon the table, a price scale and an adjustable stop thereon. and means whereby the lever may be permitted to vibrate between the maximum throw stops or be confined in its vibrations between one of said stops and the adjustable stop, for the purpose set forth.

\section*{No. 102,183. Fire Extinguishing Construction of Buildings.}

\section*{Apparedl d'extincteur d'incendie dans la construction des batisses.}

John Rogers, Perry, Iowa, U.S.A... 20th November. 1906: 6 years. Filed 20th June, 1906. Receipt No. 137,099.
Claim.-1. In construction of buildings or the like, cellings or wall structure embodying inner and outer plates spaced from each other centrally thereof to form a water chamber, lugs projected from the outer plate and engaging the inner plate to attach same together. water inlet pipes communicating with the space between the plates, the outer plate being apertured for egress of the water from the water chamber aforesaid.
2. In construction of buldings or the like, wall structure embodying inner and outer plates spaced centrally from one another and also spaced at the edges, supporting beams having portions recelved between the spaced edges of the plates aforesald. the inner plate belng provided with elongated opening, lugs projected from the outer plate and
passing through the elongated openings of the inner plate, engaging extensions projected from the lugs, and water

supply pipes communicating with the space between the central portions of the plates.

No. 102,184. Resilient Bearing for Wheels. Coussinct élastique pour roues.


Albert Simpson, Chehalis, Washington, U.S.A., 20th November, 1906; 6 years. Filed 8th October, 1906. Receipt No. 140,150.
Claim.-1. In a resilient support for vehicles, the combination of a pair of vertically slotted plates provided at their lower ends with lateral offset portions vertically apertured, an axle mounted in the vertical slots of said plates. a pair of springs each having a threaded stem at its lower end to pass through the vertical aperture of a lateral extension and provided at its upper end with a hook to engage over an end of the axle, and a set nut mounted upon the threaded extension of each stem below the lateral offset through which the threaded stem passes.
2. In a resilient support for vehicles, the combination of a pair of vertically slotted plates provided at their lower ends with lateral offset portions vertically apertured, and having rearwardly extended arms at their upper ends and rear extensions between their ends, means co-operat.

Ing with the said rear arms and extensions to secure the plates to the frame of the vehicle, an axle mounted in the vertical slots of said plates, a pair of springs each having a threaded stem at its lower end to pass through the vertical aperture of a lateral extension and provided at its upper end with a hook to engage over an end of the axle, and a set nut mounted upon the threaded extension of each stem below the lateral offset through which the sald threaded stem passes.

No. 102,185. Draft Equaliser. Eyalisoir dc tirage.


William L. Vicbrock, Lime Spring, Iowa, U.S.A., 20th November, 1906: 6 years. Filed 14th July, 1y06. Receipt No. 137,816 .
Claim.-1. The combination with an evener, of a substantially horizontal clevis, means for connecting the clevis to an implement, a link connecting the evencr and clevis and disposed in angular relation to the line of draft, another link conected to the evencr and disposed diagonally of the line of draft and in angular relation to the first-mentioned link, said link extending diagonally across the clevis and in rear of the same, and means for connecting the link to an implement in rear of and at one side of the clevis.
2. The combination with an evener, of a substantially horizontal clevis, means for securing the clevis to one side of an implement, link connecting the evener and clevis and disposed in angular relation to the line of draft. an extensible link connected to the evener and disposed diagonally of the line of draft and in angular relation to the firstmentioned link, said extensible link being disposed diagonally across the clevis and in rear of the same, a guide device adjustably mounted on the clevis and engaging the extensible link, and means for connerting said extensible link to an implement in rear of the clevis.
3. The combination with an evener including a yoke, of a clevis. a link pivoted to the yoke and to the clevis. another link pivoted to the yoke and extending diagonally across the clevis, and means for pivotally securing the rear end of the latter link to an implement.
4. The combination with an evener, of a clevis, means for attaching the clevis to an implement. a swinging connection between the clevis and the evener, and means connected to the evener and to the implement independently of the clevis for holding said swinging connection in different angular relations.
5. The comb!nation with an pvener, of a clevis, means for attaching the clevis to an implement, a swinging connection between the clevis and the evener, and an extensible link connected to the evener and having means for attachmirnt to the implement independently of the clevis for holdsaid swinging connection in different angular relations to the clevis.
6. The combination with an evener, of a clevis. means for attaching the clevis to the front portion of an implement, a swinging connection between the rlivis and evener, and means connected to the evener and having a device arranked to be attached to an intermediate portion of the implement, said means holding the swinging connection in
different angular relations and being slidably associated with the clevis.
7. The combination with a clevis, of means for connecting the same to an implement, an evener. a link conne.i...o between the clevis and evener, and means for holding the link connection in different angular relations with respect to the clevis, said means belng slidably associated with the clevis.
8. The combination with a clevis, of means for connecting the same to an implement, an evener, a link connection between the clevis and evener, and means for holding the link connection in different angular relaclons with respect to the clevis. said means including a stirrus that embraces the clevis.
9. The combination with a clevis, of means for connecting the same to an implement, an evener, a link connection between the clevis and evener, and an extensible link for holding the said link connection in different angular relations with respect to the clevis. said link comprising a sectional rod having means at its rear end for attachment to an implement, and a stirrup secured to the front end of the rod. said stirrup slldably embracing the clevis and being pivoted to the link connection.
10. The combination with a plurality of plough beams. of a rod connecting and projecting heyond one side of th. same. a clevis pivoted to the projecting and of the rod. an evener, a link connecting the evencr and clevis, and means connecting the cvener and beams independently of said clevis.
11. The combination with a plurality of spaced plough beams, of a tie rod connecting the same and profecting beyond one side thercof, a clevis journalled upon the projecting portion of the tie rod. an evener having a rearwardly extending yoke, a link pivotally connecting the yokand clevis, a stirrup pivotally connected to the yoke and slidably embracing the clevis, an extensible rod connected to the stirrup and to one of the plough beams.

No. 102,186. Rock Drill. Fôrct à roche.


Governor D. Warren, Denver, Colorado ,U.S.A., 80th Nuvember, 1906; 6 years. Filed 18th January, 1906. Receipt No. 131,990.
Claim.-1. A rock drill comprising a cylinder having an enlarged central opening, a drill operating piston within the cylinder and having a reduced central portion. means for admitting pressure at each end of the piston and within the reduced central portion of the platon, and means carried by the reduced portion of the piston for exerting pressure on the piston on its forward stroke.
2. A rock drill comprising a cylinder having an enlarged central opening, a drill operating piston within sald cylinder and having a reduced central portion. two rings loosely mounted upon said reduced portion of the piston, and means for admitting steam between said rings, whereby on. bears against the piston and the opposite onn agalust as cylinder, substantially as described.
3. A rock drill comprising a cyllnder having an enlarged central opening, a drill operating piston within sald cylin-
der and having a reduced central portion two rings loosely mounted in said reduced portion of the piston, a spring normally forcing the rings apart, means for admitting steam between sald rings, substantially as described.
4. A rock drill comprising a cylinder having an enlarged central opening, a valve above sald opening, a valve arm extending within said cylinder, a drill operating piston within the cylinder and having a reduced central portion, and a ring carried by said reduced portion of the piston on each side of the valve arm, substantially as described.
5. A rock drill comprising a cylinder having as enlarged central opening. a valve above said opening, a valve arm extending within the cylinder, a drill operating piston within the cylinder and having a reduced central portion. a ring carried by the reduced portion of the piston on each side of the valve arm. and a coil spring between said rings. substantlally as described.
6. A rock drill comprising a cylinder having an enlarged central opening, a valve above said opening, a valve arm extending within the cvlinder, a drill operating piston within the cylinder and having a reduced central portion, a ring carried by the reduced portion of the piston on each side of the valve arm. and means carried by the valve for admitting pressure between the rings.
7. A rock drill comprising a cylinder having an enlarged montral odening. a valve above sald opening, a valve arm extending within the cylinder, a drill operating piston within the cylinder and having a reduced central portion, a ring carried by the reduced portion of the piston on each side of the valve arm, a coil spring between said rings, a means operated by the valve for admitting pressure between the rings.
8. A rock drill comprising a cylinder having an enlarged central opening, a drill operating piston within said cylinder and having a reduced central portion, and means for utilizing the steam in said central and esd openings simultaneously on its forward stroke.
9. A rock drill comprising a cylinder, a drill operating piston therein, and means for applying a central and end pressure simultaneously on the forward stroke.
10. A rock drill comprising a cylinder having an enlarged central onening. a valve above said opening, a valve arm extending within the culinder. a drill operating diston within the cylinder and having a reduced central portion, a ring rarried by the reduced nortion of the piston on each side of the valve arm, and a coil spring between said rings.
11. A rock drill comprisine a cylinder having an enlarged central opening, a valve ahove said opening, a.valve arm extending within the cylinder, a drill operating piston within the cylinder and having a reduced central portion. a ring carried by the reduced portion of the piston on each slde of the valve arm. and means between said rings for holding the same apart.
12. A rock drill comprising a cylinder having an enlarged central opening. a valve above sald opening, a valve arm extending within the cylinder. a drill operating piston within the colinder and having a reduced central portion, a ring carried by the reduced portion of the piston on each side of the valve arm. and said valve arm having a passageway, whereby the fluid pressure is admitted between the rings.
13. A rock drill comprising a cvlinder having an enlarged central opening, a valve above said opening, a valve arm extending within the cylinder, a drill operating piston within the eylinder and having a reduced central portion, a ring carried by the reduced portion of the piston on each side of the valve arm, a coil spring between said rings and said valve arm having a passageway whereby fluid pressure is admitted between the rings.
14. A rock drill comprising a cylinder having an enlarged central opening. a valve above said opening a valve arm extending within the cylinder, a drill operating piston within the cylinder and having a reduced central portion, a ring loosely mounted upon the reduced portion of the piston on each side of the valve arm, means for admitting fluid pressure between the rings.
15. A rock drill comprising a cylinder having an enlarged central opening, a drill operating piston within the cylinder and having a reduced central portion, and means for utilizing the fluid pressure in said central and end openings simultaneously on the forward stroke.
16. A rock drill comprising a cylinder having an enlarged central opening, a drill operating piston within the said cylinder and having a reduced central portion, a ring mounted on said reduced portion, and means whereby a central and end fluid pressure is simultaneously obtained on the forward stroke of said piston.
17. A rock drill comprising a cylinder, a drill operating piston within said cylinder and having a reduced central portion, means for admitting steam at each end of the piston and within the central reduced portion of the piston. and means carried by the reduced portion of the piston for exerting steam pressure on the piston on its forward stroke.
18. A rock drill comprising a cylinder having an enlarged central opening, a valve above said opening \(L_{2}\) a valve arm extending within said enlarged opening, a piston within the cylinder and having a reduced central portion, rings carried by said reduced portion on the piston of each side of said valve arm.
19. A rock drill comprising a cylinder having an enlarged central opening, a valve arm extending within said opening. a piston within said cylinder and having a reduced central portion, rings carried by said reduced portion of the piston and a spring normally holding said rings apart.
20. A rock drill comprising a cylinder having an enlarged central opening, a valve arm extending within said opening. a piston within the cylinder and having a reduced central portion, rings loosely mounted upon said reduced portion of the piston on each side of said valve arm and extending within the enlarged opening in the cylinder, a coll spring between said rings and one of said rings having steam passages therethrough and adapted to be closed by the shoulder formed by the reduced portion of the cylinder.
21. A rock drill comprising a cylinder having an enlarged central opening, a valve above said opening, a drill operating piston within the cylinder and having a reduced central portion, means operated by the valve for admitting pressure into the end and enlarged central portion of the said cylinder, and means carried by the reduced portion of the piston for exerting pressure on the piston on its forward stroke. 22. A rock drill comprising a cylinder having an enlarged central opening therein, a piston within the cylinder and having a reduecd central portion, a valve above the enlarged portion of the cylinder and adapted to allow pressure to enter at the end and central portion of the piston, a valve arm carried by the valve and adapted to enter said enlarged and reduced portion of the cylinder and piston, a ring carried by the reduced portion of the piston on each side of the valve arm entering the enlarged opening in the cylinder, a coil spring between said rings, one of said rings having steam passages through the same and adapted to be closed by the shoulder formed by the reducing of the piston.
23. A rock drill comprising a cylinder, a piston within the cylinder, a valve above said piston, a valve arm carried by the valve and extending into the cylinder adjacent the piston, and rings loosely mounted upon the piston on each side of the valve arm.
24. A rock drill comprising a cylinder, a piston within the cylinder and having a reduced central portion, a valve above the plston, a valve arm carried by the valve and extending within the reduced portion of the piston, and rings loosely mounted upon said reduced portion of the piston on each side of the valve arm.
25. A rock drill comprising a cylinder having an enlarged central opening, a valve above said opening, a valve arm extending within said enlarged opening, a piston within the cylinder and having a reduced central portion, and rings loosely mounted upon said reduced portion of the piston on each side of said valve arm.
26. A rock drill comprising a cylinder, having an enlarged central opening a valve above said opening, a valve arm extending within said enlarged opening within the cylinder, said valve arm having a steam passageway therethrough, and rings loosely mounted upon the reduced portion of the piston on each side of said valve arm.
27. A rock drill comprising a cylinder having an enlarged central opening, a valve above said opening, a valve arm extending within said enlarged opening, a piston within the cylinder, said valve arm having a steam passageway therethrough, rings loogely mounted upon the reduced portion of the piston on each side of said valve, the forward ring having a steam passageway adapted to allow the steam to pass therethrough on the rearward stroke of the piston.
28. A rock drill comprising a cylinder, a piston therein, a ratchet disc rotatably mounted in the cylinder, means carried by the said disc for rotating the piston, a sleeve surrounding said disc, a pawl carrying member mounted in the cylinder and spring held against sald sleeve and spring pressed pawls carried by said member.
29. A rock drill comprising a cylinder, a piston therein, a ratchet disc rotatably mounted in the cylinder, means carried by the said disc for rotating the said piston, a readwardly extending stud carried by the disc, a spring pressed pawl carrying member adapted to receive said stud and spring pressed pawls carried by said member.
30. A rock drill comprising a cylinder, a rotatable ratchet disc within the cylinder, a stationary disc between said ratchet disc and the piston, a forwardly extending rod carried by the ratchet disc and passing through the otationary disc, means carried by sald rod for rotating the piston, a sleeve surrounding the said ratchet disc, a stud carried by said ratchet disc, a pawl carrying member mounted on the cylinder and adapted to receive said stud. longitudinally extending spring pawls carried by sald member, and a spring bearing against the outer end of said member.
31. A rock drill comprising a cylinder, a drill operating reciprocating and turning piston within the cylinder, a rotatable ratchet disc within the cylinder. a stationary dise between the ratchet disc and the plston, a forwardly extending member carried by the ratchet disc and having spirally arranged grooves, the end of the piston having an oprning adapted to receive said member, sald opening having correspondingly spirally arranged projections, a sleeve surrounding the ratchet disc, a rearwardly extending stud carried by said ratchet disc, a pawl carrying member mounted in the cylinder and adapted to recelve sald stud, and longitudinally extending spring pawls carrled by said member and engaging said ratchet disc
32. A rock drill comprising a cylinder, a drill operating reciprocating and turning piston within the cylinder, a rotatable ratchet disc within the cylinder, a stationary disc between the ratchet disc and the piston, a forwardly exlending member carried by the disc and having spirally arsanged grooves, the end of the piston having an openins adapted to receive said member, said opening having correspondingly spirally arranged projections, a sleeve surrounding the ratchet disc, a rearwardly extending stud carried by said ratchet disc, a pawl carying member mounted In the cylinder and adapted to recelve said stud. and longitudinally extending spring pawls carried by said member and engaging said ratehet disc, and a spring bearing against the outer end of the spring pawl carrying member
33. A rock drill comprising a cylinder, a drill operating reciprocating and turning piston within the cylinder, means carried by the ratchet dise for rotating the piston. and a slenve surrounding the said ratchet disc and fractionally preventing the ratchet dise from rotating too freely.
34. A rock drill comprising a cylinder, a drili operating reriprocating and turning piston therein. a rotatable ratchet dise within the cylinder, means carried by the ratchet dise for rotating the piston. a disc between the ratchet dise and the cylinder. a sleeve surrounding the ratehet dise and a pawl carrying member within the cylinder and rngaging sald slenve
35. A rock drill comprising a cylinder, a drill operating reciprocating and turning piston therein, a rotatsble ratchet disc within the cylinder, means carried by the ratchet disc for rotating the piston, a sleeve surrounding the ratchet disc and frictionally engaging the same. a pawl carrying member within the cylinder and engaging said sleeve. pawls within said member and engaging the ratehet disc. and means for holding sald pawl carrying member within the cylinder.
36. A rock drill comprising a cylinder. a drill operating reciprocaling and turning piston therein. a rotatable ratchet disc within the cylinder, means carried by said dise for rotating the piston, a slecve surrounding the ratchet dise and erictionally engaging the outer deriphery thereof, a pawl carrying member engaging said sleevr. pawls carried by said member and engaging the ratchet disc, and a spring pressed block carried by the cylinder and engaging the pawl carrying member.
37. A rock drill comprising a cylinder, a drill operating reciprocating and turning piston therein, a rotatable ratchet disc within the cylinder, means carried by said disc for rotating the piston, a sleeve surrounding the ratchet disc and irictionally engaging the same, a pawl carrying member engaging said sleeve, horizontal inwardly spring presser pawls extending through sald pawl carrying member and a block within the cylinder and having an inwardly extending flange engaging the pawl carrying member adjacent its outer periphery.
38. A rock drill comprising a cylinder. a drill operating reciprorating and turning piston terein, a rotatable ratchet disc within the cylinder means carried by the ratchet disc for rotating the piston, a disc on the inside of said ratchet disc and bearing against a projection within the cylinder, a sleeve surrounding the ratchet and bearing against the second-mentioned disc, a pawl carrying member engaging said sleve, horizontally extending inwardly spring pressed pawls extendnig through the said member, a block within the cylinder and having an inwardly extending flange engaging the pawl carrying member adjacent its outer periphery. and a spring for holding said block against said pawl carrylug member.
39. A rock drill comprising a cylinder, a piston therein. a ratchet disc rotatably mounted in the cylinder, means carrled by the said disc for rotating the piston, a sleeve surrounding said disc, a pawl carrying member within the cylinder and spring pressed pawis carried by said member.
40. A rock drill comprising a cylinder, a piston thereln. a rotalable ratchet disc within the cylinder means carried by the ratchet disc for rotating the piston, a sleeve surrounding said ratchet disc and frictionally preventing the ratchet disc from rotating too freely, a pawl carrying member in engagement with the said sleeve and pawls carried by said member and engaging said ratchet disc.
41. A rock drill comprising a cylinder, a drill operating piston within the cylinder, a rotatable ratchet disc within the cylinder, means carried by the ratchet disc for rotatiog the piston, a sleeve surrounding said ratchet disc and frictionally preventing the ratchet disc from rotating too freely and of a greater width than the thickneas of the ratchet dise. a pawl carrying member in engagement with said sleeve and pawls carrled by sald member.
42. A rock drill comprising a cylinder, a plston therein. a rotatable ratchet disc for rotating the piston, a sleeve surrounding the disc and of a width greater than the thickness of the disc and frictionally preventing the disc from rotating too freely a pawl carrying member engaging sald sleeve. horizontally inwardly spring pressed pawls carried by sall member and engaging sald disc. a block within sald cylinder and having an inwardly extending flange engaging the pawl carrying member adjacent its outer periphery and a epring extending across the end of the cylinder and engaging sald block.
43. A rock drill comprising a cylinder, a drill operating piston therein a rotatable ratchet dise within the cylinder. a forwardly extending bar carried by the disc for rotating the piston, a disc surrounding the said bar and resting against a shoulder within the cylinder, a sleeve surrounding the ratchet disc and in engagement with said disc and adapted to frictionally prevent the ratchet disc from rotating too far, and a pawl carrying member in engagement with sald sleeve.
44. A rock drill comprising a cylinder having a piston carrying a bore and an enlarged bore adjacent its rear and. a dise within sald enlarged bore of the cylinder and resting upon the shoulder formed by the two bores. a ratchet disc within said enlarged bore. a forwardly extending drill operating bar passing through said disc, a sleeve surrounding said ratchet disc and frictionally preventing the same from rotating too freely. a pawl carrying member in engageent with said slecve, pawls carried by sald member and engaging the ratchet disc and a block holding the pawl carrying member within the cylinder.
45. A rock drill comprising a cylinder. a piston therein. a ratchet disc rotatably mounted in the cylinder, means carried by the disc for rotafing the piston. sleeve surrounding said disc. a pawl carrying member mounted in the cylinder and pawls carried by said member.
46. A rock drill comprising a cylinder a piston therein. a ratchet disc rotatably mounted in the cylinder, means carried by the disc for rotating the piston a ring surrounding the ratchet disc and a pawl carrying member within the cylinder and held against rotation and pawls carried by said member and engaging the ratehet disc.
47. A rock drill comprising a cylinder. a piston therein. a ratchet dise rotatably mounted in the cylinder, means carried by the disc for rotating the piston, a ring surrounding the ratchet dise, a pawl carrying member within the cylinder and abutting said ring. and a head within the cylinder and clamping the pawl carrying member betwern the same and the ring surrounding the ratchet dise.
48. A rock drill comprising a cylinder, a piston therein. a ratchet disc within the cyllnder, means carried by th. disc for rotating the piston, a ring between the ratchet disc and the piston and abutting a shoulder carried by the cylinder and a pawl carrying member within the cylinder and held against rotation and pawls carried by said member and engaging the ratohet disc
49. A rock drill comprising a cylinder, a piston therein. a ratchet within the cylinder, means carried by the disc for rotating the piston, a ring between the cylinder and abutting a shoulder within the cylinder, and a pawl carrying member within the cylinder and held against rotation and pawls carried by sald members and engaging sald ratchet discs.

\section*{No. 102,187. Method of Asclomerating Partioles} of Oxide of Iron for Furnaces.
Míthode d'agglomérer les parcelles d'oxyde de fer pour les fournaises.

Utley Wedge, Ardmore, Pennsylvania, U.S.A., 20th November.
1906 ; 6 years. Filed 23rd May, 1906. Receipt No. 136 186.

Claim.-1. The mode herein described of agglomeratlag tane partleles of iron oxide for use in furnaces, said mode consisting in combining sald particles with sulphate of Iron and subjecting the mixture to heat sumfient to drive of the aulwhur, substantially as specified.
2. The mode herein described of agglomerating fine particles of iron oxid, for use in furnaces, sald mode consistlag in combining sald particles with sulphate of iron in plasile form and subjecting the mixture to heat sumcient to drive off the sulphur, substantially as specifed.
3. The mode herein described of agglomerating ine particles of iron oxide for use in furnaces, sald mode coasist-
ing in combining said particles with sulphata of iron and subjecting the mixture to agitation and to heat sufficient to drive off the sulphur, substantially as specifled.
4. The mode herein described of agglomerating fine particles of iron oxide for use in furnaces, said mode consisting in combining said particles with sulphate of iron in plastic form and subjecting the mixture to agitation and to heat si:fficient to drlve off the sulphur, substantially as specified.
5. The mode herein described of preparing fine particles of Iron oxide for use in furnaces, said mode consisting in noistening said particles with sulphuric acid, subjecting them to the action of said acid and of heat until sulphate of iron is formed, and then subjecting them to heat sufficient to drive off the sulphur, substantially as specified.
6. The mode herein described of preparing fine particles of iron oxide for use in furnaces, said mode consisting in moistening said particles with sulphuric acid, subjecting them to the action of said acid and of heat untll eulphate of iron is formed, and then subjecting the compound to agitation and heat sufficient to drive off the sulphur. substantially as specifled.

No. 102,188. Hook and Fye. Crochet dexilet.

anna H. E. Wuner, Philadelphia, Pennsylvania, U.S.A., 20th November, 1906 ; 6 years. Filed 7th September, 1905. Receipt No. 128,268 .
Claim.-In a hook and eye a hook formed of one piece of wire, the wire after being bent so as to form the hook and body portion of the hook is bent so as to form a spring jin pointed at the end, a retainer formed in the body portion of the hook for retaining the point of the pin, an eye also formed of one plece of wire, said wire after being bent to form the eye then bent so as to form a spring pin pointed at the end, and a retainer for the point of the pin formed with the body portion of the eye, as specified.

No. 102,189. Hormenhoe. Fer d cheval.
August Anderson, Birmingham, Alabama, U.S.A., 27th November, 1906 ; 6 years. Filed 31st October, 1906 . Receipt No. 140,776 .
Claim. -The herein described horseshoe comprising a body of channel form in cross section, having nail holes in its top wall, a pad arranged in and extending throughout the length of the channel of said body, and held against lateral movement by the body, a wear plate resting in the channel of the body, below the pad, whereby it is also held against lateral movement, and depending from the body and having
caulks. and nails extending through and connecting the wear plate, pad and body arranged to attach the horseshoe as a

whole to a horse's hoof in such manner as to permit of movement of the wear plate with respect to the body.
No. 102,190. Potato Digger. Arrache-patates.


Frederick W. Benjamin, Jefferson, Ohio, U.S.A., 27th November, 1906; 6 years. Filed 6th November, 1906. Recelpt No. 140,965.
Claim.-1. In a machine of the class described, the combination of a frame mounted on transporting wheels, a gear carried by one of the wheels, a series of transverse shafts carrying resilient overlapping agitating teeth, guard plates, a plough scoop in front of said series of agitating teeth, and means for raising and lowering the plough scoon.
2. In combination with a frame mounted on wheels, guard boards or plates, a series of transverse shafts extending across the space between said guard boards and each being provided with a series of wheels having radial teeth whose rear faces are convexed, means whereby these wheels have a. limited rotary motion forwardly on their respective shafts, gearing for routing said shafts backwardly, and a vertically adjustable scoop arranged in front of said shafts. substantially as set forth.

No. 102,191. Sawing Apparatug. Scic portative.
Evangelice Brisebois, St. Jovite, Quebec, Canada, 27th November, 1906; 6 years. Filed 31st October, 1906. Receipt No. 140,787 .
Claim.-1. In a portable saw, the combination comprising balance wheel on the main shaft, means for driving the bolance wheel on the main shaft, means for driving the balance wheel, a connecting rod secured to the balance wheel, a slidable head connected to the opyosite end of the connecting rod, a reciprocable saw adapted to be actuated by the slidable head, and a circular saw adapted to be driven by the main shaft.
2. In a portable saw, the combination comprising a supporting framework, a main shaft on the supporting frame-

work, a balance wheel, means for driving the balance wheel, a vertically adjustable guideway on the frame, a head slidable in the guideway, a removable rod adapted to connect the balance wheel and the slidable head, a reciprocable saw adapted to be driven by the slidable head, and a circular saw adapted to be driven from the main shaft.
3. In a portable saw, the combination comprising a supporting framework, a main shaft on the framework, a balance wheel on the main shaft, means for driving the balance wheel, a vertically adjustable guideway carried by the frame, a flexible member secured to the guideway, a roller adapted to recelve the flexible member, a drum on the frame to which is secured the opposite end of the flexible member, a slidable head disposed in the guideway, means connecting the slidable head and the balance wheel, a saw driven by the slidable head, a circular saw carried on the frame, and means for driving the circular saw from the main shaft.
4. In a portable saw, the combination comprising a supporting frame, a main shaft carried by the frame, a reciprocable saw, means for driving the reciprocable saw from the main shaft, a pinion on the main shaft, a gear normally in mesh with the pinion, a shaft adapted to support the gear, means for throwing the pinion out of mesh with the gear, a circular saw, and means for driving the circular saw from sald latter shaft.
5. In a portable saw, the combination comprising a supporting frame, a main shaft, a reciprocable saw, means for driving the reciprocable saw from the main shaft, a pinion slidably disposed on the main shaft, a lever pivoted adjacent the pinion and adapted to slide the same on the main shaft, a gear normally in mesh with the pinion, a shaft adapted to support the gear and provided with double cranked portions, rods connected to said double cranked portions, a shaft supported by the framework and provided with double cranked portions to which are connected the opposite ends of said rods, and a circular saw on said latter shaft.
6. In a portable saw, the combination comprising a supporting iramework, a main shaft, vertical guideways carried by the framework. a horizontal guideway adjustably disposed in the vertical guideways, means for adjusting the horizontal guideway, a slidable head disposed in the horizontal guideway, removable means for connecting the slidable head with the balance wheel, a saw connected to the slidable head, a cranked shaft driven from the main shaft, a second crank shaft driven from said cranked shaft, and a circular saw on said second cranked shaft.

\section*{No. 102,192. Conveying Apparatus.}

Robert Allison Chambers, New Glasgow, Nova Seotia, Canada, 27th November, 1906 ; 6 years. Filed 3rd November, 1904. Receipt No. 140,881.
Claim.-1. In a conveyer a suspension cable, a carriage thereon, a traction rope passing over a pulley on said carriage, a fall block, a fall rope running over said block and suspending it from said carriage, and means for maintaining said traction and fall ropes always in tension.
2. In a conveyer, a suspension cable, a carriage thereon. a traction rope passing over a pulley on said carriage, a fall block; a fall rope running over said block and suispending it from said carriage, an engine having two independent
drums operating said traction and fall ropes, means for keeping said traction and fall ropes always in tension, and

means for unwinding either of said ropes simultaneously with the winding of the other.
3. In a conveyer a suspension cable carriage thereon, a fall block, a bucket suspended from said fall block, an engine having two independent drums, one of said drums operating a traction rope to move the carriage in one direction and the other said drum operating a fall rope to move the carriage in the opposite direction and simultaneously raise the bucket.
4. In a conveyer, a suspension table, a carriage thereon. a pair of supporting wheels on the upper side of said carriage, a pair of operating sheaves on the lower side of sald carriage, a traction rope passing over one of sald sheaves, a fall rope fixed to the carriage and passing over the other sheaf, a fall block in the loop of sa!d fall rope, a bucket suspended from said fall block, and means whereby the carriage wil be held by one rope against the tension of the other rope.
5. In a conveyer a supporting cable, a carriage thereon. a traction rope pasing over a sheaf on said carriage, a fall rope fixed to the carriage and passing over a second sheal thereon, a fall block in the loop of said fall rope, a bucket suspended from sald fall block, an engine having two separate drums, one of said drums adapted to move the carriage in one direction through the medium of the traction rope, and the other of said drums adapted to move the carriage in the reverse direction through the medium of the fall rope.
6. In a conveyer, a suspension cable, a traction rope, a fall rope, a carriage on said suspension cable movable in one direction by said traction rope and movable in a reverse direction by said fall rope, a fall block suspended from said carriage by said fall rope, a bucket suspended from said fall block means for locking the traction rope to allow the bucket to be raised vertically, means for locking the fall rope to alow the bucket to be raised diagonally and means for keeping both ropes constantly in tension.
7. In a conveyer, a suspension cable and carriage thereon, a pair of pulleys mounted on said carriage, a block at one end of the span, an engine having two independent drums at the opposite end of said span, a traction rope fixed to said block and passing over one of the pulleys of said carriage and over the sheaf of said block to one of the drums of gaid engine, a fall rope fixed to the carriage and passing over the other of said pulleys mounted on the carriage to the other drum of said engine, a fall block in the loop of the fall rope and a bucket suspended from said fall block.

\section*{No. 102,193. Dumping Platform.}

Plateforme d bascule.
Fred W. Cooley. Minneapolis, Minnesota, U.S.A.. 7th November, \(1906^{\prime}: 6\) years. Filed 5th November, 1906. Receipt No. 140,931.
Claim.-1. The combination with a dumping platform of mears for imparting pivotal movements thereto comprising an oscillatory support, a screw rod connected to sald dump-
ing platiorm at one end. a nut member swivelled on and carried by said oscillatory support and working on the said

screw rod, and means for transmitting rotary motion to said nut member from a distant point, substantially as described.
2. The combination with a dumping platform comprising a pair of pivoted beams, of an oscillatory support mounted below one end of said dumping platform, a pair of screw rods attached at their upper ends to said dumping platform a pair of nut members swivelled on and carried by said oscillatory support and working on each of said screw rods and power transmission mechanism extending from a distant point to the said two nut members and operative to simultaneously rotate the same, substantially as described.
3. The combination with a scale platiorm, of a dumping platform applied thereto and comprising a pair of pivoted beams, a transverse support connected to one end portion of said scale platform nd supported thereby for oscillatory movements, a pair of screw rods attached at their upper ends to said dumping platform and depending throngh said transverse oscillatory support, a pair of nut members swivelled on said oscillatory support and working one on each of said screw rods, of an upright operating rod mounted in berings carried by said oscillatory support, and connections between said operating rod and the said nut members for simultaneously rotating the latter, substantially as describtd.
4. In combination with a fixed platform 1 and scale platform 2, of a dumping pltform comprising a pair of beams 3 pivotally connected to said scale platform, of a plank or support 7 extending transversely below one end portion of said scale platform, interlocked eye bolts 9 , loosely suspending said plank or support 7 from said scale platform, screw rods 13 pivotally connected to said platform beams 3 and working loosely through said plank or support 7, sprocket wheels 12 journalled in bearings on said plank or support 7 and working as nuts on said screw bolts. an idle sprocket 16 also journalled on said plank or support 7 and working through an opening in said platform 1, a wheel or hand piece 20 on the upper end of said supporting rod, a sprocket wheel 15 on the lower end of said operating rod 18 , and a sprocket chain 17 running over said sprockets 12,15 and 16 , substantially as described.

No. 102,194. Rotary Harrow. IIcrse rotatice.


Charles J. Davis, Lansing, Michigan, U.S.A., 27th November. 1906; 6 years. Filed 31st October, 1906. Receipt No. 140,789.
Claim.-1. In a rotary harrow the combination with a triangular frame composed of frame bars and the ends of two 11-20
of said bars being arranged to project beyond the angles of the triangular frame, of rotary elements, center pins passing through the angles of said triangular frame and through the center of the said rotary elements, circular tracks borne by the said rotary elements, and wheels secured to the said frame and arranged to escape the said circular tracks, each of the said projecting ends of the irame bars having secured thereto outside of the triangular frame one of the said wheels, and pivoted teeth attached to said rotary elements and adapted to drag upon one side and to catch the ground upon the other side of the said rotary clements whereby they are rotated, substantially as described.
2. In a rotary harrow the combination with a triangilar frame composed of frame bars and the ends of two of said bars being arranged to project beyond the angles of the triangular frame, of a rotary elements, enter pins passing through the angles of said triangular frame and through the center of the said rotary element, circular tracks having loo:izontal flanges borne by the said rotary elements, and spool wheels secured to the said frame and arranged to enEdge the said circular tracks, each of the said projecting ends of the frame bars having secured thereto outside of the triangular frame one of the said spool wheels, and pivoted teeth attached to said rotary elements and adapted to drag upon one side and to catch the ground upon the other side of the said rotary elements whereby they are rotated, substantally as described.

No. 102,195. Fly Shield for Forsen.
Appareil moustiquaire pour chevaux.


William F. Elliott, De Kalb, Illinois, U.S.A., 27th November. 1906 ; 6 years. Filed 5th November, 1906. Receipt No. 140,915.
Claim.-An insect shield comprising a body portion having ifngthwise adjustable sections which are shaped to fit lengthwise adjustable sections which are shaped to fit under the jaw of the animal, and one of said sections having a cupshaped end fitting over the lips of the animal.

\section*{No. 102,196. Train Pipe Coupling.}

Joint de tuyau pour convois de chemin de fer.
Grorge Adelbert Elwell, Toledo, Ohlo, U.S.A., 27th Novem-
ber, 1906; 6 years. Filed 3rd November, 1906. Recelpt No. 140,884 .
Claim.-1. In a train pipe coupling, an outer bumper body, and a coupling member movable within the body and having coupling ends normally retracted therein, substantially as described.
:. In a train pipe coupling, an outer bumper body having end openings, and a coupling member having coupling ends normally retracted in sald openings, substantially as described.
3. In a train pipe coupling, an outer bumper body having ar. elongated slot in its side, and a coupling member having coupling ends normally retracted in the body, said coupling member also having a laterally extending portion adapted for connection with the train pipe and disposed to operate along the slot in the body. substantially as described.
4. In a train pipe coupling, an outer bumper body having end couplings, a coupling member slidable in the body and having coupling ends normally retracted within said end cpenings, and means for projecting said coupling ends

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through the end openings when the body is in coupling contact, substantially as described.

5. In a train pipe coupling, an outer bumper body having end openings, a coupling member slidable within the body and having coupling ends normally retracted within sald end openings, means for projecting said coupling ends through the end openings, and means for subjecting the coupling member to yielding pressure when the coupling ends thereof are projected in the openings in the body, substantially as at scribed.
6. In a train pipe coupling, an outer bumper body having end openings, a coupling member slidably disposed within the body and having male and female coupling ends, means for normally maintaining the coupling ends retracted within the openings in the body, and means for projecting said coupling ends through said openings when the body is in coupling engagement, substantially as described.
7. In a train pipe coupling, a body suspended from a car (1) permit universal movement, a bar slidably connected with the inner end of the body, a spring engaging the bar and normally holding the body in outward position, a coupling member slidably disposed in the body and normally maintained is retracted position therein, and a spring interposed between said bar and the coupling member to cause the latter to be projected in the body under yielding pressure when the body is in coupled engagement, substantially as described.
8. In a train pipe coupling, a body having end openings arranged side by side and having the projection 10 and the recess 11 adapted to align the same when in coupled engagement with the opposite coupling device, a bar adapted to slidably support the rear end of the body, said bar having a swinging connection with a rigid support, an enlargement upon the bar adapted to contact with the body and limit lis outward movement, a spring disposed between the enlargement and the body and forcing the latter in outward position. a hollow coupling member slidable longitudinally w!thin the body and having branches provided with male and female coupling ends respectively adapted to be projected through the end openings in the body, a spring supported by tho body and pressing against the coupling member to normally hold the same in retracted position in the body, and a colled spring interposed between the aforesaid bar and the ccupling member adapted to yieldingly hold the latter projocted in the body when the body is in coupling engagement with the opposite coupling device, substantially as described.

\section*{No. 102,197. Printed Dreas Pattern.}

Patron de robes imprimé.
William Freeman, New York City, New York, U.S.A., 27th November, 1906; 6 years. Filed 1st October, 1906. Receipt No. 139,936.
Claim.-1. A base having printed thereon a set of patterns of graduated sizes for a sleeve, said patterns being nested in such a manner that the distinguishing lines of each smaller size lie wholly between the lines of the next larger size, and so that the lines extending along one side of the nest continue and form converging shoulder lines, which merge into a single armpit line.
2. A base having printed thereon a set of patterns of graduated sizes for the front of a dress walst, said patcern being nested in such a manner that the side. top and bottom lines of each smaller size are distinct from and lie wholly between the corresponding lines of the next larger size, and so that all of the patterns coincide or form a single line at both the armpit and the neck.
3. As an article of manufacture a set of patterns of graduated sizes for a dress waist comprising patterns for the front of the waist, and patterns for the back of the
waist, the front patterns being nested in such a manner that the side, tod and bottom lines of each smaller size

are distinct from and lie wholly between the corresponding lines of the next larger size, and so that all of the patterns coincide or form a single line at the armpit, and the patterns for the back being nested in such a manner that the side lines, the armpit lines and the shoulder and arik lines of each smaller size are distinct from and lie wholly between the corresponding lines of the next larger size, and so that all of the patterns coinclde or form a single line at the bottom of the waist.
4. As an articlt of manufacture, a set of patterns of graduated sizes for a dress waist, comprising patterns for the front of the waist, patterns for the back of the waist, and patterns for the sleeve, the front patterns being nested in such a manner that the side, top and bottom lines of each smaller size are distinct from and lie wholly between the corresponding lines of the next larger size, and so that all of the patterns colncide or form a single line at the armpit, the patterns for the back being nested in such a manner that the side lines, the armpit lines and the shoulder and neck lines of each smaller size are distinct from and lie wholly between the corresponding lines of the next larger size, and so that all of the patterns coincide or form a single line at the bottom of the waist, and the sleeve patterns belng nested in such a manner that both side lines of each smaller size are distinct from and lie wholly between the side lines of the next larger size, and so that the side lines in one set continue and form converging shoulder lines, which merge into a single armpit line, all of the patterns coinciding or corming a single line at the bottom end of the sleeve.
5. A pattern comprising a base and unsymmetrical demarking outlines printed thereon, said outlines being broken and spaced to form sections of a complete pattern outline, whereby sald base may be folded or cut in the spaces between the broken lines, and said outlines jolned to make a complete pattern outline, corresponding sets of equally spaced marks occupying the spaces between the broken sections, for guiding the user in joining the sections.

\section*{No. 102,198. Baling Press. Presse d batot.}

Arthur Castonguay, St. Andre de Restigouche, Quebec, Canada. 27th November, 1906; 6 years. Filed 2nd November. 1906. Receipt No. 140,854 .

Claim.-1. In a baling press, the combination comprising a baling chamber, a plunger head, means for actuating the plunger head in one direction, means for retracting the plunger head when the actuating means are in operative position, channelled binding blocks adapted to enter the baling chamber, and means for locking the blocks in Dosition.
2. In a baling press, the combination comprising a baling chamber, a plunger head, a top hinged to the plunger head, means for actuating the plunger head in one direction, means for retracting the plunger bead when the actuating means are in operative position channelled binding blocks adapted to enter the baling chamber, and means for locking the blocks in position.
3. In a baling press, the combination comprising a balIng chamber, a plunger head, a top hinged to the plunger hind, means for normally maintalning the hinged top in clevated position, means for actuating the plunger bead in one direction, means for retracting the plunger bead when the actuating means are in operative position. channelltd binding blocks adapted to enter the baling chamber. and means for locking the blocks in yosition.
4. In a baling press, the combination comprising a baling chamber, a plunger head, a top hinged to the planger
head. means for locking the top in depressed position, means for actuating the plunger head in one direction,

means for retracting the plunger head when the actuating means are in operative position, channelled binding blocks adapted to enter the baling chamber, and means for locking the blocks in yosition.
5. In a baling press, the combination comprising a balIng chamber, a plunger head, a top hinged to the plunger head and provided with an opening, a spring catch disposed through the opening, a spring disposed beneath the hinged top, means for actuating the plunger head in one direction, means for retracting the plunger head when the actuating means are in operative position, channelled binding blocks adapted to enter the baling chamber, and means for locking the blocks in position.
6. In a baling press, the combination comprising a chamber, a plunger adapted to work into the chamber, projectIng shoulders on the plunger head. means'for retracting the plunger head, a link plvoted between the shoulders. a second link pivoted to the first link and having its opposite end plvoted, and a sweep pivoted adjacent the second link and provided with a recess adapted to receive said second link.
7. In a baling press, the combination comprising a baling chamber, a plunger, means for forcing the plunger into the chamber, means for retracting the plunger, spring fingers projecting into the chamber, and wiring blocks adapted to enter the chamber.
8. In a baling press, the combination comprising rectangular frame members, side members carried by the frame members, plates carried by the side members, a pin disposed through the plates, a sweep pivoted on the pin and provided with a recess, a plunger adapted to enter the chamber. links connected to the plunger and said pin, one of which sald links is adapted to lle within said recess in the sweep, and means for retracting the plunger.
9. In a baling press, the combination comprising rectangular frame members, side members connected to some of said frame members and having their rear ends free and resilient, means for clamping said free ends, binding blocks adapted to be clamped by said side members, a plunger adapted to pass between satd side members, means for actuating said plunger, and means for retracting the plunger.

No. 102,199. Winker Brace. Tirant d aillère.
William W. Gleckner, Canton, Pennsylvania, U.S.A., 27th November, 1906; 6 years. Filed 5th November, 1906. Receipt No. 140,929.
Claim.-1. A winker brace comprising a doubled billet strap having openings in its folds, and a brace having its divided portions passed through the said openings and provided with a tongue portion between the doubled portions of the billet strap, substantially as described.
2. A winker brace comprising a doubled billet strap having openings in its fold, a brace having its divided portions passed through the sald openings and provided with a tongue fortion between the doubled portions of the billet strap, and
a core strap having divided portions in the brace and a tongue portion bearing against the tongue portion of the

brace, sald tongue portions of the brace and core strap belug secured between the doubled portions of the blllet strap.

No. 102,200. Screen Por Coal. Tamis d charbon.


Jacob H. Gmelin, Bay City, Michigan, U.S.A., 27th November, 1906 ; 6 years. Filed 2nd November, 1906. Recelpt No. 140,848
Claim.-1. A separator comprising a supporting irame, oppositely inclined stationary chutes mounted on the frame, a thliting frame pivotally secured to the supporting frame, an adjustable chute, the upper end of which rests loosely upon and is sustained by the rocking frame, the lower end of the adjustable chute being pivotally secured to a statlonary chute, the adjustable chute forming a continuation of one of the stationary chutes, arms pivotally secured to the rocking frame and releasably connected to the supporting frame to retain the adjustable chute at its inclination, screens carried by one of the stationary chutes and the adjustable chute and an apron beneath the screen in the adjustable chute, the apron adapted to discharge onto the screen carried by the stationary chute.
2. A separator comprising a supporting frame, a rocking frame pivotally mounted thereon, a stationary chute carried by the main frame, a tilting chute pivotally secured to the stationary chute and forming a continuation thereof, the upper end of the tilting chute resting upon the rocking frame, a screen carried by the tilting chute and means carried by one frame and releasably engaging the other frame for adjustably retaining the tilting chute at different inclinations.
3. A portable separator comprising a bow-shaped main frame, wheels journalled to one end of the frame, the opposite end of the frame adapted to be ralsed from the ground. a pair of oppositely inclined chutes carried by the main
frame, a screen in one of the chutes, a rocking frame pivoially mounted on the main frame, a tilting chute pivotally secured at its lower end to one of the statlonary chutes and forming a continuation thereof, a screcn in sald tilting chute, the rocking frame adapted to support the tilting chute and means for adjustably retaining the frame at different Inclinations.
4. A separator comprising a supporting frame, oppositcly inclined chutes mounted thereon, a screen in one of said chutes, an apron beneath the screen terminating short of ihe mouth of the chute, to leave an opening, a spout inclined beneath the opening. combined gates and bag holders located a! 'h : mouths of the respective chutes, a main chute constituting a continuation of the unscreened chut and located above the first-named screened chute, a screen in the main chute and an apron beneath the last-named screen, sald apron terminating short of the lower end of the main chute to leave a discharge opening above the lower screened chute.
5. A separator comprising a frame, a chute mounted therenis, a screen located intermediate the ends of the chute and an unperforated distributor plate locattd at the upper end of the chute, the plate provided with diverging ribs leading to the screen.
6. A separator comprising a frame, a chute mounted threr cr, a screen located in the chute, and a removable head piece located at the upper end of the chute.
7. A separator comprising a supporting frame, a sectional chute, one section of which is stationarily secured to the frame, the remaining section being pivotally supported. a screen carried by the pivotally supported section and means for adjusting the inclination of the section.
8. A separator comprising a supporting frame, a sectional chute, one section of which is stationarily secured to the frame, the remaining section being pivotally supported, a screen carried by the pivotally supported section. an upperforated distributor plate located above the screen to recfive the material, divergent riffles on the distribution plate. and means for adjusting the inclination of the pivotally sup1 orted section.
9. A separator comprising a supporting frame. oppositely frelined chutes carricd thereby, a main chute located above one of the oppositely inclined chutes and forming, a continuation of the remaining oppositely inclined chute, thr aprx of the last named chute having a groove formed therein, the main chute and the chute beneath it, each having ledges on their side walls, screens removably received on the ledges, unperforated aprons located beneath each screen. the aprons being of less length than the chutes whereby chenings are left at their upper and lower ends, the lower end of the screen in the main chute recrived in the groove, a spout bencath the opening in the lower screened chute and a distributor plate in the main chute above the screen.

No. 102,201. Collar Support. support de collet.


Agnes Haviland, New Orleans, Loulsiana, 27th November, 1906; 6 years. Filed ith November. 1906. Receipt No. 140.931.

Claim.-1. A support of the class described provided at opposite ends with apertures therethrough, a guard disposed intermediate of the ends of the support. a securing device co-operating with one of said apertures. and a scouring advice alapted to engage material at the other aperture and enter natid guard.
2. A support of the class deseribed provided at opposit, ands with apertures through which thi material to be supported is projacted, securing pins passed through the pro-
jucted portions of the material, and a guard carried by the support intermediate of its ends through which the points of said pins are adapted to extend.
3. A support of the class described formed of a slagle: strand provided with coils at its opposite ends, one of the fron ends of said strand being twisted about the body thernof to engage the opposite free end and form a guard nortion.
4. A sunport of the class described provided with aprrtures at its opposite ends, a projecting device having a shank adapted to force the material to which the forion is appliad through sald apertures, and a securing d.vite adanted to pass through the shank of said projecting device.
5. A support of the class described provided with coil \(\cdot\) d portions at its opposite ends and an intermediate guard portion, securing nins having enlarged heads adapted to lin within said coiled portions and have their polnts exlivided through the guard portion.

No. 102.202. Shaking Grate. Grillc bianlantc.


Frank Carponter Heath, Reverc, Massachusetts. IU.A. 27th November, 1906: 6 ycars. Flled 6th November. 1906. Receint No. 140.956.

Claim.-1. A shaking grate comprising a serios of duplicale bars placed slde by side and movable freely endwise. their fuel supporting surfaces being always in one plane. cach bar consisting of a longitudinal verically corrugatid web and lateral separated fingers extending from opposit. sides thereof, the corrugations of the web permitting expansion and contraction of the bar without injury to th. wob, duplicate headers at the ends, and two pairs of duplicate movable supports for the end portions of the bars whereby the latter are permitted to elongate and shorten frecly.
2. A shaking grate comprising a header bar at each rad. the headers buing duplicates and each being formed of a vertically corrugated wel) and transverse fuel holding flngers entirely separato from each other. the spaces brtween the fingers and the corrugated webs permitting fris longitudinal expansion and contraction of the headers. duplicate longitudinal grate bars having lateral fuel supporting fingers in the same plane with pach other and with the surfaces of the headers and longitudinal fingers at their ends projecting between the fingers of the h.asers. and duplicate rockers and rollers supporting the lonkttudinal bars adjacent their ends, the bars having longitudinal ribs vertically corrugated to permit elongation and contraction without fracture thereof, and the rollers pirmitting such elongation and contraction to take pla, freely.
3. A grate comprising a plurality of longitudinally reciprocable bars, each having a longitudinal stifening wibl on its under side, the web being of uniform thickness un and down and tapered in depth from center to ends. and transversely corrugated uniformly from top to bottom wi the web to provide alternate rounded projections and d... pressions, the depresslons on one side being oppostt, the projections on the other. whereby longitudinal expansio: and contraction is permitted, and the bars having latoral fingers oppositely and alternately arranged to axtend outward from the projections.
4. A grate comprising a series of bars having fluel supporting surfaces movable longitudinally and oppositily in ond !lane and adanted to support fuel over their entir. lengihs. rock shafts adjacent the ends of the grate. each having projecting segmental surfaces adapted to support
one end of every other bar, the bars having sockets in their under sides covered above by the fuel supporting surfaces and enclosed by the sides of the bars, said rock shafts having tongues projecting from the segmental surfaces lying within the sockets, whereby oscillation of the rock shafts is adapted to reciprocate the bars.
5. A grate comprising a series of bars having fuel supporting surfaces movable longitudinally and oppositely in one plane and adapted to support fuel over their entire lengths, rock shafts adjacent the ends of the grate and having projections extending therefrom, each consisting of a tongue and segmental surfaces close to and on opposite sides of the tongue, one end of each alternate grate bar resting on a segmental surface, and the bars having downwardly opening sockets covered above by the fuel supporting surfaces and enclosed on all sides, receiving the tongues, whereby oscillation of the rock shafts is adapted to reciprocate the bars.
6. A grate comprising a frame, rock shafts supported thereon arms extending upwardly and downwardly from each rock shaft, each arm provided with a stud having a shank and an elongated head, a connecting rod having slots corresponding in outline to the heads and engaged with the studs of the upwardly extending arm of one rock shaft and the downwardly extending arm of the other said connecting rod being also adapted to be engaged with the studs on the downward arm of the first rock shaft and the upward arm of the second, and a plurality of endwise movable grate bars each engaged with one of said rock shafts for movement thereby in opposite directions.
7. A grate comprising a frame, a rocker and a roller mounted adjacent each end of the frame, said rockers having projections each consisting of a tongue and segmental flanges on opposite sides thereof, said projections being spaced apart and those of one rocker situated opposite the spaces of the other rocker, grate bars each resting near one end on the segmental flanges of one of said projections and near the other end passing between the projections of the othtr rocker and resting on the adjacent roller, the bars having downwardly opening, but otherwise entirely enclosed sockets receiving the tongues, one tongue belng thus engaged with each bar and connections for casing the rockers to be oscillated simultaneously in opposite directions, whereby adjacent bars are reciprocated oppositely.
8. A grate comprising parallel movable fuel supporting bars, mechanism for oppositely reciprocating alternate bars in the direction of their lengths, said bars having fingers projecting laterally towards the adjacent bars and also spacing projections extending laterally beyond the ends of the fingers, the said projections of each bar being substantially equal in length or area and located beside those of the adjacent bars and extending longitudinally of the bars a greater distance than the amplitude of vibration therenf. said projections being also grooved or corrugated vertically on their outer sides.
9. A grate comprising supports a plurality of bars each mounted on said supports with their fuel supporting surfaces in one plane so as to be movable longitudinally in said plane, each bar consisting of a central web of substantially equal thickness from top to bottom and vertically corrugated o form alernate rounded protuberances on each side thereof and fingers projecting laterally on opposite sides of the bar from said protuberances, spaces being left between the fingers opposite the depressions, the bars being longitudinally and centrally grooved and the fingers being grooved on their upper surfaces.
10. A grate comprising a plurality of duplicate longitudinally reciprocable bars. each consisting of a central web having vertical corrugations forming alternate rounded projections and depressions on opposite sides thereof, each depression on one side being opposite a projection on the other side, detachable fuel supporting sections mounted on said web and having laterally projecting fingers on opposite sides out of alignment, and lugs depending from the said sections and arranged to slide in the depressions in opposite sides of the web and being wholly clear of the project tions, the said fingers being directly above the alternate projections of the web.

\section*{No. 102,203. Grain Cleaning and Picking Machinc.} Machine a nettoyer et trier le grain.
Halvor T. Helgeson, Regina, Saskatchewan, Canada. 27th November, \(1906 ; 6\) years. Filed 31st October 1906. Receipt No. 140,781.
Claim.-1. A device of the class described comprising a feed hopper, an endless carrier. a tank, a cross partition forming a funnel-shaped channel within the tank, a chute leading from the hopper and above the carriers and adapted to direct the grain upon the funnel-shaped cross partition, as and for the purpose specified.
2. A device of the class discribed comprising a feed hopper.
a tank, a funnel-shaped cross partition within the tank, an
endless carrier extending into the channel formed by the funnel-shaped partition. and a chute leading from the hop-

per and extending into the tank and above the carrier. and adapted to direct the grain into the funnel-shaped channel, as and for the purpose specified.
3. A device of the class described comprising a tank having a cross partition forming a funnel-shaped channel with the sides an endless conveyer having its lower end within the channel, a cross partition extending obliquely downwardly above the ascending side of the conveyer an adjustable gate makini an angle with the latter cross partition and forming with the latter cross partition a hopper, as and for the purpose specified.
4. In a device of the class described the combination with the supporting frame of a tank in the lower portion of the frame, an endless carrier extending obliquely from the tank and within the fraework, side enclosures at the ends or the carriers and continuous with the sides of the tank, a cross partition in the tank forming a basin with the side of the tank, an endless carrier extending obliquely upwardly from the basin, out of the tank and within the framework, a cross partition above the ascending side of the carrier and extending into the tank, an adjustable gate forming with the latter cross partition and the side enclosures a hopper, as and for the purpose specified.
5. In a device of the class described the combination with the tank. the hopper and an endless carrier, of a chute to receive the grain from the carrier, and an endless conveyer within the chute and free of the bottom, as and for the purpose specified.
6. In a device of the class described the combination with the tank, the hopper, and the endless conveyer, of an inclined projecting chute, adapted to receive the grain from the carriers, an endless conveyer longitudinally within the chute, and having the blades clear of the bottom of tho chute, as and for the purpore specifled.
7. In a device of the class described the combination with the tank. the hopper, and the endless carriers, of an inclined chute adapted to receive the grain from the carriers, a perforated drain board extending over the upper face of the bottom of the chute, and an endless conveyer longitudinally within the chute, and adapted to operate clear of the drain board, as and for the purpose specifled.
8. In a device of the class described the combination an inclined chute, a perforated drain board suspended above the inner face of the base of the chute, and an endless conveyer within the chute, as specified.
9. In a device of the class described the combination comprising an inclined chute, an endless chain conveyer within the chute, having cross blades thereon, and a removable perforated drain board, below the tips of the blades. and above the entire face of the bottom of the chute, as and for the purpose specified.
10. In a device of the class described the combination with the tank. and a pan extending obliquely into the tank. from its rear end, of a skimmer adapted to adjust itself to the height of the liquid in the tank, as and for the purpose specifled.
11. In a device of the class described the combination with the tank, of a pan extending within the tank from the rear end, a sieve above the inner face of the pan, and a skimmer adapted to be self adjustable to the height of the liquid in the tank, as and for the purpose specified.
12. In a device of the class described the cimbination with the tank, the hopper and the endless carriers, of an inclined chute, an endless chain conveyer longitudinally within the chute and having blades thereon, extending across the chute, a drain board below the tips of the blades on the lower side of the conveyer, and a cross partition adajacent to the inner end of the conveyer, as and for the purrose specified.
13. In a device of the class described the combination with the tank, and the endless carrier, of a chute inclined towards the tank, and adapted to receive the grain from thn carriers, a set of gears supported on a shaft bearing ith the sides of the inner end of the chute, a set of gear wheels secured on a shaft, supported in adjustable bearings at the sides of the outer end of the chute, endless gear chains encircling the opposing gears in the sets, a series of cross blades secured to the chains, and extending to the edges of the chute, a cross partition at the inner end of the chute, in juxtaposition to the conveyer, a perforated drain board extending across the chute, and considerably below the tips of the blades, as and for the purpose specified.
14. In a device of the class described, a chintn to rerpive the grain from the carriers, a drain board within the chute, and an endless conveyer adapted to operate ahnve the drain board, as and for the purgose specifled.
15. In a device of the class described the combination with the tank, of a part extending obliquely within the tank. a skimmer adapted to co-operate with the pan in removing floating impurities from the solution in the tank, as and for the purpose specified.
16. In a device of the class described the combination with the tank, of a pan extending obliquely into the liquid. within the tank, a sieve above the inner face of the pan, a skimmer. and means whereby the skimmer is automatically adjustable to the height of the solution within the tank, as and for the purpose specified.
17. In a device of the class described, a skimmer, comprising a set of esdless chain carriers, and a flap secured to the links in the opposing chains. as and for the purpose specified.
18. In a device of the class described, a skimmer consisting of a set of endless chain carriers, a flap formed from a resiliest material, and secured to an opposing pair of links within the chain, and means for operating the chains, as and for the purpose specified.
19. In a device of the class described, a skimmer consisting of a framework. transverse shafts, supported in adjustable bearings at the extremities of the framework. a supporting shaft passing through the framework and between the aforementioned shafts, chain gears at the extremities of the chafts, endless chains passing around the gears, a flap secured to opposing links in the chains, and means for operating the chains, as and for the purpose specified.
20. In a device of the class described the combination with the supporting frame, of a tank in the lower portion of the frame. side enclosures at the upper portion of the frame, bars supported by the enclosures and extending obliquely into the tank, a transverse shaft pivotally supported in the lower end of the bars, a transverse shaft pivotally supported in adjustable bearings at the upper end of the bars. sets of similar gear wheels on the shafts, endless link chains encircling the gears, a series of suitably disposed perforated cups secured to the chains, a cross partition passing downwardly into the tank. and above the tips of the cups on the ascending sides of the chains, a cross partition forming a basin with the sides of the tank, and adapted to direct the grain to the carriers, an adjustable gate supported by the side enclosures, and making an angle with the former partition, an inclined chute projecting from the framework and adapted to recelve the grain from the cups, a drain board in the chute, and a longitudinal conveyer above the drain board, as and for the purpose specifled.

No. 102,204. Car Coupler. Attelagc de chars.


Thomas D. Jones, Cleveland, Ohio, U.S.A., 27th November, 1906; 6 years. Filed 2nd November, 1906. Receipt No. 140,815 .
Claim.-The combination with a drawhead of the Janney type having a cavity in its face, of an emergency knuckle
comprising a casting having a front hook portion adapted to engage within the opposite knuckle and a rear portion adapted to bind against the outer side of the said knuckle, the casting being pivoted to the head at its rear onter cor\(r \in r\), and the rear portion of the casting being shaped to fit within said cavity, and against the drawhead, so as to transmit the impact against said rear portion directly to the drawhead.

No. 102,205. Heating Apparatus for Railway Cars. Appareil à challfage pour chars de chemin de fer.


Fritz Kaeferle, Hanover, Germany, 27th November, 1906 ; 6 years. Filed 15th October, 1906. Receipt No. 140.310.
Ciaim.-1. In heating apparatus for low pressure steam reating in rallroad cars in combination a self acting steam pressure regulator, a second regulator regulating the quantity of steam necessary for the low pressure steam heating and a heating body, substantially as set forth.
2. In heating apparatus for low pressure steam heating in railroad cars in combination a steam inlet opening \(i\), a lever valve \(b\), two communicating chambers \(Q\) and \(Q^{1}\), partly filled with mercury, a weight \(P\) swimming in the chamber \(Q\), a conuection rod between the free end of the lever valve \(b\) and the weight, two safety valves placed on the bottoms of the two communicating chambers, a second regulator regulating the quantity of steam necessary for the low pressure steam heating and a heating body, substantiglly as set forth.
3. In heating apparatus for low pressure steam heating in railroad cars in combination a steam inlet opening \(i\), a lever valve \(b\), two communicating chambers, \(Q\) and \(Q^{1}\), partly fill ed with mercury, a weight \(P\) swimming in the chamber \(Q\). a connection rod between the free end of the lever valve \(b\) and the eight, two safety valves placed on the bottoms of the two communicating chambers, a hand regulator for regulating the quantity of steam necessary for the low pressure steam heating, and a heating body, substantially as set forth.
4. In heating apparatus for low pressure steam heating in railroad cars in combination a steam inlet opening \(i\), a lever valve \(b\), two communicating chambers, \(Q\) and \(Q^{1}\), partly filled with mercury, a weight \(P\) swimming in the chamber \(Q\), a con nection rod between the free end of the lever valve \(b\) and the weight, two safety valves placed on the bottoms of the two communicating chambers, a self-acting electric magnetically operated regulator regulating the quantity of steam necessary for the low pressure steam heating and a heating body, substantially as set forth.
5. In heating apparatus for low pressure steam heating in rallroad cars in combination a steam inlet opening \(f\), a lever valve \(b\), two communicating chambers, \(Q\) and \(Q^{1}\), partly fllad with mercury, a weight \(P\) swimming in the chamber \(Q\), a connection rod between the free end of the lever valve \(b\) and the weight, two safety valves placed on the bottoms of the two communicating chambers, a second regulator regulating the quantity of steam necessary for the low pressure steam heating, a heating body \(k\), a canal s leading from the regulators to the heating body, a second canal \(c\) for the exit of the condensing water placed right below the canal for the instreaming steam, a very fine passage between the two canals, and a partition separating the two canals. substantially as set ferth.
6. In heating apparatus for low pressure stcam heating in rallroad cars in combination a self-acting steam pressure
regulator, a second regulator regulating the quantity of steam necessary for the low pressure steam heating, one or more heating bodies in each car compartment, a special condensing water exit for each heating body and means to keep these exits open for a quick ventilation, substantially as set forth.
7. In heating apparatus for low pressure steam heating in ra!lroad cars in combination a self-acting steam pressure \(r \in g u l a t o r\), a second regulator regulating the quantity of steam necessary for the low pressure steam heating, one or more heating bodies in each car compartment, a special condensing water exit for each heating body, and heat protectors for pach exit, substantially as set forth.
8. In heating apparatus for low pressure steam heating in railroad cars in combination a self-acting steam pressure regulator, a second regulator regulating the quantity of steam necessary for the low pressure steam heating, one or more heating bodies in each car department. condensing water exit pipes for the heating bodies, heat protectors, and means to screw the exit pipes into the condensing water exit canal \(c\) from the outside of the car through the car bottom, substantially as set forth.

No. 102,206. Oil Can. Bidon à huile.


Henry J. Klusmire, Holton, Kansas, U.S.A., 27th November, 1906; 6 years. Filed 31st October, 1906. Receipt No. 140, 778 .
Claim.-An oil can having a threaded orifice, a spout threaded at one end for detachably engaging said orifice and provided with a lateral disc having a notched periphery for bearing unon said orifice, a resilient member formed from a single piece of wire bent into a lateral loop at one end for encircling said thieaded orifice and secured rigidly thereto as by soldering, and with a vertical portion extended for yieldably engaging said notches and terminating in a lateral loop yieldably encircling said spout.

No. 102,207. Instep Enpport. Support du coup-du-picd.


Leon Theophilus Jules Lubin, Boston, Massachusetts, U.S.A., 27th November, 1906; 6 years. Filed 30th October, 1906. Recelpt No. 140,764.
Claim.-1. An instep support comprising a top piece, an arch piece and a support for one end of the arch plece, both of said pleces being permanently attached to said top piece and the end of the arch piece overlapping the free end of the support.
2. An instep support comprising a top piece, an underlying metallic arch piece, and a metallic support, both said arch piece and support being permanently attached to the under side of the top piece, the end of the arch piece turnin? on the upper side of said support.
3. An instep support comprising a top piece, an underlying metallic arch piece, and a metallic supporting plate, both attached permanently at separate points to the underside of said top plece, the end of the arch piece overlapping the end of the supporting plate and turning thereover.

No. 102,208. Potato Planter. Plantoir à patates.


Julin Petermann, Jr., Ontonagon, Michigan, U.S.A., 27 th November, 1906; 6 years. Filed 31st October, 1906. Receipts No. 140,784 .
Claim.-1. In a planter the combination with a frame provided with wheels and draft devices, of a tilting seed box on the frame, having seed lropping and covering devices supportod thereby, means to tilt the box to lift said devices from the land, and driving connections between the dropping devices and the wheels, sald connections being disengageable by tilting the box.
2. In a planter the combination with a frame mounted on Wheels and having draft devices, a seed box hinged to the irame and having dropping and covering devices supported thereon, and a hand lever mounted on the frame and connected to the seed box and arranged to tilt the same to lift said devices from the land.
3. In a planter the combination with a seed box, of a spout connected thereto, a shaft extending across the head of the spout and having curved fingers which lift the seed and drop the same into the spout, and means to drive the shaft.
4. In a planter the combination with a seed box having a feed opening in the bottom, of an inclined chute leading from said opening, a spout extending downwardly from the lower end of the chute and forming an angle therewith, the spout and chute having slots at said angle, a shaft extending across the spout at the angle and having curved fingers which pass through sald slots and lift seed from the chute and drop same into the spout, and means to drive the shaft.

No. 102,209. Elevator for Clothes Lines.
Ascenseur pour cordes à linge.


Richard Pike, Montreal, Quebec, Canada, 27th November, 1906; \(\boldsymbol{f}\) years. Filed 6th November, 1906. Receipt No. 140,956.
Olaim.-1. In a clothes line elevator, a vertical rod, a pair of brackets, and a pulley slidably mounted on sald rod.
2. In a clothes line elevator, a vertical rod, a pair of fixed brackets engaging the extremities of said rod, and a pulley slidably mounted on said rod.
3. In a clothes line elevator, a vertical rod, a pair of fixed brackets engaging the extremities of said rod, a block slidably mounted on said rod, and a pulley journalled in said block.
4. In a clothes line elevator, a vertical rod, upper and lower brackets supporting said rod, a roller bearing block mounted on said rod, and a pulley journalled in said block.
5. In a clothes line elevator, a vertical rod. upper and lower brackets supporting said rod, a pulley mounted in said upper bracket, a pair of integral fingers on said lower bracket, a roller bearing block mounted on said rod, and a pulley journalled in said block.
6. In a clothes line elevator, a vertical rod, upper and lower brackets supporting said rod, a pulley mounted in said upper hracket, a pair of integral fingers on said lower bracket. a roller bearing block mounted on said rod, a pulley journalled in satd block, and a cord fixed to said block and passing over the pulley in said upper bracket and engaging the flngers of said lower bracket.

No. 102,210. Cultivator. Culticilcur.


Henry Smith, Wallace, Perth, Ontario. Canada, 27th November. 1906; 6 years. Filed 31st October, 1906. Receipt No. 140.782.

Claim.-1. In a riding cultivator the combination with the side bars of the frame and the cross bars a dijustably connected to the side bars, so as to alow of lateral movement of the side bars, and a cultivator located substantially on a line with the side bars and to the rear of the same, as and for the purpose specified.
2. In a riding cultivator the combination with the side bars of the frame and the cross bars adjustably connected to the side bars, so as to allow of lateral movement of the side bars. of a cultivator located intermediately between the side bars and a cultivator located substantially on a line with the side bars and to the rear of the same, and runners adjustably connected to the front of the side bars and extending rearwardly and suitably connected to the slde bars at the rear ends, as and for the purpose spectfied.
3. In a riding cultivator the combination with the side bars of the frame and the cross bars adjustably connected to the side bars. so as to allow of lateral movement of the side bars. of a cultivator located intermediately between the side bars. and a cultivator located substantially on a line with the side bars and to the rear of the same, and runners adjustably contected to the front if the side bars and extending rearwardly and suitably connected to the side bars at the rear ends. and supporting wheels, bearings for the same secured to the side bars and means for adjusting such wherls vertically in relation to the runners. as and for the purpose specified.
4. In a riding cultivator the combination with the side bars of the frame and the cross bars adjustably connerted to the side bars. so as to allow of lateral movement of the side bars, of a cultivator located intermediately between the side bars. and a cultivator located substantialle on a line with the side hars and to the rear of the same, and runners aljustably connected to the front of the side bars and extending rearWardly and suitably connected to the side bars at the rear ands, and supporting wheels, bearings for the sam. secured to the sic!, bars. a crank axle support for the smporting wheels journalled in the bearings and means for turning such rimit avie so as to raise and lower the wheels in relation to the runners, as and for the purpose specificd.
5. In a riding cultivator the combination with the side bars of the frame and the cross bars adjustably connected to the side bars, so as to allow of lateral movement of the s:ce bars, of a cultivator located intermediately between the sid. bars and a cultivator located substantially on a line with the side bars and to the rear of the same and runners adjustably connected to the front of the slde bars and extending rearwardly and suitably connected to the side bars at the rear ends, and supporting wheels, bearings for the same secured to the side bars a crank axle support for the supporting Wheels journalled in the bearings, arms on the end of the crank axles and levers connected by llaks to the arms aod quadrants on the frame with which the levers co-act, as and for the purpose specified.
6. In a riding cultivator the combination with the frame comprising the side bars and cross bars, of the Z-shaped extending betwean the cross bars, the straight teeth on the front bars and the rotating dise cultivators provided wita stems secured on the rear Z-bars, as and for the purpose specifled.
7. In a riding cultivator, cultivator teeth comprising a double mould board and wings secured to the sides of the mould board and means for adjusting the same in relation to the mould board, as and for the purpose specified.
s In a riding cultivator. cultivator teeth comprising a double mould board and wings secured to the sides of the mould board and rods connected to the outside of the wings and to the back of the stem of the teeth and provided with a plurality of bolt holes adjacent to the stem, as and for the purpose specified.

No. 102,211. Method of Incompletely Coling Peat. Mithode de ruire la tourbe dune manirive incomplete.


Oberbayerische Kokwerke and Fabrick Chemscher. Produkte Akt. G sel!schaft. Munich, assignee of Marlij Ziezler, Beuerberg, Bavarla, Germany, 27th November. 1906: 6 years. Filed 2nd March, 1906. Receipt No. 133.174.
Claim.-1. Improved method of incompletely coking fuel as peat or the like in a shaft, according to which the furl is first treated in the upper half of the shaft with bot incombustible gases, then is passed Into the lower half of the shaft and treated there with hotter incombustible gases.
2. Improved method of incompletely coking fuel as peat or the like in a shaft according to which the fuel is tirst treated in the upper half of the shaft with hot steam and then is passed into the lower part of the shaft and treated there with hotter combustion gases.
3. Improved method of incompletely roking fuel as peat or the like in a shaft according to which the incombustible gases led into the upper half of the shaft are heated to a temperature of approximately \(480^{\circ} \mathrm{F}\) before they enter the upper part of the shaft.
4. Improved method of incompletely coking fuel as peat or the like in a shaft, according to which the steam betore its rntering the upper half of the shaft is superbeated to a temperature of approximately \(480^{\circ} \mathrm{F}\).
6. Improved method of incompletely coking fuel as peat or the like in a shaft according to which the the gases of approximately \(40^{\circ}\) F from vertical coking retort ovens are led into the upper half of the shaft for treating the fuel before it enters the lower half of the shaft in which the fuel thus tratiod as further treated with flue gases having been sup plied from vertical retort ovens and heated to a temperature of approximately \(660^{\circ}\) F these gases and the gasers and vapours delivered from the fuel being senarately removed namely the gases and vapours from the lower half leave the shaft before enterlng the upper half of the shaft.

No. 102,212. Shanling Ont Machine.
Machine d couper les renforts.


The United Shoe Machinery Company of Canada, Montreal, assignee of John Benjamin Hadaway, Brocton, Massachusetts, U.S.A., 27th November, 1906; 6 years. Filed 7th November, 1904. Receipt No. 119,779.
('laim.-1. A shanking out machine having in combination a welt support, a sole support and two skiving cutters located between the supports arranged to act upon the lower outer edge of the welt and upon the upper outer edge of the sole respectively, substantially as described.
2. A shanking out machine having in combination, means for skiving the lower outer edge of the welt and means for skiving the upper outer edge of the sole, substantially as described.
3. A shanking out machine having in combination a rotary shaft and two cutters mounted thereon side by side arranged to enter between the welt and outsole of a shoe and to skive the lower outer edge of the welt and the upper outer edge of the sole respectively, substantially as described.
4 A shanking out machine having in combination a welt support arranged to enter the crease between the upper and welt of a shoe and a rotary cutter arranged to skive the lower outer edge of the welt, substantially as described.
5. A shanking out machine having in combination a welt support arranged to enter the crease between the upper and welt of a shoe, a rotary cutter arranged to skive the lower outer edge of the welt and a guard for preventing the cutter from cutting the switches of the inseam, substantially as described.
6. A shanking out machine having in combination a welt support arranged to enter the crease between the upper and welt of a shoe, a rotary cutter arranged to skive the lower outer edge of the welt, and a guard surrounding the cutter provided with a shoulder to bear against the stitches of the inseam and hold the cutter out of contact therewith, substantially as described.
7. A shanking out machine having is combination, a welt support, a sole support, a skiving cutter located between said supports, and means for separating said supports to allow the cutter to enter between the welt and outsole of a shoe, substantially as described.
8. A shanking out machine having in combination, a welt support, a sole support, a skiving cutter located between sald supports, and means for yieldingly pressing the supports towards the cutter, substantially as described.
9. A shanking out machine having in combluation, a welt support arranged to enter the crease between the upper and welt of a shoe, a skiving, cutter arranged to act upon the lower outer edge of the welt, and a spring for pressing the support towards the cutter, substantially as described.
10. A shanking out machine having in combination, a welt support, a sole support, two skiving cutters located between said supports and arranged to act upon the lower outer edge of the welt and upon the upper outer edge of the sole respectively, a spring for pressing the sole support towards the cutters, and means for locking the welt support in fixed position, substantially as described.

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11. A shanking out machine having in combination, two rotary skiving cutters arranged to enter between the welt and outsole of a shoe and to skive the lower outer edge of the welt and the upper outer edge of the sole respectively. and a disc located between said cutters forming a guard for both cutters, substantially as described.
12. A shanking out machine having in combination, a welt support arrasged to enter the crease between the upper and welt of a shoe, an edge guide arranged to engage the edge of the outsole and a skiving cutter arranged to enter between the welt and outsole, substantially as described.
13. A shanking out machine having in combination, a rotary cutter arranged to enter between the welt and outsole of a shoe, a guide arranged to enter the crease between the upper and welt and a guide arranged to bear against the inseam below the welt, substantially as described.
14. A shanking out machine having in combination, a cutter arranged to enter between the welt and outsole of a shoe, a guide arranged to bear against the inseam below the welt and a guide arranged to bear against the edge of the outsole, substantially as described.
15. A shanking out machine having in combination, a rotary shaft, a skiving cutter secured thereto arranged to enter between the welt and outsole of a shoe, and a sole support arranged to support the sole upon both sides of the shaft, substantially as described.
16. A shanking out machine having in combination, a rotary shaft and a cutter mounted thereon arranged to enter between the welt and outsole of a shoe and to skive the lower outer edge of the welt and the upper outer edge of the sole, substantially as described.

\section*{No. 102,213. Welting for Welt Shoes.}

Bordure de chaussures.

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Big. 5
102213


The United Shoe Machinery Company of Canada, Montreal, Quebec, Canada, assignee of John Benjamin Hadaway, Brockton, Massachusetts, U.S.A., 27th November, 1906;
6 years. Filed 7th November, 1904. Receipt No. 119.780.
Claim.-1. As an article of manufacture, a strip of welting for use in the manufacture of welt shoes consisting of a strip of welt material cut away on its under side on a broken line from its inner edge to a point beyond the Inseam sitch receiving portions, substantially as described.
2. As an article of manufacture, a strip of welting for use in the manufacture of welt shoes consisting of a strip of welt material cut away on its under side on a broken line from its inner edge to beyond the inseam stitch receiving portion, and having a bevelled shoulder beyond the inseam stitch receiving portion, substantially as described.
3. As an article of manufacture, a strip of welting for use in the manufacture of welt shoes consisting of a strip of welt material cut away from its inner upper edge diagonally downward through abou half the thickness of the welt, thence substantially parallel with the sides of the welt to a point beyond the inseam stitch receiving portion of the welt and thence downward through the remainder of the thickness of the welt, substantially as described.
4. The method of making welts which consists in dividing a strip of well material into two parts, the combined width
of which is greater than the width of the strip of material brot extending from one surface to the other in a tions of and forming overlapping stitch receiving porportions of the samess than the strip of material and body upper surface of one welt being formed by of material, the the strip and the upper burfag formed by one surface of formed by the other surface of of the other welt being described.
5. The \(m\)
a strip of welt of making welts which consists in dividing line which intersects one by a cut extending along a broken from the edge of the one surface of the strip at a distance of a welt and intersects the equal to the width of the body of a welt and intersects the other surface of the strip at a
distance from the opposite edge of the strip equal to the width of the body of a welt, so as to produce two welts the combined width of which is greater than the width of the strip. having overlapping stitch receiving portions of less thickness than the strip of. material, and body portions of the same thickness as the strip of material, the upper surface of one welt being formed by one surface of the strip and the upper surface of the other welt being formed by the other surface of the strip. substantially as described.
No. 102,214. Grinding Mill. Moulin ì broyer.


John Wheeler Fuller, Jr., Catasauqua, Pennsylvania, U.S.A. 27th November, 1906: 18 years. Filed 21st March, 6,06 Receipt No. 134,107.
Claim.-1. A metal ring or annulus for pulverizing or grinding mills having the wearing surface composed of chilled and linchilled portions, the chilled portion being arranged between the unchilled portions and differing in outline.
2. A metal ring or annulus for pulverizing or grinding mills having the inner wearing surface composed of chilled and unchilled portions, the chilled portion being arranged between and merging into the unchilled portions thereof.

\section*{No. 102,215. Process of Evaporating and Concentrating Liquors.}

Procédé pour évaporer et concentrer les liquides.
Charles Louis Prache and Charles G. V. Bouillion, co-inventors, both of Paris, France, 27th November, 1906; 6 years. Filed 11th December, 1905. Receipt No. 130,879.
Claim.-1. A single acting process for the evapouration or concentration of liquids, broadly characterized by the systematic circulation of the liquids to be concentrated in a series of assemblages of tubes arranged in a single vessel, these liquids, during their circulation and for the purpose of concentrating them, being raised ta ebullition by the vapours emitted by them in the apparatus, these vapours being sucked continuously by an appropriate apparatus and after compression forced continuously into a single heating chamber around the assemblage of tubes through which the liquids pass in their systematic circulation.
2. The herein described process of concentrating liquids in apparatus, of known kinds having chests, which consists in operating all the chests in quantity or multiple, as regards the vapours, instead of causing them to act in series, and circulating the liquids in series, that is to say systematically from one chest to another, in proportion as they are concentrated.
3. A single acting liquid evapourating and concentrating apparatus, broadly characterized by a heating chamber formed within the apparatus by two tubular plates united one to the other by vertical tubes placing in communication the upper and lower chambers of the apparatus, the vertical tubes ex-
tending slightly beyond the upper tubular plate, the space comprised between the two tubular plates being supplied

with the vapours emitted by the liquids to be concentrated which circulate systematically in the assemblages of tubes, by means of any appropriate compressor and in particular by means of a rotary compressor or a jet compressor.
4. For the purpose of producing the systematic circulation of the liquids to be concentrated in the various assemblages of tubes of the apparatus, the division of the ebullition chamber into compartments which do not reach the top of the apparatus and which are united in series, each compartment communicating with the lower part of the next compartment in the series through a tube opening in the interior of a tube of larger diameter and traversing the heating chamber parallel with the assemblages of tubes, the lower part of each ebullition chamber being provided, around the tube placing one compartment in communication with the other, with a baffle plate facilitating the repeated circulation of the liquid in the same assemblage of tubes, the first compartment being connected with an automatic feed apparatus for the IIquid to be concentrated and the last with an outlet for the concentrated liquid.

\section*{No. 102,216. Process of Electrolytically Coating Metals.}

I'rocélle électrique pour enduire les métaux.
Alexander Classen, Aachen, Prussia, Germany. 2ith November, 1906: 6 years. Filed 30th October, 1905. Receipt No. 129,667.
Claim.-1. The process for the production of lustrous metallic coatings on metals by electrolysis, which consists in adding to the electrolytic bath in which the metal articles are to be treated one or more glucosides.
2. The process for the production of lustrous metallic coatings on metals by electrolysis. which consists in adding to the electrolytic bath in which the metal articles are to be treated, extract of plants, or parts of plants, containing a glucoside.
3. The process for the production of lustrous metallic coatIngs upon metals, which consists in placing the metal to be treated in an electrolytic bath containing a glucoside, allowing the metal to remain in such bath until a lustrous metallic coating is produced thereon, and then removing the coated metal from the bath.
4. The process for the production of lustrous metallic coatings upon metals, which consists in placing the metal to be treated together with the metal which is to form a coating in an electrolytic bath contajning extract of licarice root. allowing the metal to remain in such bath until a lustrous metallic coating is produced thereon, and then removing the coated metal from the bath.
5. The process for the production of lustrous metallic coatings upon metals, which consists in providing an electrolytic bath composed of zinc sulphate, sodium sulphate, zinc chloride, bonic acid, water and licrice root embraced within an electric circuit, placing the metal in such bath, allowing the metal to remain in the bath until a lustrous metallie
coating is produced thereon, and then removing the coated metal from the bath.
6. The process for the production of lustrous metallic coatings upon metals, which consists in providing an electrolytic bath embraced within an electric circuit and composed of a solution of twenty kilos crystallized zinc sulphate. four kilos crystallized sodium sulphate, one kilo zinc chlorid and 0.5 kilo boric acid in one hundred liters water. adding the extract of flive kilos licorice root, placing the metal in such bath. allowing the metal to remain in the bath untll a lustrous metallic coating is produced thereon. and then removing the coated metal from the bath.

No. 102,217. Electrode. Elentrode.


Fig.2"


Adolf Gallia, Vienna, Austria, administrator of the estate of Carl Kellner, deceased, 27th November, 1906; 6 years. Filed 5th March, 1906. Recelpt No. 133,542.
Claim.-1. In electrodes for electrolytic cells comprising substantially Z-shaped electrodes.
2. Electrodes for electrolytic cells. comprising two substantially horizontal portions, at different levels connected by a suitable shaped middle portion to form electrodes, substantially as described.
3. Bi-polar electrodes for electrolytic cells substantially Z-shaped and having two substantially horizontal portions at different levels and a connecting portion between them adapted to take over a partition wall, substantially as described

\section*{No. 102,218. Electric Smelting Furnace.}

\section*{Fonderie électrique.}

Eugen Assar Alexis Grönvall, Ludvika. Sweden, 27th November, 1906; 6 years. Filed 9th, June, 1906. Receipt No. 136,736.
Claim.-1. Improvements in transformator furnaces of the class described characterized thereby that one or more short circuited conductors are placed in such a manner that they are intersected by the leaking lines of force but not by the effective lines of force of the transformer.
2. Improvements in transformator furnaces of the class described, characterized thereby, that a part or parts of the transformer or the whole transfomer core is surrounded by one or more mantels of conducting material, cut open at one or several places and arranged in such a way that the effective lines of force of the transformer do not act inductively on the same while the leaking lines of force do so.
3. Improvements in transformator furnaces of the class described characterized thereby, that a part or parts of the transformer core or the whole of the transformer core is surrounded by one or more mantels formed of two or more turns of a conducting material wound around each other spirally and insulated from each other, the said mantel being so arranged that the effective lines of force of the transformer do not act inductively on the same, while the leaking lines of force do so.
4. Improvements in transformator furnaces of the class described, characterized thereby, that one or several short

circuted conductors enclosing a part or parts of the transformer core are so located that they are intersected by the leaking lines of force but not by the active lines of force of the transformer.
5. Improvements in transformator furnaces of the class described, characterized thereby, that one or more annular discs of conductive material. cut open at one or several places are so located that they are intersected by the leaking lines of force but not by the active lines of force of the transformer.

\section*{No. 102,219. Isolation of Metals.} Isolation des métaur.

Karl August Kuhne, Dresden, Germany, 27th November. 1906: 6 years. Filed 22nd May, 1906. Receipt No. 136,150.
claim.-1. The process for the production or isolation of metals, metalloids or alloys thereof either amongst themselves or with aluminium which consists in mixing oxygen containing compounds of such elements as cannot be produced or isolated separately in reguline form by what is known as the Goldschmidt or the Thermite process, with al uminium and chlorate or potash or other similar combinations, and in then igniting the mixture, substantially as described.
2. The employment of a chlorate. such as chlorate of potash or the like, for isloating metals, metallo!ds and their alloys from their compounds or salts by aluminium in the process, known as the Goldschmidt or Thermite process, in such cases, in which metals, metalloids or their alloys cannot be produced or isolated by sald process, substantially as described.

\section*{No. 102,220. Method of Recovering Copper.}

Méthode d'obtenir du cuivre.
Thomas Jefferson Lovett, Chicago, Illinois, U.S.A., 27 th No vember, 1906; 6 years. Filed 14th February. 1906. Receipt No. 132,903.
Claim.-1. The herein described combined dry and wet process of concentrating and collecting the non-magnetic sulphide and contained values in low grade chalcopyrite ores carrying a material percentage of magnetic iron, which con sists of the steps of coarse crushing the ore in a dry state to reduce the sulphide and iron and allow of the dislodgment of adhering sulphide powder, magnetically separating from the dry reduced mass the disunited iron particles, dislodging from said dry iron particles and collecting the adhering sulphide powder, comminuting the remaining attracted material in a wet state to a degree of fineness which disunites the re-
maining iron particles from the other constituents, magnetically separating the disunited remaining iron particles from

the wet mass, and finally collecting and saving the sulphide concentrates from the recrushed mass.

No. 102,221. Show Case. Vitrinc.


James Arthur Walters, Sydney, Cape Breton, Nova Scotia, Canada, 27th November, 1906; 6 years. Filed 15th August, 1905. Receipt No. 127,705.

Claim.-1. In a device of the character described, the combination of a stationary case having a plurality of shelves, stops on one edge of sald shelves, which stops project above and below the shelves, a receptacle exterior of sald case, and insertible receptacles adapted to be inserted in said case, said receptacles having channeled end members. a removable cover portion, a transparent and removable face portion, and slidable rear portions adapted to serve as a closure therefor.

\section*{No. 102,222. Manufacture of Pulverized Mica. Fabrication de mica pulverisé.}

Frederich Richard Tiller, Hamburg, and Heinrich Duelfer, Cassel, each an assignee of a half of the interest, assignees of Philipp Dobler, Munich. all in Germany, 27th November, 1906; 6 years. Flled 25ith July, 1906. Receipt No. 138,163 .
Claim.-The herein described method of reducing mica to a powder which consists in subjecting mica to a high degree of dry heat, then steaming the mica, and finally pulverizing the same, substantially as set forth.

\section*{No. 102,223. Cement Blook Mould.}

Moule pour blocs de ciment.
Charles N. Choate, Samuel Taggart, assignee of three-eights, and John Cronk, assignee of one-eighth interest. all of Woodstock, Ontario, Canada, 27th November, 1906: 6 years. Filod 20th April, 1906. Receipt No. 135.078.
Haim.-1. In a block moulding machine the comblation with a support, of a mould thereon, a flanged core support
having a recess therein, a core, and clips thereon arranged to pass through sald recess for the engagement of sald core with sald support.

2. In a block moulding machine the combination with the bed, of a mould thereon, a reclprocating core support beneath the mould and one or more cores mounted upon the support for longitudinal adjustment, cllps on the cores and a recess in said support through which said clips are arranged to pass.
3. In a block moulding machine the combination with a supporting frame, of the mould thereon, a laterally flanged supporting bar mounted upon the frame for vertical reciprocation beneath the mould, and one or more cores upon said bar provided with clips engaging the bar flanges.
4. In a block moulding machine the combination with the bed plate, of the mould having movable end and side sections, mechanism for operating the sections, and means acting automatically upon the closing of the mould for locking the ends against movement.
5. In a block moulding machine the combination with the bed plate, of the mould having laterally movable end and side sections, mechanism for laterally shifting the sections to open and close the mould, and locking devices carried by the sides acting automatically upon the closing of the mould to hold the ends against movement.
6. In a block moulding machine the combination with a bed, of a mould thereon having movable end and side sections to open and close the mould, and automatically operating locking means independent of the section operations mechanism for locking the ends after the closing of the mould has been effected.
7. In a block moulding machine the combination with the bed, of a mould thereon having movable end and side sections, mechanism for operating the sections to open and close the mould, and means for varying the extent of morement of the sides.
8. In a block moulding machine the combination with the supporting frame, of the mould thereon having movable sides, a reciprocating member, levers having their ends pivotally connected to the sides and frame and having operative connections with the reciprocating member, actuatiog mechanism for sald member, a lever controlling the operation of said mechanism and a lock for the lever.
9. In a block moulding machine the comblnation with a supporting frame, of a mould thereon having side and end sections mounted for lateral movement, and a lever controlled operating mechanism for shifting said sections simultaneously in a horizontal plane.
10. In a block moulding machine the combination with a supporting frame, of a mould thereon having movable sides, a reciprocating member levers connected to the sides and frame, sleeves slidably mounted on said levers, bars connecting said sleeves with sald reciprocating member, sctuating mechanism for sald member, and a lever controlling the operation of said mechanism.
11. In a block moulding machine the combination with a supporting frame, of a mould thereon having movablo sides. a reciprocating member, levers connected to the sides and frame, sleeves slidably mounted on sald levers, bars piroted on said sleeves and adjustably connected to sald mam.
ber, and a lever operatively connected to said member, for the reciprocation thereof.
12. In a block moulding machine the combination with a supporting frame, of a mould thereon having movable sides, a reciprocating member, angled levers connecting the sides and frame, connections between said member and levers slidable longitudinally of said levers whereby the reciprocation of said member will reciprocate said levers and sides, and means for actuating said member.
13. In a block moulding machine the mould proper including a side section, a support therefor, and levers pivoted on the support and pivotally connected to the ends of the side, permitting relative rotary adjustment of the side.
14. In a block moulding machine the combination with the mould comprising side and end sections, of removable partitions for the mould carrying pins at their ends adapted to engage openings formed in the mould sides.

No. 102,224. Formaldehyde Manufacture.
Fabrioation de formaldehyde.
Henry Spencer Blackmore, Mount Vernon, New York, U.S. A.. 27th November, 1906; 6 years. Filed 25th July, 1906. Receipt No. 138,164.
Claim.-1. A new antiseptic powder comprising powdered talcum and formic aldehyde.
2. A new antiseptic powder comprising powdered talcum, formic aldehyde, and a substance capatle of masking the odor of aldehyde.
3. A new antiseptic powder comprising powdered talcum, formic aldehyde, a substance capable of masking the odor of formic aldehyde, and a bibulous substance.
4. A new composition of matter consisting of powdered talcum containing formic aldehyde, a substance capable of masking the odor of the formic aldehyde, and powdered alumina.
5. A new antiseptic powder consisting of powdered talcum containing formic aldehyde, a fragrant ketone, and alumina.
6. The process of making a solld composition containing formic aldehyde, which consists in generating the formic aldehyde in the presence of a porous absorbent substance under sub-atmospheric pressure.
7. The process of making a solid composition containing formic aldehyde, which consists in exposing a porous mineral substance to reduced pressure and then introducing formic aldehyde into the pores thereof
8. The process of making a porous composition containing formic aldehyde, which consists in mixing the porous substance with a formic aldehyde generating material, exhausting the air therefrom, and exposing the mixture to the action of heat, whereby the formic aldehyde produced is absorbed by the porous substance.
9. The process of making a porous composition containing formic aldehyde. which consists in mixing a porous substance with paraformaldehyde, exhausting the air thereirom, and exposing the mixture to the action of heat.
10. The process of making a porous composition containing formic aldehyde, which consists in mixing powdered talcum with formic aldehyde, exhausting the air therefrom, and exposing the mixture to the action of heat.

No. 102,225. Dental Crown and Bridge. Couronne et pont dentaire.
Arthur H. Brown, Hamilton, Missouri, U.S.A., 27th November, 1906; 6 years. Filed 21st July, 1906. Receipt No. 138,017.
Claim.-1. A denture embodying a retainer provided in one edge with sockets disposed wholly within it, and a tooth having a shoulder to engage the retainer and close the sockets and headed pins to engage the sockets.
2. A denture embodying a tooth provided with a flat pressure receiving shoulder disposed approximately at right angles to its length and extending throughout the width of the tooth and with headed anchoring pins extending parallel with the shoulder, and a retainer to be engaged by the shoulder and provided with sockets to be engaged by the headed ends of the pins.
3. A denture comprising a tooth having its lingual surface provided with two flat shoulders arranged in step order, one of which is disposed at right angles to the length of the tooth and the other obliquely thercto, a headed retainer engaging one of the shoulders, and means for assembling the tooth and retainer.
4. A denture comprising a tooth having its lingual surface provided with two flat shoulders arranged in step order, one
of which is disposed at right angles to the length of the tooth and the other obliquely thereto, a headed retainer en-

gaging the first-named shoulder, and means for assembling the tooth and the retainer.

No. 102,226. Process of Extraoting Turpentine and Renin from Wood.
Procédé pour extraire de la térébenthine et résine du bois.


George B. Frankforter, Minneapolis, Minnesota. U.S.A., 27th November, 1906; 6 years. Filed 23rd July, 1906. Recelpt No. 138,102 .
Claim.-1. The process of extracting turpentine and resinous matter from resinous wood, which consists in subjecting the wood to the action of one of the carbon compounds (such as ether, petroleum ether, or carbon disulphide) in vapour form, having the property of dissolving the turpentine and resinous matter.
2. The process of extracting turpentine and jesonous matter from wood which consists in repeatedly vapourizing and condensing a carbon compound (such as ether, petroleum ether or carbon disulphide and in subjecting the wood to the solvent while in vapour form, substantially as described.
3. The process of extracting turpentine and resinous matter from resinous wood, which consists in subjecting the wood to the action of a carbon compound (such as ether. petroleum ether, or carbon disulphide) in vapour form, in permitting the said vapour to condense and run from the wood charged with turpentine and resinous matter dissolved and held in solution thereby, in revapourizing said solvent fluid to frce the same from the turpentine and resinous matter carried thereby from the wood, and in returning the revapourized solvent fluid to the wood for further action thereon.
4. The process of extracting turpentine and resinous matter from resinous wood by means of a solvent fluid and in reclaiming the solvent fluid in the extraction chamber after the extraction has been completed, which consists in subjecting the wood to a solvent fluid and in thereafter applying thereto a reclaiming fluid whose density differs from that of the solvent fluid, wherehy sald solvent fluid is or may be removed from the extraction chamber.
5. The process of extracting turpentinc and resinous matter from resinous wood by means of a solvent fluid, and in reclaiming the solvent fluid left in the extraction chamber after the extraction is completed. which consists in subjecting the wood to a solvont fluid and in therepfer applying thereto a reclaiming fluid whose density. at the temperature at which reclamation takes place. is greater than that of said solvent fluid, whereby the latter is removed from the extraction chamber.
6. The process of extracting turnentine and resinous mat. ter from resinous wood and in reducing the wood to a pulp. which consists in subjecting the wood to one of the rarbon compounds isuch as ether, petroleum ether. or carbon disulphide) in fluid form, whereby the turnentine and resinous matter are dissolved and removed therefrom. and in thereafter subjecting the wood to a fluid caustic compound. such as caustic soda, whereby the wood is converted to a pulp.
7. The process of extracting turpentinc and resinous matter from resinous wood bv means of a solvent fluif and in reclaiming the solvent fluid and converting the wood into a pulp, which consists in subjecting the wood to one of the carbon compounds (such as ether. petroleum ether. or carbon disulphide) in fluid form. whereby the turpentine and resinous matter are dissolved and removed therefrom. and in thereafter subjecting the wood to a fluid caustic compound. such as caustic soda. whereby the solvent fluid is removed from the wood, and whereby the wood is converted to a pulp.

No. 102,227. Apparatus for Extracting Turpentine and Resinous Matter from \(\mathbf{V}\)
Apparcil pour cxtraire de la térébenthine et matiores résincuses. du bois.


George B. Frankforter, Minncapolis, Minnesota. U.S.A., 27th ㅇovember. 1!06; 6 years. Filed 23rd July, 1:066. Receipt No. 138.103.
rlaim.-1. In an apparatus of the kind described the combination with an extraction chamber and boiler, of a conduit leading from the upper portion of said boiler to the upper portion of said extraction chamber, and a return pipe leading from the lower portion of said extraction chamber back to said boiler. substantially as described.

2 . In an apparatus of the kind described the combination with an extraction chamber and a boiler. the former being located above the latter, of a conduit leading from the upper portion of said boiler to the upper portion of said extraction chamber, and a return conduit leading from the lower portion of said extraction chamber hack to said boiler, substantially as deseribed.
3. In an apparatus of the kind described the combination with an extraction chamber and a boiler. the former being lowated above the latter. of a conduit leading from the upper portion of said boller to the upper portion of said extraction chamber, a return conduit lading from the lower portion of satid attaction chamber back to satd boller. and a closed stram plpe extending into the lower portion of sald
boiler. for heating the contents thereof. substantially as deseribed.
4. In an apparatus of the kind described the combination with a boiler and a plurality of extraction chambers located above the same, of condults leading from the upper portion of said boiler to the upper portions of said extraction chamhers. and return cunduits leading from the lower portions of said extraction chambers back to said boller, said ronduits having valves for opening and closing the same, at will whereby the said extraction chambers may be used suc"essively. substantially as described.

5 . In an apparatus of the kind described the combination with a boiler. of a plurality of extraction chambers located above the same. conduits leading from the upper portion of said boiler to the upber portions of said extraction chambers, return conduits leading from the lower portions of said extraction chambers back to sald boiler, a condult connecting the upper portions of the several extraction chambers and other conduits opening into said extraction chambers for delivering thereto a reclaiming fluid, and valves in the several conduits. whereby the several extraction chambers may be used successively, substantialiv as described.
6. In an apparatus of the kind described the coubination with a boiler. of an extraction chamber located above the same and provided with a removable cap and a removabir bot om. of a conduit leading from the upper dortion of said boiler to the unper portion of said extraction chamber. and a return conduit leading from the lower portion of said extraction chambers back to said boller. substantially as described.

No. 102,228. Gas Generator. Générateur à gas.

©arence L. Gerrard. Columbus, Nebraska. C.S.A.. ETh November, 1906: 6 years. Flled 21st July. 1:06. Rrceipt XV. 138,057.
Claim.-1. The combination of a generator head having an opening extending from its bottom to one side of the bead. a case having an opening in its top registering with the ope:ing in the gencrator head, the side of the case having an cpering therein, a closure for said opening, a solution receptacle having a neck adapted to fit in the opening in :he generator head, and a perforate tube projecting through the neck of the receptacle and having an open upper and communicating with the head.
2. A gas generator comprising a solution recentacle, a \(\quad\) - . fractory tube located in the receptacle and having an wir. upper end and also having an opening in its lower portio., and a generator head enclosing the upper end of the tube
3. A gas gencrator comprising a solution receptacle, a ro. fractory tube having an open upper end, the tub: being projected downward into the receptacle and having a closed lna er extremity. and a plurality of openings in its side. and a generator head enclosing the open upper end of the tube
4. A gas generator having a solution receptacle, a tube opion at its upper end. the tube being projected downward into th. receptacle. said lubr being capable of holding a meiallir rod and having below its upper end a number of openinge in is side at rifferent elevations, and means for withdrawing th. gas from the open upper end of the tube.
5. A gas generator having a solution receptacle. a inb. having an open upper end. the tube being projecied downward into the remeptacle and having a closed Inwer end. and a number of nofentiges in its side at different elevations. and mrans for carrying off the gas from the upper end of the tube.

No. 102,229. Concrete Construction.
Construction de béton.


Albert A. Pauly, Youngstown, Ohio, U.S.A., 27th November, 1906 ; 6 years. Filed 13th October, 1906. Receipt No 140,270.
Claim.-1. A composite wall composed of composite building blocks of channel bar form disposed in two parallel rows each row of blocks being two blocks high and cemented together, tie rods having their ends embedded in the cement between the blocks of each row and connecting the rows together, and a solid filling of concrete between the rows of composite blocks.

No. 102,230. Camera. Camera.


Willis E. Phillips, Collbran, Colorado, U.S.A., 27th November 1906; 6 years. Filed 21st July, 1906. Receipt No. 138,018
Claim.-1. A camara attachment comprising a frame pro vided at one end with an exposure opening and having its other end formed for connection with the lens tube of a camera, front and rear prisms mounted within the frame, and means to tiltably adjust the prisms.
2. A camera attachment comprising a tube which is provided at its front end with an exposure opening and has its rear end provided with a coupling to embrace the lens tube of a camera, front and rear prisms within the frame, and means to adjustably tilt the prisms.
3. A camera attachment comprising a tube which is provided at its front end with an exposure opening and has its rear end reduced and open to form a coupling for embracing the lens tube of a camera, front and rear prisms within the tube, and means for tiltably adjusting the prisms.
4. A camera attachment comprising a frame provided at one end with an exposure opening and at its opposite end with means for engagement with a lens tube, front and rear prisms pivotally supported within the frame, and means to tiltably adjust the prisms upon their pivotal supports.
5. A camera attachment comprising a tube provided at its forward end with an exposure opening and having its rear end formed for engagement with the lens tube of a canera front and rear prisms pivoted within the tube and means carried by one side of the tube for adjustably turning the prisms upon their pivots.
6. A camera attachment comprising a tube provided at its forward end with an exposure opening and having its rear end formed for engagement with the lens tube of a camera front and rear prisms pivoted within the tube, and a threaded adjusting stem carried by the tube and associated with the prisms to pivotally adjust the same
7. A camera attachment comprising a tube provided at its forward end with an exposure opening and having its rear end formed for engagement with the lens tube of a camera front and rear prisms pivoted within the tube, crank arms carried by the pivots of the prisms, and an adjusting device carried by the tube and associated with the crank arms.
8. A camera attachment comprising a tube provided at its forward end with an exposure opening and having its rear end formed for engagement with the lens tube of a camera, front and rear prisms pivoted within the tube, crank arms carried by the pivots of the prisms, and a threaded adjust ing stem carried by the tube and provided at its inner end with a circular head, the crank arms being provided with seats receiving the head of the adjusting stem.
9. A camera attachment comprising a tube which is provided at its front end with an exposure opening and has its rear end formed for engagement with the lens tube of \(a\) camera, front and rear prisms within the tube and means to adjust the prisms, said tube being rotatable upon its longitudinal axis when associated with the lens tube.
10. The combination with the lens tube of a camera, of a light refracting device rotatably associated with the lens tube and including front and rear prisms.
11. A camera attachment comprising a tube provided at its forward end with an exposure opening and having its rear end formed for engagement with the lens tube of \(\approx\) camera, front and rear prisms pivoted within the tube and having trunnions projecting upon the exterior of the tube, crank arms carried by the projected portions of the trunnions and provided with bifurcated free ends, and a threaded adjusting stem carried by the case and having a circular head working in the bifurcation of the crank arms.
12. A camera attachment comprising a tube provided at its forward end with an exposure opening and having its rear end formed for engagement with the lens tube of a camera, front and rear prisms pivoted within the tube, and means to simultaneously tilt the prisms to corresponding angular adjustments and to permit individual adjustments of the prisms.
13. A camera attachment comprising a tube provided at its forward end with an exposure opening and having its rear end formed for engagement with the lens tube of a camera, front and rear prisms pivoted within the tube, and means to simultaneously adjust the prisms to corresponding angles, each prism capable of being disconnected from the adjusting means to permit individual adjustment thereof.
14. A camera attachment comprising a tube provided at its forward end with an exposure opening and having its rear end formed for engagement with the lens tube of a camera, front and rear prisms pivoted within the tube, crank arms carried by the prisms, and adjusting means associated with the crank arms, each crank arm capable of being disassociated with the adjusting means to permit individual adjustment of the corresponding prism.
15. A camera attachment comprising a tube provided at is forward end with an exposure opening and having its rear end formed for engagement with the lens tube of a camera front and reaf prisms pivoted within the tube, elastic crank arms for the prisms, and an adjusting element associated with the crank arms, each crank arm capable of being sprung out of engagement with the adjusting devices to permit individual adjustment of the corresponding prism, the tube being provided with friction surfaces against which the crank arms bear to hold the same agalnst looseness when disengaged from the adjusting devices.
16. A camara attachment comprising a tube provided at its forward end with an exposure opening and having its rear end formed for engagement with the lens tube of a camera, front and rear prisms pivoted within the tube, trunnions for the prisms piercing the tube, spring crank arms carried by the projected portions of the trunnions and having their free ends bifurcated, and a threaded adjusting stem mounted upon the tube and provided with a circular head recelved within the bifurcations of the crank arms, each crank arm capable of being sprung out of engagement with the head to permit individual adjustment of the cor
responding prism, the tube being provided with flat extraal bosses beneath the crank arms and the crank arms having bowed portions to erictionally bear upon the bosses for holding the crank arms against looseness when disengag'd from the adjusting stem.

No. 102,231. Horse Drench.
Apparcil d administrer des médecincs aux chevaux.


Ned Stanley Price, Erie, Pennsylvania, U.S.A., 27th November, 1906 ; 6 years. Filed 19 th July, 1906. Recelpt No. 137,985.
Claim.-1. In a drenching device the combination of a recoptacle, a part \(b\) extending laterally from the receptacle and a rearwardly extending part \(b^{1}\), said parts forming a nozzle unobstructed from the end of the part \(b^{1}\) to beyond the turn between the parts to permit of the nozzle being insertr! in the side of the mouth with the jaws closed, and turaed to bring the gart 1 through the side of the mouth, and the part \(b^{1}\) extending into or toward the throat. and a valve controlling the flow of liquid from the receptacle
2. In a drenching device the combination of a receptacle, a part \({ }^{\prime}\) extending laterally from the receptacle, and a rearwardly extending part \(b^{1}\), said parts forming a nozzle unobstructed from the end of the part \(b^{1}\) to beyond the turn between the parts to permit of the nozzle being inserted in the side of the mouth with the jaws closed, and turned to bring the part " through the side of the mouth. and the part brextending into or toward the throat, and a valve controlling the flow of liquid from sald valve through the top of the roceptacle, and means within the reach of the operator's hand rasping the receptacle for tripping the valve.
3. In a dreuching device the combination of the receptacle A, the lateral part \(b\), and the rearwardly extending part \(b^{\prime}\) forming the nozzle \(B\) unobstructed from the end of the part \(b^{1}\) to beyond the turn between the parts, the valve \(C\) controlling the connection between the receptacle and the nozzle. and the stem \(c\) extending from the valve through the top of the receptacle, a lever \(c^{2}\) extending from the stem over the side of the receptacle, a lug \(a^{3}\) forming the fulcrum for the lever \(c^{x}\), a chain \(c^{d}\) secured to the lever, and the thumb ring \(c^{*}\), secured to the chain.
4. In a drenching device the combination of a receptacte for the liquid, said receptacle being provided with a vrint, a nozzle extending from said receptacle, a valve controlling the flow of liquid from the receptacle to the nozole, meqne for closing the vent, and means for opening the rent and valve simultaneously.
5. In a drenching device the combination with a receptac!e. a. nozzle extending therefrom, and a funnel top arranged or sald receptacle having an opening through which material may pass from the top into the receptacle, said opening also forming a vent for the receptacle, means for closing sa: rent and means for opening said vent.
6. In a drenching device the combination with a receptac'r, a nozzle extending therefrom, and a funnel top arranged or said receptacle, having an opening through which matorial may pass from the top into the receptacle, said opening also forming a vent, a valve controlling the flow of liquid from the recoptacle to the nozzle, and means for simultaneously opening the va!ve and the vent.
7. In a drenching device the combination of a receptacle for the liquid a nozzin extending therefrom, a funnel-shapetop \(a^{1}\) on the receptacle, having an opening therefrom for the passage of the material, a cover at for sald opening, a hinge for securing sad cover to the top, a spring \(a^{1}\) for holding said rever in rlised position.
8. In a drenching device the combination of the receptacle A having the passage \(a\) through the bottom thereof, the la-
teral part \(b\) and rearwardly extending part \(b^{\prime}\) forming a nozzle \(B\) unobstructed from the end of the part \(b^{1}\) to beyond the turn between the parts, the valve \(C\) controlling the opening. a stem extending from the valve through the top. the fun-nel-shaped top \(a^{1}\) having an opening for the introduction of the material, said opening also forming a vent, a cover \(a^{4}\) for said opening, and means on the stem ofor opening said cover.
9. In a drenching device the combination of a receptacle. 1 part b extending laterally from the receptacle, and a rearwardly extending part \(b^{1}\), sald part forming a nozzle unobstructed from the end of the part \(b^{1}\) to beyond the turn between the parts to-permit of the nozzle belng inserted in the side of the mouth with the jaws closed, and turned to bring the part \(b\) through the side of the mouth, and the part \(b^{-}\) extending into or toward the throat, and a valve controlling the flow of liquid from the receptacle, the float \(D\) having the graduated stem \(d\) extending upwardly therefrom through the top of the receptacle.

No. 102,232. Storm Window. Contrevent.


Davidson Todd, Toronto, Ontario, Canada, 27th November, 1906 ; 6 years. Filed 9th July. 1906. Receipt No. 137. 630」
Claim.-1. In storm sashes for windows the combination with the ordinary lower sash. of a storm sash provided with top and bottom and side weather strips, and means for securing it in fixed relation to the ordinary sash, as and for the purpose specifled.
2. In storm sashes for windows. the combination with the ordinary lower sash, of a storm sash provided with top and bottom and side weather strips, a top plate bridging the tops of the ordinary bottom sash and storm sash and secured to the same, as and for the purpose syecified.
3. In storm sashes for windows the combination with the ordinary lower sash, of a storm sash provided with top and bottom and side weather strips, a top plate bridging the tops of the ordinary bottom sash and storm sash and secured to the same, and a pin extending through the bottom ralls of the storm and ordinary sashes, as and for the purpose specified
4. In storm sashes for windows, the combination with the upper sash, of a detachable storm sash located to the Inside of the lower sash, and detachable means for connecting it to the upper sash, whereby thek may be more in unison, as and for the purpose specified.
5. In storm sashes for windows, the combination with the upper sash, of a detachable storm sash located to the inside of the lower sash, and hooks screwed into the ordinary upper sash, and eyes extending through the storm sash through which the hooks extend, and detachable means for connecting the bottom of the storm sash to the bottom of the ordinary lower sash, as and tor the purpose specifled
6. In storm sashes for windows, the combination with the upper sash, of a detachable storm sash located to the inside of the lower sash, and hooks secured into the ordinary upper sash and eyes extending through the storm saeh through which the hooks extend, the lower storm sash s.i. cured to the lower ordinary sash and provided with suitable weather strips, and the L-shaped bars held in sultable
brackets and extending into slots in the upper storm sash and lower storm sash, as and for the purpose specifled.
7. In storm sashes for windows, the combination with the ordinary upper and lower sashes, of the upper and lower storm sashes, the lower one being securely affixed to the ordinary lower sash and the upper one being detachably connected at the top to the upper sash, so that it will swing on the connection, and L-shaped bars extending into slots in the upper and lower sashes, the lower slot in the lower storm sash being under-cut and provided with , a lateral enlargement at the top, as and for the purpose specifled.

No. 102,233. Thread Washing and Drying Method. Méthode à laver et sécher le fll.

Fig. 1.


Fig. 2.


Ernst Willy Frederick, Blaton, Hainaut, Belgium, 27th Novvember, 1906; 6 years. Filed 15th June, 1906. Receipt No. 136,934 .
Claim.-A method of washing an drying artificial threads on spools which consists in slowly rotating the spool on a substantially horizontal axis while it is only partly immersed in the washing liquid and again while the thread is drying on it, substantially as and for the purpose set forth.

No. 102,234. Scafiold. Echafaud.


Henry R. Laird, Millersburg, Kentucky, U.S.A., 27th November, 1906; 6 years. Filed 19th October, 1906. Receipt No. 140,430.
Olaim.-1. In a combined scaffold and step ladder, frames movably connected at one end, a platform swinging inter-11-22
mediate its length from one of said frames, means for adjustably connecting one portion of said platform to the other frame, rails swinging from the other portion of sald platform, spaced bars coupling said rails to the adjacent frame, and ladder steps connected to said bars.
2. In a combined scaffold and step ladder frames movably connected, a platform swinging intermediate its length from one of said frames and provided with spaced stops, stop pins carried by the ohter frame for engaging said spaced stops, rails swinging from the other portion of the platform, spaced bars coupling said rails to the adjacent frame and ladder steps connecting the bars.
3. In a combined scaffold and step ladder, frames movably connected, a platform swinging intermediate its length from one of said frames, means for adjustably connecting one portion of said platform to the other frame, a brace swinging from one of said frames, and means for adjustably connecting said brace to the other frame.
4. In a combined scaffold and step ladder, frames movably connected, a platform swinging intermediate its length from one of said trames means for adjustably connecting one portion of said platform to the other frame, rails swinging irom the other portion of said platform, spaced bars coupling sald ralls to the adjacent frame, ladder steps connecting sald bars, a brace swinging from one of said frames, and means for adjustably and detachably coupling said brace to the other frame.

No. 102,235. Method of Extracting Eydrated Oxides from Ores.
Méthode d'extraire de l'oxyde hydraté des minerais.


Denis Lance, Paris, France, 27th November, 1906; 6 years. Filed 15th August, 1905. Receipt No 127,703.
Claim.-1. The herein described process of extracting and concentrating metals from ores with conjointly re-acting nitro sulphuric acid, decomposable metallic chlorides, nitrochlorides, oxides or nitrogen fumes, oxide of sulphur fumes and water vapours, in effecting hydration of the herefrom resulting salts of the metals contained in said ores, in separating said hydrated material and saturating with calcareous reagents, in separating the metalliferous calcareous precipitate and lixiviating with ammonia solutions, in removing the calcareous precipitate. in distilling the lixiviation fluid, and in separating the precipitated metallic oxides.
2. The herein described process of extracting metals from ores consisting and concentrating in treating ores with nitro-sulphuric acid and decomposable metallic chlorides, in causing nitro-sulphuric acid to re-act upon descomposable metallic chlorides to form nitro-chlorides, in causing the said chlorides to re-act upon the metal contained in said ore to form the chloride of such metal, in causing the previously added nitro-sulphuric acid to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore.
3. The herein described process of extracting and concentrating metals from ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in closed re-action chambers, in causing nitro-sulphuric acid to re-act upon decomposable metallic chlorides to form nitro-chlorides, in causing the said nitro-chlorides to re-act upon the metal contained in said ore to form the chloride of such metal, in causing the previously added nitro-sulphuric
acid to re-act upon the said metal chlorides to form the sulphate of the metal contained in said ore, in heating to 110 to 120 degrees centrigrade to effect distillation of the aforementioned nitro-chlorides and in injecting oxide of sulphur fumes and water vapours to form new quantities of sulphuric acid.
4. The herein described process of extracting and concentrating metals from ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in closed reaction chambers, in causing nitro-sulphuric acid to re-act upon decomposable metallic chlorides to form nitrochlorides, in causing the said nitro-chlorides to re-act upon the metal contained in said ore to form the chloride of such metal, in causing the previously added nitro-sulphuric acid to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore, in heating it to 100 to 120 degrees centigrade to effect distillation of the aforementioned nitro-chlorides. in injecting oxide of sulphur fumes and water vapours to form new quantities of sulphuric acid, in causing a continuous conjoint re-action between nitro-stalphuric acid, decomposable metallic chlorides. nitro-chlorides, oxides of nitrogen fumes, oxide of sulphur fumes, water vapours, the metal contained in the ore and the chloride of the said metal, in causing the cyclic formation of nitro-sulphuric acid, nitro-chlorides and the metal chloride, and in causing the formation of permanent sulphate of the metal contained in the said ore.
5. The herein described process of extracting and concentrating metals from ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in closed re-action chambers, in causing nitro-sulphuric acid to re-act upon decomposable metallic chlorides to form nitro-chlorides, in causing the said nitro-chlorides to re-act upon the metal contained in said ore to form the chloride of such metal, in causing the previously added nitro-sulphuric acid to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore. in heating to 110 to 120 degrees rentigrade to effect distillation of the aforementloned nitro-chlorides. in injecting oxide of sulphur fumes and water vapours to form new quantitins of sulphuric acid, in causing a continuous ronjoint re-action between nitro-sulphuric acid. decomposable metallic chlorides, nitro-chlorides, oxides of nitrogen fumes, oxide of sulphur fumes, water vapours, the metal contained in the ore and the chlorlde of said metal. in causing the ryclic formation of nitro-sulphuric acid, nitro-chlorides and the metal chloride. ifr causing the formation of permanent subhate of the metal contained in the said ore, in partially hydrating at 40 to 50 degrees Beaume density and in completing the hydration with a metallic bisulphate.
6. The herein described process of extraction and concentrating metals from ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in closed re-action chambers. in causing nitro-sulphuric acid to re-act upon decomposable metallic chlorides to form nitro-chlorides, in causing the said nitro-chlorides to re-act upon the metal contained in said ore to form the chloride of such metal, in causing the previously added nitro-sulphuric acid to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore. in heating to 110 to 120 degrees centigrade to effect distillation of the aforementioned nitro-chlorides, in injecting oxide of sulphur fumes and water vapours to form new quantities of sulphuric acid, in causing a continuous re-action between nitro-sulphuric acid, decomposable metallic chlorides, nitrochlorides, oxides of nitrogen fumes, oxide of sulphur fumes. water vapours, the metal contained in the ore and the chloride of the said metal. in causing the cvelic formation of nitro-sulphuric acid. nitro-chlorides and the metal chloride. in causing the formation of permanent sulphate of the metal contained in the said orc. in partially hydrating at 40 to 50 degrees Beaume density and in completing the hydration with sodium bi-sulphate solution.
7. The herein described process of extracting and concentrating metals from ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in closed re-action chambers, in causing nitro-sulphuric acid to re-act upon decomposable metallic chlorides to form nitro-chlorides, in causing the said nitro-chlorides to react upon the metal contained in said ore to form the chloride of such metal, in causing the previously added nitrosulphuric acid to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore, in heating to 110 to 120 degrees centigrade to effect distillation of the aforementioned nitro-chlorides, in injecting oxide of sulphur fumes and water vapours to form new quantities of sulphuric acid. in causing a continucus conjolnt re-action between nitro-sulphuric acid, dccomposable metallic chlorides, nitro-chlorides, oxides of nitrogen fumes, oxide of sulphur fumes, water vapours, the metal contained in the ore and the chloride of the said metal. in causing the cyclic formation of nitro-sulphuric acid. nitro-chlorides and the metal chloride, in causing the formation of permanent
sulphate of the metal contained in the said ore, in partially hydrating at 40 to 50 degrees Beaume density, in completing the hydration with a metallic bl-sulphate, in removing the non-metalliferous residuum from the hydrated re-action mixture and in saturating the remaining liquid with calcareous re-agents.
\(S\). The herein described process of extracting and concentrating metals from ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in closed re-action chambers, in causing nitro-sulphuric acid to re-act upon decomposable metallic chlorides to form nitro-chlorides, in causing the said nitro-chlorides to react upon the metal contained in said ore to form the chloride of such metal, in causing the previously added nitro-sulphuric acid, to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore, in heating to 110 to 120 degrees centigrade to effect distillation of the aforementioned nitro-chlorides, in injecting oxide of sulphur fumes and water to form new quantities of sulphuric acid, in causing a continuous conjoint re-action between nitro-sulphuric acid, decomposable metallic chlorides, nitro-chlorides, oxides of nitrogen fumes, oxide of sulphur fumes. water vapours, the metal contained in the ore and the chloride of the said metal, in causing the cyclic formation of nitro-sulphuric acid nitro-chlorides and the metal chloride, in causing the formation of permanent sulphate of the metal contained in the said ore, in partially hydrating at 40 to 50 degrees Beaume density, in completing the hydration with a metallic bi-sulphate in removing the nonmetalliferous residuum from the hydrated re-action mixture and in saturating the remaining liquid with calcium carbonate and lime.
9. The herein described process of extracting and concentrating metals from ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in closed re-action chambers, in causing nitrosulphuric acid to re-act upon decomposable metalic chlorides to form nitrochlorides, in causing the said nitro-chlorides to re-act upon the metal contained in said ore to form the chloride of such metal, in causing the previously added nitro-sulphuric acid to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore, in heating to 110 to 120 dugrees centigrade to effect distillation of the afore-mentioned nitro-chlorides, in injecting oxide of sulphur fumes and water vapours to form new quantities of sulphuric acid, in causing a continuous conjoint re-action between nitrosulphuric acid, decomposable metallic chlorides, nitro-chlorides oxides of nitrogen fumes, oxide of sulphur fumes, water vapours, the metal contained in the ore and the chloride of the said metal, in causing the cyclic formation of nitrosulphuric acid, nitro-chlorides and the metal chloride, in causing the formation of permanent sulphate of the metal contained in said ore, in partially hydrating at 40 to 50 degrees Beaume density, in completing the hydration with a metallic bi-sulphate, in removing the non-metalliferous residuum from the hyhrated re-action mixture, in saturating the remaining liquid with calcareous re-agents, in separating the metalliferous calcic precipitate and in lixiviating the same with ammoniac solutions.
10. The herein described process of extracting and concenirating metals from the ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in slosed re-action chambers, in causing nitro-sulphuric acid to re-act upon decomposable metallic chlorides to form nitrochlorides, in causing the said nitro-chlorides to re-act upon the metal contained in said ore to form the chloride of such metal, in causing the previously added nitro-sulphuric acid to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore, in heating to 110 to 12C degrees centigrade to effect distillation of the aforementioned nitro-chlorides, in injecting oxide of sulphur fumes and water vapours to form new quantities of sulphuric acid, in causing a continuous conjoint re-action between nitro-sulphuric acid, decomposable metallic chlorides. nitro-chlorides, oxides of nitrogen fumes, oxide of sulphur fumes, water vapours, the metal contained in the ore and the chloride of the said metal, in causing the cyclic formation of nitro-sulphuric acid, nitro-chlorides and the metal chloride in causing the formation of a permanent sulphate of the metal contained in the said ore, in partially hydrating at 40 to 50 degrees Beaume density, in completing the hydration with a metallic bi-sulphate, in removing the non-metalliferous residuum from the hydrated re-action mixture, in saturating the remaining liquid with calcareous re-agents, in separating the metalliferous calcis precipitate and in lixiviating the same with ammonia solution.
11. The hercin described process of extracting and concentrating metals from ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in clo:ed re-action chambers, in causing nitro-sulphuric acid to re-act upon decomposable metallic chlorides to form nitro-chlorides, in causing the said nitro-chlorides to re-act upon the metal contained in said ore to form the chloride
of such metal, in causing the previously added nitro-sul phuric acid to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore, in heating to 110 to 120 degrees centigrade to effect distillation of the aforementioned nitro-chlorides. in injecting oxide of sulphur fumes and water vapours to form new quantities of sulphuric acid, in causing a continuous conjoint re-action between nitro-sulphuric acid, decomposable metallic chlorides, nitro-chlorides, oxides of nitrogen fumes, oxide of sulphur fumes, water vapours, the metal contained in the ore and the chloride of the said metal, in causing the cyclic formation of nitro- sulphuric acid, nitro-chlorides and the metal chloride, in causing the formation of permanent sulphate of the metal contained in the said ore, in partially hydrating at 40 to 50 degrees Beaume density. in completing the hydration with a metallic bisulphate, in removing the non-metalliferous residuum from the hydrated re-action mixture, in saturating the remaining liquid with calcareous re-agents. in sedarating the metalliferous calcic, precipitate, in lixiviating the same with ammonia solutions, in removing the calnareous sediment and in distilling the lixiviation fluids intil freed from hydrogen nitride.
12. The herein described process of extracting and concentrating metals from ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in closed re-action chambers, in causing nitro-sulphuric acid to re-act upon decomposable metallic chlorides to form nitro-chlorides, in causing the said nitro-chlorides to re-act upon the metal contained in said ore to form the chloride of such metal, in causing the previously added nitro-sulphuric acid to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore, in heating to 110 to 120 degrees centigrade to effect distillation of the aforementioned nitro-chlorides, in injecting oxide of sulphur fumes and water vapours to form new quantities of sulphuric acid, in causing a continuous conjoint re-action between nitro-sulphuric acid, decomposable metallic chlorides, nitro-chlorides, oxides of nitrogen fumes, oxide of sulphur fumes, water vapours, the metal contained in the ore and the chloride' of said metal, in causing the cyclic formation of nitro-sulphuric acid, nitro-chlorides and the metal chloride, in causing the formation of permanent sulphate of the metal contained in the said ore, in partially hydrating at 40 to 50 degrees Beaume density, in completing the hydration with a metallic bisulphate, in removing the non-metalliferous residuum from the hydrated re-action mixture, in saturating the remaining liquid with calcareous re-agents, in separating the metalliferous calcic precipitate. in lixiviating the same with ammonia solutions, in removing the calcareous sediment, in distilling the lixiviation fluid until freed from the ammonia, and in seyarating the inydrated metallic oxide precipitated thereby.
13. The herein described process of extracting and concentrating metals from ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in closed re-action chambers, in causing nitro-sulphuric acid to re-act upon decomposable metallic chlorides to form nitro-chlorides, in causing the said nitro-chlorides to re-act upon the metal contained in said ore to form the chloride of such metal, in causing the previously added nitro-sulphuric acid to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore. in heating to 110 to 120 degrees centigrade to effect distillation of the aforementioned nitro-chlorides, in injecting oxide of sulphur fumes and water vapours to form new quantities of sulphuric acid, in causing a continuous conjoint re-action between nitro-sulphuric acid, decomposable metallic chlorides, nitro-chlorides, oxides of nitrogen fumes, oxide of sulphur fumes. water vapours, the metal contained in the ore and the chloride of the said metal, in causing the cyclic formation of nitro-sulphuric acid, nitro-chlorides and the metal chloride, in causing the formation of permanent sulphate of the metal contained in the said ore. in recovering the aforesaid nitro-chlorides by distillation and in using the same in subsequent decompositions of ores in place of new charges thereof.
14. The herein described process of extracting and concentrating metals from ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in closed re-action chambers, in causing nitro-sulphuric acid to re-act upon decomposable metallic chlorides to form nitrochlorides, in causing the said nitro-chlorides to re-act upon the metal contained in sald ore to form the chlorides of such metal, in causing the previously added nitro-sulphuric acid to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore in heating to 110 to 120 degrees centigrade to effect distillation of the aforementioned nitro-chlorides, in injecting oxide of sulphur fumes and water vapours to form new quantitles of sulphuric acid, in causing a continuous conjoint re-action between nitro-sulphuric acid, decomposable metallic chlo-
rides, nitro-chlorides, oxides of nitrogen fumes oxide of sulphur fumes, water vapours, the metal contained in the ore and the chloride of the said metal, in causing the cyclic formation of nitro-sulphuric acid, nitro-chlorides and the metal chloride, in causing the formation of permanent sulphate of the metal contained in the said are, in partially hydrating at 40 to 50 degrees Beaume density, in completing the hydration with a metallic bi-sulphate, in re moving the non-metalliferous residuum from the hydrated re-action mixture, in saturating the remaining liquid with calcareous re-agents, in separating the metalliferous calcic precipitate, in lixiviating the same with ammonia solutlons, in removing the calcareous sediment, in recovering the residual ammonia from the said calcareous sediment and in using the recovered ammonia in subsequent lixiviations in place of new charges thereof.
15. The herein described process of extracting and concentrating metals from ores consisting in treating ores with nitro-sulphuric acid and decomposable metallic chlorides in closed re-action chambers, in causing nitro-sulphuric acid to re-act unon deconposable metallic chlorides to form nitrochlorides, in causing the said nitro-chlorides upon the metal contained in said ore to form the chloride of such metal, in causing the previously added nitro-sulphuric acid to re-act upon the said metal chloride to form the sulphate of the metal contained in said ore, in heating to 110 to 120 degrees centigrade to effect distillation of the aforementioned nitrochlorides, in injecting oxide of sulphur fumes and water vapours to form new quantities of sulphuric acid, in causing a continuous conjoint re-action between nitro-sulphuric acid. decomposable metallic chlorides, nitro-chlorides, oxides of fitrogen fumes, oxide of sulphur fumes, water vapours, the metal contained in the ore and the chloride of the said metal centigrade to effect distillation of the aforementioned nitrochinrides and the metal chloride, in causing the form tion of permanent sulphate of the metal contained ir. the suid ure, in partially hydrating at 40 to 50 degrees Beaumo depsity, in completing the hydration with a metallic bisulphate, in removing the non-metalliferous residuum from the hydraled re-action mixture, in saturating the remaining liquid with calcareous re-agents, in separating the metalliferous calcic precipitate, in lixiviating the same with ammonia solutions, in removing the calcareous sediment, in distilling the lixiviation fluid until freed from ammonia, in recovering the said distilled ammonia and in using the same in subgequent lixiviation in place of new charges thereof
16. The herein described process of extracting and concentrating nickel from silicious nickel ore, consisting in treating said ore with nitro-sulphuric acid and sodium chloride inclosed re-action chambers, in causing nitro-sulphuric acid to re-act upon sodium chloride to form nitro-chlorides. in causing the said nitro-chlorides to re-act upon the nickel contained in said ore to form chloride of nickel, in causing the previously added nitro-sulphuric acid to re-act upon the said nickel chloride to form sulphate of the nickel contained in said ore, in heating to 110 to 120 degrees centigrade to effect distillation of the aforementioned nitro-chlorides, in injecting oxide of sulphur fumes and water vapours to form new quantities of sulphuric acid, in causing a continuous con joint re-action between nitro-sulphuric acid, sodium chloride ultro-chlorides, oxides of nitrogen fumes, oxide of sulphur fumes, water vapours, the nickel of said ore and the chloride of nickel, in causing the cyclic formation of nitro-sulphuric acid, nitro-chlorides and nickel chloride, in causing forma tion of permanent sulphate of the nickel contained in said cre, in partially hydrating at 40 to 50 degrees Beaume den sity, in completing the hydration with sodium bisulphate solution, in removing the non-metalliferous residuum of the silicious ore from the hydrated re-action mixture, in saturat ing the remaining liquid with calcium and lime, in separat ing the metalliferous calcic precipltate, in lixiviating the same with ammonia solutions, in removing the calcareous sediment, in distilling the lixiviating solution until freed from ammonia and in separating the hydrated nickel oxide preciptated thereby.

No. 102,236. Nut Lock. Arrête-écrous.
Harry Bostock and John Angell Peck, assignees of Henry James Swain, all in Sydney, New South Wales, Austra lia, 27th November, 1906; 6 years. Filed 2nd November 1906. Receint No. 140,817 .

Claim.-1. A nut lock consisting of a saucer-shaped washer having radial ribs upon its convex side and corresponding grooves upon its concave side, in combination with corresponding radial grooves in the under side of the nut, or of the head, such grooves being adapted to receive the radial ribs on the washer, as specified.
2. A lock nut consisting of a nut having radial grooves on its under side, a saucer-shaped washer having radial ribs upon its convex side, corresponding grooves upon its
concave side and a helical spring washer with a terminal tooth or \(\operatorname{cog}\) adapted to enter any one of the grooves in

the concave side of the saucer washer, as herein set forth.

No. 102,237. Potato Plough. Charrue d patates.


James M. Drake, and Frank Dengle, assignee of two-thiris of the interest, both of Shawano. Wisconsin, U.S.A.. 27th November, 1906: 6 years. Filed 2nd November, 1906. Recelpt No. 140,821 .
Claim.-1. A potato digger comprising a vertically swinging frame, bars carried by the frame, a shovel at the forward end of the frame, a beam arranged at one side of the frame, and substantially rectangular whecls arranged at the rear portion of the frame.
2. A potato digger comprising a frame, shaker bars extended lengthwise of the frame, a shovel with which the frame has swinging connections, a beam arranged at the side of the frame, agitating wheels mounted on the side members of the frame, the sald wheels being substantially rectangular in contour, and a curved plate secured on the frame at the opposite side to that of the beam.
3. A potato plough comprising a frame, a shovel with which sald irame has swinging connection, and rectangular agitating wheels mounted on the frame.

\section*{No. 102,238. Potato Digger. Arrache-patatcs.}

The Champion Potato Machinery Company, assigner of Otto Knoerzer, all of Hammond. Indiana, U.S.A., 27th November, 1906; 6 years. Filed 3rd November, 1906. Receipt No. 140,891.
Claim.-1. In a notato digger, side plates for the throat which taner downward toward the front, bow outward along their upper edges, and along their extreme top arr rolled outward in a curve to provide a smooth rounded surface or bead for the vines.
2. In a gotato digger, the combination with flat vertical side walls, of draught beams which form unbroken continuations of the side walls and bow outward from their lower edges and form the vortical side walls. side plates for the throat which taper down toward the front and bow
outward, the adjacent portions of the draught beams fol. lowing the same general bowed contour, a short shovel

connecting the front ends of the side plates, and an elevator running between the side plates to the shovel.
3. In a potato digger, the combination with side walls and reinforcing angle irons secured to the lower edges of the side walls and extending beyond the front edges thereof to form supports for the throat, of a palr of draught beams secured to the angle irons and to the side walls, the rear vertical edges of said draught beams being approximately parallel at their points of junction with the side walls, and being bowed outwardly along the lower portions of their front edges, side plates for the throat secured to the angle irons and draught beams, which side plates bow outward and taper downward toward their front edges, and a short shovel blade connecting the front ends of said side plates.
4. In a potato digger, the combination with the side walls, of side plates for the throat which taper downwardly toward the front and bow outward along their upper edgrs and have their extreme upper edges rolled outward to present smooth surfaces, draught beams having portions lying between the side walls and side plates, the planes of which portions merge into the curved planes of the side plates and into the vertical planes of the side walls anit have a comparativel \(\bar{y}\) wide and curved front edges which merge into the upper edges of the side plates, and a short shovel blade connecting the front ends of the side plates.

No. 102,239. Body Bolster. Coussin.


The Pressed Steel Car Company, Pittsburg, assignee of Charles August Lindstrom, Allegheny, both in Peansylvania, U.S.A., 27th November, 1906; 6 years. Filed ftb November, 1906. Receipt No. 140,962.
Claim.-1. A body bolster comprising a cast compressios 1:. hiter cast iu cellular form and formed wit:- interme.liat, supports for a tension member, and a horizontal tensios member having its end portions bent around and secured is the end portions of the compression member, substantially as described.
2. A body bolster comprising a cast compression member. cast in cellular form, with a plurallty of horizontal sup-
ports for a tension member, and having its lower surface inclined upwardly and outwardly from the center, and a horizontal tension member resting upon said supports and secured to the compression member at its ends, substantially as described
3. A body bolster arranged below the car sill, said bolster being cast in cellular form in cross section with a plurality of upwardly extending intermediate supports for a tension member, and having holes to receive draft sills, substantially as described.
4. A body bolster having a cast compression member of substantially U-shaped cross section provided with intermediate supports, and a wrought tension member secured to the compression member and resting upon sald supports. substantially as described.
5. A body bolster having a cast compression member of substantially U-shaped cross section provided with intermediate flanged supports. ard a wrought tension member secured to the compression member and resting upon said supports, substantially as described.

No. 102,240. Paving Mixture. Mćlange pour pavage.
The International Pavement Company. Hartford. Connecticut, assignee of Walter Scott Wilkinson, Wytheville. Virginia, U.S.A., 27th November, 1906: 6 years. Filed 24th October, 1906. Receipt No. 140,598 .
claim.-1. The improvement in the manufacture of bituminous pavement mixture which consists in rendering a flux oil non-absorbable through the action of a converting agent, preparing a bitiminous cement by mixing asphalt therewith, adding fines thereto and thoroughly surface coating the said fines with the non-absorbable flux oil cement and then addIng the resultant mixture to a quantity of dry mixed remaining body material.
2. The improvement in the manufacture of bituminous paving or pavement mixture or composition which consists in producing a fines-impregnated bituminous cement by subfecting flux oil to the action of a converting agent and thereby forming an elastic substance. mixing the resultant product with asphalt to form an asphaltic cement, and Impregnating the same with fines, dry mixing the remaining body material, and then, while the latter is in agitation, mixing therewith said fines-impregnated cement.
3. The improvement in the manufacture of bituminous paving or pavement mixture or composition which consists in forming a fines-impregnated bituminous cement containing a negligible quantity, if any, of oll, impregnating said cement with such of the fines as many be added thereto while still preserving the necessary liquidity of the cement, agitating the remaining body material and while the latter is in agitation mixing therewith said fines-impregnated cement.
4. That improvement in the manufacture of bituminous paving or pavement mixture or composition which consists in producing a fines-impregnated cement by converting the flux oll to an elastic substance, mixing the resultant product with asphalt, to form an asphaltic cement, and impregnating the same with fines, agitating the remaining body material, and, while in agitation. mixing therewith the finesimpregnated cement, subjecting the resultant mixture to heavy compression in a mould, and subjecting the compressed body to the action of a cooling agent to set it to preserve its shape.

\section*{No. 102,241. Basket Making Machine.}

Machine d faire des panicrs.
Androw Dev!ne, New York City, assignee of Emmet Horten, Elmira, both in New York, U.S.A., 27th November, 1906 ; 6 years. Filed 5th July, 1906. Receipt No. 137.559.
Claim.-1. In a basket making machine the combination with a revoluble form, of a die movable toward anc frow the form in line with the axis thereof, and also laterally relatively thereto in a straight path.
2. In a basket making machine the combination with a revolvable form, of a die movable toward and from the form vertically and also laterally relatively thereto in a stra!ght path and which is adapted at times to rotate with tres form.
3. In a basket making machine the combination with a re volvable form, of a reciprocating bar, a revolvable dis carried thercby, a rock shaft, connections between the ruck shaft and the die by which it is moved towa:cis end froct the form, and moans for reciprocating the carrier bar io move the die laterally towards and from the form.
4. In a basket making machine the combina!ion with a form, of a die cup having raised vertical corners for centering the blanks as the form enters the din, and mians \(t\) or raising and lowering the cup.
5. In a basket making machine the combination with a form, of a die cup having its corners raised and bevelled to a point for centering the blanks as the forin enters the die.
6. In a basket making machine the combination of a form, a die plate having means for centering the boily bleplis. and
a die movable towards and from the form and having iudependent means for centering the blank:.

7. In a basket making machine the combination with a form, of a die plate having centering posts, and a dic cup having raised projections at its corners for contering the blanks.
8. The combination of the die cup, the supporting arm to which it is pivoted, means for raising and lowering said supporting arm, a locking bolt carried by the arm sinc adapted to engage the die, a bevelled crossbar engaging the bolt when the die is ralsed end which causes the bolt to be withdrawn from the die and a bevelled block engaging tbe bolt when the die is lowered and which causes thn bolt to engage the die.
9. In a basket making the combination with a form, of a blank carrier, means for reciprocating it to an? from the form, and means for crossing blanks thereon whi!e it i : nooving away from the form.
10. In a basket making machine the combination with a form of a blank carrier, a rotatable die carried thereby, means for moving the hising carrier to and from the form, anil means for crossing blanks on the b:ank :anrier, wh:le it is noving away from the ?or.n.
11. In a basket making machine the corbiaition with a form, of two blank carriers one of which places a blank crosswise of the blank on the other carrier which delivers to the form, and which are operated to reciprocate in opposite directions, the one moving towards the form, while the other moves away from it, substantially as described.
12. In a basket making machine the combination with a form, of a blank carrier, means for moving it away from the form, another blank carrier which deposits a blank on the carrier first-mentioned while it is moving away from the form, means for supplying another blank to said first-mentioned carrier and means for moving said first-mentioned carrler with its two blanks towards the form
13. In a basket making machine the combination with a form, of a blank carrier, means for moving it from the form and means for crossing blanks thercon on its outward movement away from the form and before it commences its backward movement towards the form.
14. In a basket making machine the combination of a form pickers for rajsing the blanks, a die carrier, means for moving it towards and from the form, a blank carrier, means for moving it towards the form while the die carrier is moving away therefrom, devices for causing a blank to be deposited by said blank carrier on the die carrier, and devices for depositing another blank on sald carrier, substantially as described.
15. In a basket making machine the combination of a form, two boxes for holding body blanks having their longer axis arranged at right angles to each other, a carrier for conveying blanks from the boxes to the form, means for crossing the blanks by passing one blank under the other while it is suspended, and means for depositing the blanks crosswise on the carrier. substantially as set forth.
16. In a basket making machine the combination with a form, of a reciprocating blank carrier for carrying the body blanks of the hasket to the form, a gripping levice for conveying a bedy blank, and means for operating the gripping device to deposit a blank on the carrier whlle said carrier is moving away from the form.
17. In a basket making machine the combination with a form, of a carrier for conveying the body blanks, a rotatable die carrier thereby, a gripping device for conveying a boily blank and means for operating the gripping device to deposit a blank on the carrier during its movement away from the form.
18. In a basket making machine the combination of a car rier bar, a die carrier attached thereto, a gripping device engaging a body blank, gearing between this gripping device and the carricr bar for causing the gripping device to move in the contrary direction to that of the carrier bar and means for supplying blanks to the gripping device.
19. In a basket making machine, the combination of a carrier bar, a die carrier attached thereto, a gripping device consisting of upper and lower jaws. gearing connecting the carrier bar with the gripging device, and means for operating the lower jaw to cause it to engage a blank and to withdraw therefrom, substantlally as described.
20. In a basket making machine, the combination of a picker for raising a body blank out of its receptacle, a device pollowed un under the blank when it is raised by the nleker to conflne it for transportation, and means for operating said device.
21. In a basket making machinc. the combination with muans for separating a blank from the top of a pile of blanks. of a nlate adanted to follow under the separated blank as it denarts from the pile, and means for operating said :late.
\(2 \because\). In a basket making machine, the combination with \(a\) iick+r for sevarating and lifting blanks from a pile of blanks. gripner jaws for engaging the blank ralsed by the nicker, and tripoing devices operated by the picker for causing the gripping jaws to close on a separated blank and take it from the nicker.
23. In a basket making machine, the combination of a box for containing body blanks, plates pivotally connected thrrewith at its unper end, levers for operating said plates. a nicker for raising blanks above the plates and which operates the levers to turn the glates under the raised blank, and means for removing the raised blank from between the glates and the picker.
24. In a basket making machine, a picker comprising a pivoted needle holding levers, a spring connecting the levers and means for moving the levers to cause the connertions between the ends of the spring and sald levers to gass beyond the pivotal centers of the levers whereby hir suring acts to cause pressure to be exerted on the blanks before the needles can enter and to draw the needles inwardly into engagement with the blanks, substanlially as described.
25. The combination of the needle carrying levers, the pressure block with which they are pivotally connected, the links connected with the needle carrying levers, a spring connecting the pivotal connections of sald links with the needle carrying levers, and means for operating the parts whereby as the needle carrying levers are wung on their pivots the spring is caused to elther draw the needles inwards towards each other or tends to draw them in an opposite direction, substantially as described.
26. In a basket making machine, the comblnation of a vertically moving pieker bar, a presser head carried thereby, links and levers pivotally connected with the picker bar and with the presser head, a vertically sliding rod carried by the presser head, needles carried by the levers. a pivoted lever adapted to engage said vertically sliding rod, and means for operating said lever to cause sald rod to slide.
27. In a band separating device for a basket making machine, a rock shaft having fixed blades swinging alternately under a nile of bands, one blade serving to separate from the pile the lowermost band and the other blade pushing the separated band from under the plle.
28. Band senarating devices for basket making machines, in which two blades move back and forth in opposite dircetions to seyarate and deliver the bottom band from a pile of bands, one of said blades moving outwardly while the other moves inwardly and one blade having the band below the path of the other blade
29. Blank senarating devices for basket making machines. comprising \(a\) senarating blade and a picker which enkages the side of a blank and moves it beyond the path of the senarating blade
30. Band fecding devices for baskret making machin.. omprising a picker which engages the under side iv: t e lowermost band in a nile of bands. a blade which enters lontween the senarated band and the others and means for dellvering the senarated band from beneath the pile.
31. In a basket making marhine the combination of a pieker engaging the under side of a band in a pile of binds and segarating said band from the pile, a separator which enters between the pile of the bands and the band ernarated by the nicker and an ejector which delivers srparated
the separated band from beneath the pilfe
32. Band separating devices for basket making machises comprising a separating blade adapted to enter between the blanks in a pile and a picker arranged to engaze a blank move it in the plane of the plie and separate it from the plle previous to the entrance of the separating blade.
33. Blank separating devices for basket making machine comprising a separating blade, a picker which engages a blank and moves it in the plane of the plle away from the pile, and means for actuating the separating blade to cause it to enter between the separated blank and the plle and to further move said separated blank away from the pile.
34. Blank separating devices for basket making machines comprising two reciprocating blades, one of which moves outward!y while the other moves inwardy and one of which blades causes the blank to move beyond the path of the other blade, substantially as described.
35. The combination of a revolvable form, of a band holding arm normally held away from the form and out of en gagement with the band being wrapped, and means for actuating sald arm to move it towards the form and hold the outer end of the band close to the form at the time the last end of the band is being nalled
36. In a basket making machine the combination of a revolvable form, band holding arms normally held away from he form and out of engagement with the band being wrapped and movable simultaneousiy towards opposite sides of the form and which engage the last ends of the bands and hold them close to the form at the time the ends of the bands are being nailed.
37. In a basket making machine the combination with a revolvable form, of devices for supporting the bands as they are being wrapped around the form and a supplomental band wrapping arm normally held away from the form and out of engagement with the band being wrapped which takes hold of and guides the band after it leaves the sald band supporting device, substantially as described.
38. In a basket making machine the combination with a form mounted to revolve about a vertical axis, band wranping arms projecting to each side of the form and movable towards and from each other and towards the form, and means for operating the arms to hold the bands on the form while being nailed.
39. In a basket making machine the combination with a form having band holding hooks on opposite sides, of pinfors connected with the hooks.. a bevelled gear meshing with the pintons, a reciprocating plunger engaging the bevelled gear a lever for moving the plunger, and means for operating the lever.
40. In a basket making machine the combination of the pickers, the vertically reclprocating picker rod, the levir with which it is connected and which is formed with a long1tudinal slot. a roller traversing said slot. a wheel on which it is eccentrically pivoted, a differential pinion connected with said wheel and a segmental gear for operating sal.i pinion whercby the picker bar is moved rapidly downward and more slowly upward.
41. In a basket forming machine adapted to construct ino baskets during each revolution of the main shaft, the conubination of a rotatable form, a gear driven pinion connecter therewith having a shoe formed with four fiat faces and four intermediate teeth and a gear provided with teeth engaging the pinion and imparting to the form two half and four quarter revolutions during the construction of two baskets.

\section*{No. 102,242. Bibben Shifting Machime.}

\section*{Machine à changer le ruban de pooition.}

The Dey Time Register Company, assignee of John Dey and Alexander Dey, all of Syracuee, New York, U.S.A.. Sith November, 1906; 6 years. Filed 10th Juiy, 1906. Re. ceipt No. 126,724 .
Claim.-1. In combination a platen, printing mechanism. a ribbon interposed between sald platen and said printing mechanism, and time controlled means for shifting said ribbon laterally with respect to its direction of travel
2. In combination a platen, printing mechanism, a multicoloured ribbon interposed between said platen and sati printing mechanism, and time controlled means for shifi. ing said ribbon laterally with respect to its direction or travel in such manner as to change the colour of the postlon of the ribbon in operative relation to said printing mechanism.
3. In combination a type bearing member, a printing ric bon, and time controlled means adapted to control mechad ism for shifting sald ribbon laterally with respect to said type bearing member.

In combination a type bearing member, a multi-coloured printing ribbon, and time controlled means adapted to control mechanism for shifting said ribbon laterally so as ic change the colour of the portion thereof opposite said type beraring mrmber
6. In combination a type bearing member, ribbon spools. a slidably mounted ribbon har to which aald spools are rotat.
ably secured, a printing ribbon upon said spools opposite said type bearing member, and automatic means adapted to

control mechanism for sliding said ribbon bar and changing the portion of said printing ribbon opposite said type bearing member.
6. In combination a type bearing member, a printing ribbon opposite thereto, spools upon which sald printing ribbon is mounted, a slidably mounted bar having parts secured thereto upon which said spools are mounted, a lever connected with said ribbon bar, automatically actuated means for setting said lever, and means adapted to throw said lever to one extreme of its path of travel and shift said printing ribbon laterally with respect to said type bearing member.
7. In combination, a type bearing member, a multicoloured printing ribbon in operative relation thereto, spools upon which said printing ribbon is mounted, a slidably mounted ribbon bar having parts secured thereto upon which said spools are mounted, a lever having a connection with said ribbon bar, automatically controlled means for setting said lever in operative condition, and means adapted to throw sald lever to one extreme of its path of travel and shift said ribbon laterally with relation to said type bearing member so as to bring a portion thereof of different colour into operative relation thereto.
8. In apparatus of the class described, in combination printing mechanism comprising a minute type wheel and mechanism for operating the same, a printing ribbon in operative relation to said type wheel, and means automatically controlled by sald minute wheel and adapted to shift laterally said printing ribbon with respect thereto.
9. In apparatus of the class described, in combination. printing mechanism comprising a minute type wheel and mtchanism for operating the same, a multi-coloured printing ribbon in operative relation to sald type wheel, and means automatically controlled by said wheel adapted to shift laterally said printing ribbon with relation thereto so as to bring a portion thereof of different colour into operative position.
10. In apparatus of the class described, in combination printing mechanism comprising a minute type wheel and mechanism for operating the same, a slidably mounted multi-coloured printing ribbon in operative relation to sald type wheel, asd means automatically controlled by parts fixed upon said wheel adapted to shift laterally said printing ribbon and bring a portion thereof of different colour into operative position.
11. In apparatus of the class described, in combination, printing mechanism comprising a minute type wheel and mechanism for operating the same, a slidably mounted multi-coloured printing ribbon in operative relation to said wheel, a lever connected with the part upon which said ribbon is mounted, a pivotally mounted member connected with said lever, parts flxed upon said minute wheel adapted to engagt and swing pivotally mounted member and throw the same to one extreme of its path of travel and shift said ribbon laterally so as to bring a portion thereof of different colour into operative relation to sald minute wheel.
12. In an apparatus of the class described, in combination, printing mechanism comprising a minute type wheel and mechanism for operating the same, a slldably mounted multi-coloured printing ribbon in operative relation to said type wheel, a ribbon bar affixed to the mounting of said ribbon, a pivotally mounted lever connected with said ribbon bar, a pivotally mounted member having a connection with said lever, parts fixed upon said minute wheel adapted to engage and swing said pivotally mounted member and throw said lever into operative condition, means adapted to engage said lever when in operative condition and throw the same to one extreme of its path of travel and slide said ribbon laterally with respect to sald minute type whecl in such manner as to bring a portion thereof of different colour into operative position, and means automatically controlling the engagement of said parts upon said minute wheel with said pivotally mounted member.
13. In an apparatus of the class described, in combination. printing mechanism comprising a minute type wheel and mechanism for operating the same, a slidably mounted multi-coloured printing ribbon in operative relation to said type wheel, a ribbon bar affixed to the mounting of said ribbon, a pivotally mounted lever connected with said ribbon bar, a pivotally mounted member having a connection with said lever, parts fixed upon said minute wheel adapted to engage and swing said pivotally mounted member and throw said lever into operative condition, means adapted to engage said lever when in operative condition and throw the same to one extreme of its path of travel and slide said ribbon laterally with respect to said minute type wheel in such manner as to bring a portion thereof of different colour into operative position, a disc driven by said minute wheel operating mechanism having a recessed outer surface, a member adapted to rest against said outer surface, and a connection between said last-mentioned member and said pivotally mounted member whereby the engagement of said parts upon said minute wheel with said pivotally mounted member is determined by the contour of said disc.
14. In combination a type bearing member, a platen, manually actuated means adapted to bring said type bearing member and said platen into operative condition with relation one to another, a printing ribbon between said type bearing member and said platen, ribbon shifting mechanism, a connection between said ribbon shifting mechanism and said manually actuated means whereby the latter is adapted to shift laterally said printing ribbon, and time controlled means controlling said connection.
15. In combination a type bearing member, a platen, manually actuated means adapted to bring said type bearing member and said platen into operative relation one to another, a multi-coloured slidably mounted printing ribbon between sald type bearing member and said platen, shifting mechanism adapted to shift laterally said slidably mounted printing ribbon with respect to sald type bearing member, and a connection between said shifting mechanism and said manually actuated means whereby the latter is adapted to operate said shifting mechanism and bring a portion of ribbon of different colour into operative position.
16. In combination a type bearing member, a platen, manually actuated means adapted to bring said type bearing member and said platen into operative condition with relation one to another, a multi-coloured slidably mounted printing ribbon between said platen and said printing mechanism, shifting mechanism adapted upon operation to slide said ribbon laterally with respect to said type bearing member and bring a portion thereof of different colour into operative position, and means whereby said manually actuated means is adapted to operate said shifting means upon the latter being set in operative condition.
17. In combination a type bearing member, a platen, manu ally actuated means adapted to bring said type bearing member and said platen into operative position with relation one to another, a multi-coloured slidably mounted printing ribbon between said platen and said type bearing member, shifting mechanism adapted to slide said printing ribbon laterally with relation to said type bearing momber and bring a portion thereof of different colour into operative position, means automatically controlled by said type bearing member adapted to set said shifting mechanism in operative condition, and means whereby said manually actuated means is adapted to operate said shifting mechanism upon the same being set in operative condition.
18. In combination a type bearing member, a printing ribbon on operative relation thereto, manually actuated means adapted to cause said type bearing member to make an impression for shifting said printing ribbon laterally with respect to said type bearing member, automatic means for setting said shifting means in operative condition, and means whereby said manually actuated means is adapted to oper ate said shifting mechanism upon the same being set in operative condition.
19. In combination printing mechanism, a printing ribbon, means adapted to shift said printing rlbbon with respect to said printing mechanism, automatic means for controlling said shifting means, and means adapted to lock said controlling means in each of its extreme positions.
20. In combination printing mechanism, a multi-coloured printing ribbon, means adapted to shift said printing ribbon laterally with respect to said printing mechanism so as to bring a portion thereof of different colour into operative position, automatic means for controlling said shifting mechatilism, and means adapted to lock said controlling means in \({ }^{\prime} \cdot \mathrm{n}\) of its extreme positions.
21. In combination a type bearing member, a printigg ribbon in operative relation thereto, means adapted to shift laterally said printing ribbon with relation to said type bearing member, means actuated by parts upon sald type bearing member controlling said shifting mechanism, and means adapted to lock said controlling means in each of its extreme positions.
\(\because 2\). In combination a type bearing member, a printing ribbon in operative relation thereto. means adapted to shift laterally said printing ribbon with relation to sald typc bearing member, means actuated by parts upon said type bearing members controlling said shifting mechanism, and means adapted to lock said controlling means in each of its extreme positions and to lock the same against movement in one direction when in an intermediate position.
23. In combination printing mechanism, a multi-coloured slidably mounted printing ribbon in operative relation to said printing mechanism, a lever adapted to shift the same laterally with respect to said printing mechanism, a pivotally mounted member connected with said lever and adapted to set the same in operative condition, automatic means for controlling the movement of said pivotally mounted member: and means adapted to lock the same in each of its extreme positions against movement in either direction and in an intermediate position against movement in one direction.
24. In combination printing mechanism, a multi-coloured slidably mounted printing ribbon in operative relation thereto, a lever adapted to shift said printing ribbon laterally with respect to sald printing mechanism so as to bring a portion thereof different colour into operative position, a pivotally mounted member connected with said lever and adapted toi set the same in operative condition, automatic means adapted to actuate said pivotally mounted member, a plurality of locking levers adapted to control the position thereof, one of said levers being proviled with teeth adapted to prevent the movement of said pivotally mounted member in one direction and the other of said levers being provided with oppositely directed teeth adapted to lock said pivotally mounted member against movement in the opposite direction, and means for releasing said levers.
25. In combination printing mechanism, a multi-coloured slidably mounted printing ribbon in operative relation thereto, a lever adapted to shift said printing ribbon laterally with respect to said printing mechanism so as to bring a portion thereof of different colour into operative position, a pivotally mounted member connected with said lever and adapted to set the same in operative condition, automatic means adapted to actuate said pivotally mounted member, a plurality of locking levers adapted to control the position thereof, one of say levers being provided with tecth adapted to prevent the movement of said pivotally mounted member in one direction and the other of said levers being provided With oppositely directed terth adapied to lock said pivotally mounted member against movement in the opposite direction, and means for releasing said levers, said automatic means comprising parts upon said printing mechanism adapted to engage and swing said pivotally mounted member.
26. In combination a type bearing member, a multi-coloured printing rlbbon, mechanism adapted to shift said printing ribbon laterally with respect to said type bearing member so as to bring a portion thereof of different colour into operative position, automatic means adapted to control sald shifting means, and a visual indicator connected with said shifting mechanism and adapted to change from one to another of two alternative positions when said ribbon is shitted.
27. In combination a type bearing member, a multi-coloured printing ribbon, means adapted to shift said printing ribhon laterally with respect to sald type bearing member so as to bring a portion thereof of different colour into operative condition, and a visual indicator connected with said shifting mechanism adapted to move from one to another of two alternative positions when sald ribbon is shfted and display a surfaccof colour substanilally identical with that of the portion of the printing ribbon which is in operative position.
29. In combination a type bearing minute wheel, a platen. means adapted to bring said wheel and said platen into operative relation one to another, a multi-colourcd slidably mounted printing ribbon between said platen and said type bearing minute wheel, a lever connected with a part upon which sald ribbon is mounted and adapted to shift the same
laterally with respect to sald type bearing minute wheel so as to bring a portion thereof of different colour into opera live position, a pivotally mounted member connected with said lever, parts upon said minute wheel adapted to engas. and swing said pivotally mounted member and set the samin operative condition, and a part upon said manually actuated means adavted to strike and actuate said lever and shift said ribbon upon said lever being set in operative condition.
29. In apparatus of the class described in combination. printing mechanism comprising a minute type wheel and mechanism for operating the same, a slidably mounted multicoloured printing ribbon in operative relation to sald type wheel, means automatically controlled by sald minute wheel adapted to shift laterally said printing ribbon and bring a portion thereof of different color into operative position. and means adapted to lock said controlling mechanism in each of its two alternative positions.
30. In apparatus of the class described in combination. printing mechanism for operating the same, a slidably mounted multi-coloured printing ribbon in operative rela tion to said type wheel, means automatically controlled by said minute wheel adapted to shift laterally said printing ribbon and bring a portion thereof of different colour into operative position, and positive means adapted to lock said controlling mechanism in each of its two alternative positions and to lock the same against movement in one direction when in an intermediate position.
31. In combination a type bearing member, a platen, manu ally actuated means adapted to bring said type bearing member and said platen into operative relation one to another. a slidably mounted multi-coloured printing ribbon between said platen and said type bearing member, means adapted to shift said printing ribbon with relation to sald type bearifg member in surh manner as to bring a portion thereof of differcnt colour into operative position, automatic means adapted to set said shifting means in operative condition means adapted to lock said automatic means in its two ex treme positions, and a connection whereby said manually actuated means is adapted to cause the operation of said shifting means when the latter is in operative condition.
32. In apparatus of the class described, in combination, printing mechanism comprising a minute wheel and mechanism for operating the same, manually actuated means adapted to cause the operation of said printing mechanics. a multi-coloured slidably mounted ribbon in operative relation to said printing mechanism, means adapted lateraly to shift. said ribbon and bring a portion thereot of different colour into operative position, automatic means adapted to set said shifting mechanism in operative condition, means adapted to lock said setting means in each of its two exreme positions, and a member upon said manually actuated means adapted to engage and operate sald shifting mechanism upon the latter being set in operative condition.
33. A time recorder including, in combination, time controlled marking means, means for producing records therefrom, and automatic means whereby records of different classes are made by marks having distinguishing characteristics.
34. A time recorder including, in combination. time controlled marking devices, means for producing recards therefrom, and time controlled means whereby records of regular and irregular character are made by marks having distinguishing characteristics.
35. A time recorder including, in combination, time controlled marking means, means for producing records therefrom, and automatic means whereby records of regular and irregular character are made by marks having distinguishing characteristics.
36. A time recorder, in combination, a type bearing mem lirr, a multi-coloured printing ribbon in operative relation thereto, means adapted to shift said ribbon to bring a portion thereof of difierent colour into operative position with respect to said type bearing member, and a power actuated disc adapted automatically to control said ribbon shifting mechanism.
37. In a time recorder, in combination, a type bearing member, a multi-coloured printing ribbon in operative relation thercto, means adapted laterally to shift satd printing ribbon to bring a portion thereof of different colour into onerative position with respect to said type benring member, and a power actuated disc hâving Irregularitics in the outer surface thereof adapted to control sala ribbon shifting mechanism in accordance with the form and position of said irregularities.
38. In a time recorder, a type bearing member. a multscoloured printing ribbon in operative relation thereto means adapted laterally to shift said printing ribbon to bring a portion thereof of different colour into operaltie position with respect to said tyDe bearing member, a dise having Irregularities in the outer surface thercof. and a wiper arm resting upon said disc adapted to concrol
said ribbon shifting mechanism in accordance with the position and form of said irregularities.
39. In a time recorder. in combination. a type bear:ing minute wheel, a power transmitting member adapted rin drive the same, a multi-coloured printing ribbon in operative relation to said wheel, a lever adapted to shift said printing ribbon laterally to bring a portion of said printing ribbon of different colour in operative relation to said wheel, a disc driven from said power transmitting member and having irregularities in its surface, and a wiper arm resting upon said disc and adapted to control the position of said lever in accordance with the form and position of said irregularities upon said disc.
40. In combination, a platen, printing mechanism,a vertical multi-coloured printing ribbon interposed between said platen and said printing mechanism, and automatic means for shifting said ribbon laterally with respect to its direction of travel in such a manner as to change the colour of the portion of the ribbon in operative relation to said printing mechanism.
41. In a time recorder, in combination, a type bearing r.iember, a card receiver having a closed back, a multi. coloured printing ribbon in operative relation to said type bearing member and positioned between the same and said closed card receiver, and automatic means adapted to control mechanism for shifting said ribbon laterally so as to change the colour of the portion thereof opposite said type bearing member
42. In a time recorder, in combination, a type bearing member, a card receiver having a closed back, a multicoloured vertical printing ribbon positioned between the back of said card receiver and said type bearing member. and automatic means adapted to control mechanism for shifting said ribbon laterally so as to change the colour of the portion thereof opposite said type bearing member.
43. In a time recorder, printing mechanism, a multi-coloured printing ribbon adapted to travel in operative relation thereto, said ribbon being mounted movable in a lateral direction with respect to its direction of travel, and means adapted to actuate said printing mechanism and to move said printing ribbon laterally so as to bring a portion thereof of diferent colour into operative position.
44. In a time recorder, printing mechanism, a multi-colour ed printing ribbon adapted to travel in operative relation thereto. said ribbon being mounted movable in a lateral direction with respect to its direction of travel, means adapted to move said ribbon laterally, automatic means adapted to set the said in operative condition, and manually actuated means adapted to actuate said printing mechanism and to move said printing ribbon laterally so as to bring a portion thereof of different color into operative position upon said frst-mentioned means being set in operative condition.
45. In a time recorder, printing mechanism, a multi-coloured printing ribbon adapted to travel in operative relation thereto, said ribbon being mounted movable in a lateral direction with respect to its direction of travel, means adapt ed to actuate said printing mechanism and to move said printing ribbon laterally so as to bring a portion thereof or different colour into operative position, and an automatically actuated visual indicator adapted to indicate the colour which the recorder is in condition to print.
46. In a time recorder, printing mechanism, a multi-coloured printing ribbon adapted to travel in operative relation thereto, said ribbon being mounted movable in a lateral direction with respect to its direction of travel, means; adapted to move said printing ribbon laterally, automati cally actuated means adapted to set said frst-mentioned means in operative condition, manually actuated means adapted to actuate said printing mechanism and to actuate said ribbon moving mechanism so as to bring a portion of said ribbon of different colour into operative position upon said ribbon moving mechanism being set in operative condiion, and an automatically actuated visual indicator adapted to indicate the colour which the recorder is in condition to print
47. In a time recorder in combination, a platen, printing mechanism, a multi-coloured ribbon interposed between said platen and printing mechanism, and automatic clock con.. trolled means for shifting said ribbon laterally with respect to its direction of travel in such manner as to change the colour of the portion of the ribbon in operative relation to said printing mechanism.
48. In a time recorder in combination a type bearing member, a multi-coloured printing ribbon, and automatic clock actuated means adapted to control mechanism for shifting sald ribbon laterally so as to change the colour of the portion thereof in operative relation to said type bearing member.
49. In a time recorder, a printing mechanism. a multicoloured printing ribbon adapted to travel in operative relation thereto, said ribbon being mounted movably in a lateral direction with respect to its direction of travel. means adapted to move sald printing ribbon laterally, auto-
matically actuated means adapted to set said first-mentioned means in operative condition, and manually actuated means adapted to actuate said printing mechanism and to actuate said ribbon moving mechanism so as to bring a portion of said ribbon of different color into operative relation to said printing mechanism upon said ribbon moving mechanism beprinting mechanism upon said
ing set in operative condition.
50. In a time recorder in combination, a type bearing mem. ber, a multi-coloured printing ribbon in operative relation thereto, means adapted to shift said ribbon in such manner as to bring a portion thereof of different colour in operative relation to said type bearing member, a clock actuated member, a lever controlled by said clock actuated member, a manually actuated lever, and means automatically con; trolled by said first-mentioned lever whereby, upon actuation thereof, a subsequent actuation of said manually controlled lever will shift said ribbon.
51. In a time recorder in combination, a type bearing mem. ber, a movable printing ribbon adapted to travel adjacent thereto, means adapted to shift said printing ribbon laterally with respect to its normal direction of travel, clockwork. a rotary member driven from said clockwork, a pivotally mounted lever adapted to be contracted and actuated by parts upon said rotary member, a hand lever, and means adapted to be set in operative condition by said first-men. tioned lever, said means being adapted, upon being set in operative condition, operatively to connect said hand lever and said shifting mechanism.
52. A time recorder including in combination time con. trolled printing mechanism, means for taking impressions from said printing mechanism upon a record surface, and means whereby the impressions made by said printing mechanism during different predetermined Intervals are made in different colours.
53. In a time recorder in combination, time controlled printing mechanism, means for taking impressions from said printing mechanism upon a record surface, and automatic means whereby irregular records formed by said impressions are made in a certain colour and regular records in a certain other colour.

No. 102,243. Shade Hanger. Porle abat-jour.


Oliver Linebarger, Charles A. Linebarger and John Freese, each an assignee of a third interest, all of Council Bluffs, Iowa, U.S.A., 27th November, 1906; 6 years. Flled 29th August, 1906. Receipt No. 139,066.
Claim.-In comblnation with a sultable hanger for sup. porting a shade roller and operating cords therefor, of a spring wire clamping device comprising outwardly projecting horizontal arms and an inwardly extending clamping yoke for holding the operating cords between the arms and yoke, and loops at the outer extremities of the arms and yoke to receive the cords when released from the clamping yoke, substantially as and for the purpose set forth.

\section*{No. 102,244. Receiving Device for Flectric Transmission. \\ Réceptcur pour transmission élcctrique.}

Isidor Kitsee, Philadelphia, Pennsylvania, U.S.A., 27th
November, 1906; 12 years. Filed 17th September, 1906. Receipt No. 139,587
Claim.-1. In combination with a receiving device connected to the line of transmission, a local circuit embracing air gap, a high tension current transforming said local circuit and air gap, a translating device in said local circuit, and means operatively connected to the movable
part of said recelving device to vary the fow of said high tension current through said air gap, in accordance with the impulses received.

2. In electric transmission, a device adapted to make record of the incoming impulses and adapted to disturb through its movement the balance of two air paths made conducting through the flow of a high tension current, in combination with a direct source of current and electromagnetic translating device operatively connected to said air paths.
3. In electric transmission means to receive the incoming impulses, means to translate sald impulses, said second means comprising a circuit including air gaps and a source of high tension current adapted to overbridge said air gaps, and a second circuit including a source of direct current and translating device, said direct current adapted to make circuit through aaid air gaps only when said air gaps are made conducting through the flow of the firstnamed source of current, the means to receive adapted to vary the resistance of said alr gaps.
4. In electric transmission, a receiving device in com. bination with means to translate the received impulses. said means embracing a circult comprising a source of interrupted or alternating current and two air gaps, a second circuit comprising a direct source of current and electromagnetic device, said second circuit operatively related to sald first circuit and said air gaps.
5. In telegraphy, means to translate the incoming inpulses, said means embracing a direct source of current, a circult including electro-magnetic device for said source, the circult conductively broken through resistance paths, sald resistance paths made conductive through the flow of a high tension current, in combination with a receiving device connected to the line of transmission and adapted through its movement to vary the resistance of said paths.
6. In electric transmission an electro-magnetic device provided with two coils connected to a source of unidirective current in a manner so as to oppose their respective magnetizing influence, two pairs of contacts, each pair included in a circuit comprising the source of current and one of said colls, the contacts of each pair adjusted so as to present an air gap between them, a source of alternating or interrupted current connected with one terminal to one contact of each of said pairs, and with the othor terminal to the other contact of each of said pairs, and means to vary the resistance of one or the other of the air gaps as to the flow of the alternating or interrupted current in accordance with the received impulses.
7. In telegraphy, two pairs of adjustable contacts, a support for each of said pairs, one contact of each palr connected in multiple arc to one side of a source of high I口nsion current and the other contact of each pair conlorcted in multiple arc to the other side of sald source of hish tonsion current, a source of direct current, an electromisnotir device provided with two colls connected to said
direct source so as to oppose their respective magnetizing influence, the source of current connected with one pole to one contact of each of said pair and connected with the other pole to the junction of said two colls, the free torminal of one of said coils connected to one contact of one of said pairs, and the free terminal of the second of said colls connected to one contact of the second of said pairs. each pair of contacts adjusted in a manner so as to form a path, non-conducting for a straight current, between same, in combination with means actuated by the incoming current to increase the resistance of one or the other of said paths to the flow of the high tension current in accordance with the received impulses.
8. In telegraphy, a siphon recorder provided with means to record the incoming messages, a local circuit including a uni-directive source of comparative low potential and an alternating or induced current of comparatively high potential, a translating device, circuits in operative rilation to both of said sources including paths non-conducting for said uni-directive current but made conducting for said current through the passage of the high tension current, and means operatively connected to the siphon re: corder to vary the resistance of one or the other af said naths.
9. In a device of the class described, means to actuate a localized electro-magnet, said means embracing a unidirective source of current, an electro-magnet and electrically interrupted circuit for same, a high tension current producing a conducting path between the interrupted parts of said circuit, and means co-acting with a receiving device to vary the resistance of the interrupted circuit.
10. Means to actuate a local electro-magnet with the aid of a receiving device connected to the line of transmission without direct contact with the circuit of said local mag. net, said means embracing two circuits, one including a source of high tension current and one including a source of uni-directive low tension current, the terminals of both circuits connected to conducting means presenting between them a path non-conducting for the uni-directive source but conducting for the high tension source, on electsomagnet, and means co-acting with the receiving instrument to vary the resistance of said path.
11. Means to alter the resistance of a local circuit in accordance with the incoming telegraphic impulses. aald means embracing a source of current of comparatively low potential, a circuit for same, parts of said circuit nonconductive to said source, a source of carrent of comparatively high notential reducing the resistance of said non-conductive parts and means responding to the incomink impulses to vary the flow of the high potential curreot through the non-conductive parts in accordance with the incoming imgulses.

No. 102,245. Pipe Coupling. Joint de tuyas.


William Pitt Frye Ayer, Winchester, Massachusetts, U.S.I. 27th November, 1907; 6 years. Filed 26th October. 1.... Reccipt No. 140,642.
Claim.-In a pipe coupling the combination with ith member a. provided with the forwardly projecting rounded surface \(a^{3}\), of the member b having an inner rounded surface to fit the surface \(a^{2}\), the tubular non-corrosive surface portion \(b^{\circ}\), and the annular channel \(b^{3}\), the tubular. non-corrosive. surface \(b^{+}\)being spun into contact with said laner roundia surface and said annular channel \(b^{\circ}\), substantially as des. cribed.

No. 102,246. Telegraph Cut-Ont.
Détente de télégraphe.


Fred A. Clogston, Reed, Montana, U.S.A., 27th November, 1906; 6 years. Flled 26th October, 1906. Receipt No. 140,652.
Claim.-1. In a cut-out of the character described, the combination with a series of pivoted devices each adapted to be electrically connected to a sounder, of a common return device movably mounted above and normally contacting with all of the pivoted devices, and means for actuating any one of sald pivoted devices to ralse the return device out of contact with the remaining pivoted devices
2. In a cut-out of the character described, the combination with a series of pivoted devices each adapted to be electrically connected to a sounder, of a spring pressed, electrically supported return device mounted above and normally contacting with all of the pivoted devices, and means for separately actuating any one of the pivoted devices to raise the return device out of contact with the remaining pivoted devices.
3. In a cut-out of the character described, the combination with a series of levers, each adapted to be connected to a sounder, of a return device normally supported by and elec:rically connected to all of the levers, and means for separately actuating any one of the levers to remove the return device from electrical connection with the remaining levers.
4. In a cut-out of the character described, the combination with a series of levers adapted to be electrically connected to a series of sounders, of a spring pressed return plate movably monnted adjacent to and normally electrically connected with all of the levers, and means for separately actuating any one of the levers to break the electrical connection between the return blade and the remaining levers.
5. A cut-out of th character described comprising a series of levers adapted to be electrically connected to a series of sounders and springs mounted upon the levers, a spring pressed return plate adapted to be electrically connected to a common return wire, sald plate normally contacting with all of the springs of the levers, and means for separately actuating any one of the levers to move the plate out of contact with the springs of the remaining levers.
6. A cut-out of the character described comprising a series of levers adapted to be electrically connected to a series of sounders and springs mounted upon the levers, a spring pressed return plate adapted to be electrically connected to a common return wire, sald plate normally contacting with all of the springs of the levers. eranks mounted within the casing, rods connecting each crank with one of the levers, and means for separately rotating the cranks to actuate any one of the levers to move the plate out of contact with the springs of the remaining levers.

\section*{No. 102,247. Floating Wier Head Gate.}

\section*{Barrière pour sc̀cherics flottantes.}

Harry K. Fairall, Howard L. Fairall and Jacob Kunzmann, co-inventors, all of Highland. California, U.S.A., 27th November, 1906; 6 years. Filed 13th September, 1906. Receipt No. 139,470.
Claim.-1. In a device of the class described, a vertically movable wier gate formed with an opening and a floating frame connected therewith.
2. In a device of the class described, a stationary spillway member, a vertically movable wier gate formed with an opening connected with said spillway and a floating frame connected with the wier gate.
3. In a device of the class described, a vertically movable wier gate formed with an opening and a floating frame adjustably connected therewith.

4. In a device of the class described, a stationary splliway member, a vertically movable wier gate formed with an opening, adjustably connected with said spillway and a floating trame connected with the wier gate.
5. In a device of the class described, a vertically movable wler gate formed with an opening, a floating frame connected therewith, a scale connected with the wier gate and a floatIng indicator adjacent to the scale.
6. In a device of the class described, a stationary spillway member, a vertically movable wier gate formed with an opening connected with said spillway, a floating frame connected with the wier gate, a scale connected with the wier gate and a floating indicator adjacent to the scale.
7. In a device of the class described, the combination of a vertically adjustable wier gate having an opening therein, a floating frame for supporting the wler gate, a tubular scale fixed to the wier gate, a float within the tubular scale and an indicator carried by the float.
8. In a device of the class described, a stationary spillway member, a spillway member hinged thereto for vertical movement and a floating wier gate frame connected with the hinged member of the spillway.
9. In a device of the class described, a stationary spillway member, a spillway member hinged thereto for vertical movement, a floating wier gate frame connected with the hinged member of the spillway and an adjustable wier gate in sald frame.
10. In a device of the class described, the combination of a stationary spillway member, a spillway member pivotally connected thereto, a spring tending to normally elevate the free ends of the movable spillway member and a floating wier gate device connected with the movable spillway member.
11. In a device of the class described, the combination of a stationary spiliway member, a spillway member pivotally connected thereto, a spring tending to normally eleyate the free ends of the movable spillway member. a floating wier gate device connected with the movable spillway member and stationary guides for preventing lateral movement of the movable spillway section.
12. In a device of the closso described, the combination of a stationary spillway member, a spillway member pivotally connected thereto, a floating wier gate device connected with the movable spillway member and stationary guldes for preventing lateral movement of the movable spillway section.
12. In a device of the class described, the combination nf a movable splliway, a wier gate frame connected therewith a wier gate adjustably mounted in the frame, a floating deVice adjacent to the rear gate frame, and means for vertically adjusting the wier gate frame relatively to the floating device.
14. In a device of the class described, the combination of a movable spillway, a wier gate frame connected therewith, a wier gate adjustably mounted in the frame. a floating device adjacent to the rear gate frame, means for vertically adjusting the wier gate irame, means for vertically adjusting the wier gate frame relative to the floating device and
means for automatically releasing the wier gate to parmit it to droy in the wier gate frame upon the submersion of the floating device.
15. In a device of the class rescribed, the comblnation of a spillway, capable of vertical movement. a wier gate frame pivotally connected therewith, a wier gate slidably mounted in the wier gate frame, a floating frame, means for vertically adjusting the wler gate frame relative to the floating frame, an auxiliary float carriod by the floating frame, a switch connected with sald float and arranged to detach the wier gate from the floating frame so that it may drop by gravity when the float frame is submerged.

No. 102,248. Spark Gap and Mrifiler.
Trou détincelles et appareil d'échappement silencicus.


Aaron E. Harrison, New York City, and Crowell M. Haslett. Jersey City, New Jersey. U.S.A., 27th November. 1906; 6 years. Filed 17th October, 1906. Recelpt No. 140,381.
Claim.-1. In a muffier, the combination of a member provided with inner and outer sholls, and further provided with means whereby a spark gap may be maintained within said inner shell, and a lid engaging said inner and outer shells and provided with portion for breaking joints betwet. sald lid and said inner and outer shells.
2. In a muffier, the combination of an inner shell of porous material, an outer shell encircling the same, and means for mounting spark terminals within said inner shell.
3. In an apparatus of the character described, the combination of a base portion provided with inner and outer shells integral therewith and concentric to each other, a lid provided with annular members for fitting sald inner and outer shells so as to break joints therebetween, and spark terminals for maintaining a static discharge within said inner shell.
4. In an apparatus of the character described, the combination of a hollow member for containing a snark gap, an outlet pipe connected with said hollow member, a mufflinp drum connected with said outlet pipe, and means for supplying air into said hollow member.
5. In an apparatus of the character described the combination of a hollow for containing a spark gap, means for admitting air thereinto, and a muffling drum connected with said member and receiving therefrom the air heated by the spark gap, said muffing drum being provided with means for discharging said heated air while preventing the sounds from escaping.
6. In an apparatus of the character described the combination of a hollow member, an outlet pipe connected therewith, a disc mounted upon said outlet pipe, a plurality of concentric cylinders connected with said disc and provided with holes staggered in relation to each other, another disc mounted upon said concentric cylinders, and means for admitting air to said hollow member.
. In an apparatus of the character described, the combination of a hollow member, a spark gap mounted therein, and drum separate from said receptacle and connected therewith. 8. In an apparatus of the character described, the combination of a hollow member, a spark gap mounted therein, and
a muffier drum connected with said hollow member, said muffler drum being provided with a plurality of outlets staggered relatively to each other.
9. In an apparatus of the character described, the comblnation of a hollow member, a spark gap mounted therein, a muffier drum communicating with said hollow member, said muffler drum having a plurality of walls provided with apertures, and fillings mounted intermediate of sald walls for the purpose of suppressing sounds.
10. In a muffler for spark gaps, the combination of a sound proof receptacle for contalning a spark gap, a muffler drum connected with said receptacle and provided with a plurality of outlets, and means for forcing a cooling medium through said receptacle and into said muffler drum.
11. In an apparatus of the character described, the combination of a hollow, means for conducting an air current therefrom, a spark gap mounted within said hollow member, and a muffler drum connected with said hollow member and provided with concentric walls, said walls having apertures staggered relatively to each other for the purpose of depressing sounds from said hollow member.

\section*{No. 102,249. Chicken Coop. Poulailler.}


Cicero Hoskins, Quincy, Illinols, U.S.A., 27th November, 1906; 6 years. Filed 6th October, 1906. Receipt No. 140,094.
Claim.-1. A knockdown coop formed of sheet metal sections, the end, front and rear sections formed with co-oderating hook flanges whereby said sections may be slidably connected, and having upturned base flanges, the bottom formed with downwardly extending flanges adapted to fit over the base flanges of said sections, a top section and means for locking the top section in place, substantially as described.
2. A knockdown coop formed of metallic sections, the end. front and rear sections formed with co-oderating hooked flanges along their vertical edges, whereby said sections may be slidably connected and formed with upturned flanges at their lower edges and the bottom section formed with a downwardly extending flange adapted to fit over the flanges on the lower edges of the end and front and rear sections. and the top section, substantially as described.
3. A knockdown coop formed of sheet metal sections, the end, front and rear sections formed with co-operating hook flanges whereby said sections may be slidably connected. and having upturned base flanges, the bottom formed with a downwardly extending flange adapted to fit over the basc flanges of said sections, a top section and the spring hooks carried by the end sections adapted to take over the edge of the top section when in place, whereby said top will be locked in place, substantially as described.
4. In a knockdown coop the combination of the end. front and rear sections and top and bottom sections removably secured together, said front section having an opening therein. guideways on said section, closures for the opening sliding in said guideways, and a pin or bar adapted to be passed through the guideways, to the rear of the closure in front of the opening, whereby said closure will be held from movement, substantially as described.

No. 102,250. Stall for Calves. Stalles pour caux.
Allen A. Lewis, Hazleton, Iowa, U.S.A., 27th November, 1906; 6 years. Filed 6th October, 1906 . Receipt No. \(140,097\). Claim.-1. In a device of the class described. a series of partitions forming stalls, means for securing the partitions in position relative to each other, a manger at the forward portion of the stalls, a retaining bar at the rear of the partitions, a rope attached to said retaining bar for raising the retaining bar from its lower limit of movement, and a second
rope secured to the retaining bar and designed to draw the bar to its lower inner limit of movement.

2. In a devic of the class described, a series of partitions forming stalls, weans for securing the partitions in position relative to each other, a manger at the forward portion of the stalls, a retaining bar at the rear of the partitions, a rope attached to said retaining bar for raising the retaining bar from its lower limit of movement, and a retaining device at the forward end of one of the partitions for securing the rope in various positions.
3. In a device of the class described, a series of partitions forming stalls, means for securing the partitions in position relative to each other, a manger at the forward portion of the stalls, a retaining bar at the rear of the partitions. a rope attached to said retaining bar for raising the retaining bar from its lower limit of movement, and a retaining device in front of one of said partitions for securing the second rope in position for retaining the retaining bar at its lower inner limit of movement.
4. In a device of the class described, a series of partitions formine stalls. means for securing the partitions in onsition relative to each other, a manger at the forward portion of the stalls. a retaining bar at the rear of the partitions. a rope attached to said retaining bar for raising the retaining bar from its lower limit of movement, a second rope secured to the retaining bar and designed to draw the bar to its lower inner limit of movement, and a retaining device at the forward and of no of the partitions for securing the rope in various positions.
5. In a device of the class described. a series of partitions forming stalls, means for securing the partitions in position relative to each other, a manger at the forward portion of the stalls, a retaining bar at the rear of the partitions a rope attached to said retaining bar for raising the retaining bar from its lower limit of movement, a second rope secured to the retaining bar and designed to draw the bar to its lower inner limit of movement. a retaining device at the forward end of one of the partitions for securing the rope in various positions, and a retaining device in front of one of said partitions for securing the second rope in position for retaining the retaining bar at its lower inner limit of movement.
6. In a device of the class described, a series of partitions forming stalls, means for securing the partitions in position relative to each other, a series of pivotally mounted supporting rods, attached to the rear of said partitions, a retaining device secured to the lower ends of said rods, a rope secured to said retaining device, passing over one of said partitions to the forward end of it, a retaining device for maintaining the rope in various positions, a second rope rope secured to said retaining device passing through one of sald partitions to a point in front of the partition, a retaining device for maintaining the rope in various positions, sald ropes and retaining devices being designed to support and secure said retaining bar in any position in its limit of movement.

\section*{No. 102,251. Photographing Telegraph.}

T'́légraphe à photographie.
Paul Ribbe, Berlin, Germany, 27th November, 1906; 6 years. Filed 1st August, 1906. Receipt No. 138,344.
Claim.-1. In a telautograph the combination with two moving screens at the sending and recelving stations respectively and each provided with a plurality of differently arranged apertures, of a radiophone at the sending station, means at the sending station for projecting rays of light
from an original through the path of the several apertures in the moving screen to said radiophone, so that only a

single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light correspond to points in concentric strips of the original, a telephone at the recelving station, means controlled by said telephone for projecting rays of light from a source of light through the path of the several apertures in the moving screen to a sensitive plate or the like, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light act upon points in concentric strips of the sensitive plate or the like, a line of transmission between the sending and recelving stations and controlled by said radiophone for sending electrical impulses through said telephone, and means for synchroniding said two moving screens by means of sald line of transmission.
2. In a telautograph the combination with two rotatable discs at the sending and recelving stations respectively, and each provided with a plurallty of differently arranged apertures, of two clockworks adapted to drive said two rotatable discs, a radiophone at the sending station. means at the sending station for projecting rays of light from an original through the path of the several apertures in the rotatable disc to said radiophone, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light correspond to points in concentric strips of the original, a telephone at the receiving station. means controlled by said telephone for projecting rays of light from a source of light through the path of the several apertures in the rotatable disc to a sensitive plate or the like, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light act upon points in concentric strips of the sensitive plate or the like, a line of transmission between the sending and receiving stations and controlled by said radiophone for sending electrical impulses through said telephone, and means tor synchronizing sald two rotatable discs by means of said line of transmission.
3. In a telautograph the combination with two rotatable discs at the sending and receiving stations respectively and each provided with a plurality of radial slits within two concentric circles, a plurality of differently arranged apertures within two other concentric circles and a plurallty of armatures on the periphery. two clockworks driving said two rotatable discs, a first and a second selenium cells at the sending station, means at the sending station for projecting rays of light from a source of light through the path of the several radial slits in the rotatable disc to said first selenium cell, two pairs of electro-magnets at the sending and recelving stations respectively and the two opposite electro-magnets of each pair disposed on both sides of the rotatable disc and adjacent to the path of its armatures. circuits at the sending station and comprising sald first anil second selenium cells and the pair of electro-magnets. means at the sending station for projecting rays of light from an original through the path of the several apertures in the rotatable disc to said second selenium cell, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light correspond to points in concentric strips of the original, the radial slips in the rotatable disc being so disposed that the rays of light emanating from the source of light can pass through either of them only if no ray of light passes through either of the aper-
tures, a telephone at the recelving station, means controlled by sald telephone for projecting rays of light from a source of light through the path of the several apertures in the rotatable disc to a sensitive plate or the like, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shiftling rays of light act upon points in consecutive strips of the sensitive plate or the like, circults at the receiving station and comprising said telephone and the pair of electro-magnets, and a line of transmission connecting together said circuits at the sending and receiving stations respectively.
4. In a telautograph the combination with two rotatable discs at two different stations respectively and each provided with a plurality of radial slits within two concentric circles, a plurality of differently arranged apertures within two other concentric circles and a plurality of armatures on the periphery, two clockworks driving said two rotatable discs, two pairs of selenium cells at a distance from said two rotatable discs, means at each station for projecting rays of light from a source of light through the path of the several radial slits in the rotatable disc to one of the two selenium cells, two pairs of opposite electro-magnets on both sides of said two rotatable discs and adjacent to the paths of their armatures, means at each station for projecting rays of light from an original through the path of the several apertures in the rotatable disc to the other of the two selenium cells, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rajs of light correspond to points in concentric strips of the orisinal, two telephones at both stations. means at each station controlled by the telephone to projecting rays of light from a source of light through the path of the several apertures in the rotatable disc to a sensitive plate or the like, so that only a single shifting part of the rays of light is permitted to pass through each of the concentric consecutive apertures and the several shifting rays of light act upon points in consecutive strips of the sensitive plate or the like, circuits at each station and comprising the tclephone, the two selenium cells and the pair of electromagnets, a line of transmission connecting together said circuits at both stations, and means for turning either station into a sending station and the other one into a recelving station, the radial slits in said two rotatable discs being so disposed that the rays of light sent from a source of light to one selenfum cell can pass through either of them only if no ray of light passes through either of the apertures.
5. In a synchronizing system the combination with a rotatable disc disposed at one station and provided with a radial slit and on its periphery with a sheet iron armature, of means for driving said rotatable disc. two opposite electromagnets on both sides of said rotatable disc and adjacent to the path of its armature, an adjustable tube on one side of said rotatable disc and closed at the end adjacent to the path of the radial slit with a bottom provided with a slit. a source of light and a reflector at the other end of sald tube. a lens and a cylinder lens in said tube and adapted to send a broad beam of light through the slits in the bottom and in the rotatable disc, a tubular casing on the other side of said rotatable disc opposite to said tube, a selenium cell in said tubular casing. a conductor connecting said selenium cell with the ground, lines connecting in serles said selpnium cell and said two electro-magnets, a second rotatable disc at another station and provided on its periphery with a sheet iron armature, means for driving said second rotatable disc. two further opposite electro-magnets on both sides of said second rotatable disc and adjacent to the path of its armature, a second conductor connecting in series said two further opposite electro-magnets with the ground. a line of transmission connecting said electro-magnets at both stations. and a battery for energizing said conductors and said line of transmission.
6. In a synchronizing system the combination with a rotatable disc disposed at one station and provided with a plurallty of radial slits and on tts periphery with a plurality of sheet iron armatures, of means for driving sald rotatable disc, two opposite electro-magnets on both sides of sald rotatable disc and adjacent to the path of Its armatures, a tube on one side of said rotatable disc and closed at the end adjacent to the path of the radial slits with a bottom provided with a slit, a source of light and a reffector at the other end of said tube, a lens and a cylinder lens in said tube and adapted to send a broad beam of light through the slits in the bottom and in the rotatable disc, a tubular casing on the other side of said rotatable disc ppposite in said tube, a selenium celi in said tubular casing. a conductor connecting said selenium cell with the ground. lines connecting in series said selenium cell and said two electro-magnets, a second rotatable disc at another station and provided on its periphery with a plurality of showt iron armatures, means for driving said second rotatable dise, two further opposite eloctro-magnets on both sides of said second rotatable disc and adjacent to the path
of its armatures, a second conductor connecting in series said two further opposite electro-magnets with the ground, a lise of transmission connecting said electro-magnets at both stations, and a battery for energizing said conductors and said line of transmission.

No. 102,252. Photographing Telegraph. Télégraphe d photographie.


Paul Ribbe, Berlin, Germany, 2ith November, 1906 :
years. Filed 2nd August. 1906. Recelpt No. 138.364.
Claim.-1. In a telautograph, the combination with two endless bands at the sending and receiving stations respectively and each provided with a plurality of differently arranged apertures, of two clockworks adapted to drive said two endless bands, a radiophone at the sending station. means at the sending station for projecting rays of light from an original through the path of the several apertures in the endless band to said radiophone, so that only a siagle shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light correspond to points in parallel adjoining strips of the original, a telephone at the recelving station, means controlled by said telephone for projecting rays of light from a source of light through the path of the several apertures in the endless band to a sensitive plate or the like, so that onlv a single shifting part of the rays of light is permitted to pass through each of the conorcutive apertures and the several shifting rays of light act upon points in parallel adjoil!ng strips of the sensitive plate or the like, a linc of transinission between the sending and recelving stations and controlled by sald radiophone for sending electrical impulses through said telephone, and means for synchronizing said two endless bands by means of said line of transmission.
2. In a telautograph, the combination with two rotatable discs at the sending and receiving stations respectively and each provided with a plurality of armatures on the periphery, and the disc at the sending station being moreover provided with a jlurality of radial slits, of two endless band at the sending and recelving stations respectively and each provided with a plurality of differently arranged apertures, two clock works driving said two rotatable dises and said two endless bands, a first and a second selenium cells at the sending station, means at the sending station for projecting rays of light from a source of light througt the path of the radial slits in the rotatable disc to sald first selenium cell, two electro-magnets at the sending and recelving stations respectively and adjacent to the patha of the armatures on said two rotatable discs, clreutts at the sending station and comprising said first and seooad selenlum cells and the electro-magnet, means at the sedding station for projecting rays of light from an origisal through the path of the several apertures in the endiess band to said second selenium cell, so that only a masle shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light correspond to points in parallel adfoining strips of the original, the apertures in the eniless band being 80 disposed that only if no ray of light passes through either of them, the rays of light emanatiag from the respective source of light are permitted to pass through either of the radial slits in the rotatable disc. a telephonc at the recelving station, means controlled by said telephone for profecting rays of light from a source of light through the path of the several apertures in the eadless bard to a sensitive plate or the like. so that only a single shifting part of the rays of light is pernitied to
pass through each of the consecutive apertures and the several shifting rays of light act upon points in consecutive strips of the sensitive plate or the like, circuits at the receiving station and comprising said telephone and the elec-tro-magnet, and a line of transmission connecting together said circuits at the sending and recelving stations respectively.
3. In a telautograph, the combination with two rotatable discs, two driving pulleys and two pluralities of guiding pulleys at the sending and recelving stations respectively. the two rotatable discs being each provided with a plurality of armatures on the periphery and the disc at the sending station being moreover provided with a plurality of radial slits, of two endless bands passing over said two driving pulleys and said two pluralities of guiding pulleys and each provided with holes along the edges and with a plurality of diferently arranged apertures, said two driving pulleys and sald two pluralities of guiding pulleys having each series of pins along the periphery for engaging in the holes of sald two endless bands, two clockworks driving said two rotatable discs and said two dríving pulleys, a first and a second selenium cells at the sending station, means at the sending station for projecting rays nf light from a source of light through the path of the radial slits in the rotatable disc through the path of the radial slits in the rotatable disc to said first selenium cell, two electro-magnets at the sending and receiving stations respectively and adjacent to the paths of the armatures on said two rotatable discs, circuits at the sending station and comprising said first and second selenium cells and the electro-magnet, means at the sending station for projecting rays of light from an original through the path of the several apertures in the endless band to said second selenium cell, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light correspond to points in parallel adjoining strips of the original, the apertures in the endless band being so disposed, that only if no ray of light passes through either of them, the rays of light emanating from the respective source of light are permitted to pass through either of the radial slits in the rotatable disc, a telephone at the recelving station. means controlled by said telephone for projecting rays of light from a source of light through the path of the several apertures in the endless band to a sensitive plate or the like, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light act upon points in consecutive strips of the sensitive plate or the like, circuit at the receiving station and comprising said telephone and the electro-magnet, and a line of transmission connecting together said circuits at the sending and receiving stations respectively.
4. In a telautograph the combination with two rotatable discs at two different stations respectively and each provided with a plurality of radial slits and with a plurality of armatures on the periphery, of two driving pulleys and two pluralities of guiding pulleys at both stations respectively and each pulley provided with pins along the periphery, two endless bands passing over said two driving pulleys and said two pluralities of guiding pulleys and each provided with holes to co-operate with the pins of the pulleys and each provided with a plurality of differently arranged apertures, two clockworks driving sald two rotatable discs and said two driving pulleys, two selenium cells at a distance from sald two rotatable discs, two further selenium cells at a distance from said two endless bands, means at each station for projecting rays of light from a source of light through the path of the several radial slits in the rotatable disc to the respective selenium cell. two electro-magnets at both stations and adjacent to the paths of the armatures on said two rotatable discs, means at each station for projecting rays of light from an original through the path of the several apertures in the endless band to the respective selenium cell, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light correspond to points in parallel adjoining strips of the original, two telephones at both stations, means at each station controlled by the telephore for projecting rays of light from a source of light through the path of the several apertures in the endless band to a sensitive plate or the like, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light act upon points in consecutive strips of the sensitive plate or the like, circuits at each station and comprising the telephone, the two selenium cells and the electro-magnet, a line of trans, mission connecting together said circuits at both stations, and means for turning either station into a sending station and the other one into a recelving station, the apertures in the two endless bands being so disposed that only if no ray of light passes through either of them, the rays of light emanating from the respective source of light are permitted to pass through either of the radial slits in the rotatable diec.
5. In a telautograph the combination with two rotatable discs at the sending and recelving stations respectively and each provided with a plunality of armatures on the periphery and the disc at the sending station being moreover provided with a plurality of radial slits, of two endless bands at the sending and receiving stations respectively and each provided with a plurality of differently arranged epertures. two clockworks driving said two rotatable discs and said two ondless bands, a first and a second selenium cells at the sending station, means at the sending station for projecting rays of light from a source of light through the path of the radial slits in the rotatable disc to sald first selenium cell, two pairs of electro-magnets at the sending and recelving stations respectively and the two opposite electro-magnets of each pair disposed on both sides of the rotatable disc and adjacent to the path of its armatures, circuits at the sending station and comprising said first and second selenium cells and the pair of electro-magnets, means at the sending station for projecting rays of light from an original through the path of the several apertures in the endless band to said second selenium cell, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light correspond to points in parallel adjoining strips of the original. the aper tures in the endless band being so disposed that only if no ray of light passes through either of them, the rays of light emanating from the respective source of light are permitted to pass through either of the radial slits in the rotatable disc, a telephone at the receiving station, means controlled by said telephone for projecting rays of light from a source of light through the path of the several apertures in the endless band to a sensitive plate or the like, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light act upon points in consecutive strips of the sensitive plate or the like, circuits at the recelving station and comprising said telephone and the pair of electromagnets, and a line of transmission connecting together said circuits at the sending and receiving stations respectively.
6. In a telautograph the combination with two rotatable discs, two driving pulleys and two pluralities of guiding pulleys at the sending and receiving stations respectively, the two rotatable discs being each provided with a plurality of armatures on the periphery and the disc at the sending station being moreover provided with a plurality of radial slits, of two endless bands passing over said two driving pulleys and said two pluralities of guiding pulleys and each provided with holes along the edges and with a plurality of differently arranged apertures, said two driving pulleys and said two pluralities of guiding pulleys having each series of pins along the periphery for engaging in the holes of said two endless bands, two clockworks driving said two rotatable discs and said two driving pulleys, a first and a second selenium cells at the sending station, means at the sending station for projecting rays of light from a source of light through the path of the radial slits in the rotatable disc to said first selenium cell, two pairs of electro-magnets at the sending and recelving stations respectively and the two opposite electro-magnets of each pair disposed on both sides of the rotatable disc and adjacent to the path of its armatures, circuits at the sending station and comprising said first and second selenium cells and the pair of electro-magnets, means at the sending station for projecting rays of light from an original through the path of the several apertures in the endless band to said second selenium cell, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light corespond to points in parallel adjoining strips of the original, the apertures in the endless band being so disposed that only if no ray of light passes through either of them, the rays of light emanating from the respective source of light are permitted to pass through either of the radial slits in the rotatable disc, a telephone at the receiving station, means controlled by said telephone for projecting rays of light from a source of light through the path of the geveral apertures in the endless band to a sensitive plate or the like, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light act upon points in consecutive strips of the sensitive plate or the like, circuits at the receiving station and comprising said telephone and the pair of electro-magnets, and a line of transmission connecting together sald circuits at the sending and receiving stations respectively.
7. In a telautograph the combination with two rotatable discs at two different stations respectively and each provided with a plurally of radial slits and with a plurality of armatures on the periphery, of two driving pulleys and two pluralities of guiding pulleys at both stations respectively. and each pulley provided with pins along the periphery, two endless bands passing over said two driving pulleys and said two pluralities of guiding pulleys and each provided with holes to co-operate with the pins of the pulleys and each provided with a plurality of differently arranged apertures,
two clockworks driving said two rotatable discs and said two driving pulleys. two selenium cells at a distance from said two rotatable dises. two further selenium cells at a distance from said two endless bands, means at each station for projrcting rays of light from a source of light through the path of the several radial slits in the rotatable disc to the respective selenium cell, two pairs of electro-magnets on both sides of said two rotatable discs and adjacent to the paths of their armatures, means at each station for projecting rays of light from an original through the path of the several apertures in the endless band to the respective sclenium cell, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light correspond to points in parallel adjoining strips of the original, two telephones at both stations, means at each station controlled by the telephone for projecting rays of light from a source of light through the path of the several apertures in the endless band to a sensitive plate or the like, so that only a single shifting part of the rays of light is permitted to pass through each of the consecutive apertures and the several shifting rays of light act upon points in consecutive strips of the sensitive plate or the like, cicults at each station and comprising the telephone, the two selenium cells and the pair of electromagnets, a line of transmission connecting together said circuits at both stations, and means for turning either station into a sending station and the other one into a recelving station, the apertures in the two endless bands being so disposed, that only if no ray of light passes through either of them, the rays of light emanating from the respective source of light are permitted to pass through either of the radial slits in the rotatable disc.

No. 102,253. Spinning Machine. Métier à fler.


Henry Ryder. New York City. New York. U.S.A., 2ith November. 1906; 6 years. Flled 22nd October, 1906. Receipt No. 140,507.
Claim.-1. A spinning machine comprising means for feeding fibre in straight fibres, means for fceding a wire and means for spinning said fibres parallel to each other spirally around said wire.
2. A spinning machine comprising a spindle, means for freding a wire to said spindle, means for feeding straight fibres to said spindle and means for spinning said flbres spirally parallel to each other around said wire.
3. A spinning machine comprising a spindle, means for feeding a wire to said spindle, means for feriing straight fibres to said spindle, means for keeping said wire and sald fibres separate until they reach said spindle and means for spinning said fibres parallel to each other spirally around said wire.
4. A spinning machine comprising a wire spool. a fler, a spindle. a driving shaft. a main shaft and means for rotating said wire spool, said filer and sald spindle with the same speed of rotation.
5. A spinning machine comprising a spindle, means for reeding separately to said spindle. a wire and parallel fibris. means for spinning said fibres parallel to each other spirally a round said wire, and means for giving to the yarn thus spun any desired amount of tension.
f. A spinning marhine comprising a spindle. means for freding separately to said spindle a wire and parallel fibres. means for spinning said flbres parallel to each other spirally around said untwisted wire, and means for winding the yarn thiss spun onto a yarn spool.
7. A spinning machine comprising a spindle. means for fonding separately to sald spindle a wire and parallel fibres, means for spimming sad fibres parallel to cach of ner splally around said wire, means for giving any desired tension to the yarn thus spun and means for winding said yarn cevenly on a yarn spool.

No. 102,254. Method of Maldigs Fillers Rer
Méthode de fuire les remplissures pour cigares.


Peter August Ediard Scheer, Hamburg, Germany, 27th No vember, 1906; 6 years. Filed 2nd October, 1906. Recelpt No. 139,897 .
Claim.-1. In a device for producing fillers for cigars the combination of a rolling plate and an apron attached thereto, with a ledge hollowed out at one edge to suit the shape of a clgar and serving to guide the filler when rolled on the rolling plate.
2. In a device for producing fllers for cigars the combination of a rolling plate and an apron attached thereto, with a ledge hollowed out at one edge to suit the shape of a cigar and means to pavallel guide the ledge across the rolling plate.
3. In a device for producing fllers for clgars the combination of a rolling plate and an apron attached thereto, with a ledge hollowed out at one edge to suit the shape of a cigar and a frame carrying such ledge and guided on parallel edges of the rolling plate, to secure parallel motion of the ledge when moved across the rolling plate.
4. In a device for producing fillers for cigars the combination of a rolling plate constructed as a sliding frame and an apron attached thereto at one end, with a second frame carrying a ledge hollowed out to suit the shape of a cigar. a clamping ledge rotatabiy attached to the rolling plate and adapted to clamp the other end of the apron against the and adapted to clamp rolling plate.
5. In a device for producing fillers for cigars the combination of a rolling plate constructed as a sliding frame an. an apron attached thereto at one end, with a second irame carrying a ledge hollowed out to suit the shape of a cigar and a trough arranged on the rolling plate and adapted to be filled with tobacco, when lined with the apron.

\section*{No. 102,255. Chair Seat. Siègc de fautcuil.}

Henry Harrison Schrop, Detroit, Michigan, U.S.A., 27th November 1906; 6 years. Filed 4th Scptember, 1906. Receipt No. 139,225 .
Claim.-1. A material for chair seats having in conbination a sheet of metal with a covering of texoderm over the face and lapping over the edges, substantially as describel.

2. A material for seats having in combination a plate o: metal having its surface covered with a paint and a rovering of texaderm cemented to the painted plate, substautially as described.

No. 102,256. Cattle Stanchion. Etançon pour bćtail.


Pearl B. Trewer and John T. Trewer, co-inventors, both of Mt. Morris, New York, U.S.A., 27th November, 1906; 6 years. Filed 3rd October. 1906. Receipt No. 140.006.
Claim.-A cattle stanchion, comprising a securing frame pivotally mounted in a supporting frame, said securing frame comprising upper and lower cross heads, a fixed standard connected to one end of each of said crossheads, a movable standard pivotally connected at its lower end to said lower crosshead, a latch bar pivotally mounted to said upper crosshead whereby when the stanchion is open said latch bar will engage the supporting frame and hold said stanchion in position, and a spring projected locking bolt arranged in said movable stanchion to engage said latch bar and thereby lock said stanchion in closed or operative position, substantially as described.

No. 102,257. Curtain Pole Bracket.
Console pour poteaux de rideaux.
Fig. 1


Isaac H. Webb, Emlenton, Pennsylvania. U.S.A.. 27th November. 1906; 6 years. Filed 4th September, 19\%. Receipt No. 139,230
Claim.-A new article of manufacture comprising a curtain pole bracket and pole and ornament formed of a single plece of turned wood, the connected ends of the bracket and ornament being partly separated by a well defined groove formed during the turning operation and leaving a relatively small connection between the two which may be readily severed to permit separation of the parts. the onposite ends of said article having flattened faces from which project securing members, and the bracket being shaped to form a support for the pole and ornament and pole, substantially as described.

No. 102,258. Curtain Fixture. Attache de rideak.


Burroughs Agin and George B. Thompson, co-inventors both of Kansas City, Missouri, U.S.A., 27 th November, 1906; 6 years. Filed 6th October, 1906. Receipt No. 140,095.
Claim.-1. A curtain fixture consisting of a pair of supporting plates adapted to engage the sides of a window casing, a telescopic rod having its outer ends bearing against said plates. a section forming part of said rod provided at its inner end with an integral flange, a second section having its inner end arranged within the first-mentioned section, an expansion spring encircling the second section and bearing at one end against the flange, a collar adjustably mounted upon the second section for adjusting the length of the rod and regulating the tension of the spring, and brackets adjustably secured to the supporting plates.
2. A curtain fixture consisting of a pair of supporting plates adapted to engage the sides of a window casing, a telescopic rod having its outer ends bearing against the supporting plates, a section forming part of said rod provided at its inner end with a flange, a second section having its inner end adjustably arranged within the first-mentioned section, an expansion spring encircling the second section and bearing at one end against the flange, means carried by the second section for adjusting the length of the rod and regulating the tension of the spring, and brackets secured to the supporting plates.

No. 102,259. Curtain Fastener. Attache de rideau.


Nana A. Ferres, Johnstown, New York, U.S.A., 27th November, 1906; 6 years. Filed 11th October, 1906. Recelpt No. 140,208 .
Claim.-1. The combination with a metallic ring having portions bent to form aligning loops, of a pin having an eyt at one end disposed with its eye between the loops, a pivot pin engaged in the loops and in the eye for pivotal movement of the first-named pin with respect to the ring. and a retainer carried by the ring and arranged for the reception of the first-named Din to hold the latter against pivotal movement.

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2. A device of the class described comprising a ring formed of metal and having a longitudinal slot therein, the metal on opposite sides of the slot being bent outwardly to form loops, a pin having an eye at one end disposed with its eye between the loops, a plvot pin engaged in the loops and in the eye for pivotal movement of the firstnamed pin with respect to the ring, and a retainer slidably engaged with the ring and having a portion bent to form a rib and resultant passage, said passage being arranged for the reception of the free end portion of the first-named pin, to hold the latter against movement.

No. 102,260. Curtain Fixture. Attache de rideau.


Edwin F. Henderson, West Allis, Wisconsin, U.S.A., 27th November, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,868 .
Cluim.-The combination with a window shade secured at one end to the top of a window and provided at its other end with a spring roller located at the bottom of the shade, of a bottom curtain fixture located beneath the shade and spaced from and arranged entirely out of contact with the same, and composed of side rods provided at their outer euds with bearings receiving the journals of the roller, a central tubular member adjustably recelving the rods to vary the length of the curtain fixture, adjusting means \(10-\) cated at the ends of the tubular member and engaging the rods for rigidly securing the latter in their adjustment, and a central handle also connceted with the tubular member and located between the said adjusting means.

No. 102,261. Window Screen. Ecran de fenêtre.


Edwin A. Reitz, Reynoldsville, Penngylvania, U.S.A.. 27th November, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,831 .
Claim.-A window screen formed in laterally adjustable serctions, the frames of said sections having recessed over-
lapping inner ends, overlapping sections of netting secured to said frame sections, longitudinally slotted locking plates arranged over the overlapping ends of the frame sections, clamping screws arranged in the slots of said locking plates to lock said sections in their laterally adjusted positions, and means to hold said sections in sliding engagement with the sides of the window frame, sald means comprising sheet metal guide strips, one of which is bent to form a longitudinally grooved strip or section secured to the screen, and the other of which is bent to form a tongue strip or section adapted to be secured to the window frame and to receive tho grooved strip or section of the screen, whereby the latter is slidably connected and supported in the window frame.

No. 102,262. Window Screen Fastener. Atlache ecran iffentere.


Byrd C. Rockwell, Malvern, Arkansas, U.S.A., 27th November, 1906; 6 years. Filed 10th October, 1906. Receipt No. 140.185.
Claim.-1. In an adjustable screen, a pair of longitudinaliy adjustable rails having oppositely divergent kerfs, the kurfs of each rail terminating in a pair of slots extending through the rail and separated by a Qongue, and a clip siated in said slots in engagement with the tongue and having divergent portions for engagement with the corresponding kerfs of the adjacent rail.
2. In an adjustable screen, a pair of longitudinally adjustable rails having opposing faces adapted to contact with each other, said rails being provided with oppositely diverging kerfs and with slots extending through the rails at the ends of said kerfs, in combination with clips bodily seated in said slots, secured against rocking movement, and provided each with diverging portions engaging the kerfs of the adjacent rail.
3. In an adjustable screen, a rail having divergent keris in the face thereof, an engaging rail having a clip seat "xtending therethrough and a clip engaging said seat, secur"d against rocking movement, and having divergent portions engaging the kerfs of the opposite rail.
4. In an adjustable screen, a pair of relatively movable screen sections each comprising a frame and a sheet of reticulated material, and sheet metal binding members for the inner edges of the reticled material, said binding members having transverse incisions adjacent to their ands and the latter attached to the screen frame, the body portions of the members between the incisions being angularly extended to lie in the path of each other to form stops and having their outer edges overriding the surface of the material of the adjacent screen section.
5. In a screen, a frame and a shect of reticulated malerial carried thereby, a binding member for one edge of the material, longitudinal kerfs formed in a pair of the frame bars and constituting seats for the adjacent edzes of the material. said kerfs terminating in saats fo: thi ends of the binding member,, and means for securing the latter in place.
6. In an adjustable screen, a pair of relatively and longitudinally adjustable rails, one of sald rails having a pair of divergent longitudinal keris and the other a longitudinal clip seat extending through the body of the rall, a clip having a.body portion engaging said seat and projecting divergent portions for engagement with the kerts. and means for securing said clip against rocking movement.
7. In an adjustable screen, a pair of relatively and longitudinally adjustable rails, one of said rails having a pair of divergent longitudinal kerfs and the other a pair of slots producing an intermediate tongue, and a cllp having a body portion engaging. said tongue and divergent portions for engagement with the kerfs.
8. In an adjustable screen, a rail having a pair of divergent keris terminating in a clip seat extending through the body of the rail, a clip having a body portion engaging the seat and divergent portions projecting beyond one face of the rail, and means for securing said clip against rocking movement.

No. 102,263. Metal Screen. Ecran en métal.


Henry W. Watson and Wllliam w. Watson, co-inventors, both of Jamestown, New York, U.S.A.. 27th November, 1906; 6 years. Filed 17th October, 1906. Receipt No 140,400.
Claim.-1. In a metal screen, a frame, the side and end pieces of said frame each consisting of a solid tube, a channel along said tube, screen wire and a locking means to hold said wire in said channel.
2. In a metal screen, a erame, the side and end pieces of said frame each composed of strigs of bendable sheet metal formed in a brazed tube. a channel along said tube, screen wire, and a locking strip to hold said wire in said channel.
3. In a metal screen, a frame, the side and end pieces of the irame each consisting of a strip of sheet metal formed in a tube, a lengthwise flange beside said tube formed by the lapped edges of the said strip, screen wire, and a retaining strip to fit said channel.
4. In a metal screen, a frame, the side and end picces of said frame each consisting of a tube formed from strips of sheet metal, the lengthwise edges of said strip lapped and formed in a continuous channel around the inner edge of said frame, screen wire, and retaining strips to fit said channel and hold said screen wire.
5. In a metal screen, a frame, the side and end pieces of said frame each composed of strips of metal formed in a tube with lapped edges, said lapped cdges brazed together and formed in a channel along said tube, screen wire. and a locking strip to hold said wire in said channel.
6. In a metal screen, a frame, each side of said frame formed by a strip of sheet metal having the central portion formed in a tube and the edge portions of said sheet metal united by solder and shaped in a lengthwise angular flange to form a channel with one side of said tube, screen wire, and a retaining strip to fit said channel.
7. In a metal screen, a frame consisting of side and end pieces having a channel therein, screen wire, and metallic tube locking strips for holding said wire in said channel.
8. In a screen window, a frame, consisting of side and end pieces having a lengthwise recess along the same, screen wire, and a tubular spring locking said strip for holding sald wire in said recess.
9. In a window screen, the combination of the frame. with a groove enlarging inwardly, wire fabrlc, and slotted
tubes forming a filling piece adapted to hold said wire in said groove
lo. In a window screen, a frame consisting of sheet metal strips bent in rectangular form, the edges of said strips formed in a channel, screen wire, a cleft tube to fit said channel and secure said screen wire, and locking projections on the walls of said channel for said retaining tube.
11. In a window screen, a frame consisting of sheet metal strips bent in rectangular form, the edges of said strips formed in a lengthwise recess, one end of said strips at each irame corner cut away at a mitral angle and the other uncut end inserted and soldered within said mitered end to form the correr, screen wire, and a retaining strip for said wire \(\mathrm{in}_{\mathrm{n}}\) said recess.
12. In a window screen, a frame consisting of sheet metal strips bent in tubular form, the lengthwise edges of sald strips formed in a recess, a sheet metal channel strip enclosed between said edges to reinforce and brace said recess. projections on the outer and inner walls of said recess. a screen wire, and a locking strip to fit said recess and hold said wire within said locking projections.
13 In a window screen, a frame, the slde and end pieces of said frame consisting of strips of sheet metal formed in a tube, a channel formed along the inner side of said tube, the lateral tubular pieces of the frame also formed in a channel along their outer edges, screen wire, and retaining strips to fit said inner recess and hold the wire.
14 In a window screen, a frame, the side and end pieces of said frame consisting of sheet metal formed in a tube, a continuous channel along the inner edges of said tube and also channels formed in the outer edges of the lateral pieces of the frame, said outer channel parts extending at each corner of the frame within the opposing end, said cpposing ends cut away to form channels the full length of the screen, screen wire and retaining strips to fit sald inner channel and hold said wirc.
15. In combination with a hollow metallic frame having siaced slots therein, bowed springs of uniform width throughout having their ends bent at substantially right a gles and engaging said frame adjacent said slots and sl ding in and out of the same, to prevent the disengageanent of said springs when in a normal bowed state and to a!low of removal thereof when the springs are in a flat state.

No. 102,264. Guide for Sliding Screens.
Guide pour glisser les écrans.


Henry W. Watson and William W. Watson, co-inventors, both of Jamestown, New York, U.S.A., 27th November, 1906; 6 years Filed 17th October, 1906. Receipt No. 140,401.
(iaim.-1. In sllding ways for screens and the like, a woolen strip, a metal covering for one edge of said strip and attached to the same, and a portion of said strip left lincovered by said metal for fitting to a support.
2. In a guide strip for sliding screens and the like, a wooden strip having a round beaded edge and a supporting base, and a close sheet metal covering pressed onto said b ading, substantially as and for the purpose set forth.
3. A gulde strip for sliding screens comprising a wooden strip 10, a bead 11 on one edge of sald strip, and a base portion 17, a sheet metal covering 12 for sald bead having holes 13 therein for attaching said guide strip to a support

No. 102,265. Alloy of Iron and Hydrogen. Alliage de fer et hydranènc.

Harleston Corbett Gesner, Brooklyn, assignee of Augusto Bontempl, New York City, both in New York, U.S.A 27th November. 1906; 6 years. Filed 9th August, 1906. Receipt No. 138,546.
Claim.-1. An article consisting of an alloy of iron and hydogen impregnated with a metalliferous, material, as set farth.
2. An article conslsting of an alloy of iron and hydrogen impregnated with a relatively volatile metalliferous material, as set forth.
3. An article consisting of particles of an alloy of iron and hydrogen compressed and agglomerated into a strong coherent body, said body impregnated with a metalliferous material, as set forth.
4. An article consisting of a body of agglomerated particles of an alloy of Iron and hydrogen. Impregnated with a metalliferous material of sultable electrical conductivity, as set forth.
5. An article consisting of an alloy of iron and hydrogen impregnated with a metalliferous material and permeated with an inert fller, as set forth.
6. The process of producing coherent bodies of an iron hydrogen alloy, which consists in incorporatiog a metalliferous material with a mass of particles of the alloy, as set forth.
7. The process of producing coherent bodies of an fron hydrogen alloy, which consists in heating a mass of particles of the alloy and impregnating the mass with the vapours of a relatively volatile metalliferous material, as set forth.
8. The process of producing coherent bodies of an iron hydrogen alloy, which consists in mixing particles of the alloy with a relatively volatile metalliferous material, shaping the mixture, and heating it to a temperature sufficient to volatilize the added material, as set forth.
9. The process of producing non-porous coherent bodies of an iron hydrogen alloy. which consists in impregnating the alloy with a metalliferous material, and saturating-the product with an inert fller, as set forth.
10. The process of impregnating an alloy of iron and hydrogen with a volatile metalliferous material. which consists in placing the materials in a tightly closed vessel of iron or other non-porous material, and heating them to a temperature sufficient to volatilize the added material, as set forth.

No. 102,266. Filament for Lighting and Feating. Filament pour éclairer et chauffer.


George Michaud and Eugene Delasson, Paris, France, 27th November, 1906; 6 years. Filed 18th August, 1905. Recelpt No. 127,793.
Claim.-1. A process of producing filaments from suitable material, which consists in feeding the same in a fine stream in the form of a powder and arresting its move ment in a zone of intense heat to agglomerate the same whereby a flament of the agglomerated material is produced.
2. A process of producing filaments from suitable material by means of heat, which consists in feeding the material in powdered form to the heat zone in a fine stream. arrestlag the movement of said stream in said heat zone to produce a flament therefrom and gradually removing the newly formed flament from said point of arrest. whereby the end thereof which is growing will remain in approximately the same position in the heat zonc.
3. The process of producing flaments from relatively hightly refractory material which consists in fusing the same in a powdered state in a fine stream. in an oxyhydrogen flame and forming the fused material into a flament, substantially as described.
4. The process of producing flaments which consists in miving together alumina and a compound or salt of thor-
ium, cerium and chromium, reducing this material to the form of a fine powder fusing the same in a fine stream and finally forming the fused mass into a flament, substantially as described.

\section*{No. 102,267. Cigaretto Malding Machino.} Machine d faire des cigarettes.


Louis Bernhard Baron, London, England, 27th November. 1906; 6 years. Filed 20th June, 1906. Receipt No. 137,089.
Claim.-1. In cigarette machines and in combination tobacco feeding devices, means for carrying an endless feed belt and paper wrapper beneath same and to the compression wrapping and pasting devices, a vertical flat faced compression wheel, two horizontal compression wheels, an adjustable scraper plate for the vertical compression wheel adapted to act as a cover plate for the space between the horizontal compression wheels and wrapping, pasting and cut-off devices, substantlally as described.
2. In cigarette machines and in combination tobacro feeding devices, means for carrying an endless feed belt and paper wrapper beneath same and to the compression wrapping and pasting devices. a vertical flat faced compression wheel, two horizontal compression wheels, an adjustable scraper plate for the vertical compression wheel adapted also to act as a cover plate tor the space between the horizontal compression wheels, adjustable corered scrapers therefor, an adjustable tapered tongue with outwardly flared ends for receiving the compressed tobacco. and wrapping, pasting and cut-off devices, substantially as described.
3. In cigarette machines and in combination inbacco feeding devices, means for carrying an endless feed bilt and paper wrapper bencath same and to the compression wrapping and pasting devices, a vertical flat faced compression wheel, two horizontal compression wheels, an adjustable scraper plate for the vertical compression wheel adapted also to act as a cover plate for the space between the horizontal compression wheels, wrapping devices. an adjustable pasting device delivering the gum or paste directly to the paper and cut-off devices, substantially as described.
4. In cigarette machines and in combination tobaceo feeding devices, means for carrying an endless feed boll and paper wrapper beneath same and to the compression wrapping and pasting devices, a vertical fat faced com pression whecl, two horizontal compression wheels, an ais Justable scraped plato for the vertical compression wheel adapted also to act as a cover plate for the spacr between the horizontal compression whecls, adjustabli cover scrapers therefor, an adjustable tapered tongue with outwardly flared ends for ecelving the compressed tobacco, devices, an adjustable pasting device delivering the gum or paste directly to the paper, and cut-off device, substantially as described.
5. In cigarette machines and in combination tobacco feeding device, means for carrying an endless feed belt and paper wrapper beneath same and to the compression wrapping and pasting devices, a vertical flat faced compression wheel, two horizontal compression wheels, an adjustable scraper plate for the vertical compression wheel adapted also to act as a cover plate for the space between the horizontal compression wheels, wrapping and pasting devices, and an adjustably mounted cut-oft mechanism by which the length of the cigarette cut can be varled, substanlially as described.
6. In cigarette machines and in combination tobacco feeding devices, means for carrying an endless feed belt and paper wrapper beneath same and to the compression wrapping and pasting devices, a verisal for faced compression wheel, two horizontal compression wheels, an adjustable scraper plate for the vertical compression wheel adapted also to act as a cover plate for the space between the horizontal compression wheels, adjustable covered scrapers therefor, an adjustable tapered tongue with outwardly flared ends for receiving the compressed tobacco, wropping and pasting devices, and an adjustably mounted cut-off mechanism by which the length of the cigarette cut be varied, substantially as described.
7. In cigarette machines and in combination tobacco feeding devices, means for carrying an endless feed belt and paper wrapper beneath same and to the compression wrapping and pasting devices, a vertical flat faced compression wheel, two horizontal compression wheels, an adjustable scrap ed plate for the vertical compression pheel adapted also to act as a cover plate for the space between the horizontal compression wheels, adjustable cover sciapers therefor, an adjustable tapered tongue with outwardly flared ends for receiving the compressed tobacco, wrapping devices, an adjustable pasting device delivering the gum or paste diractly to the paper and an adjustably mounted cut-off mechanism by which the length of the cigarette cut can be varied, substantially as described.

No. 102,268. Thill Coupling. Joint de limonidres.


McKendree F. Bishop, Alameda, California, U. S. A., 27th November, 1906; 6 years. Filed 26th March, 1903. Receipt No. 104,111 .
Claim.-1. A thill coupling consisting of a movable anil a stationary member, a spring adapted to hold said members in close contact, and a clevis surrounding one of the said members and contracted to prevent accidental displacement of the other, substantially as described.
2. A thill coupling provided with a stationary member having an open mouthed cavity, a rocking member adapted to enter said cavity, a clevis secured to said rocking member and surrounding said stationary member, said clevis being formed with a contracted portion and a spring engaging said clevis and causing a close contact between said members, substantially as described.
3. A thill coupling having.a rocking and a stationary member and means for locking said members together and preventing movement of said rocking member said means being arranged for automatic releasement substantially as described.
4. In the thill coupling described, the combination of the clip, the plate receiving the arms of the clip and having its upper side rabbetted at its rear end and also having the concave convex portion at its forward end forming a seat and the north in its forward extremity. the spring having its upper rear end seated in the rabbet of the clip plate and receiving one arm of the clip and also having a forward extending arm terminating in a hook, the thill iron having the rounded end resting in the seat of the clip plate, and the clevis pivotally connected to said end of thlll iron and having a contracted lower portion, substantially as described.
5. In a thill coupling, the combination of the body or plate, a thill iron bearing therein, a clevis pivotally connected to and depending from the thill iron and having a lower contracted portion and a spring connected with the body or plate and having an arm engaging the bight of the clevis, substantially as described.

No. 102,269. Window Shade Eupport.
Support d'abat-jour de fenêtre.


Charles Corrill Brown, Revelstoke, British Columbia, Canada, 27th November, 1906; 6 years. Filed 16th October, 1905. Recelpt No. 129,293.

Claim.-1. In a device of the character described, a pair of brackets, each provided with serrations, and a hanger rockably and slidably disposed on each bracket and provided with integral means adapted to engaga said serrations.
2. In a device of the character described, a pair of brackets, each provided with serrations, hangers slidably and rockably disposed on the brackets, and each provided with a lug adapted to engage in sald serrations, when the hangers are rocked downward.
3. In a device of the character described, a pair of trackets, each provided with a flange having serrations thereon, hangers slidably and rockably disposed on each bracket, provided with lugs adapted to engage said serrations when the hangers are rocked downward, and each provided with integral means for supporting a window shade roller.
4. In a device of the character described, a pair of vertically disposed brackets, each provided with serrations, and a hanger slidably disposed on each bracket and provided with a lug adapted to engage said serrations, and each hanger comprising a metallic strip bent to conform to the shape of the bracket on which it is disposed.
5. In a device of the character described, a pair of brackets, each provided with serrations, a hanger disposed on each bracket and from a single strip bent to conform to the shape of the bracket on which it is disposed, and provided on one side with a lug adapted to engage said serrations, and a rivet adapted to fasten together the ends of the hanger.
6. In a device of the character described, a pair of brackets, each provided at opposite ends with an integral lug having a hole therein, and each provided with a flange having serrations thereon, and a hanger disposed on each bracket, provided with a lug adapted to engage the serrations, and provided with means for supporting a shade roller.
7. In a device of the character described, the combination comprising a pair of supporting brackets provided with offset flanges having serrations thereon, and hangers, each formed of a single strip bent to a shape to conform to the shape of the brackets and slidably and rockably disposed thereon, and each of the hangers being provided with an integral lug adapted to engage the serrations when the hangers are rocked downward.

\section*{No. 102,270. Method of Obtaining Ammoninm Chloride.}

\section*{Méthode d'obtenir du chlorate d'ammoniaquc.}

Andrew Gordon French. Williamson Avenue, Grey Lynn, New Zealand, 27th November, 1906; 6 years. Filed 31st August, 1905. Receipt No. 128,082.
Claim.-A process of manufacturing ammonium chloride which consists in drenching carbonized coal containing sulphur and nitrogen in the proportion of one and one-seventh pounds of sulphur to one pound of nitrogen with a strong brine, and then burning said drenched carbonized coal by subjecting it to a current of air containing at least ten per cent of steam.

No. 102,271. Process of Making Bearing Fangers for Beams.
Procédé pour faire des attaches pour ponties.

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Johann Georgo Hänsler, Munich, Germany, 27th November, 1906; 6 years. Filed 2nd.June, 1906. Receipt No. 136,505. Claim.-1. Process for the manufacture of bearing hangers or stands from I-beams or channels, its characteristic being that the I-beam or channel is slit longitudinally in its lower part, after which the two legs thus formed are bent outward and then, after cutting off the projecting parts of the web, their lower parts connected to a base plate and preferably also to reinforcing plates, by riveting or other means, while the upper part of the I-beam or channel is recessed for the reception of the bearing base.
2. Process for the manufacture of bearing hangers or stands from I-beams or channols, its characteristics being that the I-beam or channel is slit longitudinally in its lower part, after which the two legs thus formed are bent outward and then, after cutting off the projecting parts of the web, the webs of the legs are riveted to the base plate, by means of projections \(e\).
3. Process for the manufacture of bearing hangers or stands from I-beams or channcls, its characteristics being that the I-beam or channel is slit longitudinally in its lower nart, after which the two legs thus formed are bent outward and then, after cutting off the projecting parts of the wrb, their lower parts connected to a base plate and preferably also to reinforcing plates, by riveting or other means. while the upper part of the I-beam or channel is recessed for the reception of the bearing base. and the upper free ends of the flanges of the I-beam or channel are bent inward.

No. 102,272. Fire Escape. Sauvctcur d'incendie.
Martin Herbert Kennedy and George A. Kennedy, assignee of a half interest, both of Denver, Colorado, U.S.A., 27th November, 1906; 6 years. Filed 10th October, 1906. Recelpt No. 140,182.
claim.-1. In a device of the character described, the combination with a casing having a movable portion and a spool revolubly mounted within the casing, of grip members pivoted upon the casing and separated from, but adapted to press, the movable portion of the casing upon the spool.
2. In a device of the character described, the combination with a casing having a movable portion and a spool revolubly mounted within the casing, of grip members pivoted upon the casing and separated from, but contacting with, the movable portion of the casing and a guide within one of said members.
3. In a device of the character described, the combination with a casing, a movable portion, an outlet in said novable portion and a spool revolubly mounted within the casing, of oppositely disposed grip members movably mounted upon the casing and separated from, but contacting with, the movable portion of the casing, and a guide within one of said members.
4. A device of the character described, comprising a casing having an outlet, and movable casing portion adjacent the outlet, a cable carrying device mounted within the casing. oppositely disposed grip members movably connected to the casing adjacent the outlet and separated from but adapted to bear upon the movable portion of the casing to retard the movement of the cable therein.
5. A device of the character described, comprising a casing having an outlet, said casing having movable portions adjoining the outlet, a cable carrying device mounted within
the casing, oppositely disposed grip members movably connected to the casing, said members being separated from

but adapted to bear upon the movable portion of the casing to force it into contact with the cable carrying device.
6. In a device of the character described, the combination with a casing having an outlet, a movable portion adjacent tho outlet, and a cable carrying device movably mounted with the casing, of oppositely disposed overlapping grip members movably connected to the casing adjacent the outlet and bearing upon but separated from the movable portion of the casing.
7. In a device of the character described, the combination with a casing having an outlet and depressible casing por tions, of oppositely disposed overlapping grip members movably connected to the casing and bearing upon but separated from the depressible portion of the casing.
8. In a device of the character described, the combination with a casing having an outlet, and a depressible portion. of a spool mounted within the casing and adapted to be contracted by the depressible portion, oppositely disposed overlapping grip members pivoted to the casing and sepa rated from but normally bearing upon the depressible portion of the casing.
9. In a device of the character described, the combination with a casing having an outlet and a depressible casing portion adjacent the outlet, of a spool rotatably mounted within the casing and adapted to be contacted by the depressible portion, a grip member pivoted to the casing adjacent the outlet and separated from but bearing upon the depressible zortion.
10. In a device of the character described, the combination with a casing having a depressible portion and a ro tatable device within the said casing adanted to be contacted by the depressible portion, of oppositely disposed pivoted grip members having overlapping toes normall bearing on the depressible portion but detached therefrom and guiding means on one of the grip members.
11. In a device of the character described, the combination with a casing comprising a front and rear plate, means for depressing the same and a depressible band interpose between the plates and forming an aperture between the ends thereof, of a reel revolubly mounted with the casing, oppositely disposed grip members connected to the casing adjacent the aperture and having integral projecting por tions contacting with the depressible portions of the band, and a cable guide within one of said members.

\section*{No. 102,273. Building Block. Bloc de construction.}

Andrew Klay, Bluffton, Ohio, U.S.A., 27th November, 1906; 6 years. Filed i7th September, 1906 . Receipt No. 139.556.

Claim.-1. A building block provided in one face with a longitudinal channel and upon its opnosite face with a longitudinal rib corresponding in size and shape to the channel, the channel exceeding the rib in depth, there being an intermediate extension of the block flush with the channel and rib faces thereof, said extension being provided
in one face with a channel sulstantially parallel to the first mentioned channel and upon its opposite face with a rib

substantially parallel with the first-mentioned rib, the rib of the extension corresponding substantially in size and shape to the channel thereof with the channel exceeding the rib in depth.
2. A wall including sections separated by a vertical interspace, each section being made up of superimposed blocks having intermediate lateral extensions flush with the tops and bottoms of the blocks and resting upon the extensions of he respective next below blocks of the other wall section, each extension being shorter than the width of the space between the wall sections.
3. A wall including sections separated by a vertically interspace, each section being made up of superimposed blocks having intermediate lateral extensions flush with the tops and bottoms of the blocks and resting upon the extensions of the respective next below blocks of the other wall section, each extension being shorter than the width of the space between the wall sections, and a socket and profection interlocking connection between the adjacent extensions.
4. A wall formed of a plurality of superposed blocks each provided with a longitudinal rib adapted to engage a corresponding channel in the longitudinal edge of an adjacent block, said blocks having their upright ends abutted in mutual contact and provided with registering grooves which are closed by the contacting ends of the blocks, and mortar flling the grooves only.
5. A building block provided with an intermediate extension which is flush with the top and bottom of the block and is provided in one horizontal face with a channel disposed longitudinally of the block and upon its other horizontal face with a rib corresponding to the channel.
6. A building block having an intermediate lateral. extension flush with its top and bottom faces, said extension being provided with an air chamber opening outwardly through the outer end of the extension.
7. A bullding block provided with one horizontal face with a longitudinal channel open at opposite ends, the other horizontal face being provided with a longitudinal rib corresponding to the channel, the ends of the blocks being provided with upright grooves, and an intermediate lateral extension flush with the top and bottom of the block, one horizontal face of the extension being provided with a channel substantially parallel with the first-mentioned channel, the opposite face of the extension being provided with a rib substantially parallel with the first-mentioned rib, and the extension being provided with an air chamber opening through the outer end of the extension.

\section*{No. 102,274. Roof Carline. Carlingues pour totitures.}

George B. Maltby, Cleveland, Ohio, U.S.A., 27th November, 1906; 6 years. Filed 19th October, 1906. Receipt No. 140,452.
Claim.-1. A sheet or plate metal roof carline having an integral body comprising a web of \(U\) or channel section, lateral flanges projecting from the side members thereof, and downwardly turned flanges at the ends of the web and lateral flanges.
2. A sheet or plate metal roof carline having an open topped integral body comprising a web of \(U\) or channel section, lateral flange projecting from the side members thereof, recessed or channel section seats formed in the web and lateral flanges, and downwardly turned flanges on the ends of the web and lateral flanges.
3. In a car frame, the combination of side plates, plate metal roof carlines pressed into channel section with la-

teral flanges projecting from their side members and downwardly turned end flanges, and supported on and having their end flarges abutting against the side plates, connections securing the carlines to the side plates, and a ridge pole and purlins fitting in recessed seats in the side members and lateral flanges of the carlines.

No. 102,275. Traction Wheel. Roue de traction.


Isaac McHenary, Toronto, Ontario, Canada, 27th November, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,646. Claim.-1. As a new article of manufacture, a wheel provided with a plurality of radiating sectiors spaced apart, the perimeter of each section being a segment of the circle or perimeter of the wheel, and caulks for said sections extending beyond the perimeter thereof.
2. As a new article of manufacture, wheel provided with a plurality of integrally farmed radiating sections spaced apart, the perimeter of each section being a segment of the circle or perimeter of the wheel, and one or more caulks for said sections comprising a shank provided. with transversely formed holes and a brcadened head, the said shank resting in longitudinal pockets in said sections. and pins passing through holes transverely formed in said sections and through the holes in the shank of said caulks.
3. As a new article of manufacture, a wheel provided with a plurality of integrally formed radiating sections spaced apart, the perimeter of each section being a segment of the circle or perimeter of the wheel, and being preferably constructed \(\mathbf{V}\)-shaped, and one or more caulks for sald sections comprising a shank provided with transversely formed holes and a broadened head, the sald shank resting in longitudinal pockets in said sections, and pins passing through holes transversely formed in said section and through the holes in the shank of said caulks.
4. As a new article of manufacture, a wheel provided with a plurality of radiating sections, the perimeter of each being a segment of the circle or perimeter of the wheel, the sald sections being spaced sufficiently apart to prevent any unevenness in movement or pounding of the wheel as it passes over the roadway.

\section*{No. 102,276. Viscose Manufacture.} Fabrication de viscose.
Sergius Peessarev, St. Petersburg, Russia, U.S.A., 27th November, 1906; 6 years. Filed 6th September, 1905. Receipt No. 128,223 .
Claim.-1. The herein described step in the process of producing viscose threads, and other bodies of viscose, which consists in treating the bodies of viscose with salts of organic bases such as aniline. naphtnylamin and pyridin.
2. The herein described step in the process of producing viscose threads, and other bodies of viscose, which consists in treating the bodies of viscose with a solution of chloride of aniline.
3. The herein described step in the process of producing viscose threads, and other bodies of viscose, which consists in relating the bodies of viscoe with salts of organic
bases such as aniline, naphthylamin, and pyridin, treating the body operated on in a bath containing an excess of mieral acid and chloride of sodium, and subjecting the body to the action of heated water.
4. The herein described process of producing bodies of viscose, which consists in forming the bodies with the desirf 1 shape, treating the formed bodies in a solution of sal of organic bases, and washing and drying the bodies 5 The herein described process of producing bodies of viscose, which consists in forming the bodies with the desired shape, treating the formed bodies in a solution of salts of organic bases, heating the bodies in a bath containing mineral acid and chloride of sodium, passing the bodies through heated water or steam, washing the bodies in water containing lime and drying the bodies.

No. 102,277. Tunnel. Tunnel.


Richard W. Raftus, Chicago, Illinols, U.S.A., 27th November, 1906; 6 years. Filed 29th October, 1906. Receipt No. 140,702 .
Claim.-1. A tunnel or subway having its walls formed of an outer layer of concrete and an internal lining of tile, said tile being formed of a main body portion having openings therein, securing arms projected from one of the side faces of the said body portion, said arms being provide with inwardly extending shoulders, said shoulders being formed by an angle of \(45^{\circ}\) extending from a point upon the arm slightly beyond the side face of the body portion, for the purpose set forth, substantially as described.
2. A tunnel or subway whose walls consists of the combination of concrete having a plurality of binding members located therein with an internal lining of tiles, said tiles consisting of a main body portion having an opening therethrough and a plurality of securing arms projected from one of the side faces of the said body portion, said arms being provided with inwardly extending shoulders for the purpose set forth. substantially as described.
3. \(\Lambda\) tunnel or subway having its side walls and arch formed by the combination of concrete with an inner lining of tiles, the said tiles cosisting of a body portion having openings therethrough and securing arms projected from one of the side faces of the sald body portion, said arms being provided with inwardly extending shoulders, said shoulders being formed by an angle of \(45^{\circ}\) extending from a point upon the arm slightly beyond the side face of the body portion, for the purpose set forth, substantially as described
4. A tunnel or subway having its side walls and arch formed by the combination of concrete with an inner lining of tiles, the said tiles consisting of a body portion having openings therethrough and securing arms projected from one of the side faces of the said body portion, said arms bcing provided with inwardly extending shoulders, said shoulders being formed by an angle of \(45^{\circ}\) extending from a point upon the arm slightly beyond the side face of the body portion, the bottom or floor wall being formed of two layers of concrete, having a layer of hollow tile located between the two layers, all combined and arranged substantially as set forth.
5. A tunnel or subway having its side walls and arch formed of the combination of concrete having a plurality of binding members located therein with an inner lining of tiles, the said tiles consisting of a body portion having openings therethrough and securing arms projected from one of the side faces of the sald body portion, said arms being provided with inwardly extended shoulders, said shoulders being formed by an angle of \(45^{\circ}\) extending from a point upon the arm slightly beyond the side face of the body portion, the bottom or floor wall being formed of two layers of concrete having a layer of hollow tile located between the two layers, all combined and arranged substantially as set forth.

\section*{No. 102,278. Fastener for Plate Glamy.}

Attache pour la vitre.


Henry R. Ranson, Pittsburg, Kansas, U.S.A., 27th November, 1906; 6 years. Filed 11th October, 1906. Receipt No. 140,209.
Clain.-1. The combination with recessed plates contacting at their adjoinlng edges, of a plate disposed in rear of and overlapping the abutting edges of the recessed plates, parallel metallic strips secured upon opposite faces of the inwardly extending plate, hooks upon said plates and within the recesses. said hooks contacting and overlapping the outer faces of the recessed plates and means secured to the inwardly extending plate for holding the recessed plates within the hooks.
2. The combination with plates having abutting edges, said edges having registering recesses therein of a mullion plate abutting against and overlapping the edges of the rocesses plates, metallic strips secured to opposite faces of the mullion plate and hooks integral with said strips and disposed within the recesses, said hooks engaging the recessed plates.
3. The combination with plates having abutting edges, said edges having registering recesses therein, of a mullion plate in rear of and overlapping the abutting edges of the recessed plates, metallic strips secured to opposite faces of the mullion plate and overlapping that edge of the mullion plate contacting with the recessed plates, said strips contacting and seated within the recesses, each strip having an integral hook overlapping the outer face of the recessed plates.

No. 102,279. Window Tent. Fenêtre de tente.


William E. Walsh, Morris, Illinois, U.S.A., 27th November, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,864.
Claim.-1. A device of the class described in the form of a box adapted to be projected through a window and open to the outer atmosphere, and adapted to have the head of a patient inserted thereinto, leaving the body of the patient outside of the box and within the room, substantially as described.
2. In a device of the class described, a framswork and a covering for the framework constituting a box adapted to be projected through a window and provided with an opening in its outer or projected portion for the admission of air and provided with an opening in its inner portion for the projection of the head of a patient therethrough, leavino the body of the patient outside of the box and within the room, substantially as described.
3. In a device of the class described, the combination of a frame and a covering of fabric therefor constituting a box adapted to be projected through a window and provided with an opening in the inner portion of the box for the projection therethrough of the patient's head, leaving the patient's body outside of the box and within the room, substantially as described.
4. In a device of the class described, the combination of a framework, a covering therefor providing a substantially rectangular box having an opening in the bottom or the outer end portion, a hinged bracket to which the fabric surrounding the opening is secured, means for raising and lowering the hinged bracket, and an opening for the insertion of a patient's head, substantially as described.
5. A device of the class described, in the form of a box adapted to be inserted into a window frame and open to the outer atmosphere, and adapted to have the head of a patiented inserted thereinto, leaving the body of the patient outside of the box and within the room, and a lateral extension adapted to close the surplus space in the window substantially as described.
6. In a device of the class described, a framework and a covering for the framework constituting a box adapted to be inserted into a window and provided with an opening in its outer portion for the admission of air and provided with an opening in its inner portion for the insertion of the head of a patient therethrough, leaving the body of the patient outside of the box and within the room, and a lateral extension adapted to close the surplus space in the window, substantially as described.
7. In a device of the class described, the combination of a frame and a covering of fabric therefor constituting a box adapted to be inserted in a window casing and provided with an opening in the lower side of the outwardly projecting portion for the admission of air, and provided with an opening in the inner portion of the box for the insertion therethrough of a patient's head, leaving the patient's body outside of the box and within the room, and a lateral extension adapted to close the surplus space in the window, substantially as described.
8. In a device of the class described, the combination of a frame work, a covering provided therefor, a substantially rectangular box having an opening in the bottom of the outer end portion, a hinged bracket to which the fabric surrounding the opening is secured, means for raisting and lowering the hinged bracket, an opening for the insertion of a patient's head, and a later extension adapted to close the surplus space in the window, substanially as des cribed.
9. A device of the class described, in the form of a box adapted to be inserted in a window casing and open to the outer atmosphere, and adanted for the head of a patient to be inserted thereinto, leaving the body of the patient outside of the box and within the room, and an extensible framework having secured thereto a flexible covering adaptcd to provide a closure for the surplus window space, substantially as described.
10. In a device of the class described a framework and a covering for the framework constituting a box adapted to be inserted into the window casing and provided with an opening in its outer portion for the admission of outside air and provided with a sack or pocket in its inner portion for the insertion of the head of a patient therethrough, whereby the body of the patient is outside of the box and within the room, substantially as described.
11. Is a device of the class described, a framework and a covering for the framework constituting a box adapted to be inserted into the window casing and provided with an opening in its outer portion for the admission of outside alr and provided with a sack or pocket in its inner portion for the insertion of the head of a patient therethrough, whereby the body of the patient is outside of the box and within the room, and an extensible framework having secured thereto a flexible covering adapted to provide a closure for the surplus window space, substantially as described.
12. In a device of the class described, the combination of a frame consisting of a stiff wire and a covering of fabric therefor constituting a box adapted to be inserted into a window casing, and provided with a downwardly opening hood at its outer end for the admission of air, provided with a sack or pocket which is puckered at its mouth for the insertion therethrough of the patient's head, whereby the patient's body is left outside of the box and within the room, and an extensible framework having secured thereto a flexible covering adapted to provide a closure for the surplus window space, substantially as described.
13. In a device of the class described the combination of a frame consisting of stiff wire and a covering of fabric constituting a box adapted to be inserted into a window casing and provided with a downwardly opening hood at its outer end for the admission of air, provided with a sack or pocket which is pucked at its mouth for the insertion therethrough of the patient's head, whereby the patient's body is left outside of the box and within the room, and a lateral extension consisting of a stralght upper crossbar and a lower L-shaped crossbar adapted to position extensible side curtains to provide a closure for the surplus window space, substantially as described.
14. In a device of the class described, a box adapted to be inserted into a window frame and provided with an opening adapted to hare the head of a patient inserted therethrough into the box and an outwardly projecting downwardly opening hood having a sloping roof and having its lower edge secured to a hinged bracket, substantially as described.
15. In a device of the class described, a box adapted to be inserted into a window frame and provided with an opening adapted to have the head of a patient inserted therethrough into the box, and an outwardly projecting downwardly opening hood having a sloping roof and having its lower edge secured to a bracket, substantially as described.

\section*{No. 102,280. Threadless Bolt and Nut. Boulon et nois sans fil.}

Jacob J. Souder, Washington, District of Columbia, U.S.A.
27th November, 1906; 6 years. Filed 17th February, 1906. Recelpt No. 132,995.
Claim.-1. An improved article of manufacture, a bolt provided with a solid head integral therewith and having separated unwelded members extending from the head in parallel planes normally in engagement with each other, and in which the longitudinal fibers of the metal are separated in the transverse center of the bolt from the head to the end of the bolt.
2. A threadless bolt having a solid head and members extending therefrom in parallel planes normally in engagement with each other and separable at their outer ends, a threadless nut surrounding said members and a wedge between the members extending into the nut and covered by said members.
3. A threadless bolt having a solid head and separate members extending therefrom in parallel planes normally in engagement with each other and separable from their outer ends up to the head, a threadless nut surrounding said members and a wedge between the members extending into the nut and covered by said members.
4. A threadless bolt having a solld head and members extending therefrom in parallel planes normally in engagement with each other and separable at their outer ends, a
nut having a threadless conical opening therein, and surrounding the bolt, a wedge between the outer ends of the

bolt extending into the nut and enclosed by said outer ends of the bolt engaging the wedge.

No. 102,281. Hot Air Engine. Machine à air chaud.


Frank W. Moore, Frank B. Hubbard and Casius M. Pierce, each an assignee of a third interest, Warren, Ohio, C.S.A., 27 th November, \(1904 ;\); 6 years. Filed 24th September, 1906. Receipt No. 139,756.
Claim.-1. In a hot air engine, the comblination of a working cylinder with an air heating cylinder, and open passage connecting said cylinders, a plunger in sald airheating cylinder and a piston in said working cylinder and crank connections for the same, a heater for said airheating cylinder and an auxiliary air pump connected with sail piston. air connections between said pump and airpressure heating cylinder, a check-valve for said air heating cylinder.
2. In a hot air engine, a casting with a working cylinder and a portion of an air-heating cylinder embodied thereln. separate upper and lower extensions to complete said air heating cylinder, a water jacket for the upper extension and a heater casing for the lower extension, a heater bencath said air heating cylinder, a piston for said working cylinder and a plunger for said air heating cylinder, a rrank shaft and balance wheel thereon and crank conneclions between said crank shaft and said piston and said plunger, an auxillary air pump for said engine and air connowtions between said auxiliary alr pump, and the lower end of sall air heating cylinder. and means to control the flow of air to said heating cylindor from said auxiliary pamp. allil an automatic air relief valve for the upper end of said air bratlag cylinder.

No. 102,282. Tool Holder for Lathes.
Mandrin pour tours.


The John Bertram and Sons Company, Dundas, assignee of George Theodore Reiss, Hamilton, both in Ontario. Canada, 27th November, 1906; 6 years. Filed 27th October, 1906. Receipt No. 140,688 .
Claim.-In a tool holder for lathes, a base portion on which the tool may rest, ears projecting upwardly there. from and horizontally mortised above the tool top level. a nut bar engaging and horizontally shiftable in the mortises, and a set screw vertically threaded into the nut bar

No. 102,283. Telpher. Ascenseur.


Henry McL. Harding, New York City, New York, and Charies M. Clark, Summit, New Jersey, both in the U.S.A., \(\infty\) inventors, 27 th November, 1906 ; 6 years. Filed soch November, 1905. Receipt No. 130,507.
Claim.-1. In a telpher system, a telpher, a hosiding apparatus carried by the telpher, means for putting the hoisting apparatus in operation, means for cutting ont the holst ing apparatus and for cutting in the telpher, and means for stopping the telpher at a predetermined point.
2. In a telpher system, a telpher, a hoisting apparatus. means for putting the hoisting apparatus in operation. means for automatically stopping the hoisting apparatus. means for automatically starting the telpher apparatus, and means for automatically stopping the telpher at a predetermined point.
3. In a telpher system, a telpher, a holsting apparatus carried thereby, means for putting the holsting apparales in operation, means for stopping the holsting apparatus. means ior starting the telpher, means for stopplag the telpher at a predetermined point, and means for lowering the hoist at said point.
4. In a telpher system, a telpher, a hoisting apparatus. means for starting the hoisting apparatus, means for automatically stopping the hoisting apparatus and for starting the telpher, means for automatically stopping the telpher at a predetermined point and for causing the holst to lowe: at said point.
5. In a telpher system, a telpher, a holstiag apparatue. means for putting the hoisting apparatus in operation. moans for stopping the hoisting apparatus, means for starting the felpher. means for stopping the telpher at a predetermined point, means for causing the hoisting apparatus to lower at said point. and means for reversing the bolsting apparatus at said point.
6. In a telpher system, a telpher, a hoisting apparatus, means for putting the hoisting apparatus in operation, means for automatically stopping the holsting apparatus and for putting the telpher in motion, means for automatically stopping the telpher at a predetermined point and for causing the hoisting apparatus to lower at said point, and means for automatically reversing the hoisting apparatus to cause it to hoist at sald point.
7. In a telpher system, a telpher, a hoisting apparatus connected to and carried by the telpher, means for putting the hoisting apparatus in operation, means for automatically stopping the hoisting apparatus and for throwing the telpher in operation, means for stopping the telpher at a predetermined point to cause the hoisting apparatus to reverse at said point, means for automatically stopping the hoist and causing it to reverse at said point, and means for automatically stopping the hoist and causing the telpher to operate.
8. In a telpher system, a telpher, a hoisting apparatus carried by said telpher, means for putting the hoisting apparatus in operation, means for automatically stopping the telpher at a predetermined point. means for automatically changing the direction in which the telpher will move from sald point, means for automatically causing the hoisting apparatus to lower at eald point, means for automatically dumping the load. means for automatically reversing the hoist, and means for automatically stopping the hoist, and causing the telpher to operate.
9. In a telpher system, a telpher a holsting apparatus connected to and carried by the telpher, means for putting the hoisting apparatus in operation, means for automatically stopping the hoisting apparatus and for putting the telpher in operation, means for automatically stopping the telpher at a predetermined point, means for automatically switching the telpher so that it may be caused to travel in the opposite direction, means for automatically causing the hoisting apparatus to lower at said predetermined point, means for automatically dumping the load at said point, means for automatically reversing the holst while the telpher is at said point and for causing the telpher to operate, and means for automatically stopping the telpher when it reaches the starting point.
10. In a telpher system, a telpher, a hcisting apparatus connected to and carried by the telpher, means for causing the hoisting apparatus to operate to raise a load, means for automatically stopping the hoisting apparatus and for causing the telpher to travel to a distant point, automatic means for stopping the telpher at said point, means for automatically swtching the telpher so that it will travel in a reverse direction, means for automatically causing the holsting apparatus to lower a load, means for automatically dumping the load, means for automatically reversing the hoisting apparatus, means for automatically stopping the hoist and starting the telpher so that the telpher will travel to its frst postion, and means for automatically stopping the telpher at said first position and to automatically start the hoisting apparatus to lower.
11. In a telpher system, a telpher, a hoisting apparatus connected to and carried by the telpher, means for causing the hoisting apparatus to operate to raise a load, means for automatically stopping the hoisting apparatus and for causing the telpher to travel to a distant point, automatic means for stopping the telpher at said point, means for automatically switching the telpher so that it will travel in a reverse direction, means for automatically causing the hoisting apparatus to lower a load, means for automatically dumping the load, means for automatically reversing the hoisting apparatus, means for automatically stopping the hoist and starting the telpher so that the telpher will travel to its first position, means for automatically stopping the telpher at said first position and to automatically start the hoisting apparatus to lower, and means for automatically stopping the hoist when it is lowered to a predetermined point.
12. In a telpher system, a telpher, a hoisting apparatus connected to and carrled by the telpher, means for putting the hoisting apparatus in operation, means for automatically stopping the hoisting apparatus and causing the telpher to operate, means for automatically stopping the telpher at a distant point, means for automatically changing or switching the telpher so that it will travel in an opposite direction, means for automatically causing the hoist to operate at said distant point to lower a load, means for automatically dumping the load, means for automatically reversing the hoist after the load has been dumped, means for automatically stopping the holst and to throw the telpher in operation so that it will travel to its first position, means for automatically stopping the telpher at said first position so that it will travel in an opposite direction, means for automatically putting the holst in operation to lower, and means for automatically stopping the holst when it has lowered to a predetermined point.

No. 102,284. Wrench. Clé décrou.


Cuthbert B. Lowry, Lexington, Kentucky, and Richard Bernhard, Cudahy. Wisconsin, U.S.A., 27th November, 1906; 6 years. Filed 7 th November, 1906. Receipt No. 141,001.
Claim.-1. The combination with two parts or members, each movable relatively to the other, and having an intervening space, the opposite walls whereof are approximately convergent at a plurality of points, rollers located in pairs within such space, means for holding the rollers of each pair in fixed relation to each other, and means tending to normally hold the rollers in engagement with the opposite walls at said points of convergence.
2. The combination with two parts or members, each movable relatively to the other, with a series of separate chambers between the two members, the walls of each chamber being approximately convergent at a plurality of points, a plurality of rollers located within each chamber and designed to engage the opposite walls therect, means for holding the rollers in each chamber in fixed alignment with each other. and means tending to normally hold the rollers toward the reduced portions of each chamber.
3. A wrench comprising a casing having an annular opening, a socket head within said opening, a serles of separate chambers being formed between the socket head and the wall of said opening, each chamber having eccentrically arranged walls, rollers located within said chambers, and carriers for bolding the rollers of each chamber in fixed relation to each other.
4. A wrench comprising a casing having an annular opening, a socket head fitted within said opening, a series of separate chambers being formed between the socket head and the wall of said opening, each chamber having eccentrically arranged walls, rollers located within sald chambers, carriers for holding the rollers of each chamber in fixed reation to each other, and springs acting on sald carriers.
5. The combination with the casing haring an annular opening, of the socket head fitted in said opening and havIng at its periphery a series of spaced apart chambers, the periphery of said head within each chamber being eccentric, at two different points, to the axis of the wrench, a roller for co-operating with each eccentric portion of each chamber, a carrier for holding the rollers of each chamber in fixed relation to each other, and means acting on said carrier for holding the rollers toward one end of each chamber.
6. The combination with the casing having an annular opening, of the socket head fitted in said opening having a series of peripheral projections and intermediate chambers, each chamber having separate bearing surfaces eccentric to the axis of the wrench, rollers within said chambers, carriers for said rollers, and springs mounted in said peripheral projections and acting on said carriers.
7. The combination with the casing having an annular opening, of the socket head having a series of peripheral projections forming separate chambers having bearing surfaces eccentric to the axis of the wrench, rollers located in said chambers, carriers for holding each pair of rollers in fixed relation to each other, said carriers comprising connected side bars having oien ended slots to accomodate the journals of said rollers, and springs mounted in said projections and acting on said carrlers

No. 102,285. Drill. Fûrct.


Silvio Casparis, Columbus, Ohio, U.S.A., 27 th November, 1906; 6 years. Filed 19th Octeber, 1906. Receipt No. 140,432.
Claim.-1. A tool comprising a bidy, a bit carrying device therein, a rifle bar, means separate from the rifle bar and under constant pressure of notive fluid for holding the rifle bar normally against rotation, and means for intermittently directing motive fluid upon the holding means to equalize the pressure thereon and permit its rotation.
2. A tool of the character described comprising a body. a tool carrying device movably mounted within the body, a rifle bar, means separate from the rifle bar for holding it against rotation, means for constantly directing fluid under pressure against sald holding means, and means for intermittently equalizing the pressure upon the holding means to alternately hold and release the rifle bar.
3. A tool of the character described comprising a body, a tool carrying piston movably mounted therein, a rifle bar, means for clamping the bar to hold it against rotation, means for constantly directing motive fiuid against one face of the holding means and means for intermittently directing motive fluid between the piston and the holding means whereby the pressure on said holding means is equalized during the alternate strokes of the piston.
4. A tool of the character described comprising a body, a tool carrying piston movably mounted therein, a rifle bar, clamping means for holding the bar against rotation, said body having a port for constantly directing fluid against one face of the clamping means, and having ports for directing motive fluid against opposite ends of the piston alternately and against the other face of the clamping means intermittently.
5. In a tool of the character described the combination with a body having a tool carrying piston movably mounted therein, of a rifle bar having a head, an interior projection in the body and overlapped by the head, a holding piston bearing upon said head, means for constantly directing motive fluid under pressure against said holding piston to clamp the head when pressure upon said head is not equalized, and means for directing motive fluid between one end of the tool carrying piston and the head intermittently to equalize pressure on the head.
6. A tool of the character described comprising a body having an interior shoulder, a tool carrying piston mounted therein, means for conveying motive fluid to opposite ends of the piston, a rifle bar having a head disposed beyond the path of the piston, a washer interposed between said head and the shoulder, a holding piston movably mounted within the body and contacting with the head, and means for constantly directing motive fluid against said piston.
7. A tool of the character described comprising a body having an interlar shoulder, a tool carrying piston movably mounted within the body between the shoulder and one end of the body, sald body having ports for directing motive fluid against the ends of the piston, a washer loosely bear ing upon the shoulder, a rifie bar having a head bearing on the washer, and a piston loosely mounted within the body and bearing upon the head, said body having a port for constantly directing motive fluid between the holding piston and the adjoining head of the body.

\section*{No. 102,286. Explosive Gas Engine.} Machine explosive d gas.

Edward G. Shortt. Carthage, New York, U.S.A., 27th November, 1906; 6 years. Flled 16th June, 1906. Receipt No. 136,971.
Clatm.-1. An explosive gas engine having a cylinder with - combustion chamber and a piston working therein, an exhaust chamber, a fuel duct, an air and fuel combining rhamber having free and unobstructed communication with said combustion chamber, an air compression compartment, and a varuum spaci intermediate the combustion chamber and the compression compartment, a valved passageway

Irading from the vacuum space to said exhaust chamber, valve mechanism for allowing air under pressure from sald

rompression compartment together with fuel to simultaneously enter the combining chamber. and means for actuating said mechanism exposed on one side to the atmospbere and on the other side to the vacuum space, as set forth.
2. An explosive gas engine having a cylinder with a combustion chamber and a piston working therein, an exhaust chamber a fuel duct, an air and fuel combining chamber. having free and unobstructed communications with said combustion chamber, an air compression compartment. and a vacuum space intermediate the combustion chamber and the compression compartment, a valved passageway lead. ing from the vacuum space to said exhaust chamber, valre mechanism for allowing air under pressure from said compression compartment together with fue!, to simultanenusly enter the combining chamber, a pneumatic cylinder positioned in a pasageway communicating with said vacuum space. a piston in said pncumatic cylinder and adapted to actuate said valve mechanism, nd means for regulating the supply of air to said pneumatic cylinder, as set fortb.
3. An explosive gas engine having a cyllnder with a combustion chamber and a piston working therein, an exhaust chamber with ports leading theretn from the lower porllon of the combustion chamber, a fuel duct, an air and fu-l combining chamber, having free and unobstructed commun:cation with the combustion chamber, an air compressind compartment, the lower end of sald piston belng enlargod and adapted to form with the adjacent wall of the crlinder in which it works a vacuum space which communicates through a valve regulated passageway with sald exhaust chamber, valve mechanism for allowing the alr under pr. ssure from sald compression compartment and iuel to simultaneously enter the combining chamber. and means fir actuating said mechanism exposed on the one side to the atmosphere and on the other side to the vacuum space. as set forth.
4. An explosive gas engine having a cylinder with a combustion chamber and a plston working therein. an exhaus: chamber, a fuel duct, an alr and fuel combining chamber. having free and unobstructed communication with said combustion chamber. an alr compression compartment. a vacuum space being formed intermediate the combustion chamber and the compression compartment. a pneumatic cylinder with a duct leading thercfrom and communica:ing with said vacuum space, and valve mechanism for regulatiog the supply of air from the compression compartment and fuel to the combining chamber, simultaneously with the closing of the exhaust to the atmosphere, as set forth.
5. In an explosive gas engine, a combination chamber. ar air compression compartment, a piston working in sa:1 chamber and having an enlarged end to compress air in:o said compartment, a vacuum space being formed intermediate the circumference of said piston and the wall of the compression compartment, a combining chamber haring free communication with the combustion chamber. at exhaust chamber with norts leading to the combustion chamber and to the atmosphere, an induction ralve costrolling the feeding of air and fucl to the combinlag chamber, a stem upon which said valve is mounted, a preumatic cylinder, a piston mounted in said chamber and exposid on one side to the atmosphere and on the other slde to the vacuum space, said piston having a contracted portion for controlling the port leading from the exhaust chamber, as set forth.
6. In an explosive gas engine, a combustion chamber, ad air compression compartment and vacuum epace, a flatoo
working in said chamber, and having an enlarged end adapted to compress air within said compartment, an exhaust chamber of measured capacity communicating with the combustion chamber and with the atmosphere, a combining chamber communicating with the combustion chamber, a duct leading from sald air compression compartment to convey air from the latter to the combining chamber, a pneumatic cylinder and piston working therein, a duct leadIng from sald cylinder to said vacuum space an inductive valve and stem secured thereto, which is also fastened to said piston in said cylinder, and valve mechanism in connection with said piston in the cylinder, and means for actuating said mechanism exposed on the one side to the atmosphere and on the other side to the vacuum space, and means for allowing a given quantity of alr to enter the pneumatic cylinder to break the vacuum, as set forth.
7. In an explosive gas engine, a combustion chamber, an air compression compartment and a vacuum space, a piston working in said chamber, and having an enlarged end adapted to compress air within sald compartment, an exhaust chamber of measured capacity communicating with the lower portion of the chamber and with the atmosphere, an inductive valve for regulating the supply of air and fuel to the combustion chamber, a pneumatic cylinder, a piston having an enlarged head working in said cylinder and provided with a contracted portion regulating the exit passageway between said exhaust chamber and the atmosphere, a valve regulating the ingress of air to said cylinder, said induction valve actuated by said piston in said cylinder, the latter having communication wih sald vacuum space, as set forth.
8. An explosive gas engine comprising a combustion chamher, a working piston therein, an annular chamber for receiving the residue of the products of combustion, an induction valve, a pneumatic cylinder, a piston working therein having a contracted portion regulating the exit passageway from said annular chamber to the atmosphere, a valve regulated air inlet duct leading to the pneumatic cylinder, a stem on which the piston of said cylinder is mounted, an induction valve mounted on said stem, and opening into a combining chamber, a shell in which an enlarged portion of the working piston travels forming a vacuum space, a port leading from said space to the pneumatic cylinder, an air compression chamber, a crank shaft mounted therein, and a pitman between said working piston and shaft, and a duct formed in the casing of the engine and leading from the air compression chamber to said induction valve, whereby air under pressure may be fed to the combining chamber as the induction valve is unseated, as set forth.
9. An explosive gas engine comprising a combustion chamber, a working piston mounted therein, a shell extending below the combination chamber, an enlarged portion of said piston working therein. an air compression compartment, an annular chamber for receiving the residue of the products of combustion, a pneumatic cylinder, a piston having an enlarged headed portion working in said cylinder and a contracted portion regulating communication between the exhaust chamber and the atmosphere, a stem fitted to said piston in said cylinder, and an induction valve secured to said stem and regulating the flow of air and fuel to the combining chamber, as set forth.
10. An explosive gas engine having a combustion chamber. a receiving chamber communicating therewith into which the residue of the products of combustion is forced, a working piston mounted in the combustion chamber, a shell below the combustion chamber forming a space in which an enlarged portion of the working piston reciprocates, an air compression compartment, a mixing chamber into which air is conducted from said air compression compartment, an :nduction valve and stem on which the same is mounted, a oneumatic cylinder, a passageway leading therefrom to said space, a portion of the piston in said cylinder controlling communication between the recelving chamber and the atmosphere, a guide piece through which said stem passes, and a spring for normally holding the induction valve closed. as set forth.
11. In an explosive gas engine, a combustion chamber and an air compression compartment, a piston in sald chamber, a recelving chamber communicating with the combustion chamber and into which the residue of the products of combustion is forced, an induction valve, a stem on which the same is mounted, a shell extending below the combustion chamber, an enlarged portion of said piston working within said shell, a vacuum space formed between the enlarged portion of said piston and shell, a pneumatic cylinder, a duct leading therefrom to said vacuum space, a piston mounted in said cylinder and connected to the induction valve, and a valve regulated air inlet duct leading to said cylinder, a duct leading from the air compression chamber to the combining chamber, a valve regulated fuel aperture opening to the seat of the induction valve, and a spring actuated valve regulating the passageway between said air compression chamber and said receiving chamber, as set forth.

No. 102,287. Pneamatic Tire for Wheels.
Bandage pncumatique pour roues.


Clara Annette Smith. 399 London Road, Thornton Heath, Surrey, England. 27th November, 1906; 6 years. Filed 18th October, 1905. Receipt No. 129.104.
Claim.-1. The herein described process of producing leather tire casing, which consists in subjecting rawhide to the usual depilation and liming processes, moulding the strips of rawhide to the desired shape on a form while in a flaccid condition produced by the soaking of the liming process, and subjecting the strips to a tanning process while moulded on such form.
2. The hercin described process of producing leather tire casings, which consist in soaking strips of rawhide to render them flaccid. moulding such strips to the desired shape on a form, and subjecting the strips to a tanning process while moulded on such form.
3. The herein described process of producing leather tirc casings, which consist in soaking strips of rawhlde to render them flaccid, moulding such strips to the desired shape on a form, and subjecting the strips to the chrome process of tanning while moulded on such form.

No. 102,288. Mop Wringer. Essoreuse.


David Whitehurst and Albert J. Ean, assignee of a half interest, both of New York City, New York, U.S.A., 27th November, 1906 ; 6 years. Filed 25th April, 1906. Receipt No. 135,253.
Claim.-A pail having a guard across the upper edge thereof and partly covering said pail, said guard having an inverted cone projecting downwardly therefrom into the interior of said pail and having openings therein through which the water may drain.

No. 102,289. Slap Fook. Crochet d ressort.


Arno Macdler, Valentin Hartung, Wilhelm Griesing and Emil Welsshaar, all in Germany, 27th November, 1906 ;
6 ycars. Filed 20th November, 1905. Receipt No. 130,237.
Claim.-1. The combination of a hook, a mousing piroted thereto and having a locking recess, a catch which comprises members on opposite sides of the hook and which congages in said recess when the mousing is closed and means for holding the catch in engagement with the reciss. substantially as set forth.
2. The combination of a hook. a mousing pivoted thereto. and a spring catch which is rigidly secured to the side of the hook and projects therefrom toward the mousing. said catch yielding laterally from the hook in closing the mousing. substantially as set forth.
3. The combination of a hook, a mousing pivoted thereto and having a locking recess in its side, and a spring catch which is rigidly secured to the side of the hook and proierls toward the mousing and which iz ornvidnt with a locking lug which engages in the recess of the mousing when the latter is closed, substantlally as set forth.
4. The combination of a hook having a curver bill end which is provided in its concave side with a longitudinal romes. and a mousing plvoted to the hill ond of tha hook and having a curved bearing piece adapted to bear with ils ennvex side against the concave side of the hook and provided on its convex alin with a longitudinal rib which is seated in said recess when the mousing is closed. subsiantially as sct forth.

\section*{No. 102,280. Steam Boiler. Chaudiere d rapeur.}

Leon Brewster Lent and Robert William Semple. assignee of a half interest, both of New York City. New York, C.S.A., 27th November, 1906; 6 years. Filed 9th October, \(1!\mathrm{M}_{5}\) Receipt No. 129.061 .
Claim.-1. The combination of a vertical tubular boller, a casing surrounding same, and a furnace communicating langentially with sald chamber near the upper end thereof, whireby the furnace gases are caused to take a brlical course about the boller and through said chamber before passing through the boiler tubes, substantially as described.
i. The combination of a vertical tubular boller. a chambir surrounding same, a furnace communicating tangentially with the upper end of said chamber. whereby the furnare gases are caused to take a downward helical course about th. boller and through said chamber before taking an upward course through the tubes of the boller, substantlally ats deseribed.
: The combination of a vertical tubular boller, a casing currounding same and forming a chamber. a furnace communfoating tangentially with the upper end of sald chamber and a hilical suptum in said chamber wheriby the gases are furced to take a belical downward courae about the
boiler and then pass upward throush the tubes of the boiler to the smoke stack, substantially as deacribed.

4. The combination of a vertical boller, a chamber about the same, a furnace connected with said chamber near its upper end, tubes in said boller whereby the furnace gases pass downward about the boiler and then upward through the tubes, a superheater located below the boiler in the chamber, and in the path of the gases after they have surrounded the boiler, and a steam plpe leading from the upper part of the boiler to the superheated, abstantially as described.
5. The combination of a vertical tubular boller. a chamber surrounding the same, a furnace so connected with the upper part of the chamber as to cause the gases to pass about the boller in a helical whirl and then through the boilfr tubes, a superheater located in the chamber below the boiler and in the path of the gases and a steam pipe connecting the guperheater with the upper part of the boiler, substantlally as described.
6. The combination of a boiler. a chamber surrounding the same, a furnace connected with one end of sald chamber and to one side of the longitudinal axis of the boller. whereby the furnace gases are caused to pass in a helical path about the boiler to its other end, a auperbeater at this end located in the chamber, and a pipe connecting the upper or steam space of the boiler with sald superheater. substantially as described.
7 The combination of a boller, a chamber surrounding the same, a furnace connected with one end of said chamber. and to one side of the axis of the boiler, a bellcal septum in eald chamter, whereby the gases are forced to pass in a tangential helical whirl about the boller to its other end: a superheater located at this ond and a steam plpe connecting the boller steam space with sall superheater, substantlally as described.
8. The comblnation of a vertical boller provided with tubes. a chamber surrounding the boller, a furnace connected tangentially with eald chamber near its upper end. a hellical septum in sald chamber surrounding the boller. a superheater located below the boiler in said chamber and a pipe connecting the steam space with said superheater whereby the furnace gases pass in a tangential helfcal whirl about the boller. down through the chamber. about the superheater, and then through the boller tobec. substantially as described.

\section*{No. 102,291. Imbsicator. Graisacur.}

Darius Gilead Pickett, asalgnoe of Lester D. Pickett. both of Fredonia. New York. U.8.A., 27th November, 1908: 6 ycars. Filed 18th August, 1908. Recelpt No. 138,is3.
Claim.-1. The combination with an internal combuation engine, of a lubricator connected thereto, meana for regolating the speed of the engine, and mechantam conaecter to the pered regulating means for goveraing the quancley of lubricant fed from the lubricant at each nirote of cio ea. gine.
2. The combination with an internal combustion engine. of a speed regulating means for the engine, and a lubri-

cator connected to the speed regulator means and adjustable therewith to increase the quantity of the lubricant fed at each stroke of the piston as the speed of the engine increases, and to reduce the quantity of lubricant fed at each stroke as the speed of the engine decreases
3. The combination with an internal combustion engine, of means for regulating the speed of the engine, a lubricant reservoir, a feed chamber in communication therewith, a valve connected to the feed regulating means and adjustable in accordance with the speed of the engine to govern.
4. The combination with an internal combustion engine, of a lubricator connected thereto, means for regulating the speed of the engine, and mechanism connected to the speed regulating means for governing the quantity of lubricant fed from the lubricator.
5. In a lubricator, a pair of superposed chambers, the upper forming a reservoir, and the lower a feed chamber, a pair of valved ports through which sald chambers may be placed in communication with each other, and adjusting mechanism connected to one of the valves, the second valve being manually adjustable to open or closed position, and a suction opened discharge valve for permitting the flow of lubricant from the feed chamber.
6. In a lubricator, a hollow spindle having an annular flange arranged intermediate its ends, upper and lower cap members mounted on the spindle, tubular casings extending between the flange and the cap members and forming superposed chambers, one constituting an of reservoir and the other a feed chamber, thers being a valved port extending through the flange, and a port extending from the lower chamber to the interior of the hollow spindle, the lower end of said spindle being arranged to form a valve seat, a valve adapted to said seat. a rod extending through the spindle, a spring acting on said rod, aud tending to close the valve, and means for connecting the uppar chamber to a main lubricant reservoir.
7. In a lubricator, a hollow spindle having an annular flange about midway of its ends. cap members fitted on the end portions of the spindle, tubular casings held between the flange and cap members, packing rings arranged at the end of the casinge to form fluid proof joints, the upper of the casings constituting an oil reservoir and the lower. a feed chamber, there being a port extending through the wall of the lower portion of the chamber for the outflow of oil from the lower chamber and a pair of ports extending through the flange, a valve arranged in one of said ports, an adjusting device connected to said valve, a second manually operable valve arranged in the second port, there being an air port leading from the onter edge of the flange to the lower chamber, a valve in said port, a coupling collar screwed to the lower end of the spindle, the lower end of said spindle being shaped to form a valve seat, a suction opened valve adapted to said seat, a valve rod extending through the spindle, a spring arranged at the upper end of the spindle and tending to hold the valve closed, a lock nut at the upper threaded end of the spindle, a cap covering the end of the spindle and concealing the spring, a ramovable plug screwed in the upper cap and a coupling nipple extending from the upper cap for connection to a main supply reservoir.

No. 102,292. Locomotive. Locomotive.


John Edward Robertson and Robert Carnahan, Jr., assignee of a half interest, both of Onedia, Kentucky, U.S.A., 27th November, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,080.
Claim.-1. In a locomotive engine the combination with the front and rear driving wheels thereof, of two cylinders arranged upon each side of the locomotive, one above the other, a piston working in each cylinder, pitmen connected at their forward ends, one to each piston rod, the rearward end of the lower pitmen being plvoted eccentrically to the forward driving wheel, a connecting rod connecting the forward driving wheel with the rearward driving wheel. gears secured to and adapted to revolve with the driving wheels, gears arranged above the first-named gears and meshing with the same and journalled to the framework of the locomotive. the upper pitmen being pivoted eccentrically to the forward upper gears, connecting rods connecting all of the upper gears together, the wrist pins of the driving wheels and the wrist pins of the upper gears being so disposed relative to one another as to be one-quarter revolution removed relatively, as and for the purpose specified.
2. In a locomotive engine the combination with the front and rear driving wheels thereof, of two cylinders upon each s!de of the locomotive, said cylinders being arranged one above the other, piston rods extending from said cylinders, two pitmen upon each side of the locomotive connected one to each piston rod, the lower pitmen being connected at their rearward ends eccentrically to the forward driving wheels, wheels arranged above the driving wheels and adapted to mesh therewith, the upper pitmen connected at their rearward ends to the forward one of these wheels, connecting rods connecting the driving wheels together and also the wheels in mesh with the driving wheel, the wrist pins upon the driving wheels being so disposed that the pistons in each pair of cylinders will always be at a distance apart equal to half of a complete stroke in either direction to cause the pistons at one end of the engine to move in the same direction for half of the stroke of any one piston, while during the next half stroke the piston will move in opposite directions.

\section*{No. 102,293. Gas Engine. Machine d oaz}

Robert P. Moodie and Charles W. Ball, assignee of a half interest, both of Ottawa, Ontario, Canada, 27 th November, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,096.
Claim.-1. An engine comprising the combination with a cylinder and piston, of a valve casing communjoating with the cylinder, an inwardly opening valve commanding opening in the valve casing, an outwardly opening valve commanding a second opening in the valve casing, a pressure reservoir communlcating with the second valve, means establishing communication between the pressure reservoir and a third opening in the valve casing at a point removed from the two valves first-named, a third valve operating in the valve casing, and means for operating the third valve, said valve being shiftable to establish communication between the two first-named valves and the cylinder, or to close the said communication and establislı communication between the third opening in the valve casing and the cylinder.
2. The combination with two cylinders and plstons thereIn, of a valve casing communicating with said cylinders, a prissure reservoir, means establishing communication between the pressure reservoir and an intermediately situated opening in the valve casing, two valves commanding openings in one end of the valve casing, one valve opening inwardly and the other opening outwardly, means establishing communiaation between the outwardly openting valve and the presure reservoir, a third valve operating
within the valve casing. and mrans for actuating the third valve, said third valve being shiftable so as to distribute

the pressure from said intermediately situated opening in the valve casing to the two cylinders or to close communiration between said cylinders and sald intermediately situated opening an do open comunication between the two first-named valves and one of the cylinders.
3. The combination with two cylinders and pistons operating therein, of a valve casing communicating with the cylinders. a pressure reservoir communicating with the valve casing intermediate its ends, inlet and outlet valves commanding oriftees in one end portion of the valve casing, means establishing communication botween the outlet valve and the pressure reservoir, and a valve operating in the casing and rapable of connecting the pressure riservoir with the cylinders to distribute the pressure therein and operato the pistons, or of moving to disconnert one of the cylinders and connect the other cylinder with the end of the valve casing having the said infet and outhe valves, whereb; to permit the operation of the last. nimed eylnder os : cenepressor.
4. The combination with two cylinders and pistons work. ing therein, of a valve casing communicating with the cylinder, a pressure reservoir, means establishing communication between the pressure reservoir and an intermedi ately situated oriflee in the vaive casing. inlet and out. let valves commanding orifices in one end of the valve rasing means establishing communication between the outlot valve and the pressure reservoir, and a valve arranged to rock and slide within the valve casing. said valve being slidable to one position to distribute pressure to the cylinders from said intermediately situated orifice, and to another position to cut off the cylinders from one orlfice and connect one of the cylinders with said inlet and outlet valves.

No. 102,294. Valve for Explosive Engines.
Soupapc pour machincs cxplosites.


The Winton Motor Carriage Company, assignee of Alexamber Winton and Harold B. Anderson, all of Cleveland, ohin. l.s.A., 27th Nowmber. 1:0f; 6 years. Filed 4th O-tober. 1906. Receipt No. 140,037 .
Claim.-1. The combination of two reciprocaling valves having projecting stoms, of a member loosely connected
with both of said valve stems, and a spring acting upon the yoke at an intermediate point to actuate both valves ind.pendently in the same direction.
2. The combination of two valves having stems projecting in the same direction, a tilting member having its ends looscly connected with said valve stems and a spring acting on the said tilting member at an intermediate point to move the valves independently in the same direction.
3. The combination of two valves having stems projecting in the same direction, a yoke having its respective ends swivelled to said stems and a spring acting on the yoke at an intermediate point to move said valves in the same dirction.
4. The combination of two valves having stems projecting in the same direction and a rigid yoke spanning the space between said stems and having its respective ends fulcrumed upon said valve stems and a spring acting on the yoke at an intermediate point and thereby serve to holl said valves in the same direction and permit independen: movement thereof.
5. The combination of two valves having their stems projecting in the same direction, a valve stem yoke having its respective ends fulcrumed on said stems, a spring yoke fulcrumed on said yoke and a spring acting on said spring yoke, the parts operating substantially as described.
6. The combination of two valves having stems projecting in the same direction, a valve stem yoke having its respective ends fulcrumed on said valve stems, a spring yoke fulcrumed at an intermediate point on said stem yoke, a spring holding member carried by the sald spring yoke, and a spring having one end in said holder and its opposite end engaging an independent member, the parts co-operating substantially as described.
7. The combination of two valves, and a single sprin; connected with said valves to move them in the same direction and to permit them to have an independent movemen: in the opposite direction.
8. The combination of two valves means for moving them alternately in the same direction, and a spring connected with the valves to alternately exert a tension on the ralves and permitting them to be alternately moved against said tension.
9. The combination of the two valves, means for moving the valves alternately in the same direction, and a spring connected with the valves to simultaneously exert a tension on both values in the same direction and at the same time permit either valve to be moved against said tension.
10. The combination of two valves, means for alternately moving the valves in the same direction, a spring connected with the valves to move them in the same direction and to exert an increased tension on one valve when the other is moved against the tension thereof.
11. The combination of two reciprocating valves having valve stems projecting in the same direction, remorable pins passing through said stems, a spring yoke having 1 e ends projecting at each side of said valve stems and ingaging said pins, the yokr constructed to hold the pins ir. place, and a spring holding the yoke in engagement with the pins.
12. The combination of two valves having stems projeciing in the same direction, removable pins passing through the stems, a spring yoke having its ends extending at each side of the stems and provided with recesses constructed to hold the pins against endwise removal, and a spring holding the yoke in engagement with the pins.
13. The combination of a reciprocating valve having a stom, a removable pin passing through its stem, and a spring yoke having a recess constructed to receive and prevent the endwise movement of the pin while in engaf.ment therewith.
14. The combination of a reciprocating valve having a projocting stom. a spring holding the valve closed, a ricinrocalling piston having an adjustable head adapted to cm とaLe sad valw stem. and means for moving the plston. th. parts constructed for the purpose described.
15. In an explosive engine reciprocating valves therefor a cam shaft rasing. a shaft carrying cams for operatio. \(=\) said valves, and removable cam shaft bearings carried by the casing of a size when removed to permit the shaft \(w: t h\) the rams thereon to be removed.

\section*{No. 102,295. Internal Combustion Bngine.}

Machine a combustion interne.
Arthur B. Goodsperd. Roseville, New Jerseg. C.S.A., a: Nowember, 1:06; 6 years. Flied 9th June, 1906. Receis: No. \(136 . \pi 56\).
Claim.-1. In an internal combustion engine the combin. ation of a working cyllader and plston, a primary com. pressor, an auxiliary compressor recelving air from the primary compressor and dellvering alr to the working cylinder, and means whereby air may be dellvered from
the auxiliary compressor to the primary compressor, substantially as described.

2. In an internal combustion engine the combination of a working cylinder and piston, a primary compressor, an auxiliary compressor recelving air from the primary compressor and delivering air to the worling cylinder, and a connection including a relief valve, fr'm the head end of the auxiliary compressor to the head end of the primary compressor, substantially as described.
3. In an internal combustion engine the combination of a working cylinder and piston, a primary compressor, an auxillary compressor, a connection, including a reservoir between the primary compressor and the auxiliary compressor, a connection between the auxiliary compressor and the working cylinder, and a connection including a rellef valve between the auxiliary compressor and the primary compressor, substantially as described.
4. In an internal combustion engine the combination of a working cylinder and piston, a primary compressor, an auxiliary compressor, a connection, including a check valve between the primary compressor and the auxiliary comsompressor, a connection including an inlet valve between the auxiliary compressor and the working cylinder, and a connection, including a relief valve between the auxiliary compressor and the primary compressor, substantially as described.

5 In an internal combustion engine the combination of a working cylinder and a primary compression cylinder in tandem, pistons for sald cylinders connected to move together, an auxiliary compressor, a connection, including a check valve, between the primary compression cylinder and the auxiliary compressor, a connection between the auxiliary compressor and the working cylinder and a connection, including a relief valve, between the auxiliary compressor and the primary compressor, substantially as described.
6. In an internal combustion engine the combination of a working cylinder and piston, a compression cylinder and piston, a reservoir, a connection from said reservoir to said working cylinder, a connection from said compression cylinder to said reservoir, a valve in sald connection normally opening under presstre from the compression cylinder, and means to open said valve to admit air under pressure from the reservoir to the compression cylinder in starting the engine, substantially as described.
7. In an internal combustion engine the combination of a working cylinder having a valve for the admission of fuel. oil and air, a piston, a compression cylinder and piston, a reservoir, a connection from said reservoir to said working cylinder valve, a connection from said compression cylinder to said reservoir, and a valve in said connection normally opening under pressure from the compression cylinder, substantially as described.

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\section*{No. 102,296. Internal Combustion Brgine.}

Machine d combustion interne.


Arthur B. Goodspeed, Roseville, New Jersey, U.S.A., 27th
November, 1906; 6 years. Filed 9th June, 1906. Receipt
No. 136,757.
Claim.-1. In an internal combustion engine, the combination with an inlet port, of a two-part valve to co-operate therewith and comprising a central part and an outer annular part seated upon the said central part and movable independently thereof, and said central part co-operating directly with said port to close the same, and means to supply alr and fuel for admission by said parts respectively, substantially as described.
2. In an internal combustion engine, the combination with an inlet port, of a two-part valve to co-operate with said port and comprising a central part and an outer annular part seated upon said central part and movable independently thereof, said outer part being chambered internally and provided with a port, and said central part co-operating directly with said inlet porf to close the same, substantially as described.
3. In an internal combustion engine, the combination with an jnlet port having a conical valve seat, of a two-part valve to co-operate with said valve seat and comprising a central part and an outer annular part seated upon said central part and movable independently thereof, substantially as described.
4. In an internal combustion engine, the combination with an inlet chamber having an inlet port, of a two-part valve to co-operate with said port and comprising a central part and an outer annular part having a chambered sleeve surrounding the stem of the first-named part and provided with a port, and means to supply the elements of the combustible mixture separately to said valve chamber and said last-named port, substantially as described.
5. In an internal combustion engine, the combination with an inlet port valve, of a two-part valve to co-operate with said port and comprising a central part having a stem and an outer annular part seated upon the first-named part and having a chambered sleeve surrounding said stem valve operating devices operatively connected with said stem, and means to supply the elements of the combustible mixture separately to said valve port and to sald chambered sleeve, substantially as described.
6. In an internal combustion engine, the combination with an inlet valve port and a valve chamber, of a two-part inlet valve to co-operate with said valve port and comprising a central part having a stem and an outer annular part seated upon the first-named part and having a chambered sleeve surrounding said stem, means co-operating with said stem to lift the valve, and means to supply the elements of the combustible mixture separately to said valve chamber and to said chambered sleeve, substantially as described.

\section*{No. 102,297. Hydro-Carbon Engine. \\ Machine a hydro-carbone.}

Friedrich August Haselwander, Rastall, Germany, 27th November, 1906; 6 years. Filed 29th August, 1905. Recelpt No. \(128,019\).
Claim.-1. In a hydro-carbon engine having a projection at the rear of its piston, and another projection in the rear of its cylinder, the two projections being adapted near to the end of the back stroke of the piston to co-operate with each other so as to form two spaces of unequal capacity, the combination with the piston and the cylinder, of two projections of the kind stated, but so shaped that they form ledges extending across the cylinder space and are adapted to co-operate like a slide valve, as set forth.
2. In a hyro-carbon engine having a projection at the rear of its piston and another projection in the rear of its

cylinder, the two projections being adapted, near to the end of the back stroke of the piston, to co-operate with each other so as to form two spaces of unequal capacity, the combination with the piston and the cylinder, of two projections of the kind stated, and a third extending parallel to that in the rear of the cylinder and forming with the same a recess adapted to receive the projection of the piston, all said projections extending across the cylinder, as set forth.
3. In a hydo-carbon engine having a projection at the rear of its piston and another projection in the rear of its cylinder, the two projections being adapted near to the end of the back stroke of the piston, to co-operate with each other so as to form two spaces of unequal capacity, the combination with the piston and the cylinder, of two projections of the kind stated and a third extending parallel to that in the rear of the cylinder and forming with the same a groove adapted to receive the projection of the piston, said latter projection being shaped as a rib extending across the piston and being adapted to operate like a slide valve, as set forth.
4. In a hydro-carbon engine having a projection at the rear of its piston and another projection in the rear of its cylinder, the two projections being adapted, near to the end of the back stroke of the piston, to co-operate with each other so as to form two spaces of unequal capacity, the combination with the piston and the cylinder, of two projections of the kind stated, but the projection of the piston forming a rib extending across the whole diameter of the piston, and the other projection forming a ledge extending across the whole diameter of the cylinder space, parallel to sald rib, as set forth.
5. In a hydro-carbon engine having, first, a projection at the rear of its piston and another projection in the rear of its cylinder, the two projections being adapted, near to the end of the back stroke of the piston, to co-operat: with each other so as to form two spaces of unequal capacity, and second, a channel between said two spaces. the combination with the piston, the cylinder and said channel, of two projections of the kind stated, but so shaped that they form ledges extending across the cylinder space and are adapted to operate like a slide valve, and means for introducing the hydro-carbon into said channel, as set forth.
6. In a hydro-carbon engine having, first, a projection at the rear of its piston and another projection in the rear of its cylinder, the two projections being adapted, noar to the end of the back stroke of the piston, to co-operate with each other so as to form two spaces of unיqual capacity. and second, a channel betwern sald two spaces. the combination with the piston, the cylinder and said channel, of two projections of the kind stated, a third extending parallel to that in the rear of the cylinder and forming with the same a recess adapted to receive thi projaction of the plston, all said projections extending across the cylinder, and means for heating said channel, as set forth.
7. In a hydro-carbon engine having, first, a projection at the rear of its piston and another projection in the rear of its cylinder, the two projections being adapted near to the end of the back stroke of the piston, to co-operate with each other so as to form two spaces of unequal capacity. and second, a channel between said two spaces, the combination with the piston, the cylinder, and said channel. of two projections of the kind stated, a third extending parallel to that in the rear of the cylinder and forming with the same a groove adapted to receive the projection of th. piston. said latter projection being shaped as a rib extending across the piston and being adapted to operate like a slide valve, means for heating said channel, and means for introducing the hydro-carbon into the same.
8. In a hydro-carbon engine having, first, a projection at the rear of its piston and another projection in the rear of its cylinder, the two projections being adapted, near to the end of the back stroke of the piston, to co-operate with each other so as to form two spaces of unequal capacity. and second, an air inlet adapted to be opened by the piston at the end of its fore-stroke, the combination with the piston, the cylinder and the air inlet, of projections of the piston forming a rib extending across the whole diameter of the piston and being moreover so shaped that it is adapted to act as a deflector for the air allowed to pass into the cylinder through said inlet, the other projection fomring a ledge extending across the whole diameter of the cylinder space, parallel to said rib, as set lorth.
9. In a hydro-carbon engine having, first, a projection at the rear end of its piston and another projection in ithe rear of its cylinder, the two projections being adapted, near to the end of the back stroke of the piston, to cooperate with each other so as to form two spaces of unequal capacity, second, a channel betweeen sald two spaces, and third, an air inlet adapted to be opened by the piston at the end of its fore-stroke, the combination with the piston, the cylinder, the said channel and the said air inlet of two projections of the kind stated, but so shaped that they form ledges extending across the cylinder space and are adapted to operate like a slide valve, the ledge of the piston being moreover so shaped that it is adapted to act as a deflector for the air allowed to pass into the cylinder through said inlet, means for heating said channel, and means for introducing the hydro-carbon into the same, as set forth.

\section*{No. 102,298. Driving and Reversing Mechanism.} Mécunisme de mise en marche et renversement.


Robert Falkland Carey, 19 Ash Grove, Cricklewood. Misdlesex. England, 27th November, 1906; 6 years. Filed 30th January, 1906. Recelpt No. 132,422.
Claim.-1. In power transmitting, regulating and rerirsing mechanism, the combination with a rocker. of drivize mechanism connected to the rocker, a shifting fulcrum for said rocker, and means co-operative with the driving mechanism for adjusting sald fulcrum.
2. In a power transmitting, regulating and reversing mechanism, the combination with a rocker, of driving mechanism connected to the rocker, a shifting fulcrum for sald rocker, and means co-operative with the driving mechanism for automatically adjusting said fulcrum.
3. In Dower transmitting, regulating and reversing mechanism, the combination with driving mechanism, of a rccker connected therewith and carrying a cam, a driven member having a disc adapted to be engaged by sald cam, reversing mechanism for said driven member, a shifting fulcrum for said rocker, and means for simultancously applying the brake mechanism and adjusting the fulcrum.
4. In a power transmitting, regulating and reversing mechanism, the combination with driving mechanism of a rocker connected therewith and carrying a cam, a driven member having a disc adapted to be engaged by said cam, reversing mechanism for said drivon member, a shifting fulcrum for said rocker. and means dependent upon said fulcrum for actuating the reversing mechanism.
5. In a power transmitting, regulating and reversing mechanism, the combination with a rocker, driving mechanism connected to the rocker, a shifting fulcrum for said rocker in operative relation with the driving mechanism, and means actuated by the fulcrum for connecting or disconnecting the driving mechanism.
6. In power transmitting, regulating and reversing mechanism, the combination with a rocker, of driving mechanism connected to the rocker, a reciprocating fulcrum for sald rocker in operative relation to the driving mechanism, and means for limiting the travel of said fulcrum in either direction.
7. In power transmitting, regulating and reversing mechanism, the combination with a rocker, driving mechanism connected to the rocker, a shifting fulcrum for said rocker, brake mechanism, a frame carrying a screw spindle upon which the said fulcrum travels, gearing connecting the spindle with the driving mechanism, clutches controlling said gearing, and a plurality of regulating tappets for actuating the clutches and break mechanism.

No. 102,299. Ore Treatment. Traitement de minerais


Paul Gredt, Luxembourg, Germany, 27th November, 1906 ; 6 years. Filed 21st October, 1906. Receipt No. 129.444. Claim.-1. The herein described process of producing iron or steel which process consists in refining a bath of pig iron in an electric induction furnace by means of the convulsive movement caused by the pulsations of the inducing currents, said movement causing suitable additions to react rapldly upon pig iron or pig iron more or less refined.
2. The herein described process of producing iron or steel which process consists in refining a bath of pig iron by introducing suitable additions into the molten metal contained in an electric induction furnace, producing a convulsive movement of the bath by means of the pulsations of the electrc currents and thus causing the said additions to re-act rapidly upon the said bath of pig iron and to convert it into iron or steel.
3. The herein described process of producing iron or steel which process consists in introducing iron oxide compounds in a molten bath of pig iron contained in an clectric induction furnace, producing a convulsive movement of the bath by means of the pulsations of the electric currents and thus causing the said additions to re-act rapidly upon the said bath of pig iron and to convert it to iron or steel.
4.The herein described process of producing iron or steel which process consists in introducing iron oxide compounds mixed with reducing agents into a molten bath of pig iron contained in an electric induction furnace, producing a convulsive movement of the bath by means of the pulsations of the electric current and thus causing the sald additions to re-
act rapidly upon the said bath of pig iron and to convert it to iron or steel.
5. The herein described process of producing iron or steel which process consists in introducing suitable additions into a molten batff of pig iron freed to a convenient degree from phosphorus, contained in an electric induction furnace producing a convulsive movement of the bath by means of the pulsations of the electric currents and thus causing the said additions o re-act rapidly on said bath of pig Iron and to convert it to iron or steel. .
6. The herein described process of producing iron or steel which process consists in introducing iron oxide compounds into a molten bath of pig iron freed to a certain degneo from phosphorus, said bath being contained in an electric induction furnace, then producing a convulsive movement of the bath by means of the pulsations of the electric currents, and thus causing the said oxide compounds to re-act rapidly on the said bath of pig fron and to convert it to iron or steel.
7. The herein described process of producing iron or steel which consists in introducing iron oxide compounds mixed with reducing agents into a bath of pig iron freed from phosphorus to a certain degree and contained in electric induction furnace, producing a convulsive movement of the bath by means of the pulsations of the electric currents and thus causing the said oxide compounds to re-act rapidly upon the said bath of molten pig iron and to convert it to iron or steel.
8. The herein described process of producing iron or steel which process consists in introducing liquid pig iron into an electrical induction furnace adding suitable additions to the bath, blowing air into the bath for oxidizing the greater part of the phosphorus present producing a convulsive movement of the bath by means of the pulsations of the electric currents, then adding other suitable additions and thus converting the said pig iron to iron or steel.
9. The heretofore described electric induction furnace for carrying out the heretofore described process having an annular hearth provided with sumps or compartmetns for introducing the necessary additions and provided with restricted or widened portions for the purpose of forming an operating hearth for the re-action taking place, said sumps or compartments being so arranged as to direct said additions to come within the sphere or area of the pulsations of the bath.
10. The heretofore described electric induction furnace for carrying out the heretofore described process having an annular hearth provided with sumps and restricted to widened portions, taping holes provided at different levels for drawing off the slag or the molten bath and a tipping mechanism for the purpose of permitting of running off the metal or the slag.

No. 102,300. Flectric THme Switoh.
Aiguille horaire électrique.


John Gunning, 100 Holdenhurst Road, Bournemouth, Hants, England, 27th November, 1906; 6 years. FHled 9th December, 1905. Receipt No. 130,830 .
Claim-1.In electric time switches, a timing dial having adjustable releasing and closing tappets, a pivoted switch arm adapted to be displaced by the closing tappet, a detent co-operating with said switch arm and adapted to be displaced by the releasing tappet, a second pivoted switch arm, a spring urging said second arm to close on the first switch arm, a stop limiting the movement of the second arm and an insulating piece moved by the first switch arm to displace the second arm against its spring when the first arm is displaced by the closing tappet, substantially as described.
2. In electric time switches, a timing dial having adjustable releasing and closing tappets, a pivoted switch arm adapted to be displaced by the closing tappet, a detent cooperating with said switch arm and adapted to be displaced
by the releasing tappet, a second pivoted switch arm, a spring urging said second arm to close on the first switch arm, a stop limiting the movement of the second switch arm and a third arm pivoted on the first arm and arranged to encounter and displace the second arm when the first arm is displaced by the closing tappet, substantially as described.

No. 102,301. Holder for Paper Covers on Head Rests of Chairs.


Porte-papier à envelopper attaché au dos de fauteuil. Heinrich Mayr, Kulmbach, Bavaria, Germany, 27th November, 1906 ; 6 years. Filed 28th March 1905. ceipt No. 123.781.
Claim.-A holder with a supply roll of paper for covering the head rests of chairs having two supporting arms \(f\) pivoted at one end to the holder and adjustably held apari towards the opposite end by a crossbar o, substantially as set forth.

No. 102,302. Mrititubular Steam Generator. Générateur à vapcur.


P! \({ }^{\prime \prime}\)


Andrew Erskine, Muirhead, Cart Forge, Catheart, Glasgow, Ccotland, 27th November, 1906; 6 years. Filed 9th August, 1906. Receipt No. 138,550.
Claim.-In a multitubular steam generator the combination with the boiler tubes and the smoke box, of a spirally bent stirrer rod arranged in each of said tubes and having one of its ends extending outside of the smoke box, a motion plate arranged within the smoke box, and having a plurality of arms engaging the lateral ends of the stirrer rods and a driving shaft having one end connected to the motion plate and having its other end extending outside of the smoke box.

No. 102,303. Trolley Pole. Perche de trollé.


Hiliary Quertier, Dunedin, Otago, New Zealand, 27th November 1906 ; 6 years. Filed 12th October, 1906. Receipt No. 129,174.
Claim.- Apparatus for the purpose indicated, comprising in combination, a bracket fixed to the top of the vehicle. a lug integral with the bracket, a vertical stem having a jaw at its lower end, spring horns extending in opposite directions from the bracket, a tubular rod telescoping upon the stem, lock nuts screwed upon the stem, a spring threaded upon the stem between the lock nuts and the tubular rod, a trolley wheel mounted on the top of the tubular rod, a bracket fixed to the tubular rod and having opposing jaws, stay rods pivoted in the jaws of the said bracket and having their ends passed through the spring horns, nuts screwed upon the ends of the stay bars, springs threaded upon the stay bars and nuts above the springs screwed upon the stay bars, substantially as set forth.

No. 102,304. Cash Tray. Plateau àmonnaie.


Michael Holroyd Smith, Westminister, London, England, 27th November, 1906; 6 years. Filed 27th February. 1906. Recelpt No. 133 ès78.

Claim. - Cash trays made of glass or other transparent material characterized by the upper surfaces being surrounded by a concaved sloping rim thus forming a well or dish, the well being crossed by a rib or ridge also having concaved sloping sides, the rib dividing the well into two compartments into either of which coins can be placed, the slope and a curvature of the rib and rim being such that a coin can be easily drawn up the slope by the fingers until part thereaf projects above the rib or rim and picked up between the fingers and thumb and the underside of the said tray being recessed for the reception of pictures, marks, letters or designs for advertising or decorative purposes, and visible through the transparent material.

No. 102,305. Machine for Measuring and Cutting Cloth.
Machine a mesurer et couper le drap.
F/6.1.


Peter Smith Swan, 12 Clive Row, Calcutta, India, and Norman Fraser, Westburn Foundry, Arbroath, Forfar, Scotland, 27th November, 1906; 6 years. Filed 8th May, 1906. Receipt No. 136,049.

Claim.-1. In a machine for measuring and cutting cloth, and the like, in combination, a main shaft driven continuously, measuring and horizontally reciprocating cutting mechanism, and gearing for intermittently and alternately actuating such mechanism for the continuously running shaft.
2. In a machine for measuring and cutting cloth, and the like, a main shaft, a spur wheel thereon, and through which it is continuously driven, two partially toothed wheels carried by the syur wheel, measuring and cutting shafts. pinions thereon gearing with the partially toothed wheels, grooves in the spur whecl and studs on the pinions capable of sliding in the grooves, measuring rollers. changeable gear driving such rollers from the measpring shaft, a table, a knife running in a slot therein, gearing operating the knife from the cutting shaft and a cam operated slotted presser bar working above the table.
3. In a machine for measuring and cutting cloth, and the like, a disc knife and mechanism for intermittently riving a reciprocating and also a rotary motion thereto in combination with means for alternately and intermittently drawing out and measuring off the length of cloth to be cut and for holding the cloth whilst being cut.
4. In a machine for measuring and cutting cloth, and the like, a knife and mechanism for intermittently giving a reciprocating motion thereto, in combination with means for alternately and intermittently drawing out and measuring off the length of the cloth to be cut, and for holding the cloth whilst being cut.
5. In a machine for measuring and cutting cloth, and the like, a table over which the material to be cut is passed, a saddle slidable in a rail on the table, a disc knife on a spindle carried by the saddle, a slot in the table through which the knife protrudes, a rack on the under side of the table, a pinion on the disc knife spindle gearing therewith, a drum shaft, chains connecting the opposite ends of the saddle therewith, an intermittently driven cutting shaft, gearing connecting the two shafts to give a reciprocating motion to the knife, and means for holding the cloth whilst being cut.
6. In a machine for measuring and cutting cloth, and the like, a table over which the material to be cut is passed, a saddle slidable in a rail on the table, a knife carried by the saddle, a slot in the table through which the knife protrudes, means for giving a rotary motion to the knife, a drum shaft, chains connecting the opposite ends of the saddle therewith, and intermittently driven cutting shaft. gearing connecting the two shafts and consisting of bevel gear actuating a crank pin disc connected to a lever carrying a toothed sector gearing with a pinion on the drum shaft, and means for holding the cloth whilst being cut.
7. In a machine for measuring and cutting cloth, and the like, a table over Which the material to be cut is passed, a saddle slidable in the table, a knife carried by the saddle, a slot in the table through the knife protrudes, a drum shaft, chains connecting the opposite ends of the saddle therewith, means for rotating the drum shaft intermittently and alternatively in opposite directions so as to give an intermittent reciprocatory motion to the knife, and means for holding the cloth whilst being cut.
8. In a machine for measuring and cutting cloth, and the like, cloth measuring gear comprising measuring rollera. intermittently driven changeable gear including an epicyclic train, one member of which is connected to the measuring rollers, the second member of which is actuated by
the changeable gear, and the third member of which is also intermittently driven through changeable gear in combination with means for cutting the cloth.
9. In a machine for measuring and cutting cloth and the like, a measuring roller, a changeable gearing device for driving the same, an epicyclic train in said gearing device and comprising a shaft geared to the measuring roller, a dise pinion loose unon the shaft, changeable gearing for driving the disc, orbital pinions carried in the disc, a bevel pinion loose unon the shaft and gearing with the orbital pinions, a pinion fixed to the bevel pinion, changeable gearing driving that pinion, a second bevel pinion fast upon the shaft and also gearing with the orbital pinions, and means for intermittently driving the changeable gear device, in combination with means for cutting the cloth, as described.

No. 102,306. Fish Net Stake.
Potcau pour filets d poisson.


Edward J. Hopkins, Bay City, Michigan, U.S.A. 27th November, 1906; 6 years. Filed 7th September, 1906. Receipt No. 139,334 .
Claim.-1. A fish net stake comprising a lower section, an upper section removable relative to the lower section, means for retaining the upper and lower sections in alignment and a loose connection between the upper and lower sections.
2. A fish net stake comprising a stationary lower section, an upper section adapted to be aligned with the lower section and to move vertically relative thereto and a flexible connection between the sections.
3. A fish net stake comprising a lower section, a socket carried thereby and an upper section, the lower end of which is removably stopped in the socket, the upper section movable vertically relative to the lower section and a positive connection between the upper and the lower sections to prevent their separation.
4. A fish net stake comprising a lower section, a socket mounted thereon, the periphery of the socket being flush with the periphery of the lower section, an upper section removably seated in the socket and a positive connection between the upper and the lower section to prevent their entire separation.
5. A plurality of fish net stakes, each comprising a lower section, a socket carried thereby, an upper section removably seated in the socket the upper section capable of vertical movement relative to the lowef section, means for connecting the upper sections of the stakes and means for positively connecting the upper section with its corresponding lower section to prevent entlre separation.
6. A fish net stake comprising a lower section, a socket carried thereby and outwardly flared at its open end, an upper section removably seated in the socket and means for positively connecting the upper and lower sectlons to prevent their entire separation.
7. A fish net stake comprising a lower section. a socket carried thereby, a seat formed in the socket above the upper end of the lower section whereby to leave a chamber between the seat and upper end of the lower section, an upper section one end of which is removably received in the socket and a flexible connection between the upper and lower sections, the connection received in the chamber when the upper section is received in the socket.
8. A fish net stake comprising a lower section, a socket carried thereby, a pair of collars located interiorly of the socket and spaced apart from each other, the upper collar
being apertured the lower collar forming a seat for the upper end of the lower section, an upper section removably seated upon the upper collar and a flexible connection between the upper and lower sections and passing through the aperture in the upper collar, the connection recelved in the space between the collars when the upper section is seated in the socket.
9 A fish net stake comprising a lower section, a socket carried thereby. a pair of collars located interiorly of the sockrt and spaced apart from each other, the upper collar being apertured. the lower collar forming a seat for the upper end of the lower section, an upper section removably seated upon the upper collar, strengthening ribs located interiorly of the socket between the collars and a flexible connection between the upper and lower sections and passing through the aperture in the upper collar, the connection received in the space between the collars when the upper section is seated in the socket.

10 A fish net stake comprising a lower section, a socket carried thereby, an apertured seat formed in the socket and spaced above the upper end of the lower section, a pin held in the socket beneath the seat, an upper section removably receivable in the socket and a flexible connection between the upper section and the pin.
11. \(\Lambda\) fish net stake comprising a lower section, a socket carried thereby, the socket provided with intersecting bayonet grooves, an upper section removably seated in the socket and studs carried by the upper section, the studs received and travelling in the grooves.
12. A fish net stake comprising a lower section, a socket carried thereby, an upper section removably seated in the socket, studs carried by the upper section, the socket provided with intersecting grooves adapted to recelve the studs to releasably lock the upper and lower seculons together, one of the intersecting grooves being of such length that the upper section is seated before the stud reaches the bottom of the groove.
13. A fish net. stake comprising a lower section, an upper section removably seated relative thereto, and means for connecting the upper and lower sections at all tlmes to prevent an entire separation thereof, the upper section capable of a vertical movement relative to the lower section.
14. A fish net stake comprising a lower section, an upper section removably supported thereby and means for flexibly connecting the sections to permit the unseating of the upper section relative to the lower section and to permit the upper section to swing horizontally relative to the lower section.
15. A fish net stake comprising a lower section an upper section removably seated thereon, means for preventing an entire separation of the sections and a weight for submerging the upper section subsequent to its unseating.
16. A fish net stake comprising a fixed lower section, a socket carried thereby, an upper section loosely and removably received in the socket and a flexible connection, the opposite ends of which are respectively connected to the upper and lower sections.

\section*{No. 102,307. Wator Gas Prodncer.}

Productcur de gas d cau.


Dellwik-Firischer Gesellschaft, M. b. H., Frankfort on the Main, Germany, 27th November, 1906; 6 years. Filed 15th September, 1906. Recelpt No. 139.515.
claim.-1. A water gas producer, comprising a furnace, means for blowing the same hot by means of a suction
blast, a steam pipe opening into the upper part of the furnace, a scrubber, a water gas main leading from the lower part of the furnace, and opening into the bottom of the scrubber below the level of the bottom of the furnace. and a water seal in the bottom of the scrubber for the lower end of the gas main, substantially as specifed.
2. A water gas producer, comprising a furnace, a blast pipe provided with a slide valve and opening into the bottom of the furnace, a steam pipe opening into the upper part of the furnace, a scrubber, a water gas maln between the furnace and scrubber, and a water seal in the scrubber for sealing the lower end of the gas main. a coal feed hopper opening into the top of the furnace. a cone-shaped bottom for the hopper and means for depressing the bottom. a pipe communicating between the upper part of the hopper and fan casing, and provided with a slide valve, substantially as snecifled.
3. A water gas producer, comprising a furnace, means for blowing the same hot by means of a suction blast, a steam pipe opening into the upper part of the furnace, a scrubber. a water gas main between the lower parts of the furnace and scrubber, a water scal in the scrubber, a by pass for the suction blast, and a slide valve formed with a small opening and a full opening for three positions of the slide valve, substantially as specifed.

No. 102,308. Time Recorder. Registre horaire


The Canadian Time Recording Company, assignee of Alfonso L. Jaynes, Toronto, Ontario, Canada, 27th November, 1906; 6 years. Filed 8th January, 1906. Receipt No. 131,637.
Claim.-1. In a time recorder the combination of a card holder laterally movable, means for automacically moving said card holder in one direction at pre-determined intervals, means for automatically returning the card holder to its original position at a predetermined time, means for locking said card holder in each position, said means permitting a limited backward movement of the card holder from each position other than the first, substantially as described.
2. In a time recorder the combination of a card holder laterally movable, an arm connected therewith and longiludinally slotted, a projection on gald arm, a shaft transverse to the arm and passing through the slot therein. means controlled by a time clock for partially rotating the shaft at pre-determined intervals, a snall connected to the shaft, and adapted to engage the projection on the arm. and yielding means tending to hold the projection in contact with the snall, substantially as described.
3. In a time recorder the combination of a card holder laterally movable, an arm connected therewith, a projection on said arm, a shaft transverse to the arm, means controlled by the time clock for partially rotating the shaf: at pre-determined intervals, a snall connected to the shaft, and adapted to engage the projection on the arm. a pin on the arm for engagement by the snall, spaced from the projection a distance substantially equal to the greatest diameter of the snall, and arms secured to the snall substantially at right angles to its greatest diameter. and adapted to engage the pin to prevent forward movement of the arm when the snall is in intermediate positions, substantially as described.
4. In a time recorder the combination of a card boitlaterally movable, an arm connected therewith, a projectur. دa said arm, a shaft transverse to the arm, means crrtrolled by a time clock for partially rotating the shaft at prodetermined intervals, a snall connected to the shar:. and adanted to engage the projection on the arm, and a pin on the arm for cngagement by the snall, spaced from
the projection a distance substantially equal to the greatest diameter of the snail, substantially as described.
5. In a time recorder the combination of a card holder laterally movable, an arm connected to the card holder by a pin and slot connection, means engaging the arm for yieldingly pressing forward the card holder, means for automatically moving forward the arm at pre-determined intervals, and means for returning it to its original position at a predetermined time, substantially as described.
6. In a time recorder the combination of a card holder laterally movable, an arm connected therewith, a projection on said arm, a shaft transverse to the arm, a ratchet wheel on the shaft, a spring held ratchet rack engaging the ratchet wheel, clock controlled means for operating said rack, a detent carried by the rack, a notched wheel secured to the shaft and adapted to be engaged by the detent when the rack is at the forward end of its stroke, and means preventing backward movement of the shaft, substantially as described.
7. In a time recorder the combination of an abutment for a card, an operating lever for registering mechanism, a detent normally preventing the movement of the operating lever, a lever pivoted on the abutment in position for engagement by a card, and connections between the lever and the detent whereby the latter is disengaged from the operating lever when the abutment lever is pressed down by a card, substantially as described.
8. In a time recorder the combination of a clock driven vertically reciprocating abutment for a card, a bell crank lever pivoted on the abutment with one arm in position for engagement by a card, a vertical bar in position for engagement by the other arm of the bell crank lever, parallel equal pivoted links connecting the bar with a stationary part, a lever having one end in operative engagement with the bar, a detent engaged by the other end of the lever, an operating lever for registering mechanism normally engaged by the detent, and yielding means retaining the parts in the normal positions, substantially as described.
9. In a time recorder the combination of an abutment for a card, an operating lever for registering mechanism, a detent for engagement with the operating lever at two different positions of the latter and normally engaging the lever when the latter is in its normal position, a lever pivoted on the abutment in position for engagement by a card, and connections between the lever and the detent whereby the latter is disengaged from the operating lever when the abutment lever is pressed down by a card, substantially as described.
10. In a time recorder the combination of a clock driven vertically reciprocating abutment for a card, a laterally movable vertical rack with which the abutment is adapted to engage, yielding means normally maintaining the rack out of engagement with the abutment, means carried by the abutment adapted, when pressed by a card, to move the rack into engagement with the abutment, substantially as described.
11. In a time recorder the combination of a clock driven vertically reciprocating abutment for a card, a vertical rack, means for engaging the abutment and the rack, means carried by the abutment adapted, when pressed by a card, to effect an engagement between the rack and the abutment, and ylelding means normally maintaining the rack and abutment out of engagement, substantially as described.
12. In a time recorder the combination of a clock driven vertically reciprocating abutment for a card, a bell crank lever pivoted on the abutment with one arm in position for engagement by a card, a vertical bar in position for engagement by the other arm of the bell crank lever, parallel equal pivoted links connecting the bar with a stationary part, a lever having one end in operative engagement with the bar, a detent engaged by the other end of the lever, an operating lever for registering mechanism normally engaged by the detent, a laterally movable vertical rack with which the abutment is adapted to engage, an arm extending from the rack and engaging the vertical bar, and ylelding means normally maintaining all the parts in their normal positions, substantially as described.

\section*{No. 102,309. Nogative Pole Plate.}

\section*{Plaque de póle négatif.}

The Electric Storage Battery Company, Philadelphia, Pennsylvania, assignee of Paul Seeliger, Hagen, Germany, 27th November, 1906; 6 years. Filed 23rd March, 1905. Receint No. 123,639.
Claim.-1. Negative pole plate active material possessed of loose structure and being the product derived from expansion and disintegration induced by reducing and discharging a mixture of active and inert materials, substantially as described.
2. A negative pole plate consisting of a mixture of active and inert materials adapted upon reduction and discharge

to expand and disintegrate and produce a product being active material of loose structure and a support or grid having retaining means for holding said active material of loose structure upon its production in proper relation to the support, substantially as described.
3. A negative pole plate comprising a support operatively combined with active material of loose structure being the product derived from disintegration and expansion induced by reducing and discharging a mixture of active and inert materials, substantially as described.
4. A negative pole plate consisting of a support having spaces partially filled with a mixture of active material or material adapted to become active and an inert substance which upon reduction and discharge disintegrates and expands and constitutes a product being active material of loose structure which is retained in such spaces, substantially as described.

\section*{No. 102,310. Organ. Orgue.}

Louis Stacey Lockwood and James Stewart Collins, co-inventors, both of Woodstock, Ontario, Canada, 27th November, 1906; 6 years. Filed 29th August, 1906. Receipt No. 139,073.
Claim.-1. In a pneumatic organ the combination with the main action supporting rail, the pipes, pneumatics and valves for the pipes operated by the pneumatics of the valve chambers, connecting passages between the valve chambers and pneumatics and the main key action and a flexible diaphragm located in the valve chambers and designed to be forced against the end of the passages leading to the pneumatics by pneumatic pressure, as and for the purpose specified.
2. In a pneumatic organ the combination with the main action supporting rail the pipes, pneumatics and valves for the pipes operated by the pneumatics, of valve chambers. connecting passages between the valve chambers and the pneumatics and the main key action and having projecting beaded inner edges and flexible dlaphragms locate in thie valve chamber and designed to be forced against the beaded ends of the passage by the pneumatic pressure, as and for the purpose specified.
3. In a pneumatic organ the combination with the main action supporting rails, the pipes, pneumatics and valves for the pipes operated by the pneumatics, of valve chambers connecting passages between the valve chambers and the pneumatics, flexible diaphragms located in the chambers, a passageway extending to the back of the chambers behind the diaphragms and a partition having an orifice therein and located between the passage and the valve chambers. as and for the purpose specifled.
4. In a pneumatic organ the combination with the main action supporting rail, the pipes, pneumatics and valves for the plpes operated by the pneumatics, of valve chambers connecting passages between the chambers and the pneumatics, projecting beaded edges extending around the inner
ends thereof flexible diaphragms located in the chambers, a passageway extending to the back of the chambers be-

hind the diaphragms and a partition having orifices therein and a projecting beaded edge extending around the orifices and opposing the aforesaid beaded edges, as and for the purpose specified.
5. In a pueumatic organ the combination with the main action supporting rails, the pipes. pneumatics and valves for the pipes operated by the pneumatics, of valve chambers connecting passages between the chambers and the pneumatics. flexible diaphragms located in the chambers, a passageway extending to the back of the chambers behind the diaphragms and a partition having orifices therein and eyelets secured in the orifices and in opposing ends of the passage leading to the pneumatics, as and for the purpose speciffed.
6. In a pneumatic organ the combination with the plpes and the main action supporting rail having a bevelled lower surface and passages therein leading to the pipes, of pneumatic bellows secured in an oblique position to the bevelled portion of the rail and provided with an arm and valve head designed to cover the open ends of the passage leading to the pipes and a weight secured to the lower member of the valve bellows, as and for the purpose specified.
7. In a pneumatic organ the combination with the pipes. the pneumatics, the suppoiting rail having valve chambers therein and passages conrecting the valve chambers with the outside atmosphere and with the pneumatics, flexible diaphragms located in the valve chambers, a passageway located to the rear of the valve chambers, a partition located between the valve chambers and the passage and having orifice therein and reinforcing pieces secured to the diaphragm and designed alternately to cover the orifice in the partition and the end of the passage leading to the pneumatic, as and for the purpose specified.
8. In a pneumatic organ the combination with the pipes, the pneumatics, the supporting rail having valve chambers therein and passages connecting the valve chambers with the pneumatics and with the outside atmosphere a passageway located to the rear of the valve chambers, a partition located botween the passageway and the valve chambers and having orifices thicrein, eyelets held within the orifice and within the inner end of the passage leading to the pneumatic, a flexible diaphragm secured within the valve chamber and having a reinforced center portion designed to seat itself against the eyelets, as and for the purpose specified.

No. 102,311. Smelting Process and Apparatus.
Procédé et appareil de fonte.


Alfred Stansfield and Leo Bowlby Reynolds, co-inventor: both of Montreal, Quebec, Canada, 27th November, 1906: 6 years Filed 2nd June, 1904 Receipt No. 115,853.
Claim.-1. The process of recovering metal from an oxidized lead zinc ore, which consists in adding sufficient carbon to such oxidized ore, then subjecting such mixtures while excluding the air to heat produced electro-thermally. thereby reducing and melting the lead and simultaneously reducing and volatilizing the zinc, and finally separately collecting said melted lead and said volatilizing zinc, substantially as described and for the purpose set forth.
2. The process of recovering metal from a lead zinc ore, which consists in adding a reducing agent to the ore, then subjecting such mixture while excluding the air to heat produced electro-thermally, thereby reducing and melting the lead and simultaneously reducing and volatilizing the zinc and finally separately collecting said melted lead and said volatilized zinc, substantially as described and for the purpose set forth.
3. The process of recovering metal from lead zinc ore, which consists in adding to the ore a sufficient quantity of a substance or substances adapted when heated with the said ore to reduce the metal to the metallic state from the state of chemical combination with the other substances in which state they exist in the ore, then subjecting such mixture while excluding the air to heat produced electro-thermally, thereby reducing and melting the lead and simultaneously reducing and volatilizing the zinc and finally separately collecting said melted lead and said volatilized zinc, substantially as described and for the purpose set forth.
4. The process of recovering metal from an oxidized lead zinc ore, which consists in adding a reducing agent to the ore, then subjecting such mixture while excluding the air to heat produced electro-thermally, thereby reducing and melting the lead and simultaneously reducing and volatilizing the zinc and finally separately collecting said melted lead and said volatilized zinc, substantially as described and for the purpose set forth
5. The process of recovering metal from lead ore, which consists in subjecting such ore to an oxidizing roast, adding sufficient carbon to such oxidized ore, then subjecting such mixture while excluding air to heat produced electrothermally, thereby reducing and melting the lead and finally collecting said lead, substantially as described and for the purpose set forth.
6. The process of recovering metal from an oxidised lead ore, which consists in adding sufficient carbon to mach ont. dized ore, then subjecting such mixture while exalylang of
to heat produced electro-thermally, thereby reducing and melting the lead, finally collecting said lead, substantially as described and for the purpose set forth.
7. The process of recovering metal from an oxidized lead zinc ore which consists in adding sufficient carbon to such oxidized ore, then subjecting a continuous supply of such mixture while excluding the air to heat produced electrothermally thereby reducing and melting the lead, simultaneously reducing and volatilizing the zinc, and also simultaneously, fusing the remainder of the ore, and finally separately collecting said melted lead and said volatilized zinc, substantially as described and for the purpose set forth.
8. The process of recovering meta: from a lead-zinc ore, which consists in subjecting said ore to an oxidizing roast, adding sufficient carbon to such oxidized ore, then subjecting such mixture while excluding the air to heat produced electro-thermally, thereby reducing and melting the lead and simultaneously reducing and volatilizing the zinc, and finally separately collecting sald melted lead and said volatilized zinc, substantially as described and for the purpose set forth.
9. The process of recovering lead and zinc from an ore in which the said two metals occur which consists in first roasting the ore, then mixing the said ore with carbonaceous material, then submitting the said mixture to an elec-tro-thermic action in an air tight chamber thereby simultaneously reducing and melting the lead and reducing and volatilizing the zinc, and finally collecting in one smelting process the reduced and melted lead and the reduced and volatilized zinc, substantially as described and for the purpose set forth.
10. The process of recovering lead and zinc from an oxidized ore in which the said two metals occur which consists in charging the furnace with a substance adapted to become heated by the passage of an electric current therethrough, mixing the ore with carbonaceous material, adding the mixture to the substance, causing a current of electricity to pass through the mass thereby reducing and melting the lead and reducing and volatilizing the zinc, and finally collecting in one smelting process the reduced and melted lead and the reduced and volatilized zinc, substantially as described and for the purpose set forth.
11. The process of recovering lead and zinc from an ore in which the said two metals occur which consists in roasting the ore, charging the furnace with a substance adapted to become heated and melted by the passage of an electric current therethrough, mixing the roasted ore with carbonaceous mixture adding the mixture to the substance. causing a current of electricity to pass through the mass thereby reducing and melting the lead and reducing and volatilizing the zinc, and collecting in one smelting process the reduced and melted lead and the reduced and volatilized zinc, substantially as described and for the purpose set forth.
12. The process of recovering lead and zinc from an ore in which the said two metals orcur which consists in charging the furnace with a slag and a substance adapted to become heated by the passage of a current of electricity therethrough, causing a current of electricity to pass through said substance and melt the slag, roasting the ore, mixing the said ore with carbonaceous material, adding the mixture to the slag while the current of electricity is passing therethrough thereby reducing and melting the lead and redueing and volatilizing the zinc, and finally collecting in one smelting process the reduced and melted lead and the reduced and volatilized zinc, substantially as described and for the purpose set forth.
13. The process of recovering lead and zinc from an ore in which the said two metals occur which consists in roasting the ore, charging a furnace with a molten slag, causing a current of electricity to pass through said slag, mixing the said roasted ore with carbonaceous material, adding the mixture to the slag while the current of electricity is passing therethrough thereby reducing and melting the lead and reducing and volatilizing the zinc, and finally collecting in one smelting process the reduced and melted lead and the reduced and volatilized zinc, substantially as described and for the purpose set forth.
14. A smelting furnace wherein lead and zinc are recovered simultaneously from an ore in which they occur, such furnace consisting of a smelting chamber, a pair of electrodes arranged a distance apart within sald chamber, means whereby an ore in which the said metals occur is fed to the space between the sald electrodes, means whereby the reduced lead and the slag are removed, and means whereby the reduced and volatilized zinc is allowed to escrape from said chamber, substantially as described and for the purpose set forth.
16. A smelting furnace wherein lead and zinc are recovered simultaneously from an ore in which they occur, such furaace consisting of a smelting chamber, a pair of electrodes arranged a distance apart within said chamber, a
vertical shaft extending downwardly into said chamber and whereby an ore in which the sald metals occur is fed to the space between the sald electrodes, means whereby the reduced lead and the slag are removed, and means whereby the reduced and volatilized zinc is allowed to escape from sald chamber, substantially as described and for the purpose set forth.
16. A smelting furnace furnace whercin lead and zinc are recovered simultaneously from an ore in which they occur such furnace consisting of a smelting chamber, a pair of vertical electrodes arranged a distance apart within said chamber, means whereby an ore in which the said metals occur is fed to the space between the sald electrodes, means whereby the reduced leall and the slag are removed and means whereby the reduced and volatilized zinc is allowed to escape from said chamber, substantially as de. scribed and for the purpose set forth.
17. Smelting furnace wherein lead aud zinc are recovered simultaneously from an ore in which they occur, such furnace consisting of a smelting chamber, a pair of vertical electrodes arranged a distance apart within sald chamber, a vertical shaft extending downwardly into said chamber and whereby an ore in which the sald metals occur is fed to the space between the said electrodes, means whereby the reduced lead and the slag are removed, and means whereby the redisced and volatilized zinc is allowed to escape from sald chamber. substantially as described and for the gurpose set forth.
18. A smelting furnace wherein lead and zinc are recovered simultaneously from an ore in which they occur, such furnace consisting of a smelting chamber having an exit flue in the upper portion thereof, a pair of electrodes arranged a distance apart within said chamber, means whereby an ore in which the said metals occur is fod to the space between the said electrodes, means whereby the reduced lead and the slag are removed, substantially as described and for the purpose set forth.
19. A smelting furnace wherein lead and zinc are recovered simultaneously from an ore in which they occur, such furnace consisting of a smelting chamber having an exit flue in the upper end of one of its walls, a zinc condensing chamber adjacent to said smelting chamber and with which the said flue communicates, a pair of electrodes arranged a distance apart within said smelting chamber, means whereby an ore in which the said metals occur is fed to the space between the sald electrodes, means whereby the reduced lead and the slag are removed, substantially as described and for the purpose set forth.
20. A smelting furnace wherein lead and zinc are recovered simultaneously from an ore ir which they occur such furnace consisting of a smelting chamber having an exit flue in the upper end of one of its walls, a zinc condensing chamber adjacent to said smelting chamber and with which the said flue communicates and a secondary chamber adjacent to said condensing chamber, a communicating duct leading from said condensing to said secondary chamber, a pair of electrodes arranged a distance apart within said smelting chamber, means whereby an ore in which ths said metals occur is fed to the space between the said electrodes, means whereby the reduced lead and the slag are removed, substantially as described and for the purpose set forth.
21. A smelting furnace wherein lead and zinc are recovered simultaneously from an ore in which they occur such furnace consisting of a smelting chamber having an exit flue in the upper end of one of its walls, a zinc condensing chamber adjacent to said smelting chamber and with which the said flue communicates and a secondary chamber adfacent to said condensing chamber, a communicating port leading from said condensing to said secondary chamber, and a baffler wall extending downwardly from the top of said condensing chamber and adajacent to the last-mentoined port, a pair of electrodes arranged a distance apart within said smelting chamber, means when an ore in which the said metals occur is fed to the space between the said electrodes, means wherebj the reduced lead and the slag are removed, substantially as described and for the purpose set forth.

No. 102,312. Track Gange and Tevel. Jauge et niveau pour voies de chemin de fer.
Louis Barceloux, St. Guillaume Station, Quebec, Canada. 27th November 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,233.
Claim.-1. In a device of the character described, the combination comprising a frame, an axle carried by the frame, a pair of discs disposed on each end of the axle and arranged to lie on opposite sides of the rails of a railway track, rotatable members on the axle between each pair of discs, and means for fixing the discs at a plurality of points on the axle.
2. In a device of the cbaracter described the combination comprising a irame, an axle carried by the frame, discs

disposed on the axle, movable collars disposed on each side of the discs, and washers disposed intermediate of the dises.
3. In a device of the character described the combination comprising a frame, arms carried by the frame, an axle, means for securing the axle to the frame, gruge discs carried by the axle means for spacing the discs apart so as to lie on each side of the ralls of a rallway wack, and means carried by said arms adapted to indicate the level of a track.
4. In a device of the character described the combination comprising a frame, arms carried by the frame, an axle, a yoke disposed beneath the axle and extending through the frame and said arms. nuts on the yoke adapted to secure the arms to the frame, and the frame to the axle, a spirit level carried by the arms, and gauge indicating means carried by the axle.
5. In a device of the character described in combination with a wheeled car, a yoke carried by the car, a V-shaped frame disposed adjacent the yoke, a removable pin disposed through a portion of the car, the V-shaped frame and the yoke and adapted to form a pivctal connection between the frame and he car, an axle carried by the frame, gauges carried by the axle, and a level supported by the frame.

\section*{No. 102,313. Punching Machine. Machine d emporte-pièce.}

John L. Brower, Montreal, Quebec, Canada, 27th November, 1906; 6 years. Filed 7th November, 1906. Receipt No. 140,989.
Claim.-1. A multiple punch comprising a supporting frame or head having a plurality of openings each of which is adapted to recelve and guide a punch stock, a movable punch stock in each of said openings, a punch on the outer end of each stock, a plurality of superposed and adjustable gags supported in said frame or head and adapted to cover or uncover any one of the openings and control the movement of the punch stocks through the supporting frame or head.
2. A multiple punch comprising a supporting frame or head having a plurality of openings each of which is adapted to receive and guide a punch stock, a movable punch stock in each of said openings, punch on the outer end of each stock, a plurality of superposed and adjustable gags of different lengths supported in said frame or head and adapted to cover or uncover any one of the openings and control the movement of the punch stocks through the supporting frame or head.
3. A multiple punch comprising a supporting frame or head having a plurality of opening eash of which is adapted to receive and guide a punch stosk, a movable punch stock in each of said openings, a punch on the outer end of each stock, a plurality of superpos \(>d\) and adjustable gags supported in said frame or head and adapted to control any combination of the openings and movement of the punch stocks through the supporting frame or head.
4. A multiple punch comprising a supporting frame or head having a plurality of openings each of which is adapted to receive and guide a punch stock, a movable punch stock in each of said openings, a punch on the outer end of
each stock, a plurality of superposed gags supported in said frame or head and movable in the same direction and oper-

able from the same point, said gags adapted to control amy combination of the openings and movement of the punch stocks through the supporting frame or head.
5. A multiple punch comprising a supporting frame or head having a plurality of vertical openings each of which is adapted to receive and guide a punch stock, a movable punch stock in each of said openings, a punch on the outer end of each stock, a plurality of adjustable gags horisontally supported and arranged in tiers in said frame or head and adapted to control any combination of the openings and movement of the punch stocks through the supporting frame or head.
6. A multiple punch comprising a supporting frame or head having a plurality of openings each of which is adapted to receive and guide a punch stock, a movable punch stock in each gf said openings, a punch on the outer end of each stock, a plurality of superposed and adjustable gags supported in said frame or head and adapted to control any combination of the openings and movement of the punch stocks through the supporting frame or head, and stops for controlling the movement of the gags.
7. A multiple punch comprising a supporting frame or head having a plurality of openinge each of which is adapted to receive and guide a punch stock, a movable punch stock in each of said openings. a punch on the outer ond of each stock, a plurality of superposed and adjustable gags supported in said frame or head and adapted to control any combination of the openings and movements of the punch stocks through the supporting frame or head, and a bolt passing loosely through a slot in the end of the gags and acting as a stop for the adjusted positions of the gags. 8. A multiple punch comprising a supporting frame or head having a plurality of vertical openings arranged in rows at a right angle to each other, each of which openings is adapted to receive and guide a punch stock, a movable punch stock in each of said openings, a punch on the outer end of each stock, a plurality of superposed and adjustable gags of different lengths supported in said frame or hesd and adapted to cover or uncover any one of the openings and control the movement of the punch gtocks through the supporting frame or head.
9. A multiple punch comprising a supporting frame or head having a plurality of vertical openings arranged in rows at right angles to each other each of which openings is adapted to receive and guide a punch stock, a movable punch stock in each of said openings, a punch on the outer end of each stock, a plurality of superposed gags of different lengths supported in said frame or head and adjustabls In one direction and adapted to control any combination of the openings and movement of the punch stocks through the supporting frame or head.
10. A multiple punch comprising a supporting frame or head having a plurality of vertical openings arranged in rows at right angles to each other, each of which openings is adapted to receive and guide a punch stock, a movable punch stock in each of said openings, a punch on the outer
end of each stock, a plurality of superposed gags of different lengths supported in said frame or head and movable in the same direction and operable from the same point, said gags adapted to control any combination of the openIngs and movement of the punch stocks through the supporting frame or head.

Ne. IOF,314. Celour Printing Device Hor Cash Regiaters.
Apparell d imprimer en couleur pour registre àmonnaie.


Jules Frydmane and Louls Chambon, co-inventors, both of Paris, France, 27th November, 1906; 6 years. Filed 4th Auguet, 1906 Receipt No. 138,416.
Claim.-1. A colour printing for cash registers, characterized by an inking ribbon, similar to that used in typewriting machines, arranged in such a manner that it is automatically brought across the printing members of the said apparatus each time it is desired to register an operation other than that of a predetermined kind, with the object of producing by its intermediary, upon the registering or checking band, an impression of the corresponding indications, which will be clearly differentiated by its colour from the ordinary impression produced directly by the printing members inked in the ordinary manner, although the indications in opposite colours follow each other in one and the same column.
2. The arrangement of the inking ribbon upon a rocking support in relation to the printing member comprising characters sorving for the varions kinds of operations, the said rocking taking place only when the characters of this part reserved for operations other than those consisting of a predetermined kind become operative, for the purpose of placing the said ribbon across the printing members at this moment.
3. The arrangement upon the printing member, comprising characters adapted for the various. kinds of operations of a cam presenting a recess of an amplitude equal to that formed by the characters reserved for the operations other than those of a predetermined kind and keyed in such a poaition thet at the proper moment it releases the inking ribbon mpport so as to render the ribbon opera'ive relatively to the printing parts.
4. The combination of the printing parts, the ordinary inking parts, and the printing table of cash registers with an inking ribbon, a support for this latter, a cam acting upon the said support, and which permits of bringing the inking ribbon across the printing parts under predetermined conditions and when the ordinary inking members move aside, in such a manner that these printing parts instead of pronting directly print indirectly and in a different coleur.

No. 102,315. Teaching Apparatus.
Appareil d'enseignement.


Henry Thomas Fox-Esmond, 14 Margaret street, Rozelle, Sydney, New South Wales, Australia, 27th November, 1906; 6 years. Filed 11th September, 1906. Receipt No. 139,422.
Claim.-1. A demonstrating apparatus consisting of a polygonal frame of box shape, having mare than two sides, so as to admit of different demonstrations being exhibited thereon, or upon paper or fabric attached to rollers fixed at the top of each side, such polygonal frame being in combination with and suspended on a central pillar and being movable vertically up and down by means of sheaves, supporting cords, and a balance weight, such sheaves and the frame carrying the same being fixed at the top of the central pillar, and pivoted upon a ball bearing or other suitable pivot in order to rotate such polygonal frame.
2. A demonstrating apparatus consisting of a polygonal frame of box shaye, formed with more than two sides, whereon different demonstrations may be exhibited, in combination with a central pillar, and with appliances for suspending the said polygonal frame to such pillar moving vertically and rotating the same.
3. A demonstrating apparatus consisting of a polygonal frame of box shape, formed with more than two sides, having rollers fixed at the top of each side bearing thereon rolls of paper or other fabric whereon different demonstrations may be exhibited, in combination with a central pillar, and with appliances for suspending the said polygonal frame to such pillar moving vertically and rotating the same.
4. A demonstrating board suspended on a central pillar so as to admit of different demonstrations being exhibited thereon or upon paper or fabric attached to rollers fixed at the top of each side, such demonstrating board being in combination with and suspended on a central pillar and being movable vertically up and down by means of sheaves supporting cords and a balance weight, such sheaves and the the frame carrying the same being fixed at the top of the central pillar, and nivoted upon a ball bearing or other suitable pivot in order to rotate such demonstrating board, substantially as described.
5. A demonstration board suspended on a central pillar, having rollers with paper or fabric attached thereto fixed at the top of one side, such demonstration board being in combination with and suspended on a central pillar, and being movable vertically up and down by means of sheaves supporting cords and a balance weight, such sheaves and the frame carrying the same being fixed at the top of the central pillar.
6. A demonstrating apparatus consisting of a frame having two or more sides, so as to admit of different demonstrations being exhibited thereon, or upon paper or fabric attached to rollers fixed at the top of each side, such frame being in combination with and suspended upon a cen
tral plllar, and being moved vertically up and down by means of sheaves supporting cords and a balance weight such sheaves and the frame carrying the same being fixed at the top of the central pillar and pivoted upon a ball bearing or other suitable pivot in order to rotate such frame, said frame having eyelets or pintles on the edges thereof, and in combination therewith separate demonstrating boards, having on one edge of the frames thereof pinlles or eyelets to fix into the eyelets or pintles of the frame suspended on the central pillar, or into the eyelets or pintles of a board attached thereto, a board or series of boards so attached being supported if required by a standard having thereon a sliding part to which is fixed eyelets or pintles to fit into the pintles or eyelets of the board or last board to be supported.
7. A demonstrating apparatus consisting of a frame having two or more sides, so as to admit of different demonstrations being exhibited thereon, or upon paper or fabric attached to rollers fixed at the top of each side, in combination with a central pillar, and with appliances for suspending the said frame to such pillar moving vertically and rotating the same, said frame having eyelets or pintles on the edges thereof, and in combination therewith separate demonstrating boards, having on one edge of the frame thercof pintles or eyelets to fix into the eyelets or pintles of the frame suspended on the central pillar, or into the eyelets or pintles of a board attached chereto, a board or series of boards so attached being supported, if required, by a standard having thereon a sliding part to which is fixed eyelets or pintles to fit into the pintles or eyelets of the board or last board to be supported.

No. 102,316. Magazine Firearm.
Arme à feu à magasin.


Alfred Milroy Nolf, Salt Lake City, Utah, U.S.A., 27th November, 1906; 6 years. Filed 24th July, 1906. Receipt No, 138,111.
Claim.-1. In a magazine firearm the combination of a stock, guides extending forwardly from the stock, a barrel slidably mounted upon said guides, a guide bar rigidly supported beneath said barrel and attached to the stock, a rib on said guide bar near the forward end thereof, ad metal stnap secured to said barrel on the under surface thereof and having an opening, a guide loop slidable on said strap and on said guide bar, a spring pressed pawl in said guide loop adapted to engage the opening in said strap and to be forced out of engagement therewith by the rib upon said guide bar, and a fore end rigidly associated with said guide loop.
2. In a magazine firearm the combination of a hammer, a trigger, a latch for said trigger, a sliding fore end, and connections between said fore end and said hammer and between said fore end, and said trigger latch, whereby the forward movement of said fore end cocks said hammer and locks said trigger.
3. In a magazine firearm the combination of a hammer, a trigger, a latch for said trigger, a lock to hold sald trigger latch positively in operative position, and a sliding fore end operatively connected with the said latch and said hammer whereby the foreward movment of the fore end cocks the hammer, sets and latches the trigger and locks the trigger latch positively in operative position.
4. In a magazine firearm, the combination with a barrel, of a pair of cartridge chambers one on either side of the barrel near the breech end. means in said chambers for raising the cartridge therein, and means for alternately removing the uppermost cartridge in each chamber and introducing it into the barrel.
5. In a magazine firearm, the combination with a barrel, of a pair of cartridge chambers located one on each side of the barrel near the breech end thereof, a pivoted cartridge shifter for each of said chambers, and means for operating said shifters alternately.
6. In a magazine firearm, the combination of a barrel, a pair of cartridge chambers located one on either side of said barrel near the breech end thereof. a plvotal mounted fork lying in each of said chambers and forming means for shifting cartridges from said chamber into position beneath the barrel, means for raising the cartridges in each of sald chambers, and means for alternately actuating sald fork to remove the uppermost cartridge in each of said chambers. 7. In a magazine firearm, the combination. of a sliding barrel, a pair of cartridge chambers located one on elther side of the breech end of said barrel, a pivoted cartridge shifting fork located in each of said chambers, means associated with said barrel for operating said forks alternately to shift the cartridge from the magazine chamber into position beneath said barrel, and means for holding the fork in position under the barrel until the cartridge has been disengaged from the fork.
8. In a magazine firearm, the combination of a sliding barrel, a pair of cartridge chambers located one on either side of said barrel near the breech end thereof, a pair of pivoted cartridge shifting forks, means associated with the barrel whereby the rearward movement of the barrel actuates one of said cartridge forks and causes it to shift a cartridge into position beneath the barrel, and means for locking said fork in position beneath the barrel until the forward movement of the barrel.

In a magazine firearm, the combination of a stationary guide bar, a barrel slidably mounted above said guide bar, a pair of cartridge chambers located adjacent to the breech end of said barrel one upon either side thereof and below the level of the barrel, a pair of pivotal cartridge shifting forks adapted to shift the cartridges alternately from said chambers into position under said barrel. a pair of spring fingers attached to said guide bar and provided with locking lug adapted to lock said forks alternately in position under said barrel when they have been shifted into position thereunder. and means associated with said barrel for disengaging said locking lugs and said forks.
10. In a magazine firearm, the combination of a sliding barrel, a pair of cartridge chambers located one on either side of said barrel near the breech end. a stationary member beneath said barrel, a pair of cartridge shifting forks pivotally mounted on said stationary member and adapted to shift cartridges from said chambers into position beneath said barrel, a pair of snring fingers provided on said stationary member, each of said spring fingers having a pair of upwardly projecting lugs nne of which is adanted to lock the cartridge shifting fork in position under the barrel after a cartridge has been shifted into position beneath the barrel, and means provided beneath the barrel for engaging with the other lug upon each of said spring fingers to depress either of the fingers and release the cartridge fork locked by either of said fingers.
11. In a magazine firearm the combination of a sliding barrel a pair of cartridge chambers located one on either side of said barrel near the breech end, a stationary member beneath said barrel, a pair of forks pivotally mounted on said stationary member and adapted to shift cartridges from said chambers into position beneath said barrel, a pair of spring fingers attached to said stationary member and each having a pair of upwardly projecting lugs the rear one of which is adapted to lock the fork in position beneath the barrel, and a pivoted cam mounted beneath the barrel and adapted to contact with the forward lugs on said spring fincers and to denress said spring fingers sufficiently to release said cartridge shifting forks.
12. In a magazine firearm the combination of a sllaing barrel, a plvoted cam secured in position beneath said bar-
rel, a stop lug for limiting the pivotal movement of said cam, a spring adapted to hold said cam always in contact with the stop lug, a pair of cartridge chambers, a pair of cartridge shifting forks located in said chambers, and ribs upon said forks adapted to be engaged by said cam to operate sald forks.
13. In a magazine firearm the combination of a sliding barrel, a pivoted spring actuated cam secured beneath said barrel and movable therewith, a stationary member beneath said barrel, a pair of cartridge chambers located one on either side of said barrel near the breech end, a pair of cantridge forks pivotally mounted on said stationary member and adapted to shift cartridges from sald chambers into position beneath sald barrel, a rib provided on the upper surface of each of said forks and adapted to be engaged by said cam to operate the fork to which the rib is attached, latch mechanism provided on said stationary member and adapted to engage said forks to hold elther in position beneath the barrel after shifting a cartridge, said latch mechanism being adapted to engage by said cam and thrown into operative position.
14. In a magazine firearm the combination of a sliding barrel, a magazine adjacent to the breech end of said barrel at one side thereof and below the level of the barrel, means for shifting a cartridge from the magazine to a position beneath the harrel, an elevator adapted to ralse a cartridge from position beneath the barrel into alignment with the bore of the barrel, a rod having a cam groove associated with the barrel and reciprocated thereby, a pivoted lever having one end connected with the elevator and the other end engaging the cam groove in sald rod, whereby the reciprocation of sald rod raises and lowers said ehevator:
15. In a magazine firearm, a cartridge elevator comprising a member mounted for vertical reciprocation and a pair of soring actuated cartridge gripping jaws projecting forward from said member and each having the forward portion curved to conform to the contour of the cartridge and at the rear vertically disposed groove immediately in front of said member to permit the upward passage of the head of a cartridge.
16. In a magazine firearm, a stationary member having laterally projecting studs, a cartridge elevator comprising a vertically sliding plate having guide loops engaged by said studs and a pair of spring actuated cartridge clamping jaws projecting forwand from said slidable plate.
17. In a magazine firearm, the combination of a sliding barrel, a magazine adjacent to the breech end of said barrel, means for shifting a cartridge from said magazine to a position beneath said barrel, a downwardly projecting lug at the breech end of said barrel, said lug being curved to correspond to the curvature of the cartridge and serving by engagement with sald cartridge to hold the same in position beneath the breech of said barrel into which a cartridge will be forced by the rearward movement of said sliding barrel.
18. In a magazine firearm having a barrel, a magazine below the level of sald barrel, said magazine being open at the bottom for charging, a pivoted closure plate for said magazine. a pair of lugs provided on said closure plate, spring actuated follower fingers pivotally mounted on said lugs. said follower fingers having slots intermediate of their onds, equalizer fingers pivotally mounted on said closure plate in the rear of said lugs and studs provided on said rqualizer fingers and adapted to engage the slots in the follower fingers, the cartridge engaging end of such pivot members maintaining the same positions relatively to each other during the entire upward movement within the magazine.
19. In a magazine firearm the combination with a slidable barrel, a breech plece provided on its opposite sides and bottom with mibs and grooves, those on the sides being arranged on lines oblique to the axis of the bore and a slidably mounted locking bolt having similarly disposed ribs and grooves for engagement with those of the breech piece and exercising a cam like action in forcing the breeah piece in the direction of the breech block of the firearm.
20 In a magazine frearm, a slidable barrel, a breech plece rigidly secured thereto. a slidable locking bolt disposed at right angles to said barrel for engaging with said breech piece, cams provided on sald locking bolt and a reciprocating member having grooves for engagement with sald cams to throw sald locking bolt into and out of operative position.
21. In a magazine firearm, a frame having forwardly extending portions forming guides, a barrel slidably mounted on said guides, a breech plece rigidly secured to said barrel, a locking bolt slidablv mounted in said frame and engaging positively with said breech piece, a spring interposed between said locking bolt and said frame to cause
frictional engagement between said locking bolt and said frame, and means for operating sald locking bolt.
22. In a magazine firearm the combination of a pivoted hammer, an eccentric lever for cocking said hammer, a gear, a trigger, a trigger latch, a lever for throwing said trigger latch into operative position and a reciprocating member engaging sald eccentric lever and the lever for locking the trigger latch and throwing them into operative position.
23. In a firearm the combination of a hammer, a gear, a trigger having a recess formed therein, a trigger latch entering said recess, an automatic lock engaging said trigger latch and serving to lock it in operative position and a reciprocating member for cocking sald hammer and throwing said trigger latch into operative position.
24. In a firearm the combination of a hammer, a trigger having a recess, a trigger latch entering said recess, an automatic lock engaging sald trigger latch and holding it securely in operative position and a reciprocating member operating on one movement to cock said hammer and throw said trigger latch into operative dosition and serving upon the reverse movement to partially disengage the lock for sald trigger latch
25. In a firearm the combination of a sliding barrel, a locking bolt for said barrel, a cartridge elevator, a sliding fore end, and a rod having cam grooves adapted to be engaged by portions of said elevator and said locking bolt and attached to said sliding fore end.
26. In a magazine firearm the combination of a magazine, means for shifting cartridges from sald magazine to said barrel, a sliding fore end for imparting movement to said cartridge shifting means,and a latch pin upon said fore end by means of which said cartridge shifting means may be rendered operative or inoperative at will.
27. In a magazine firearm the combination of a magazine, means for shifting cartridges from sald magazine to the barrel, a lock, a sliding fore end, connections between said fore end and said shifting means whereby the movement of said fore end operates said cartridge shifting means and said lock, and a catch upon said fore end by means of which the movement of the fore end may be limited 80 as to prevent the operation of the cartridge shifting means without binding the operation of the lock.

\section*{No. 102,317. Apparatus for Raising Sunken Vonsels.}

Appareil pour monter à la surface les vaisseauv submergés.


Fernando Staud y Ximinez, Chicago, Illinois. U.S.A., 27th November, 1906; 6 years. Filed 15th September, 1906. Receipt No. 139,537.
Claim.-1. A submergible pontoon for the purpose set forth, comprising a shell equipped with air pressure and water inlet and outlet valves, and a guide tube extending through the shell for a lifting cable to direct the shell toward the point of attachment of said cable to a sunken vessel to be ralsed.
2. Apparatus for raising sunken vessels, comprising in combination, a pontoon formed of a shell equipped with air pressure and water inlet and outlet valves and having a guide tube extending through it, and a lifting cable passing through said tube, and having one end secured to the vessel to be raised at the side thereof to which the submerged pontoon on said cable is immediately adjacent.
3. A submerged pontoon for the purpose set forth, comprising a shell equipped with air pressure and water inlet and outlet valves, a guide tube through the shell, and a lifting cable passing through said tube and provided at one end with anchoring means adapted for fastening sald cable
to a vessel to be raised at the side thereof to which the submerged pontoon on said cable is immediately adjacent.
4. A submergible pontoon for the purpose set forth, comprising a shell equipped with air pressure and water inlet valve and water outlet valve, soid valves being connected together to adapt them to work simultaneously, and a guide tube through the shell for a lifting cable to direct the shell, by filling it with water for sinking it, toward the point of attachment of sald cable to a sunken vessel to be raised.
5. A submergible pontoon comprising a shell having a guide tube extending extending through it for a lifting cable attachable to a sunken vessel to be raised, an air-and-water inlet valve, a water outlet valve and an air vent, a rod carried by the water outlet valve, and means for releasably connecting said inlet valve to said rod, whereby said inlet valve may be operated independently of or simultaneously with said outlet valve.
6. A submergible pontoon comprising a shelt, having a guide extending through it for a lifting cable attachable to a sunken vessel to be raised, an air-and-water inlet valve carrying a sleeve, a water outlet valve and an air vent, a rod carried by the water outlet valve extending into sald sleeve and provided with a stop below the same, and means for releasably fastening said sleeve to said rod, whereby the alr and water valve may be operated independently of or simultaneously with said water outlet valve.
7. A submergible pontoon for the purpose set forth, comprising a shell equipped with alr preseure and water inlet and outlet valves, a guide tube extending through the shell for a lifting cable to direct the shell toward the point of attachment of said cable to a sunken vessel to be raised, and a gripping device for the cable having ylelding teeth adapted to engage the cable in said tube to lock the shell against rising on sald cable.
8. A submergible pontoon for the purposes set forth, comprising a shell equipped with air pressure and water inket and outlet valves, a guide table extending through the
shell lor a lifting cable to direct the chell toward the point of attachment of sald cable to a sunken reasel to be raised, and fielding toeth previded at different potats along the interior of aald tube for eacasing and cable to prevent movement thereon of the shell th ons direction.
9. A submergible pontoon comprising a valre equipped shell and a tube extending through the shell and adapted to receive a iffting cable for directing the shell toward the point of attachment of said cable to a suriten ressel to be raised, and clutch mechantsm in said tube for engigtins seid cable, comprising epring pressed teeth pivoted to the Inver wall of gald tube, and edaptod to mepmality entead laterally into the path the cable, to permbt the pontoon to be lowered but prevent it from rising thereon.
10. A submergible pontoon comprisitas a vaive equipped shell, a tube eartending through the shetl and admpeed to receive a listing cable for directiag the shes coward the polnt of attackment of said cabbe to a sumiton reasel to be ralsed, longitudinal tubes on the inaer wah of cald tabe. end cluten mechaniom counpriaing sectes of opring peresed teeth pivoted to said ribe and admpted to mormaify extend laterally into the path of the cable to permil the pontoon to be lowered and perevent it srom rinting thereon.
11. A submergible pontoos compritias a mineh prowited with an air inlet valve and a water outlet valze, and means for attaching the shell to a sanken vessel to be rateed, a lube extending into the shell, through which a pertion of its water centents is expelled, a conduit leadios form sak tube, and a valved seat on the ent of cald coeduit, fer the purpose set forth.
12. A submergible pontcon comprising a blell, meazs for attaching the shell to 2 surisen rossel to te raized, as atr and water iniet valve and a water curthet valvo ac the shell, a valved air outlet tube and a valved mater catiot tube extending into said ahall and haming a dipe comeection and a condult leadinc from said comenea plpe and cermianting in a valved loat, for the murpoee eet fermh.

\title{
TRADE-MARKS
}

\section*{Registered during the month of November, 1906, at the Department of AgricultureCopyright and Trade-Mart Branch.}
11378. KINAHAN \& COMPANY, LIMITED, Carlisle Building, Dublin, Ireland : Guildford Street, York Road, Lambeth, London, England : and 16 Bothwell Street, Glasgow, Scotland. Gin. Oblong label with representation of a cat in belt and top boots sitting on the ground and holding a glass, surmounted by the words: "Cordial Old Tom Gin. Snowdrap " and name and addresses of Registrants below. 5th November, 1906.
11879. KTNAHAN \& COMPANY, LIMTTED, Carlisle Building, DubIln, Ireland: Guildford Street. York Road, Lambeth, London. England : and 16 Bothwell Street, Glasgow, Scotland. Whisky. Oblong label with words : "Kinahan's 'Glintry' Finest Liqueur Scotch Whisky,' and name and addresses of Registrants. 5th November, 1906.
11380. FOLEY, LOCK \& LARSON, Winnipeg, Manitoba. Biscuits. Label with wonds : "Milk Toast" and representation of a child seated at a table eating, a dog and a cat on chairs near. 5th November, 1906.
11381. JOSEPH ADELARD BEAUREGARD, La Presentation, Que. Remedies. Representation d'un Ours debout, tenant dans sa patte droite un api de ble d'Inde et mots: "Baume Merveilleux," etc., 5 novembre 1906.
11382. AMERICAN LEAD PENCIL COMPANY, New York, N.Y., U.S.A. Lead Pencils. Word : "Venus." 5th November, 1906.
11383. THE GENESEE PURE FOOD OOMPANY, Le Roy, New York, U.S.A. Ice Cream Powder. Word : "Jell-o." 6th November. 1906.
11384. J. A. FARCUEAR e COMAPANY, MaHfax, Nova Scotla. Flour. Label re "The Skipper." 6th November, 1906.
11385. F. CORBY DIETHLLERT COMPANY, LIMITED, Belleville, Ont. All Epirituous Liquors. Word : "Majestic." 6th November, 1906.
11386. THE UNITED GTATES GYP\&UM OOMPANY, Chicago, Illinois, U.B.A. Plaster. Word: "Fint" and representation of a fint arrowhead. 6th November, 1906.
11387. THE UNITED STATES GYPSUM COMPANY. Chicago, Illinois, U.S.A Plaster. Representation of the heavens with word : "Eenth" thereon, and pyramid of bags of plaster. 6th November, 1906.
11388. WILLIAM AUGUSTUG GREENE, Waterloo, Ont. General Trade Mark. Word : "Greene." 7th November, 1906.
11389. THE NEW YGRK HAMBURGRR GUMMI-WAREN COMPAGNIE, (The New York Hamburg India Rubber Company), Hamburg, German Empire. Combs for Tollet purposes and certain named goods of India Rubber and Sulphurized India Rubber. Words: "Hercules Club" and representation of Hercules breaking his club on the teeth of a comb. 7th November, 1906.
11390. THE NEW YORK HAMBURGER GUMMI-WAREN COMPAGNIE, (The New York Hamburg India Rubber Company), Hamburg, German Empire. Combs for Tollet purposes and certain named goods of India Rubber and Sulphurized India Rubber. Word : "Hercules." 7th November, 1906.
11391. PHCENIX GUNDRY COMPANY, LIMITED, Montreal, Que. Toilet Articles and Preparations. Representation of a Phœnix with open claws and wings, initials: "P.S.C.L." In sun's rays above. 7th November. 1906.
11392. FRANK W. MERRILL, Toronto, Ont. Tollet Preparations. Words : "The Royal" ""English." 8th November, 1906. (Assigned to The Merrill Medical Company.)
11393. ALEXANDER FERGUBON \& COMPANY, Glasgow, Scotland. Whisky. Red label bearing letters : "K.T." and circular shield with thistle. 8th November, 1906.
11394. THE M. S. BROWN COMPANY, LIMITED, Montreal, Que. Watches and Jewellery. Word : "Perfection." 8th November, 1906.
11395. THE BLOOMFIELD PACKING COMPANY, LIMITED, PIcton, Ont. Canned Vegetables and Fruits. Words : "Llttle Gem." 9th November, 1906.
11396. PERCY HOWARD BENNETT, Kenora, Ont. Clothing, Underwear, Boots and Shoes, Trunks and Valises. Words: "The Big Four Clothing gtore." 9th November, 1906.
11397. THE 2 MACS, LIMITED, Ottawa, Ont. General Trade Mark. Words : "The 2 Macs." 9th November, 1906.
11398. BADISCHE ANILIN \& SODA FABRIK, Ludwigshafen-on-the-Rhine, German Empire. Chemicals, including colouring matters. Representation two Shields, one bearing a Rampant Horse and the other a Rampant Lion. 9th November, 1906.
11399. BADISCHE ANILIN \& SODA FABRIK, Ludwigshafen-on-the-Rhine, German Empire. Chemicals, including colouring matters. Label and words: "Badische Anllin \& Soda FabrikMoskau Ludwigshafen A/Rh. Neuville s/s," on scrolls, representations winged figure and two shields, one bearing Horse Rampant and the other Lion Rampant. 9th November, 1906.
11400. HERBERT JACKSON, 49 Lansdowne Road, Notting Hill, London, England. General Trade Mark. Word: " MYXYM." 10th November, 1906.
11401. ROYAL WORCESTER CORSET COMPANY. Worcester, Massachusetts, U.S.A. Women's and Children's Underwear, particularly Corsets and Corset Waists. Word : "Adjusto." 10th November, 1906.
11402. THOMAS MCAVITY STEWART, St. John, New Brunswick. Antifriction Metals, Valves, Cocks, Hardware, Mill. Factory, Engineers' and Plumbers' Supplies, Belting, Hose, etc., etc. Word : "Mayflower." 10th November, 1906.
11403. THOMAS McAVITY STEWART, St. John, New Brunswick. Closets, Tanks, Baths, Basins, etc., etc. Word : " Hygienico." 10th November, 1906.
11404. THE BRITISH LYSOFORM COMPANY. LIMITED, 34 Old Broad Street, London, England. Chemical Substances, particularly Disinfectants. Word : "Lusoforme." 12th November, 1906.
11405. CHARLES FOX TODD, Victoria, British Columbia. Canned Salmon. Representation of a Globe showing Western Hemisphere with words: "Prince Rupert" across same. 12th November, 1906.
11406. SOCIETY OF CHEMICAL INDUSTRY IN BASLE, Klybeckstrasse 151. Basle, Switzerland. Pharmaceutical Products. Representation of a Peasant Woman gathering Herbs or Simples. 12th November, 1906.
11407. SOCIETY OF CHEMICAL INDUSTRY IN BASLE, Klybeckstrasse 151, Basle, Switzerland. Pharmaceutical Products. Word: "Fortossan." 12th November, 1906.
11408. SOCIETY OF CHEMICAL INDUSTRY IN BASLE, Klybeckstrasse 151. Basle, Switzerland. Pharmaceutical Products. Word: "Phytin." 12th November, 1906.
11409. SOCIETY OF CHEMICAL INDUSTRY IN BASLE, Klybeckstrasse 151. Basle, Switzerland. Pharmaceutical Products. Word : "Quinine-Phytin." 12th November, 1906.
11410. SOCIETY OF CHEMICAL INDUSTRY IN BASLE. Klybeckstrasse 151. Basle, Switzerland. Pharmaceutical Products. Word: "Salen." 12th November, 1906.
11411. THE STANDARD TOOL COMPANY. Cleveland, Ohio, U.S.A. Small Machinlsts' Tools. Outline of a Shield enclosing words : "Standard Tool Co." 13th November, 1906.
11412. ACME WHITE LEAD \& COLOUR WORKS, Detroit, Michigan. U.S.A. Paints, Enamels, Varnishes, etc., etc. Words: "Acme Quality " on a flag-shaped field within a circular border. 13th November, 1906.
11413. JOHN A. BRUCE \& COMPANY, Hamilton. Ont. Vegetable, Flower and Farm Seeds. Representation of a Crowned Lion Rampant and words: "Regal Seeds" on a four-leaved clover enclosed in a Garter bearing name and address of Registrants. 13th November, 1906.
11414. THE LAPRAIRIE BRICK COMPANY. LIMITED, Montreal, Que. Bricks, Blocks, Slabs, etc., for Building, Paving and other purposes. Words: "Shale Plastic." 14th November, 1906.
11415. GEDEON MILLER, Winnipeg, Manitoba. Suits made to order. Name: "The Scotland Woolen Mills Company." 14th November, 1906.
11416. THOMAS RICHARDSON ELLIN, Footprint Works, Hollis Croft, Sheffield, England. Steel and Iron in bars, sheets or rods, Wire, Machinery, Cutlery, Tools and Silver and Plated goods. Representation of, and word : "Domino." 14th November, 1906
11417. THOMAS RICHARDSON ELLIN, Footprint Works, Hollis Croft, Sheffeld, England. Steel and Iron in bars, sheets or rods, Wire, Machinery, Cutlery, Tools and Silver and Plated Goods. Representation of, and word : "Footprint." 14th November, 1906.
11418. THE PARIS PLOW COMPANY, LIMITED, Paris, Ont. Various kinds of Plows. Word : "Success." 15th November, 1906.
11419. HARRY R. McLELLAN, St. John, New Brunswick. Automatic Fasteners. Word: "Security " spelled : "C-curity.". 15th November, 1906.
11420. THE T. W. CAPP COMPANY, Toronto, Ont. Gold and Silver Jewellery. Representation of a Jockey's Cap. 15th November. 1906.
11421. CLAIRE STOKES, Petrolea, Ont. Drug for the cure of the Liquor Habit. Word : "No-Jag." 15th November, 1906.
11422. JOHN MACKINTOSH, Halifax, England. Confectionery, particularly Toffee. Words: "I am John Mackintosh, the Toffee King, and photograph of John Mackintosh. 15th November, 1906.
11423. CHARLES PETERSON, Dublin, Ireland. Pipes, Cigar Holders, Cigarette Holders and Smokers' articles. Words: " Peterson's Patent." 16th November, 1906.
11424. MANCHESTER, ROBERTSON, ALLISON, LIMITED, St. John, New Brunswick. Serges for Men's wear. Words : "Briny Deep 'Serges." 16 th November, 1906.
11425. THE J. C. AYER COMPANY, Lowell, Massachusetts, U.S.A. Tollet Preparations. Label re "Ayer's Hair Vigor" and representation of a woman displaying long flowing hair. 16th November, 1906.
11426. THE J. C. AYER COMPANY, Lowell, Massachusetts, U.S.A. Medical Compounds. Label re "Ayer's Compound Concentrated Extract of Sarsaparilla (Non-Alcoholic.'") 16th November, 1906.
11427. THE J. C. AYER COMPANY, Lowell, Massachusetts, U.S.A. Medical Compounds. Label re "Ayer's Cherry Pectoral." 16th November, 1906.
11428. WILLIAM HOLLINS \& COMPANY, LIMITED, Pleasley Works, near Mansfield and Warser Gate, Nottingham, and 25-26 Newgate Street, London, England. General Trade Mark. Word : "Viyella." 17th November, 1906.
11429. THE COLUMBIA FLOURING MILLS COMPANY, LIMITED, Enderby, British Columbla. Flour. Representation of Two Stars. 17th November, 1906.
11430. THE COLUMBIA FLOURING MILLS COMPANY, LIMITED, Enderby, British Columbia. Flour. Words : " Moflet's Best." 17th November, 1906.
11431. SHARP SONNENTHAL \& COMPANY, LIMITED, Bradford, England. General Trade Mark. Word : "Esescho." 17th November, 1906.
11432. THE AMERICAN TOBACCO COMPANY OF CANADA, LIMITED, Montreal, Que. Tobacco. Word: "Hochfeiner" and representation of the Arms of Canada. 17th November, 1906.
11433. FRANCIS G. GALE, Waterville, Que., Trading as GFO. GALE \& SONS. Bedsteads. Words : "Lawson Tait Hospital Spring Bedstead." and representation of a bedstead. 19th November, 1906.
11434. FRANCIS G. GALE, Waterville, Que., Trading as GEO. GALE \& SONS. Wire Mattresses. Words: "Dominion Wire Mattress. and representation of a wire mattress and of a bed packed for shipping. 19th November, 1906.
11435. FRANCIS G. GALE, Waterville, Que., Trading as GEO. GALE \& SONS. Wire Mattresses. Words : "Old Dominion Wire Mattress" and representation of a wire mattress. 19th November, 1906.
11436. WALTER E. GUNN, Winnipeg, Manitoba. Magazine. Words: "Canada West, A Magazine of the Sunset Provinces." 19th November, 1906.
11437. MALLEABLE IRON RANGE COMPANY, Beaver Dam, Dodge County, Wisconsin, U.S.A. Ranges. Word : "Monarch." 19th November, 1906.
11438. ANTOINE SOLARI, Smyrna, Turkey-in-Asia. Figs. Oval goldbordered label bearing words: "Tonee Figs" etc., and landscape showing fig trees. 20th November, 1906.
11439. THE DEISEL-WEMMER COMPANY, Lima, Ohio, U.S.A. Cigars. Worts: "San Felice." 20 th November, 1906.
11440. REGAL SHOE COMPANY, INCORPORATED, Boston, Massachusetts, U.S.A. Leather Boots and Shoes. Words : "Window of the Sole." 20th November, 1906.
11441. THE GOLDIE MILLING COMPANY, LIMITED, Ayr. Ont. Flour. Word: "Housekeeper." 20 th November, 1906.
11442. J. G. GROSCH FELT SHOE COMPANY. Milverton, Ont. Boots, Shoes and Slippers. Name : "J. G. Grosch" on a band cross. ing a shield diagonally. 20th November, 1906.
11443. SHINKICHI TAMURA, Vancouver, British Columbia. Flour, Wheat and Rice. Representation of a Ball. 21st November, 1906.
11444. SHINKICHI TAMURA, Vancouver, British Columbia. Flour, Wheat and Rice. Representation of a square including four smaller squares. 21st November, 1906.
1145. GLENCOE WOOLLENS, LIMITED, Glencoe, Ont. Knitted Goods and Textiles. Words: "Glencoes, Glencoe Woollens, Limited." 21st November, 1906.
11446. THE MONTKEAL COTION COMPANY, Valleyfield, Que. Woven Cotton and wool Mercerized Cotton. words: "Sea Lsland Wool.' 21st November, 1906.
1144. JOHN HERCHMEK POINTZ, Toronto, Ont. A Toilet Washing ronuer. wurd: "Mık-Amun-vat." zind Novemper, 1906.
11448. ONTARIO S'IEEL WARE, LIMITED, Toronto, Ont. All articles of sinamelled ware. Kepresentation of a disn nearing words: " ware ior Wear." 22 nd November, 1906.
11449. HORACE BAXTER PEABODY and WITTER JOHNSTON PEABODY, winasor, Unt. rants, Uveralis and Jackets. Representation ot a square nut for a machine bolt bearing words : " Leather Label," etc. 22nd November, 1906.
11450. THE LISK MANUFACTURING COMPANY, LIMITED, Canandaigua, New York, U.S.A. Tin Ware (inciuding anti-rusling tin ware), Aluminum Gaivanized ware, elc., etc. Name: "Lisk" with name and address of kegistrants and descriptive matter on oval label with ornamental blue and gold border. 22nd November, 1906.
11451. THE IRVING UMBRELLA COMPANY, LIMITED, Toronto, Ont., Umbrellas, Parasols and Sunshades. Word : "Reliance." 23rd November, 1906.
11452. THE IRVING UMBRELLA COMPANY, LIMITED, Toronto, Ont. Umbrelllas, farasols and Sunshades. Word: "Broadway." 23 rd November, 1906.
11453. THE IRVING UMBRELLA COMPANY, LIMITED, Toronto, Ont. Umbrellas, Parasols and Sunshades. Word: "Duke." 23rd November, 1906.
11454. THE IRVING UMBRELLA COMPANY LIMITED, Toronto, Ont. Umbrellas, Yarasols and Sunshades. Word : "Broad23rd November, 1906.
11455. THE IRVING UMBRELLA COMPANY, LIMITED, Toronto, Ont. Umbrellas, Parasols and Sunshades. Word: "Gem." 23rd November, 1906.
11456. THE IRVING UMBRELLAA COMPANY, LIMITED, Toronto, Ont. Umbrellas, Parasols and Sunshades. Word: "Perfection." 23rd November, 1906.
11457. THE IRVING UMBRELLA COMPANY, LIMITED, Toronto. Ont, Umbrellas, Parasols and Sunshades. Word : "Peerless." 23rd November, 1906.
11458. THE IRVING UMBRELLA COMPANY, LIMITED, Toronto, Ont, Umbrellas, Parasols and Sunshades. Word: "Queen." 23rd November, 1906.
11459. JOSEPH HERVE QUERO, 10 Bulevard Emile Augier, Paris, France. Sardines. Label divided into several panels bearing words, etc. "Sardines a l'huile,-A. \& C.,-Albert \& Cle." etc., etc. 24th November, 1906.
11460. GALTIER FRERES, Aigre, fharente). France. Une Liqueur. Etiquette re "L'Angelus" (tableau célèbre). mots: "Liqueur des Salésiens de Dom Bosco," etc., etc. 24 novembre 1906.
11461. GAUTIER FRERES, Aigre, (Charente). France. Liqueurs. Vins, et tous autres Spiritueus. Mot: "Angelus." 24 novembre 1906.
11462. VERNAL REMEDY COMPANY, Le Roy, New York, U.S.A. Medicine. Words : "Vernal Palmettona." 26th November, 1906.
11463. AFRICAN CIGARETTE COMPANY, LIMITED, Cecil Chambers. 86, Strand, London, W.C., England. Tobacco. Label re " Shadoof." 26th November, 1906.
11464. AFRICAN CIGARETTE COMPANY, LIMITED, Cecil Chambers, 86. Strand, London, W.C., England. Tobacco. Word: "Shadoof." 26th November. 1906.
11465. AFRICAN CIGARETTE COMPANY, LIMITED, Cecil Chambers, 86, Strand, London, W.C., England. Tobacco. Word : "Hemely." 26th November, 1906.
11466. AFRICAN CIGARETTE COMPANY, LIMITED, Cecil Chambers, 86, Strand, London, W.C., England. Tobacco. Label re "Hemely" and representation of an Egyptian Water Carrier. 26th November, 1906.
11467. BRITISH-AMERICAN TOBACCO COMPANY, LIMITED, London, England. Tobacco. Label re "Ramleh" and representation of the head of a woman with Turkish headdress. 27th November, 1906.
11468. BRITISH-AMERICAN TOBACCO COMPANY, LIMITED, London, England. Tobacco. Label re "Bairam," bust of an Egyptian wearing turban, representation of a Mosque, etc. 27th November, 1906.
11469. THE VOGUE TAILORING COMPANY, LIMITED, Toronto. Ont. Clothing made according to measurement. Words: "In Vogue-We Cut to Fit" and representation pair of scissors. 27th November, 1906.
11470. RICHARD H. MCKENNA, Picton, Ont. Instruments for dehorning cattle. Words : "Keystone Dehorning Clipper" and representation of same. 27th November, 1906.
11471. PORT NELSON CANNING AND SALTING COMPANY, LIMITED, Vancouver, British Columbia. Salmon. Label re "Lord Nelson Brand." 28th November, 1906.
11472. THE DOMINION MOLASSES COMPANY, LIMITED, Halifax, Nova Scotia. Molasses in cans or pails. Label re "Ginger Bread Molasses" and representation of a woman cutting bread. 28th November, 1906.
11473. ROBERT NELSON GRUNDY, Guelph, Ont. Stoves and Heaters. Word : "Wonder." 28th November, 1906.
1147. THE HORTON MANUFACTURING COMPANY, Bristol, Connecticut, U.S.A. Fishing Rods and Tackle. Word: "Rainbow." 28th November, 1906.
11475. MOISE BOILEAU, Montreal. Que. Bleu Liquide. Representation d'une Etoile et les mots : "Boileau's Blue," au centre. 29 novembre 1906.
11476. THE WILCOX \& WHITE COMPANY, Meriden, Connecticut, U.S.A. General Trade Mark. Word : "Melodant." 29th November, 1906.
11477. KARGON EXTRACTING COMPANY, Cincinnati, Ohio, U.S.A. Pharmaceutical Preparations, Plasters, and Proprietary and Veterinary Medicines. Word: "Kargon." 30th November, 1906.
11478. THE ACME GLOVE WORKS, Montreal, Que. General Trade Mark. Words: "Loose-Fit Brand." 30th November, 1906.
11479. THE PEPSI-COLA COMPANY, New Bern, North Carolina, U.S.A. Beverages, partícularly non-alcoholic. Word: "" PepsiCola." 30th November, 1906.

\section*{INDUSTRIAL DESIGNS}

Registered during the month;of November, 1906. at the Department of AgricultureCopyright and Trade-Mark Branch.
2489. JOFin GEORGE MILNE, Regina, Saskatchewan. Book Cover for 'The Farmers' Convenient Journal." 7th November. 1906.
2490. GEORGE H. WESTON, Toronto, Ont. Photograph Frame re "Horse Shoe." 8th November, 1906.
2491. RICHARD HEMSLEY, Montreal, Que. Handle for Spoon, Fork or similar article, re shield surmounted by Crown and Lion. 15th November, 1906.
2492. McLAUGHLIN-GOURLEY, LIMITED, Toronto. Ont. Case for the display of goods in a store. 19th November, 1906.

\section*{COPYRIGHTS}

\title{
Entered during the month of November, 1906, at the Department of AgricaltureCopyright and Trade-Mark Branch.
}
17733. HARMSWORTH SELF-EDUCATOR. 25th October, 1906. No. 23. (Magazine.) The Amalgamated Press, Limited, London, England, 2nd November, 1906.
17734. SUMMERSIDE FROM TOP OF POST OFFICE LOOKING NORTH. (Photo.) Lorne H. Read, Summerside, Prince Edward Island, 2nd November, 1906.
17735. SUMMERSIDE FROM TOP OF POST OFFICE LOOKING EAST. (Photo.) Lorne H. Read, Summerside, Prince Edward Island, 2nd November, 1906.
17736. GRANBY RUBBER COMPANY. (Hanger.) The Canadian Rubber Company of Montreal, Limited, Montreal, Que., 2nd November, 1906.
17737. THE HANDY GUIDE TO WINNIPEG. (Book.) International Bureau, Winnipeg, Manitoba, 2nd November, 1906.
17738. ONTARIO LAW REPORTS. Volume XI, 1906. Editor: James F. Smith, K.C. The Law Society of Upper Canada, Toronto, Ont., 2nd November, 1906.
17739. NOTES ECONOMIQUES SUR LE CANADA: FASCICULE 1 ; LE BANK AND BANKING ACT CANADIEN. Ch. Marie Claude de Bouthillier-Chavigny, Lennoxville, Que., 2 novembre 1906.
17740. VALSE LOUISE. By Egbert Van Alstyne. (Music.) Jerome H. Remick \& Company, Detroit, Michigan, U.S.A., 3rd November, 1906.
17741 MICKEY FINN. Two-Step. By Maude L. Rogers. (Music.) Jerome H. Remick \& Company, Detroit, Michigan, U.S.A., 3rd November, 1906.
17742. BRITAIN'S ALLIES SINCE 1701. (Calendar.) Cockshutt Plough Company, Limited, Brantford, Ont., 3rd November, 1906.
17743. GOLDING'S A TRAGEDIE OF ABRAHAM'S SACRIFICE. Edited with an Introduction, Notes and Appendix. By Malcolm W. Wallace, Ph.D. H. H. Langton, Toronto, Ont., 3rd November, 1906.
17744. BRANT'S FORD. (Calendar.) The Brantford Carriage Company, Limited, Brantford, Ont., 3rd November, 1906.
17745. PO-NIS-CHAP-PAN-NE-KA-PE. (Calendar.) The Calgary Brewing and Malting Company, Limited, Calgary, Alberta, 5th November, 1906.
17746. TE DEUM LAUDAMUS. Anthem. By G. Sidwell. (Music.) G. Bidwell, Owen Sound, Ont., 5th November, 1906.
17747. KNIGHTS WHO FOUGHT THE DRAGON. By Edwin Leslie. (Book.) William Briggs, Toronto, Ont.. 5th November, 1906.
17748. KINDNESS OF HEATHEN. Sermon by Rev. Frank De Witt Talmage, Los Angeles, California, U.S.A., 4th November, 1906. Frederick Diver, Toronto, Ont., 5th November, 1906.
17749. IRENE. Song. By Benj. L. Shook. (Music.) Grinnell Brothers, Detroit, Michigan, U.S.A., 6th November, 1906.
17750. TRAITE CANADIEN DU JEU DE DAMES A LA POLONAISE. PAT Ernest Geoffrion. (Livre.) Ernest Geoffrion, Montreal, Que, 6 novembre 1906.
17751. O CANADA, TERRE DE NOS AIEUX: (Chant National.) Words by the Honourable Judge Routhler. Music by C. Lavallee. Whaley, Royce \& Company, Limited, Toronto, Ont., 6th November, 1906.
17752. THE LORD BLERS THEEL. (Sentence for Baptism.) Anthem. By T. C. Jeffers, Mus. Bac. (Music.) Whaley. Royce \& Company, Limited, Toronto, Ont., 6th November, 1906.
17753. MAPLEONIA. Ćanadian National Hymn. By W. H. Jackson. (Music.) W. H. Jackson, Lindsay, Ont., 6th November, 1906.
17754. MY GRIEF ON THE SEA. (Song.) The Words Traditional Irish. English by Douglas Hyde, L.L.D. Music by Charles Willeby. The John Church Company, Cincinnati, Ohio,
17755. THE PANCAKE PREACHER. By Mac Cloie. (Book.) William Briggs, Toronto, Ont., 8th November, 1906.
17756. CHATAWAY'S SECTIONAL PLANS OF MANITOBA, PARISH OF ST. PAUL, TO WEST OF THE RED RIVER. (Map.) Charles Clifton Chataway, Winnipeg, Man., 8th November, 1906.
17757. CHATAWAY'S SECTIONAL PLANS OF MANITOBA, PARISH OF KILDONAN, TO WEST OF THE RED RIVER. (Map.) Charles Clifton Chataway, Winnipeg, Man., 8th November, 1906.
17758. CHATAWAY'S SECTIONAL PLANS OF MANITOBA. PARISH OF ST. JAMES. TO WEST OF WINNIPEG CITY LIMITS. (Map.) Charles Clifton Chataway, Winnipeg, Man., 8th November, 1906.
17759. MADALINE. Song. Words and Music by Gillespie and Chapin. Jerome H. Remick \& Company, New York, N.Y.. U.S.A., 8th November, 1906.
17760. AMMUNITION FOR LIFE AGENTS. Complled by W. E. Findlay. (Book.) William E. Findlay, London, Ont., 8th November, 1906.
17761. SUNDAY SCHOOL CLASS RECORD. ADVENT 1906 TO ADVEN' 1907. (Card system.) The Church Record S.S. Publications, Toronto, Ont., 9th November, 1906.
17762. CUPID AND THE CANDIDATE. By Mrs. Leeming Carr. (Book.) William Briggs, Toronto, Ont., 9th November, 1906.
17763. THE DOCTOR: A TALE OF THE ROCKIES. By Ralph Connor. The Westminster Company, Limited, Toronto, Ont., sth November, 1906.
17764. XMAS CARTOONS. (Picture.) Canada Newspaper Syndicate, Limited, Montreal, Que., 9th November, 1906.
17765. AN OLD SWEETHEART OF MINE. Ballad. By Frederick Chapin. (Music.) Jerome H. Remick \& Company, New York, N.Y., U.S.A., 10th November, 1906.
17766. MRS. WILSON WANTS TO KNOW. Song. Words by Vincent Bryan. Music by Al. Gumble. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 10th November, 1906.
17767. IF I DON'T SEE YOU. AND YOU DON'T SEE ME, GOOD LUCK. JES' DE SAME. Song. Words by Vincent Bryan. Music by Billie Taylor. Jerome H. Remick \& Company. New York, N.Y., U.S.A., 10th November, 1906.
17768. A COLLECTION OF INDIANS AND ESKIMO OF HUDSON'S BAY. (Photo.) A. A. Chesterffeld. Montreal, Que.. 10th November, 1906.
17769. COLLECTION OF POPES FROM ST. PETER TO THE PRESENT TIME. (Picture.) William Howard, Montreal, Que. 10th November, 1906.
17770. . THE MANITOBA GRAIN TELEGRAPH CODE. By A. W. H. Stimpson. (Book.) William Tillam Gibbi'is, Winnipeg, Man., 12th November, 1906.
17771. A PACK TRAIN OF HORSES. (Photo A.) E. F. Tucker. Arrowhead, British Columbia. 12th November, 1906.
17772. A PACK TRAIN OF HORSES. (Photo B.) E. F. Tucker, Arrowhead, British Columbia. 12th November, 1906.
17773. ROYAL ALEXANDRA ROTUNDA. (Photo 497 A.) The Consolidated Stationery Company, Limited, Winnipeg. Man., 13th November, 1906.
17774. ROYAL ALEXANDRA ROTUNDA. (Photo 497 B.) The Consolldated Stationery Company, Limited, Winnipeg. Man., 13th November, 1906.
17775. ROYAL ALEXANDRA ROTUNDA. (Photo 497 C.) The Consolidated Stationery Company, Limited, Winnipeg, Man., 13th November, 1906.
17776. HARMSWORTH SELF-EDUCATOR, 8TH NOVEMBER, 1906, No. 24. (Book.) The Amalgamated Press, Limited, London, England, 13th November, 1906.
17777. PEACE THAT FLOWETH. (Song.) Words by Jane Crewdson. Musie by Donald C. MacGregor. Whaley, Royce \& Company, Limited, Toronto, Ont., 13th November, 1906.
17778. THE ENGINEERING JOURNAL OF CANADA, NOVEMBER, 1906. Arch. W. Smith and Partners, Limited, Toronto, Ont., 14th November, 1906.

17i7!. SHY-TRY. (Two Step). By Egbert Van Alstync. Arranged bv J. Bodewalt Lampe. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 14th November, 1906.
17780. THE BOLIVAR CADETS. (Song.) Words by Phil. M. Hacker. Music by Carl Hand. Jerome H. Remick \& Company, New York. N.Y., U.S.A., 14th November, 1906.
17781. SNUGGLE TO ME CLOSER. (A Sure Cure for Bashfulness.) By Frederick Chapin. (Music.) Jerome H. Remick \& Company, New York, N.Y., U.S.A., 14th November, 1906.
17782. JOLLY LITTLE JOHNNIES AT THE OLD STAGE DOOR. (Song.) Words by Phil. M. Hacker. Music by Carl Hand. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 14th November. 1906.

1it83. WANDA FROM ANACONDA. (Cow Boy Song.) Arranged by J. Bodewalt Lambe. Jrrome H. Remick \& Company, New York. N.Y.. U.S.A., 14th November. 1906.
17784. WHY MUST WE PART. (Song.) By W. R. Williams. Will Rossiter, Chicago, Illinois, U:S.A., 15th November, 1906.
17785. TO LEAVE YOU FOREVER. (A beautiful Concert Ballad.) Words by Tom Farrel. Music by Fred Fischer. Will Rossiter, Chicago, Illinois, U.S.A., 15th November, 1906.

17TAG. SLEEPY bOU. (For Piano.) By Irene M. Giblin. Jerome H. Remick \& Company, Detroit, Michigan, U.S.A., 15 th November, 1906.
17787. THE HEAVENS DECLARE THE GLORY OF GOD. With Illustrations. By Rev. D. B. Marsh, Sc.D., F.R.A.S. (Book). D. B. Marsh, Hamilton, Ont., 15th November, 1906.
17788. DRAWINGS AND PEN WORK. (Drawing.) D. Beauchamp, Montreal, Que., 15th November, 1906.
17789. HISTORY OF THE ROYAL NORTHWEST MOUNTED POLICE. By Captain Ernest J. Chambers (Corps of Guides.) (Bouk.) Ernest J. Chambers, Ottawa, Ont., 16th November, 1906.
17790. THE PREMIER CELEBRATES HIS 65th BIRTHDAY NEXT TUESDAY. (Pictures.) The George Murray Publishing Company, Limited, Montreal, Que., 16th November, 1906.
17791. DIGEST OF CANADIAN LAW REPORTS, 1901-1905. Complled by Walter Edwin Lear. The Carswell Company, Limited. Toronto, Ont., 16th November, 1906.
17792. OFFICIAL BASKET BALL GUIDE FOR 1906-7 OF THE Y. M. C. A. ATHLETIC LEAGUE OF CANADA. (Book.) Governing Committee of the Athletic League of Young Men's Christian Association of Canada, Toronto, Ont., 16th November, 1906.
17793. CHERRY. (Song.) Words by Arthur Gillespie. Music by L'Albert. Jerome H. Remick \& Company, Detroit, Michigan, U.S.A., 17th November, 1906.
17794. AUTUMN. (Song.) Words by James O'Dea. Music by Neil Moret. Jerome H. Remick \& Company, Detroit. Michigan, U.S.A., 17th November, 1906.
17795. EUGENE TALBOT-FOURNIER'S EDUCATIONAL GAME OF FRENCH AND ENGLISH VERBS. (Instructions and Cards.) Eugene Talbot-Fournier, Montreal, Que., 17 th November, 1906.
17796. VIA BOREALIS. By Duncan Campbell Scott. With Decorations by A. H. Howard, R.C.A. Duncan Campbell Scott, Ottawa Ont., 19th November, 1906.
\({ }^{27} 797\) EVERYBODY KNOWS HIM, PRETZEL PETE. (Made in Germany.) By Hampton Durand. (Music.) Will Rossiter, Chicago, Illinois, U.S.A., 19th November, 1906.
17798. WHEN THE MOONLIGHT FALLS ON THE WATER. (Photo.) William M. Munroe, Pictou, Nova Scotia, 19th November. 1906.
17799. WATCHMAN, WHAT OF THE NIGHT. (Photo.) William M. Monroe, Píctou, Nova Scotia, 19th November, 1906.
17800. THE HARVEST MOON. (Photo.) William M. Monroe, Pictou, Nova Scotia, 19th November, 1906.
17801. WHEN THE SUN GOES DOWN. (Photo.) William M. Monroe, Pictou, Nova Scotia, 19th November, 1906.
17802. A PICTOU HARBOUR VIGNETTE. (Photo.) William M. Monroe. Pictou, Nova Scotia, 19th November, 1906.
17803. THE LEADER. (March.) By Giuseppe Creatore. Jerome H. Remick \& Company, Detroit, Michigan. U.S.A., 20th November, 1906.
17804. THE MAPLE LEAF FOREVER. (Post card.) Walter John Ingram, Toronto, Ont., 20th November, 1906.
17805. WINDSOR, WALKERVILLE AND SANDWICH DIRECTORY. 1906-7. Union Publishing Company of Ingersoll, Ingersoll, Ont., 20th November. 1906.
17806. THE TIGERS OF HAMILTON FOOTBALL TEAM. (Photo.) Alexander McKenzie Cunningham. Hamilton, Ont., 21st November, 1906.
17807. THE CAMERONS OF BRUCE. By Robert Lorne Richardson. With Illustrations by George E. McElroy. (Book.) Robert Lorne Richardson. Winnipeg. Man., 21st November. 1906.
17808. RUGBY : THE IDEAL PARLOR GAME. (Instructions and Cards.) Robert W. Karch, Dundas, Ont., 21st November, 1906.
17809. HARDWARE MONTHLY. NOVEMBER, 1906. Arch'd. W. Smith \& Partners, Limited, Toronto. Ont., 22nd November, 1906.

17S10. OFFICIAL TELEPHONE DIRECTORY. WESTERN ONTARIO. NOVEMBER. 1:0f. The Bell Telephone Company of Canada, Limited. Montreal, Que., 22nd November, 1906.
17811. LIFE ON THE UPLANDS. By J. D. Freeman. (Book.) Rev. John D. Freeman, Toronto, Ont., 23rd November, 1916.
17812. PAWNEE. Intermezzo Two-Step. By Silvio Hein. Maurice Shapiro. New York, N.Y., U.S.A., 23rd November, 1906.
17813. I CAN'T TELL HOW I MISS YOU. Words by Raymond A. Browne. Music by William H. Penn. Maurice Shapiro. New York, N.Y., U.S.A., 23rd November, 1906.
17814. IF ANYBODY WANTS TO MEET A JONAH, SHAKE HANDS WITH ME. Words and Music by Harry Hoyt. Maurice Shapiro, New York, N.Y., U.S.A., 23rd November, 1906.
17815. BEAUTIFUL PARIS. (Waltzes.) By Silvio Hein. Maurice Shapiro, New York, N.Y., U.S.A., 23rd November. 1906.
17816. IN A LITTLE HOUSE THAT'S BUILT FOR TWO. Words and Music by Thurland Chattaway. Maurice Shapiro, New York, N.Y., U.S.A., 23rd November, 1906.
17817. THE PATH THAT LEADS TO LOVE ! Words by Fred. C. Farrell. Music by Jas. Brachman. Maurice Shapiro, New York, N.Y., U.S.A., 23rd November, 1906.
17818. MEET ME DOWN AT THE CORNER. Words by Will. D. Cobb. Music by Harry Hoyt. Maurice Shapiro, New York, N.Y., U.S.A., 23 rd November, 1906.
17819. THE CITY OF WINNIPEG, MANITOBA. (Insurance Plans, Volume 1.) Charles Edward Goad, Montreal, Que., 23rd November, 1906.
17820. THANKSGIVING SERMON. Sermon by Rev. Frank De Witt Talmage. Los Angeles, California, U.S.A., 25 th November, 1906. (Book.) F. Diver. Toronto, Ont., 23rd November, 1906.
17821. BIRD'S EYE VIEW OF WINNIPEG. (Photo.) Edward Russell Palmer, Winnipeg. Man., 24th November, 1906.
17822. CHRISTMAS SALUTATIONS : I'M GOING TO CROW UP SANTA CLAUS, THE JOY OF ALL THE YEAR. By John W. Campbell. (Card.) John W. Campbell, Toronto, Ont., 24th November, 1906.
17823. LIMERICK GIRL. (March Two-Step.) By F. H. Losey, Op. 208. Vandersloot Music Publishing Company, Williamsport. Pennsylvania, U.S.A., 26th November, 1906.
17824. SOCIETY CRAZE. (Three Step.) By F. H. Losey, Op. 214. Vandersloot Music Publishing Company, Williamsport, Pennsylvania, U.S.A., 26 th November, 1906.
17825. PRINCE CHARMING. (A la Gavotte.) By F. H. Losey, Op. 213. Vandersloot Music Publishing Company, Williamsport, Pennsylvania, U.S.A., 26th November, 1906.
17826. A ROYAL PRINCE. (March and Two-Step.) By L. Frank Miller, Op. 105. Vandersloot Music Publishing Company. WilliamsDort, Pennsylvania. U.S.A., 26th November, 1906.
17827. SUSQUEHANNA. (March and Two-Step.) By Harry J. Lincoln. Vandersloot Music Publishing Company, Williamsport, Pennsylvania, U.S.A.. 2fth November, 1906.
17828. COLLEGE BOYS. (March Two-Step.) By A. S. Lang. A Cox \&-Company, Toronto, Ont., 26th November, 1906.
17829. WON'T YOU LOVE ME JUST A LITTLE ? (Song.) Words by Jack MacArthur. Music by R. B Sterling and Arthur Gillespie. Jerome H. R`mick \& Company, New York, N.Y., U.S.A., 27th November, 1906.
17830. NANCE. (Song.) Words by Phil. M. Hacker. Music by Carl Hand. Arranged by J. Bodewalt Lampe. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 27th November, 1906.
17831. SOMEBODY'S WAITING FOR YOU. (Song.) Words by Vincent Bryan. Music by Al. Gumble. Jerome H. Remick \& Company. New York. N.Y., U.S.A., 27th November, 1906.
17832. ALL THAT WORDS CAN TELL. (Song.) Words by Alice Winn. Music by G. S. Evans. A. Cox \& Company, Toronto, Ont., 27th November, 1906.
17833. HARMSWORTH SELF-EDUCATOR MAGAZINE, 22ND NOVEMBER, 1906. The Amalgamated Press, Limited, London, England, 28th November, 1906.
17834. DANCE OF THE WATER NYMPHS. (For Piano.) By George Botsford. Jerome H. Remick \& Company, Detroit, Michigan, U.S.A., 28th November, 1906.
17835. FEATHER YOUR NEST. (Song.) Words by Colin Davis. Music by Joe Jordan. Will Rossiter, Chicago, Illinois, U.S.A., 28th November, 1906.
17836. IN THE SHADOW OF THE MAPLES ON THE HILL. (Song.) Words and Music by Cleve M. Williams. Will Rossiter, Chicago, Illinois, U.S.A., 28th November, 1906.
17937. LET ME DOWN EASY. (Song.) Words and Music by Tom Farrel. Will Rossiter, Chicago, Illinois, U.S.A., 28th November, 1906.
17838. NAPANEE. An Indian Novelty Two-Step. (From the Song: " Napanee.") By W. R. Williams and Will S. Genaro. Arranged by Harry L. Alford. Will Rossiter, Chicago, Illinois, U.S.A., 28th November, 1906.
17839. AN INDIAN LULLABY. Words Anonymous. Part Song for Women's Voices. By A. S. Vogt. Whaley, Royce \& Company, Limited, Toronto, Ont., 28th November, 1906.
17840. BOOK OF DESIGNS OF THE CONSOLIDATED PLATE GLASS COMPANY OF CANADA, LIMITED. By IV. R. Maxwell. The Consolidated Plate Glass Company of Canada, Limited, Toronto, Ont., 28th November, 1906.
17841. PRELUDES AND OTHER VERSES. With an Epistle in Criticism and an Essay entitled. THE RHYTHMICAL DUMMY : A RECIPE FOR VERSE-MAKERS. By John Daniei Logan. (Book.) John Daniel Logan, Toronto, Ont., 29th November, 1906.
17842. THE CANADIAN MAGAZINE : DECEMBER, 1906. Ontario Publishing Company, Limited, Toronto, Ont., 29th November, 1906.
17843. INSURANCE PLANS OF AILSA CRAIG. PORT STANLEY, BOTHWELL, RIDGETOWN, CHAPLEAU, RODNEY, COBALT SCHREIBER, COPPER CLIFF, SPRINGFIELD, DRYDEN, STAPLES, DVTTON, ST. THOMAS. HAILEYBURY' THAMESVILLE, HIGHGATE, THEDFORD, KEEWATIN, WEST LORNE, KENORA, WYOMING AND NORTH BAY, PROVINCE OF ONTARIO. Charles Edward Goad, Montreal, Que., 30th November, 1906.
17844. INSURANCE PLANS OF ANNAPOLIS, LUNENBURG, BRIDGETOWN, MAHONE BAY, BRIDGEWATER, METEGHAN, CLARK'S HARBOUR, MILTON, DARTMOUTH, PORT MAITLAND, KENTVILLE, WEYMOUTH BRIDGE, LOCKPORT AND YARMOUTH, PROVINCE OF NOVA SCOTIA. Charles Elward Goad, Montreal, Que., 30th November, 1906.
17845. INSURANCE PLANS OF APOHAQUI, PENOBSQUIS, BATHURST, RICHIBUCTO, BUCTOUCHE, REXTON, DALHOUSIE, ROGERSVILLE, HILLSBORO AND SURREY, PROVINCE OF NEW BRUNSWICK. Charles Edward Goad, Montreal, Que., 30th November, 1906.


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\section*{INVENTIONS PATENTED.}

NOTF.-Patents are granted for 18 jears. The term of years for which the fee has been paid, is given after the date of the patent.

\section*{No. 102,318. Disc Furrow Opener. Disque d ouvrir les sillons.}


The American Seeding Machine Company. Springfield, Ohio, assignee of Edward Christman, Louisville. Kentucky, U.S.A., 4th December, 1906: 6 years. Filed 9th November, 1906. Receipt No. 141,053.
Claim.-1. In a furrow opener, a main supporting frame formed in two parts, a furrow opening disc mounted on one of said parts, a conduit mounted on the other part, a shietil or scraper carried by said conduit. means for varying the inclination of the conduit in its relation with the vertical, whereby the shield or scraper will be adjusted in its relation with the furrow opening disc.
2. In a furrow opening device, a frame or support formed In two parts, a disc mountedaon one of said parts and a shield or scraper for said disc connected to the other part, means for varying the relative inclination of the said frame parts whereby the shields or scraper will be laterally adjusted in its relation to the disc, substantially as and for the purpose specified.
3. In a furrow opener, a supporting frame formed in two parts, a disc mounted on one of said parts and a shield or scraper for said disc on the other part, a fulcrum on one of said parts, an adjustable fastener on cach side of sain fulrrum whereby the position of one of the parts may be varied in its relation to the vertical to nermit a relative adjustment of the shield and dise. substantially as specified.
4. In a flurrow opener, a supporting frame in two parts, 12-1
a disc mounted on one part and a conduit on the other part, a rulcrum or projection on one or said parts adapted to contact with the other part, and adjustable fastening means on each side of said fulcrum whereby the position of the conduit may be adjusted with reference to the disc, substantially as described.
5. In a furrow opener, a supporting frame formed in two parts, one of said parts being provided with a recess and the other with an arm to fit in sald recess, a transverse bearing between said parts, adjustable fastening means on each side of said transverse bearing, a disc mounted on one of said parts and a conduit carrying a shield or scraper on the other part, for the purpose specifled.
6. In a furrow opening device, a two-part supporting frame, a disc mounted on one of said parts, a conduit carrying a shield or scraper on the other part, one of said parts being formed with a recess and the other with an arm fitted into said recess, a transverse bearing between the respective parts, adjustable fastening devices on each side of said transverse bearing, whereby the conduit may be adjusted with reference to the disc.
7. In a furrow opening device, a two-part supporting frame, a disc mounted on one of said parts, a shield or scraper for said disc mounted on the other part, a transverse bearing having a fulcrum between the respective parts of said two-part frame, and adjustable fastening means on cach side of said transverse bearing whereby said shield or scraper may be adjusted to or from said disc and held in proper relation thereto, substantially as specified.
8. The combination with a main supporting frame, a disc journalled thereon, a conduit carrying a shield or scraper, an arm on said condult and a recess in said frame into which said arm is fitted. a rib on one of said parts and a groove in the other part, fastening devices on each side of said rib and groove, and means for adjusting said fastening devices to produce adjustment of said conduit with reference to said disc. substantially as specified.

\section*{No. 102,319. Vestibule for Railway Cars. \\ Vestibule pour chars de chemin de fer.}

The Gould Coupler Company, New York City, New York, assignee of Willard F. Richards, Buffalo, New York, U.S.A., 4th December. \(1906 ; 6\) years. Filed 10th November, 1906. Receipt No. 141,079.
claim.-1. The combination with a car vestibule, of an extension hood therefor, and means for extending said hood comprising a swinging link which connects the other jr \(r\) tion of said hood to the vestibule and is pivoted at one end to one of said parts and has a sliding connection at the other end with the other part. and means exerting force on said link in a vertical direction to swing the link away from the part to which it is pivoted, substantially as set forth.
2. The combination with a car vestibule, of a face plate which is conncted to the vestibule by an extensible wall and is movable toward and from the vestibule, and means for pressing said face plate outwardly away from the vestibule comprising links each pivoted at one end to said vestibule and having sliding and pivotal connection at the other end with said face plate, and means exerting force on said links in a vertical direction to swing them away from the vestibule, substantially as set forth.
3. The combination with a car vestibule, of a face plate which is connected to the vestibule by an extensible wall
and is movable toward and from the vestibule, and means for pressing said face plate outwardly away from the ves-

tibule, comprising links pivoted at their lower ends to the sides of the vestibule and having pivotal and sliding connections at their upper ends with the upper side portions of said face plate and springs carried on said face plate for exerting a downward pressure on the upper ends of said links, substantially as set forth.
4. The combination with a car vestibule, of a face plate which is cionnected to the vestibule by an extensible wall and is movable toward and from the vestibule but is held from vertical movement, ad means for pressing said face plate outwardly away from the vestibule, comprising links piroted at one end to the vestibule, slides pivoted to the other ends of said links, hollow spring pockets on said face plate in which sald slides are movable vertically, and vertically disposed coil springs in said pockets for opposing the movement of said slides in one direction, substantially as set forth.
5. The combination with a car vestibule, and a horizontally movable vestibule buffer, of a face plate which is rigidly attached at its lower end to said buffer and is connected to the vestibule by an extensible wall and is movable horizontally toward and from the vestibule, and means for pressing said face plate outwardly away from the vestibule, comprising links pivoted at opposite ends to the side portions of said face plate and vestibule and also having sliding connections with said face plate, and means for yieldingly resisting the movement of said links toward the vestibule, substantially as set forth.

No. 102,320. Truck Bolster. Traversin de châssis.
The Gould Coupler Company, New York City, assignce of Willaard F. Richards, Buffalo, both in New York, U.S.A., 4th December, 1906 ; 6 years. Filed 10th November, 1906. Receipt No. 141,080.
Claim.-1. A bolster or the like consisting of an integral casting of substantially M-shape in cross section, substantially as set forth.
2. A bolster or the like comprising substantially vertical spaced webs connected at their lower edges, and substantially vertical flanges arranged outside of said webs and connected to the upper edges of said webs, substantially as set inrth.
3. A bolster or the like comprising substantially vertical spaced webs, a tension member arranged between and joining said webs and compression members located outside of and spaced from but joined to said webs, substantially as set forth.
4. A bolster or the like comprising substantially vertical spaced webs which decreases in depth from the center toward the ends of the bolster, a tension member arranged between and joining said webs and compression members of substantially uniform depth throughout, located outside of and spaced from but joined to said webs, substantially as set forth.
5. A bolster or the like consisting of an integral casting having substantially vertical spaced webs which decrease in

depth from the center toward the ends of the bolster, a bottom joining said webs, substantially vertical side flanges of approximately the depth of the end portions of said webs located outside of and joined to said webs and a central strut between said bottom and the upper portions of said webs, substantially as set forth.
6. A bolster or the like consisting of an integral casting having substantially vertical spaced webs which decrease in depth from the center toward the ends of the bolster, a transversely curved bottom joining said webs, substantially vertical side flanges of approximately the depth of the end portions of said webs located outside of and joined to said webs by transtersely curved top portions and a central strut between said bottom and the upper portions of said webs, substantially as set forth.
7. A cast metal bolster or the like having integral substantially vertical spaced webs, a bottom connecting the lower portions of said webs and flanges substantially parallel with said webs and joined to the upper portions thereof, substantially as set forth.
8. A cast metal bolster or the like having integral substantially vertical spaced webs connected by a transversely curved bottom and flanges substantially paralell with said webs and joined to the upper portions thereof by transversely curved portions, substantially as set forth.
9. A cast metal bolster or the like of substantially troughshape having webs connected by a bottom. and flanges spaced from said webs and connected to the upper portions thereof, substantially as set forth.
10. A cast metal truck bolster having integral substantially vertical spaced webs, a bottom connecting the lower portions of said webs, flanges substantiallv'parallel with said webs and joined to the upper portions thereof and center and side bearings, substantially as set forth.
11. A cast metal truck bolster or the like of substantially trough-shape having webs connected by a bottom. and flanges spaced from said webs and connected to the upper portions thereof, said bolster having hollow box-like end portions. substantially as set forth.
12. A cast metal truck bolster or the like of substantially trough-shape having wobs connected by a bottom. and flanges spaced from said webs and connected to the upper portions thereof. said bolster having hollow box-like end portions with upward extensions forming side bearings, substantially as set forth.

\section*{No. 102,321. Rail Joint. Joint de rails.}

William M. Douglass, Bloomfield, New Jersey, U.S.A., 4th I)ecember, \(1906 ; 6\) years. Filed 12 th November. 1906. Receipt No. 141,119.
Claim.-1. A device for reinforcing rail joints comprising in combination with the meeting ends of ralls, a bridge plate having a depending portion adapted to space the tles, fish plates secured to the rails and having nortions of their liength turned into hooked shaped flanges adapted to engage flanges upon the opposite edge of said bridge plate, as set forh.
2. A device for reinforcing rail joints comprising in combination with the meeting ends of rails, a bridge plate having a depending portion adapted to space the cles, fish plates secured to the rails and having portions of their length turned into hook shaped flanges adapted to engage flanges upon the opposite edge of said bridge plate, portions of the edges of the fish plates beyond said hook-shaped fiangi adapted to extend over the ledges of the flange of the rall and said bridge plate, as set forth.
3. A device for reinforcing rail joints comprising in combination with the meeting ends of rails, a bridge plate hav-

ing a depending portion adapted to space the ties, fish plates secured to the rails and having portions of their length turned into hook shaped flanges adapted to engage flanges upon the opposite edge of said bridge plate, and means for fastening the lower ends of the fish plates together, as set forth.

No. 103,322. Railway Tie Plate.
Plaque de tirant de chemin de fer.


Frederic Adrian Delano, Chicago, Illinios, U.S.A., 4th December, 1906 ; 6 years. Filed 9 th November, 1906. Receipt No. 141,056 .
Claim.-1. In mechanisms of the class described, a tie plate composed of a plurality of pieces having rail base receiving portions provided with base embracing and stop lugs oppositely rdisposed and perforated lever-like portions extending outwardly and oppositely therefrom, the perforations being arranged at points relatively remote from the base receiving portion of the plate, substantially as described.
2. In mechanisms of the class described, a tie plate formed of a pluraity of portions, one portion having a bifurcated base receiving portion provided with base embracing lugs at its free edges and base stop lugs oppositely disponed and with a laterally extending lever-like portion for securing the same to a railway tie at a point relatively remote from the base of a railway rail, and a second portion provided with a base recelving portion arranged between the bifurcation of the first-named plate portion and having a rail embracing lug at its free end and a basee stop lug oppositely disposed and with a laterally extending leverlike portion perforated relatively remote from the rall base for securing the same to the railway tie, substantially as described.
3. In mechanisms of the class described, a tie plate formed of two portions, one having a bifurcated rail base supporting portion provided with base embracing lugs at its free edges and base stop lugs oppositely disposed and with a laterally lever-like perforated extension for securing the same to the railway the at a point remote from the rail base and a second plate portion provided with a base receiving portion arranged between the free ends of the bifurcated plate having a base embracing lug at its iree end and a base stop lug oppositely disposed and with a laterally extending lever-like perforated portion adapted to overlap a similar lever-like extension of a similar plate on the opposite track rail to preserve the gauge of the track, substantially as described.
4. The combination of a rail support, a rail, rail holding plates having means for engaging the rail at opposite sides and also having different centers of movement and spikes
connecting the plates and the rail support, the sald rail holding plates and the spikes bring so relatively arranged that the spikes serve as the centers upon which the plates are movable.
5. In mechanisms of the class described, the combination of a railway rail having a height greater than the width of its base, a tie plate portion engaging the base of the rail and provided with lever-like extensions extending outwardly and oppositely from the rail base, and means for securing the same in position at points relatively remote from the rail base, substantially as described.

No. 102,323. Railway Tfe.
Dormant de chemin de fer.


John Howell, Houston, Arkansas, U.S.A., 4th December, 1906; 6 years. Filed 7th November, 1906. Receipt No. \(140,996\).
Claim.-1. A metallic rallway tie comprising a bed piece in the form of a trough having an imperforate bottom and upstanding longitudinal flanges, and a sectional top or cover for said bed piece consisting of a plurality of cap pieces having downwardly extending flanges which embrace the flanges of the bed piece and are secured thereto, the said can pieces embodying braces which engage the rail flanges and secure the rails to the tie.
2. A metallic railway tie comprising an imperforate bed piece with upstanding longitudinal flanges, fiber blocks inserted between said flanges and forming rall seats, and a sectional top or cover for the bed piece of the tie composed of a plurality of cap pieces fitting over the top of the bed piece and provided with flanges which extend downwarad outside of the flanges of the bed piece and also provided with projecting braces which extend over the flanges of the rails, and bolts passing through the flanges of the bed piece and cap pieces at opposite sides of the seat blocks. 3. A metallic railway tie comprising an imperforate bed piece with upstanding longitudinal flanges, a sectional top or cover composed of a plurality of cap pleces extending over the top of the tie and provided with depending flanges which embrace the flanges of the bed plece, seat blocks located within the body of the tie immediately beneath the rails, and bolts connecting the cap pleces and bed plece, said cap pieces being provided with a hollow and a movable cover for said hole, substantially as and for the jurgose described.
4. A metallic rallway tie comprising an imperforate bed piece having upstanding longitudinal flanges, a sectional top or cover composed of cap pieces extending over the top of the bed piece and having depending flanges which embrace the flanges of the bed piece, means for securing the cap pieces to the bed piece, the end cap pleces being provided with openings in the top thereof and covers for said openings, guard rails extending across the end cap pleces, and fastening bolts passing vertically through the tie and guard ralls, substantially as described.

\section*{No. 102,324. Rail Joint. Joint de rails.}

James Leith, Sherbrooke, Quebec, Canada, 4th December, 1906; 6 years. Filed 7th November, 1906. Receipt No. 140,993.
Claim.-1. In a rail joint, a pair of rail sections having longitudinal terminal extensions adapted to overlap when the sections are assembled, said extensions having on their inner faces transversely projecting lugs designed to enter corresponding recesses also provided in the said faces, fish plates applied to the rail, and fastening members for securIng the plates in place.
2. A rail section having a longitudinally projecting terminal extension having a diagonally inclined inner face

provided with a recess and with a transversely projecting ing disposed in alignment with said recess and shaped for entrance thereinto.

No. 102,325. Signal for Air Brake System. Signal pour systeme de frein à air.


Richard Peter Nolan, Havelock, Ontario. Canada, 4th De-
cember, 1906 ; 6 years. Filed 7th November, 1906. Receipt No. 141,013.
Claim.-1. In a device for the purpose specifled the combination with the air brake system of a valve therefor, automatically opening when the pressure drops below a given point and a signal operated by the air escaping through said valve, as and for the purpose specified.
2. In a device for the purpose specified the combination with the air brake system, of a valve therefor automatically opening when the pressure drops below a given point and a sound producing signal operated by the air escaping through said valve, as and for the purpose specified.
3. In a device of the class described the combination with the air pipe of a valve communicating therewith, a valve seat therein, a valve disc held thereon by the pressure of the air, and means for exerting a predetermined pressure upwardly against the valve to move the same off the seat when the air pressure drops below a given point and a signal operated by the air escaping through said valve, as and for the purpose specified.
4. In a device of the class described the combination with the alr brake pipe of a valve therefor comprising a valve seat, a valve disc held thereon by the pressure of the air, means for limiting and adjusting the movement of the valve, means for exerting a predetermined pressure against the valve disc to move the same off the seat when the nressure drops below a given point and a signal oderated by the passage of air through said valve, as and for the purpose specified.
5. In a device for the purpose specified the combination with the air brake pipe of a valve connected thereto having a valve seat, a valve disc held thereon bv the pressure of the air in the air brake pipe, a spring tending to press the valve off gaid seat and a signal adanted to be operater by the air passing through the valve when the dien thereof is moved off its seat. as and for the purpose snecified.
6. In a device of the class described the combination with the air brake pipe of a valve connected thereto and means acting automatically to open the valve when the pressure drops below a predetermined point and a signal connected to the valve and operated by the air passing therethrough, as and for the purpose specified.
7. In a device of the class described the combination with the air brake pipe of a valve connected thereto normally kept closed by the pressure of the air, a spring normally tending to open the valve and a signal adapted to be operated by the air passing through said valve, as and for the purpose specifled.
8. In a device of the class described the combination with the air brake pipe of a valve connected thereto, normally kept closed by the pressure of the air in sald pipe, a spring normally tending to open said valve and a noise producing signal adapted to be operated by the air passing through said valve, as and for the purpose specifled. '

No. 102,326. Railway Signal.
Signal de chemin de for.


John P. Egan, Milford, Massachusetts, U.S.A., 4th December, 1906 ; 6 years. Filed 8th November, 1906. Receipt No. 141,025.
Claim.-1. In a device of the class described the combination with a railway car having an air eonveying pipe thereon and an extension on said pipe, of a plunger disposed in said extension and adapted to close said pipe, a head pivotally secured to said car and having a cam slot therein, a wheel carried by said plunger and disposed in said slot, an arm extending from said head, and means to engage said arm and rotate the head whereby the plunger will be removed from the air conveying pipe.
2. A device of the class described comprising the combination with a car having an air conveying pipe and an extension on said pipe, of a plunger disposed in sald extension adapted to normally extend into the air conveying pipe, and means to dispose said plunger into or out of said air conveying pipe.
3. The combination with a rallway car. of an air conveying pipe, an extension on said pipe, a plunger in said extension, a head pivotally arranged on said car and having a cam slot, means carried by the plunger engaging sald slot, an arm extending from sald head, means to cngage said arm to rotate the head and additional means to hold sald head in its rotated nosition.
4. The combination with a railway car. of an air conveying pipe, a plunger disposed in said pine. a head having a cam slot therein, means to rotate said head whereby said plunger will be removed from the air conveying pipe, means to engage said head and hold said nlunger out of said nipe and additional means to return said head to its normal position when released.
5. The combination with a rallway car having brake operating mechanism secured thereto, of means to operate sald mechanism comprising a plate, an arm integral with said nlate, said nlate beine substantially V-shaped, supporting means for sald arm and nlate and additional means to raise or lower said arm and nlate.

\section*{No. 102,327. Shoe and Last. Chaussure et forme.}

Henry Franklin Browne. Swampscott, Massachusetts, U.S.A.. 4th December. 1906: 6 years. Filed 12th November, 1906. Recript No. 141,128.
Claim.-1. A shoe having a pocket in the interior of its heel portion. said pocket being lower than the shank portion of the sole, and a permanently attached inner sole having a loose heel portion forming a cover for sald pocket, said cover being movable and adapted to prevent forward and upward, displacement of a cushion inserted in the pocket.
2. A shoe comprising an outer sole having its heel porthon offset or depressed below the highest part of the


Ahank, an inner sole, the heel portion of which has a lower part which is seated on and affixed to the depressed portion of the outer sole, and constituting the bottom and front end of a cushion pocket, and an upper part which is flexibly connected with the fore part of the inner sole, and constitutes a movable cover for a cushion inserted in said Docket.
3. A shoe comprising an outer sole having an offset heel portion, and an inner sole having a two-part heel portion, the lower part of which is affixed to the offset portion of the outer sole, the upper part forming a cushion covering and retaining member.
4. That improvement in the method of making pocketed shoes which consists in dividing the heel portion of the inner sole, separating the division of said heel portion, offsetting the heel portion of the outer sole, and attaching the lower division of the heel portion of the inner sole to the offset portion of the outer sole while said divisions are separated, the upper division being left free to form a pocket cover.
5. A last having means for holding a transverse portion of an inner sole above the bottom face of a portion of the last.
6. A last having means for holding the heel portion of an inner sole above the bottom face of the heel portion of the last.
7. A last having a transverse opening in its bottom face, extending from side to side of the last for the reception of a portion of an inner sole.
8. A last having in its body portion a pocket located above the bottom face of the last, said pocket having a mouth extending across the bottom face of the last. between the heel and toc portions.
9. A last having the bottom face of its heel portion offset to form on an inner sole the bottom and forward end wall of a heel receiving pocket, and provided above said bottom face with means for holding a portion of the inner sole above the said offset bottom face.
10. A last and a heel seat extension therefor separable from the body of the last.
11. A last and a detachable heel seat extension therefor, the last and extension having complemental means for preventing relative movement.
12. A last and a detachable heel seat extension therefor, said parts having complemental interlocking members.
13. A last and a detachable heel seat extension therefor having a flange adapted to engage the margin of the heel seat portion of the last body, the latter having a seat for said flange.
14. A heel scat extension having an inner face adapted to bear on the heel seat portion of the last body, and an outer face presenting a heel seat which is offset from said gortion.
15. A heel seat extension having an inner face adapted to bear on the heel seat portion of a last body, and an outer face presenting a heel seat which is offset from said portion, said outer face being inclined or bevelled at the forward end of the extension.
16. A heel seat extension having an inner face adapted to bear on the heel seat portion of a last body, an outer face presenting a heel seat which is offset from said portion, and means for engaging said body to prevent displacement of the extension.
17. A heel seat extension having an inner face adapted to bear on the heel seat portion of a last body, an outer face presenting an offset heel seat and a marginal flange adapted to engage said body.

No. 102,328. Shoe and Last. Chaussure et forme.


Henry Franklin Browne, Swampscott, Massachusetts, U.S. A., 4th ecember, 1906; 6 years. Filed 8th November, 1906. Receipt No. 141,033 .

Claim.-1. In a shoe, a shoe, an upper, and a moisture proof lining partially enclosing the edge portion of the sole and enclosing the edge of the upper, the same lining covering, also one surface on the sole.
2. In a shoe, a channelled sole, an upper, a moisture proof lining covering the channelled surface of the sole. said lining being attached to the edges thereof to the upper and said sole.
3. In a shoe, a channelled sole, an upper and a moisture proof covering attached with the upper to the channelled edge of the sole, said covering being folded over the row of stitching and upon the channelled surface of said sole.
4. In a shoe, a channelled sole, an upper, and lengths of moisture proof material overlapping the channelled surface of the sole, the said moisture proof material being attached at the edges thereof to the upper and the sole.
5. In a shoe, a channelled sole, an upper and lengths of moisture proof material atached with the upper to the sole at the edges thereof, said lengths of material overlapping each other and the channelled surface of the sole.
6. In a shoe, a channelled sole, an upper and lengths of moisture proof material attached with the upper to the sole a.t the edges thereof, said lengths of material being iolded up on the sole and enclosing the row of stitching between said upper and the sole.
7. In a shoe, a channelled sole, an upper and a moisture proof lining enclosing the joint between the upper and the sole and fastened upon the channelled surface of the sole.
8. In a shoe, a channelled sile, an upper and a plurality of moisture proof layers fastened to the channelled surface of the sole and enclosing the stitches between the upper and the sole.
9. In a shoe, an upper, a sole and lengths of moisture proof material attached to the edge portion of the sole and upper and folded upon said sole to enclose the stitches which unite the several parts.
10. In a shoe, an upper, a sole and lengths of moisture proof material attached to the edge portion of the sole and upper folded upon said sole to enclose the stitches which unite the several parts, said lengths of material being united to the sole and to each other.

No. 102,329. Felt Boot. Chaussure de fcutre.


William Henry Shultz, Grand Rapids, Michigan, U.S.A.. 4th December, 1906; 6 years. Filed 7th November. 1906. Receipt No. 140,010.
Claim.-1. The method of forming a felt boot having a bellows front consisting of preparing a batt to form the
boot, and a smaller batt to form the bellows or gussett placing non-felting material between portions of the batts, joining the batts integrally where they are in contact by felting the same, and serving the same vertically on a line through the portions so jolned.
2. The method of forming a felt boot having a bellows front consisting of preparing a batt to form the boot pooper. and a smaller and thinner batt to form the bellows or gusset, folding the latter around a piece of non-folting material with the edges of the batt adiacent to each other. placing the batts one upon the other and placing betwern the same strips of non-felting material spaced apart to permit portions only to the batts to rome in contact. ioining the batts integrally where they come in contact by felting the same. forming and treeing the boot and severing the leg of the boot on a line through the integrally joined portions of the leg and hellows portions.
3. A felt boot comprising a lece nowion sorrat vertically. and a bellows nortion foldad at itc resnoctive vertical adges and integrally folned at its fni i...irmz to the soyered edges of the leg portion by felting the same.
4. A pelt boot comprising a leg nortion sovered vertically at the front. and a bollows nortion foldod at itc vortical cilges and intcerally joined to the enver力d edges of the leg nortion by felting the said les and bellows nortions while in the hatt form. said severed niges of the leg nenaronting opposing thickened and reinforend proiecting edges.

No. 102,330. Stove Draft Apparatus.
Apparefl de tirage de poêle.


Silas McClure, Beaver Dam, Wisconsin, U.S.A.. 4th December, 1906; 6 years. Filed 9th November, 1906. Receipt No. 141,054 .
Claim.-1. In a stove or analogous device having a fuel grate and an air draft chamber across under the grate, a plurality of swinging draft controlling doors on a wall or walls of the draft chamber adapted to eoncurrent!y open and close and thereby to coincidently admit or shut off the flow of air to the draft chamber under the grate at distant points, a lever pivoted medially on the inside of the draft chamber between and substantially in a line with said doors, and rods severally connecting the opposite arms respectlvely of said lever to said doors respectively and so that the swinging of one of said doors outwardly or inwardly will compel movement of the rods in revers, directions and the swinging of the doors reversely concurrently outwardly or inwardly.
2. A stove draft apparatus. comprising hinged draft doors at distant localities on the walls of the stove, a lever pivoted medially on the stove in the line between the doors, a yielding elastic device bearing on and holding the lever yieldingly against rotating, and rods connccting the arms of the lever respectively to the doors.
3. A stove draft apparatus, comprising a pair of doors hinged at their lower edges respectively to walls of a stove, an intermediate lever pivoted medially on a stud pivot fixed on the stove the stud having a shoulder at the inner end of the pivot, means on the pivot holding the lever against the houlder frictionally, and rods connecting the arms of the lever respectively to the doors adapted to control them to swing coincidently.
4. In stove draft apparatus, duplicate door frames secured respectively to the wall or walls of a stove, said frames each having a door seat around and opening and inclined inwardly upwarly, and pintle sockets in the lower member of the frame, doors having pintles that enter the sockets and hinge the door on the frame. the door being adapted to rest when closed on the inclined seat of the frame, and means on the inside of the stove connecting the doors so that they must swing or remain closed coincidentlly.
5. In a stove draft apparatus, two oppositely located swinging doors, an intermediate medially pivoted swinging lever having laterally extended pivot apertures in its arms, and rods connecting the doors to sald lever, said rods having wrist pins with radially projecting rigid keys thereon adapted to pass through the apertures in the lever arms and by a quarter turn to be held therein against escape by endwise movement of the wrist pins.
6. In combination with a stove or range, two draft doors located in opposite walls of the stove, a medially pivoted swinging lever and rods connecting the doors at the inside thereof to the arms of the lever, the lever the rods and the connection of the rods to the doors being all on the inside of the stove and between the doors.

\section*{No. 102,331. Stove. Pocile.}


Melvin Decker, Vicksburg, Michigan, U.S.A., 4th December, 1906; 6 years. Filed 10th November, 1906. Receipt No. 141,066.
C'laim.-In a stove, in combination a magazine in the body thereof, and fitting at its lower end against the back of the stove, an exit flue at the back of the stove adjacont the top of the magazine, whereby the products of combustion are forced to rise at the front part of the stove, and to pass around the jacket hercinafter mentioned to the exit flue, an air feeding pipe which extends downwardly from the top of the stove between the magazine and the front of the stove through the path of the profucts of eambustion and entering the magazine near the lower end thereof. whereby the air is heated before being delivered to the magazinc, and a jacket around the magazine above the entrance of the aforesaid air ferding pipe.

No. 102,332. Trousers. I'antalon.


Charles William Bartrum, Newburg, New York, U.S.A., fth December. 1906; 6 years. Filed 12th November, 1306. Receipt No. 141,109.
Claim.-1. A buttonhole-fly for trousers, composed of a piece of cloth containing the buttonholes and a facing connected thereto back of the buttonholes, said fly attached to the edge of the trousers by means of the outer edge only of the facing, and said piece of cloth extending to and stitched in the side seam of theh trousers, whereby exposed lines of stitching adjacent to the trousers opening are avold.d.
2. A buttonhole fly for trousers, composed of a single pief of cloth extending from the edge of the trousers opening to the side seam of the trousers and containing the buttonholes, and a facing connected therewith back of the button-
holes, said fly being attached to the trousers by having the outer edge conly of the facing stitched to the edge of the trousers opening, and the edges of the cloth stitched in at the waist and side seam of the trousers, whereby exposed lines of stitching at the trousers opening are avoided.

No. 102,333. Grain Picker.
Machine pour marincr le grain.



Herbert F. Boyce, Abernethy, Saskatchewan, Canada, 4th December, 1906; 6 years. Filed 10th November, 1906 Receipt No. 141,069.
Claim.-1. A grain pickler comprising the combination of a bath receptacle, a separate grain hopper, means for feeding the grain into the bath receptacle, and means for elevating the grain from the bath receptacle.
2. A grain pickler comprising the combination of a bath receptacle, a separate grain hopper, means for feeding the grain into the bath receptacle, means for controlling the feed of the grain and means for elevating the grain from the bath receptacle.
3. A grain pickler comprising the combination of a bath receptacle, a separate grain hopper, provided with an opening therein, a closure for the opening, spring hinges on the closure and secured to the grain hopper, a rod carried transverse to the closure and provided with a thum nut, cams on the rod adapted to contact with the closure, and means for elevating the grain from the bath receptacle.
4. A grain pickler comprising the combination of a bath receptacle provided with an inclined bottom, a separate grain hopper provided with an inclined bottom, means for feeding the grain into the bath receptacle, and means for clevating the grain from the bath receptacle.
5. A grain pickler comprising the com'ination of a bath receptacle, a separate grain hopper provided with a depending flange extending within the bath receptacle, means for feeding the grain into the bath roonotarle from the grain hopper, and means for elevating the grain from the bath receptacle.
6. A grain pickler comprising the combination of a bath receptacle provided with an inwardly proiecting flange. a separate grain hopper. means for feeding the grain into the bath receptacle, and elevating means extending beneath the inwardly projecting flange.
7. A grain pickler comprising the combination of a bath receptacle, a separate grain hopper, means for feedin;: the grain into the bath receptacle, means for elevating the grain from the bath receptacle, and means for preventing the passage of grain under the elcvating means and for maintaining the elevating means in position.
8. A grain pickler comprising the combination of a bath receptacle, removable conveyer supporting menbers inclined upwards from the receptacle, drums on the supporting members, a crank on one of the drums. o flexible belt on the drums and a removable grain hopper on the receptacle.
9. A grain pickler comprising the combination of a bath receptacle, removable conveyer supporting niembers inclined upwards from the receptacle. drums on the supporting members, a crank on one of the drums, a flexible screening belt on the drums, and a removable grain hopper on the receptacle.

\section*{No. 102,334. Ash Sifter. Tamis à cendre.}

Joseph J. Domek, Jr., Chicago, Illinois. U.S.A., 4th December, 1906; 6 years. Filed 10th Novomber, 1906. Receipt No. 141,140.
Claim.-In an ash sifter the combination with a cylin drical vessel having a horizontal slot at a suitable distance below its upper end, of a series of serew-threaded and headed stub shafts located in said vessel on a horizontal plane near the said slot, a roller on each of said shafts, a
pair of nuts located on each of said shafts, one on the inner and the other on the outer side of said vessel, a cylindrical

sifter having a sieve horizontally located in its bottom and resting on said rollers. a screw-threaded apertured lug on the sifter, and a handle having a threaded portion to engage said lug and extending through the slot in the outer vessel, substantially as described.

No. 102,335. Miter Box. Boite ì onglet.


Peter Dosch, Bridgeport, Connecticut, U.S.A., 4th December, 1906; 6 years. Filed 7th November, 1906. Receipt No. 140,999.
Claim.-1. The combnation in a mitering apparatus, of a stationary table, a frame pivoted to the stationary table, an A-frame pivotally connected to the pivoted frame at its separated ends, a device pivotally supporied upon the other end of the A-frame provided with means which engage the back and sides of the saw at a distance from its teeth, means connected with said pivoted device and with the pivoted frame for maintaining the saw in a horizontal position at all positions of the \(\Lambda\)-frame and counterbalance springs which co-act with the A-frame.
2. In a mitering apparatus, a saw supporting and guiding device provided on its interior with resilient bearing plates adapted to immediate engagement with the sides of the saw at a distance from its teeth, the opposite ends whereof are independently adjustable toward and from the saw.
3. In a mitering apparatus a frame pivotally supported at one end in the axis or center of the apparatus, another swinging frame pivoted to the first-named frame at two points to the right and left of its axial line, a saw supporting and guiding davice pivotally supported at the other end of the last-named frame in substantially the axial line of the device, and saw centering and controlling bearing plates within the saw supporting and guiding devices the opposite ends whereof are independently adjustable toward and from the saw blades at a distance from its teeth.

\section*{No. 102,336. Pipe Cleaner. Nettoyeur de tuyau.}

Edgar T. Gilbert, Rochester. New York, U.S.A., 4th December, 1906; 6 years. Filed 9th November, 1906. Receipt No. 141,048 .
Clnim.-1. A pipe cleaner or analogous device embodying a stiff central core provided with fibres extending radially therefrom, the lengths of said fibres being increased at intervals to form a succession of tufts or brushes.
2. A pipe cleaner or analogous device embodying a stiff central core provided with groups of fibres extending radi-
ally therefrom at intervals and forming a succession of tufts or brushes.

3. A pipe cleaner or analogous device embodying a stiff central core provided with groups of fibres of graded lengths extending radially therefrom at intervals and forming a succession of conical tufts or brushes.
4. A pipe cleaner or analogous device embodying a stiff central core provided with groups of fibres of graded lengths extending radially therefrom at intervals and forming a succession of conical tufts or brushes varying in maximum diameter.

No. 102,337. Nnt Lock. Arrête écrou.


Harry H. Hawley, Malone, New York, U.S.A., 4th December, 1906; 6 years. Filed 12th November, 1906. Receipt No. 141,100.
Claim.-1. In combination, a nut having a transversely extending recess formed in its inner face and extending across the plane of the threaded opening, said recess having an obliquely disposed wall that extends from the juncture of the inner face of the nut and one of its wrench engaging faces, and a pivoted bolt engaging tongue housed within the recess and having a face shaped to engage the obliquely disposed wall, he free end of said tongue being arranged to be engaged by an adjusting tool.
2. In combination, a nut having a transversely extending recess formed in its inner face, said recess having an obliquely disposed wall that extends from the juncture of the inner face of the nut with one of its wrench engaging faces, and a pivoted tongue housed within the recess and having its free end shaped for engagement by an adjusting tool, such tongue having a depending lug or fingeer for engaging a grooved bolt, the tongue having a face shaped to engage the obliquely disposed wall.
3. In a nut lock, a grooved bolt, a nut having a transversely extending recess across its inner face, one wall of the recess being oblique with respect to the face of the nut, a locking tongue housed by the recess and having one end pivoted, the free end of the tongue having a recessed upper edge, and a curved lower face to permit engagment by an adjusting tool.

\section*{No. 102,338. Milk Pail Support.}

\section*{Support de seau d lait.}

Jacob Kuhn, Iola, Kansas, U.S.A.. 4th December, 1906; 6 years. Filed 12th November, 1906. Receipt No. 141,111. Claim.-1. A pail support comprising a pair of substantially semi-circular plates having their ends overlapping and fit-
ting slidably together, devices extending through their overlapping ends to secure them against accidental movement,

and segmental arms projecting outwardly from said plates and bearing a rigid relation therewith.
2. A pail support, comprising a pair of seml-circular plates one provided with longltudinal grooves at its upper and lower edges and the other having its corresponding edges fitting in said grooves, fastening devices extending through said overlapping ends of the plates to secure them at the desired adjustment, and segmental arms secured to said plates at diametrically opposite points and curving upwardly and outwardly therefrom.
3. A milk pail support, comprising a pair of substantially semi-circular plaes, one having grooves at its upper end lower margins and the other having its corresponding edges fitting in said grooves, bolts extending through the overlapped end of said plates, nuts engaging the bolts, and a pair of arms consisting of doubled plates bent to form loops tightly engaging the first-named plates at diametrically oppasite points and curving upwardly and outwardly therefrom.

No. 102,339. Hat Shape Making Machine. Machine pour faire des formes de chapeaux.


Arthur Conrad Lederer, London, England, 4th December, 1906; 6 years. Filed 8th November, 1906 . Receipt No. 141.021.
Claim.-1. A shape forming machine, comprising a stand, a vertical spindle turning in said stand, a crown rigid with said spindle and a plurality of arms pivotally secured in said crown, and slidable means vertically arranged on said spindle for throwing said arms inwardly or outwardly, substantially as described.
2. A shape forming machine, comprising a stand having a vertical orifice through the upper portion thereof, a vertical sbindle inserted and suitably supported in said orifice and rotating freely therein, a plurality of arms extending from the upper end of said spindle and pivotally supported therefrom, slidable means on said spindle for operating said arms, and means for operating said slldable means, substantially as described.
3. A shape forming machine, comprising a stand having a solid portion at its upper end and a central vertical orifice through said solid portion, said orifice having a reduced lower end, a spindle having a reduced lower end inserted and turning in said orifice, a plurality of arms radially and pivotally arranged at the upper end of said spindle, a collar encircling said spindle and sliding vertically and connected with sald arms, and means for moving said collar upwardly and downwardly, substantially as described.
4. A shape forming machine, comprising a stand having a solid portion at the upper end thereof and a centra
vertical orifice through said solld portion, said orifice having a reduced lower end, a spindle corresponding at the lower end thereof with said orifice and extending therethrough and having larger dimensions thereabove, a nonrotating sleeve encircling said spindie intermediate of its length, a collar encircling said sleeve and suitably supported thereon, spiral springs encircling said spindle above and below said sleeve respectively, a plurality of arms radially and pivotally arranged at the top of said spindle, a corresponding number of supporting links radially and pivotally secured in said collar and adjustably secured to said arms, and means for carrying said sleeve upwardly and downwardly against the spring pressure, substantially as described.
5. In a shape forming machine the combination with the stand having a solid portion supported on suitable legs, of a spindle having a squared upper end and turning in said solid portion, a crown having a corresponding squared orifice mounted on said spindle and having radial slots therein, elbowed arms pivotally secured in said radial slots, a collar encircling said spindle and sliding vertically thereon, supporting links connecting said collar with said elbowed arms, means for raising and lowering said collar and returning it to its mid-position, substantially as described.
6. In a shape forming machine the combination with the stand supported on suitable legs and having a central opening therethrough, of a spindle having a reduced lower end inserted in said opening and suitably supported. a sleeve encircling said spindle and spring-heln to its mid-position, a collar turning on said sleeve and supported thereby, a crown rigid with said spindle at the upper end thereof and having radial slots therein from the outer edge. elbowed arms pivotally secured in said radial slots extending upwardly and having longitudinal slots therein, supporting links connecting said collar and said arms, forming fingers having forked ends, clamps securing said fingers through their forked ends to said arms through the longitudinal slots, and pedal operated means connected to said sleeve for raising and lowering the same against its spring pressure, substantially as described.
7. In a shape forming machine the combination with the stand having a central vertical orifice throcish the upper and solid portion thereof and side orifices and hollow legs arranged in alignment with said side orifices, of a spindle inserted in said central orifice and turning therein and suitably supported, a sleeve encircling said spindle. spring-held to its mid-position and having side slots therethrough at different elevations, latches pivoted in said slots at the upper and lower end thereof, connecting rods extending through said side vertical orifices in the stand and through said hollow legs, pivoted spring-held pedals pivotally jointed to said connecting rods, one at the extremity thereof and one intermediate of its length, said pedals pulling and pushing on said rods respectively and moving said sleeve against the spring pressure, arms radially arranged and pivotally secured at the upper end of said spindle, a collar encircling said sleeve, supporting links radially inserted and pivotally secured to said collar and adjustably secured to said arms, and forming fingers adjustably arranged on said arms. substantially as described.
8. In a shape forming machine the combination with the stand and a plurality of radially arranged elbowed arms extending therefrom having longitudinal slots in their vertical sections, means for altering the vertical position of said arms and fingers forked at their inner ends and extending from said forked ends in various directions and having substantially \(S\)-shaped hooks therein arranged and clamps securing said fingers to said arins through the forked ends of the fingers and the slots of said vertical portions of the arms, substantially as described.
9. A shape forming machine comprising a stand baving central and side vertical orifices therethrough and suitable legs, said central orifice having a reduced lower end. a spindle having a reduced lower end extending through the lower portion of said central orifice and an enlarged central portion and an annular groove in said central portion, a sleeve having side slots therethrough at different elevations. a collar encircling said sleeve. suitaby supported on the shoulder thereof, a spiral spring encircling said spindle below said central portion, a washer encircling said spindle over said spring and under the lower shoulder formed by said central portion, a spiral spring encircling said spindle above said central portion, a washer encircling said upper spindle immediately beneath said spring and above the upper shoulder formed by said central portion. a crown ripidly secured at the upper end of said spindle. arms radially arranged in said crown and pivotally secured thereto. supporting links radially arranged and pivolally secured in said collar and adjustably secured to said urms, latches pivoted in the upper and lower ends of the walls in said slots in said sleeve respectively and engaging the shoulders formed by said annular groove, connecting rods pivotally secured to said latches and extending downwardly through the side
vertical openings in the solid portion of said frame, a pedal pivotally secured at its extremity to the lower end of one of the legs of said stand and having an orifice intermediate of its length in which one of said connecting rods is secured, a pedal pivoted intermediate of its length at the lower end of another of said legs and having an orifice at the extremity thereof on which is secured the other of said connecting rods, springs secured to said legs and said pedals respectively retaining said pedals in their upper position, and forming fingers adjustably secured to the aforesaid arms, substantially as described.

No. 102,340. Box Hook. Crorhet de boîtes.


Albert Max Maretzek, Hoboken, New Jersey, U.S.A., 4th December, 1906: 6, years. Filed 10th November, 1906. Receipt No. 141,087.
Claim.-A device of the character described comprising a shank, a transversely extending handle web having enlarged end portions forming hammer faces and having its intermediate portion formed with flat faces lying substantially parallel with the axis of the shank, and handle scales secured to the said faces of the web.

\section*{No. 102,341. Dump Car. Char ì bascule.}


Otto William Meissner, Montreal, Quebec, Canada, 4th December, 1906; 6 years. Filed 9th November, 1906. Receipt No. 141,055.
Claim.-1. In a car of the class described, the combination of a supporting frame portion, a drop bottom therefor formed of swinging doors pivotally secured to the frame portion at their inner edges, and movable end portion on the free edges of the bottom doors adapted to extend at an incline beyond the sides of the car when the doors are in oden nosition.
2. In a car of the class described, the combination of a supporting frame portion, a drod bottom therefor formed of swinging doors pivotally secured to the frame portion at their inner edges, and movable end portions on the free edges of the bottom doors adapted to extend at an incline beyond the sides of the car when the doors are in open position and to be moved into an inoperative position when the dron doors are closed.
3. In a car of the class described, the combination of a supporting frame portion, a drop bottom portion therefor composed of swinging doors hinged at their inner edges, and downwardly swinging extensions hinged to the outer edges of the swinging doors.
4. In a car of the class described, the comblnation of a supporting frame portion, a drop bottom therefor composed of swinging doors hinged at their inner edges, downwardly swinging extensions hinged to the outer edges of the swinging doors, and means for raising the extensions to operative position when the swinging doors are lowered. substantially as described.
No. 102,342. Feed Water Heater for Locomotives. Chauffeur d'eau d'alimentation pour locomotives.


Walter Andrew Moffat, Denver, Colorado. U.S.A., 4th December, 1906 ; 6 years. Filed 7th November, 1906 . Receipt No. 140,997.
Claim.-1. In a device of the class described. a boiler provided with a combustion chamber, a feed water receptacle, a supply tank, an auxiliary heating tank communicating therewith, a duct leading from the auxiliary tank to the receptacle, a pipe connected with the latter and leading through the combustion chamber for heating the water, and a pipe leading from the receptacle to the boiler.
2. In a device of the class described, a boiler having a combustion chamber, a feed water receptacle, a tank communicrating with said receptacle, means for supply steam to the tank, a pipe connected with the receptacle and leading through the combustion chamber, and means between the receptacle and boiler for supplying water to the latter.
3. In a device of the class described, a boiler having a combustion chamber and an exhaust, a receptacle, means for supplying water thereto, a duct, connected with the exhaust and leading into the receptacle, a duct connectes with the latter and leading through the combustion cham. ber, and connections between the receptacle and boiler for supplying water to the latter.
4. In a device of the character described, a boiler having a combustion chamber and an exhaust, a water jacket for sald boiler, a duct connected with the exhaust and leading into said water jacket, a duct connected with the latter and leading into the boiler, a supply tank having connection with said water jacket, and a steam pipe connecting said boiler and the steam space of the supply tank, the same having a valve thercin controlled by the steam pressure of the boller, substantially as and for the purpose sel forth.

No. 102,343. Washing Machine. Machinc ì laver.


Philip Vollmar, Chatham, Ontario, Canada, 4th December, 1906; 6 years. Filed 12th November, 1906. Receipt No. 141.112.

Claim.-1. The combination witt. the tub \(A\) of an oscillatory rubber B, a movable bumper \(F\) and an operaing handle engaged to simultaneously operate the rubber and bumpers, substantially as specified.
2. The combination with the tub \(A\) of an oscillatory rubber \(B\) having the slotted engagement with the bumper \(F\). substantially as specified.
3. The combination with a tub of an oscillating rubber having a slotted engagement with the arms \(G\) of the bumper \(F\). and the coiled compression springs \(H\) exerting their tension on the ends of the arms \(G\) at \(g\), and the lateral flanges \(h\) of the rubber \(B\), substantially as and for the purposes specified.
4. In combination with the tub \(A\), an oscillatory rubber \(B\). having a slotted engagement with the bumper \(F\), the colled springs \(B\) exerting their tension upon the ends of the sald arms \(G\) and the rubber \(B\) when the tension of the coiled springs \(H\) is overcome, the rubber \(B\) may oscillate independent of the bumper \(F\), substantially as described and for the purpose specifled.
5. In a washing machine the combination of the semicircular oscillating rubber \(B\) having metal ends \(B^{1}\), the inside corner being extended and having elongated slots or slides \(b^{2}\). for the pivotal engagement of the studs \(g\), at the outer ends of the arm \(G\) of the bumper \(F\), for the purpose specified.
6. In a washing machine the combination of a semi-circular oscillating rubber \(B\) having extended ends with slides and lateral flanges for the engagement of one end of the colled compression springs \(H\), the opposite ends engaging with the pivot on the arm of the bumper F, substantially as and for the purpose specified.
7. In a washing machine the combination of the semicircular rubber \(B\) having a rigid engagement with the axle \(C\) the arms \(C^{1}\), the connecting rods \(E\) haviag a plvoted engagement with the handles \(D\), the bumper \(F\) the supporting rods \(N\) engaging with the sides of the tub \(A\) at \(N\). substantially as and for the purpose specified.
8. In a washing machine the combination of the oscillating rubber \(B\) having the metal heads \(B^{1}\). which are constructed with flanges and perforations for receiving the transverse slats \(b\), the cross braces \(B^{2}\), having the hub \(B^{x}\) eccentric to the ends of said brace, the said rubber having a rigid engagement with the axle \(r\) the rigid arms \(C^{\prime}\), the connecting rods \(E\), the levers \(D\) and the handle \(D^{\prime}\). the compression spring \(H\), the bumper \(F\), the supporting rods \(N\), all subsintially as and for the purpose specified.

No. 102,344. Ironing Board. Planche demaner.


John O. Ward, Santa Maria, Californla, U.S.A., 4th Derember, 1906; 6 years. Filed 12th November, 1916. Receipt No. 141,099.
Clain.-An ironing board comprising a table formed with a longitudinal slot at one end, engaging spurs projecting upward from the upper surface of the table at opposite sides of the slot, a leg member formed with an engaging shoulder said leg member projecting edgewise through the slot in the table, a hinge having its upper leaf secured 10 the under surface of the table adjacent the slot, and having its lower leaf extending downward along the upper edge of the leg member and formed with a longitudinal slot. and a bolt extending through the slot and endwise through the lea member, said bolt being provided with a tightening nut, substatially as described.

\section*{No. 102,345. Perpetual Calendar. \\ Calendrier perpétuel.}

James M. Crawford, Bentonville, Indiana, U.S.A., 4th December, 1906; 6 cuars. Filed 16th November, 1905. Receipt No 130,171.
Claim.-A perpetual calendar consisting of a card. a table printed on the lower central dortion of the card and comprising numbers indicating the days of the month and an aperture formed through the card adjoining the table. a diac pivoted in its center to the back of the card and haviak printed thereon abbreviations for the dags of the week occuring seven times which appear through the aperture as the

through an aperture in said card and means for indicating
the year numerically, substantially as shown and described

\section*{fear numerically, substantially as shown and described.}

No. 102,346. Metallic Packing.
Garniture métallique.


Edward J. Fuller, Elyria, Ohio, U.S.A., 4th December, 1906; 6 years. FIlled 25 th October, 1905. Receipt No. 129,562.
Claim.-1. In a metallic packing, the combination with the packing rings, of a cage composed of separable members, means interposed between the meeting faces of said members and wholly enclosed within the edges of said meeting faces for insuring \(t\) true and perfect alignment of sald members, and means for securing said members together.
2. In a metallic packing the combination with the packing rings, of a cage composed of separable members, centering devices projecting into the meeting faces of said members and wholly enclosed within the odges of said faces for insuring a true and perfect alignment of said members, and means for securing all of said members togethar.
3. In a metallic packing, the combination with the packing rings, of a cage composed of separable members, centering rings projecting into the meeting faces of sald members and wholly enclosed within the edges of said faces for insuring a true and perfect allgnment of said members, and means for securing the members together.
4. In a metallic packing, the combination with the packing rings, of a cage composed of separable members, provided with annular recesses in their meeting faces, centering rings adapted to engage in said recesses for insuring a true and perfect alignment of said members, and means for securing said members together.
5. In a metallic packing the combination with the packing rings, of a cage composed of separable members,

suitable
means surroundin securing said members together, and perfect alignment of said bolts for insuring a true and 6. In a metalic of said members.
ing rings, of a cage comg, the combination with the packable bolts for securing said of separable members, suiting rings surrounding said members together, and centerperfect alignment of said members for insuring a true and 7. In a metallic of said members.
ing rings, of a cage cong, the combination with the packvided with suitable composed of separable members proindependent of but surrounding and with annular recesses arranged in said recesses for said holes, centering rings alignment of said members, insuring a true and perfect said bolt holes and members, and suitable bolts occupying
8. In a metallic packined to hold said members together. ing rings, of a cage composed combination with the packvided with suitable bolt posed of separable members proindependent of but wolt holes and with annular recesses ing rings arranged in said recic with said bolt holes, centera true and perfect alignm recesses and adapted to insure occupying perfect alignment of said members, and bolts together.
No. 102,347. Postmarker.
Apparcil id maculer les lettres, etc.


Donald Robertson, Wellington, New Zealand, 4th December, 1906; 6 years. Filed 24th November, 1905. Receipt No. 130.384 .
Claim.-1. The combination in a postmarking machine of a feed wheel and an index finger on one side of the mall path, with, on the opposite side of the mail path, an adjustable sensitive mail separator at right angles to the mail path and a time stop projecting across the mail path, substantially as and for the purpose set forth.
2. In a postmarking machine the combination with a positive rotary feed wheel having a continuous rubber face of an adjustable spring controlled mail separator at right angle to the mail path, substantially as herein described.
3. In a postmarking machine the combination, of an index finger, means for adjusting the space between said index finger and guide plate or mail fence, a spring for automatic adjustment of index fliger to passing mail matter, and means for regulating the pressure of said spring, substantially as herein described.
4. The combination in a postmarking machine of a rotary printing wheel having gripping and marking surfaces, part of marking periphery being recessed, the lower part being of continuous periphery, and inking device engaged with marking die, and a pressure roller adapted to engage with gripping surface and marking die, substantially as herein described.
5. The combination in a postmarking machine of a mall fence a time stop profecting across mall path set in advance of marking and pressure wheels, and pivoted to recede from mail path, a cam adapted to actuate said time stop and means to restore same to normal position after actuation.
6. In postmarking machines the combination with the marking wheel, having the printing dies thereon, and the pressure roller having a rubber sleeve thereon adapted to engage with the printing dies of the maraking wheel, sald sleeve having grooves therein, substantially as describeed.
7. In postmarking machines the combination of a stacking wheel, an adjustable fence, a travelling tray beneath sald fence, and rollers to carry said tray, substantially as described.

No. 102,348. Shock Loader. Charge-gerbes.
Arthur L. Walker, Pincher Creek, Alberta. Canada, 4th December, 1906; years. Filed 4th September, 1906. Receipt No. 139,216.
Claim.-1. A machine of the class described comprising a supporting frame having a depending bracket mounted on its under face adjacent each of its side edges, a main drive shaft
journalled in bearings slidable in said brackets, traction wheels carried by said drive shaft, a bracket mounted on the

upper face of said frame adjacent its side edges, a lever pivotally secured to each of said upper brackets, and connected at one end to the corresponding drive shaft bearing, means for onerating said levers to elevate or lower said frame, a hoisting carrier mounted at one end of said frame, an inclined discharge elevator disposed in the rear of said hoisting carrier, and means for operating said carrier and elevator.
2. A machine of the class described comprising a supporting frame having a depending bracket mounted on its under face adjacent each of its side edges, a main drive shaft journalled in bearings slidable in said brackets. traction wheels carried by said drive shaft. a bracket mounted in the upper face of said frame adjacent each of its side edges, a lever pivotally mounted in each of said upper brackets, and connected at one end to the corresponding shaft bearing, means connected to the opposite end of said levers for simultaneously operating the same, to raise or lower said frame, a hoisting carrier mounted at the front end of said frame, means connected with said drive shaft for operating said carriage, an inclined discharge elevator arranged at the rear of said carrier, and connections between said carrier and elevator for operating the latter.
3. A machine of the class described comprising in combination a supporting frame. a depending bracket mounted on the under face of said frame adjacent wach of its side edges. a lever pivotally mounted in each of said unver brarkets, a main drive shaft journalled in bearings slidable in sald lower brackets traction wheels carried by said shaft, a rod connecting the front end of each lever with the corresponding shaft bearing. means connected to the opposite end of said levers for simultaneously operating the samp. to raise or lower said frame with respect to said shaft. a pair of spaced uprights mounted unon said frame, at itc front end. shafts connecting said uprights. sprocket whecls mounted on said shafts at onnosite ends thereof. a hoisting carrier disposed between said uprights. and commrising a nair of snrocket chains adanted to travel unon said anrocket wheels, rod= connecting said sprocket chains and a series of nicker fingers mounted on each rod. an inclined dischargo plevator arranged at the rear of said carrier. means for driving said carrier from said traction whecl. and means for driving said clavator from said carrier.
4. A machine of the class deacribed comnrisine a sumporting frame provided with a nair of denonding braclecta. earh mounted on the under face of said prame ailacent the side edges thereof. a main drive shaft inurnalled in hearings elinable in caid brarkets. tractinn whela married by said ohaft. a nair of bracknts mounted on the unnor fare of eafid Prame at onnosite ends thrrofi, a inver nivotallv mnunted in each of sald upper bracketa. a rod connecting the lower end of each lever with the correanonaing shaft hearing. a tongue connecter at its front ond with said shaft and extending bevond the rear eden of saif frame. meanc mounted upon the rear end of the tongue and connectad with the onposite end of said levers for simultanfouslv onerating the same to lower or raise said frame, means likewise mounted at the rear end of said tongue for effecting an independent tilting movement of said frame upon said shaft, a hoisting carrier mounted at the front end of said frame an inclined discharge elevator arranged at the rear of said carrier, means for driving said elevator from said carrier.
5. A machine of the class described comprising a supporting frame provided with a pair of brackets. each mounted on the under face of said frame adjacent the side edges thereof, a main drive shaft journalled in bearings slidable in said brackets, traction wheels carried by said shaft, means mounted on said frame for raising or lowering the same with respect to said shaft. means for effecting an independent tilting movement of said frame upon said shaft, a second shaft mounted at the rear end of said frame pro-
vided at opposite ends with sprocket wheel mounted thereon, a sprocket wheel mounted on each end of said main drive shaft, chains connecting the corresponding sprocket dive shaft, chains connectig a holsting carrier mounted at the wheels of said shaft, a hoisting connecting said second
front end of said frames, means con front end of said irames, means connectics, an inclined discharge elevator arranged at the rear of said hoisting carrier to receive therefrom, and means connecting said carrier and elevator for driving the latter.
6. A machine of the class described comprising a supporting frame provided with a pair of depending brackets mounted on its under face, a main drive shaft journalled in said brackets. means connected with said frame for raising or lowering the same with respect to said main drive shaft. a second shaft mounted on said frame in the rear of sald main drive shaft, a holsting carrier mounted at the front of said frame, a sprocket wheel secured to each end of sald main drive shaft. a sprocket wheel loosely mounted on each end of said second shaft and provided with an integral toothed sleeve forming one member of a clutch, a clutch member fixed at each end of said second shaft, means for normally holding the members of each clutch in contact with each other, means mounted at the rear end of said frame for simultaneously separating the members of each clutch against the action of said holding means. sprocket chains connecting the corresponding sprocket wheels, connections between said second shaft and said hoisting carrier for driving the latter na, incllned elevator mounted in the rear of said hoisting carrier and adapted to receive therefrom, and means for driving said clevator from said hoisting carrier.

\section*{No. 102,349. Range Boiler Heater.}

Chauffcur de chaudic̀res.


Thomas B. Watt, Chatham. Ontario. Canada. 4th December. 1906: 6 years. Filed 3rd November, 1906. Receipt No. 140,889 .
Claim.-1. A metallic steam pipe or body in combination with a metallic inner water pipe having the ends of both the outer body and the inner water pipe threaded for their engagement into the ties serving to fasten the said outer body and the inner water pipe together, substantially as set forth.
2. A metallic steam pipe for use in heating in combination with an inner water pipe secured on the inside of the outer body by means of ties, the outer body having a threaded engagement at both ends into the ties, the inner water pipe passing through the said ties and being secured by means of the jamb nuts and washers, substantially as specified and set forth.
3. A metallic stem pipe in combination with a water pipe, and means of securing he said water pipe inside the said steam pipe forming a chamber for the reception of the steam, substantially as set forth.
No. 102,350. File and Binder for Newspapers, Etc. Fil et relicure pour journaux.
Joseph Wilson Christchurcr, New Zealand, 4th December.
1906 : 6 years. Filed 22nd December, 1904. Receipt No. 120,972.
Claim.-1. In a file for newspapers and the like in combination, a narrow oblong shaped frame, upwardly projecting ation, a narrow oblong shaped frame, upwardy proce shects of paper may be impaled, a flap that is hinged to the frame that has openings through which the hooks come when the flap is brought over the hooks in order to hold or lock the papers on the file, a guard piece likewise hinged to the frame that is adapted to come over the points of the hooks and spring catches on the guard piece supports adapted to engage with the stems of the hooks, substantially as specified.
2. In a flle for newspapers, letters and such like, a narrow oblong shaped frame, upwardly projecting sharpened hooks
on the frame having eyes near the points thereof through which a cord may be passed, a flap that is hinged to the frame having openings through which the hooks come when the flap is brought over the hooks in order to lock the papers on the file, a guard piece likewise hinged to the frame that is adapted to come over the points of the hooks and spring catches upon the guard piece supports adapted to engage with the stems of the hooks, substantially as described and as illustrated.

No. 102,351. Bufing Machine. Machine d bouvier.


Sidney Wilmot Winslow, assignee of Andrew Wilson Rogers, both of Beverly, Massachusetts, U.S.A., 4th December, 1906; 6 years. Filed 16th December. 1904. Receipt No. 120,806
Claim.-1. The combination with a holder formed with a plurality of holes, of an abrading device comprising a plurality of pleces of abrasive material arranged in layers and having corresponding holes, and means extending through the holes for securing the device in position on the holder.
2. The combination with a holder and an abrading device comprising a plurality of pieces of abrasive material arranged in layers, of means for securing said device to the holder, and additional securing means for entering the abrasive material.
3. The combination with a support of non-abrasive material, of an abrading device comprising a plurality of pieces of abrasive material of varying diameters arranged in layers with the smallest layer next to the support, sald support being of a diameter slightly less than the said smallest layer whereby to support said layer from its center to within a short distance of its edge.
4. The combination with a holder and an abrading device. of a securing device comprising a stem extending centrally through the abrading device and into the holder and provided with arms having prongs to engage the abrading device and holder at two or more points to prevent relative rotative movement of said parts.
5. The combination with a rotary holder and an abrading device, of a securing device comprising a stem extending through the abrading device and provided with an arm arranged to engage said deyice eccentrically, and means for securing the stem in position in the holder.
6. A device of the class described comprising a plurality of pieces of material, each having an abrasive surface, sald pleces being of circular form and of varying diameters and being placed in layers with their abrasive surfaces on the same side.
7. In a machine of the class described, the combination of an abrasing device comprising a plurality of circular layers of abrasive material of diameters varying from the largest in the outer layer to the smallest in the inner layer with means for supporting and actuating sald device, the combination being arranged to permit continuous use of said abrading device while successive layers of the abrasive material are being worn out.
8. As a new article of manufacture, an abrading device comprising a plurality of pleces of material, each having an abrasive surface, said pieces being of circular form and being placed in layers with their abrasive surfaces on the same side and also being secured together.
9. As a new article of manufacture, an abrading device comprising a plurality of pieces of material, each having an abrasive surface, said pieces being of circular form and being arranged in concentric layers with their abrasive surfaces all on the same side, said device having provision for securing the pleces together at two or more points to prevent relative rotative movement thereof.
10. As a new article of manufacture, an abrading device comprising a plurality of circular pieces of abrasive material, said pieces being of varying diameters and being placed in concentric layers and also being secured together at two or more points.
11. As a new article of manufacture, an abrading device comprising a plurality of layers of flexible abrasive material secured together, the marginal portions of said layers of material being free to move relatively.
12. A device of the class described comprising a plurality of superposed pieces of abrasive material arranged in layers of diminishing size with their abrasive surface on the same side.
13. An abrading device comprising a plurality of superposed layers of flexible abrasive material, the marginal portions of the layers of material being disconnected to permit sald portions to move relatively, said superposed layers being of diminishing size whereby the upper layers will not project beyond the periphery of the lowest one when the device is bent upwardly.
17. The combination with a holder and an abrading device, comprising a plurality of pieces of abrasive material of circular form and of varying diameters, said device presenting a convex abrasive surface near its edge.
15. As a new article of manufacture, an abrading device comprising a plurality of pieces of abrasive matorial of circular form and of varying diameters and a backing of non-abrasive material secured thereto.
16. As a new article of manufacture, an abrading device comprising a plurality of circular pieces of abrasive material arranged in concentrlc layers secured together at a plurality of points.
17. The combination with a holder and an abradingdevice, of means for securing the abrading device to the holder, said securing means comprising a headed stem extending through the abrading device and holder and provided with a roughened surface, and latches arranged to engage said roughened surface for securing the stem in the holder.
18. The combination with a holder and an abrading device, of means for securing the abrading device to the holder, said securing means comprising a headed stem extending through the abrading device and holder and provided with a roughened surface and radially movable latches arranged to engage said roughened surface, means for yieldingly pressing the latches normally toward position for engaging the stem and bevelled faces formed on the inner ends of the latches whereby they may be forced outwardly by the stem in inserting the latter.
19. The combination with a holder and an abrading device, of means for securing the abrading device to the holder, said securing means comprising a headed stem extending through the abrading device and holder and provided with a roughened surface, a plurality of latches arranged to engage said roughened surface and operating means for simultaneously withdrawing said latches.
20. The combination with a holder and an abrading device, of means for securing the abrading device to the holder. said securing means comprising a stem provided with an arm having a prong to engage the abrading device eccentrically. said securing means having provision for preventing rotative movement, radially movable latches mounted in said holder for securing the stem therein, aeans for normally pressing the latches toward position for engaging the stem, and means for simultaneously withdrawing the latches to release the same.

No. 102,352. Machine for Distributing Material. Machine de distribution de matières.


Wagner and Brand, assignee of Otto G. C. Schmitt, both of Frankfort on the Main, Germany, 4th December, 1906; 6 years. Filed 30th May, 1905. Receipt No. 125,602.
Clain.-1. An electro-magnetic selection device for use in mechanically operated distributing apparatus consisting of an electro-magnet which is continuously caused by mechanical means to move to and fro upon a slide, and a distributing part which is likewise movable to and fro along a slide, and is provided with a spring pressed armature, being attracted or suddenly released by the core of the electromagnet when this latter is energized or the magnetizing current is interrupted.
2. In the electro-magnetic selection device for use in mechanically operated distributing apparatus, the combination with the electro-magnet movable to and fro upon a slide, and the distributing part which is likewise movable to and fro along a slide, of movable contact pieces placed at intervals along the path of the electro-magnet, a current collector fixed to the electro-magnet carriage and adapted to make sliding contact with said contact pieces and keys connected to the respective contact pieces. 3. In the electro-magnetic selection device for use in mechanically operated distributing apparatus, the combination with the electro-magnet movable to and fro upon a slide, and the distributing part which is likewise movable to and fro along a slide, of a galley containing the matter to be distributed and having mounted on it the armature of the electro-magnet.
4. In the electro-magnetic selection device for use in mechanically operated distrlbuting apparatus, the combination with the electro-magnet movable to and fro upon a slide, a distributing part which is likewise movable to and fro along a slide, and a galley for containing a line of type to be distributed, a key controlled electro-magnetically operated devices for effecting the transfer of a line of type to the galley, said devices comprising a slide which normally closes a delivery aperture in the locking frame containing the matter to be distributed and is adapted to be opened by the action of an electro-magnet, and of a pusher adapted to be operated by another electro-magnet so as to cause the line of type to be distributed to pass through said anerture into the galley.
5. In the electro-magnetic selection device for use in mechanically operated distributing apparatus, the combination with the electro-magnet movable to and fro upon a slide, a distributing part which is likewise movable to and fro along a slide, with a set of keys adapted to effect the delivery of individual types from the distributing galley to the respective type chutes comprised in a range approprlated to one alphabet of a shift key common to all the keys of the set and adapted to cause the actuation of said keys to effect the delivery of types to the respective type chutes comprised in a range appropriated to another alghabet.
6. In the electro-magnetic selection device for use in mechanically operated distributing apparatus the combination of typc holders, key operated ejecting mechanism, a composing galley, means for feeding said galley a distance equal to the width of a type at each operation of a key, and means for feeding the galley in a direction transverse to that of the first-named feeding movement.
7. In the electro-magnetic selection device for use in mechanically operated distributing apparatus, the combination of type holders, key operated effecting mechanism, a composing galley, means for feeding said galley a distance ecual to the width of the type at each operation of a key, means for feeding the galley in a direction transverse to that of the first-named fecding movement, and adjustable mechanism for bringing about the operation of a secondnamed feeding means after a predetermined, variable number of operations of the first-named feeding means.
8. In the electro-magnetic selection device for use in mechanically operated distributing apparatus, the combination of type holders, key operated ejecting mechanism, a composing galley, means for feeding sald galley a distance equal to the width of a type at each operation of a key, and means controlled by the movement of the galley, for returning it the distance it has been fed.
9. In the electro-magnetic selection device for use in mechanically operated distributing apparatus, the combination of type holders, key operated ejecting mechanism, a composing galley, means for feeding said galley a distance equal to the width of a type at each operation of a key, means, controlled by the movement of the galley, for returning it the distance it has been fed in the aforesaid manner, means for feeding the galley, after a number of feeding operations of sald kind, in a direction transverse to that of the first-named feeding movement, and mechanism controlled by the second movement of the galley, for returning it the distance it has been fed in such transverse direction.
10.In the electro-magnetic selection device for use in mechanically operated distributing apparatus, the combination with a key actuated mechanism, of separate series of type chutes for canital and for small letters of the alphabet respectively, a single set of type keys for controlling the delivery of types from both series of type chutes, and a shift key adapted to co-act with all the type keys in common, substantially as described.
11. In the electro-magnetic selection device for use in mechanically operated distributing apparatus, the combination with a key actuated mechanism, of type chutes, a composing galley and means whereby the composing galley is caused to advance through a distance equal to the width of a type for each actuation of a type key, said means comprising a screw spindle supporting the composing galley, a rotated wheel for producing the rotation of the screw spindle and a bar adapted to be actuated by means of any one of the type keys, substantially as described.
No. 102,353. Comb. Pcigne.


Charles Schmidt and Joseph C. Hoffman, assignee of a halt interest, both of Brooklyn, New York, U.S.A., 4th De'cember, 1906; 6 years. Flled 30th July, 1906. Receipt No. \(138,285\).
Claim.-1. The combination of a comb, a locking plate having prongs to engage the hair, and means for securing said blate to the comb.
2. A means for fastening a comb upon the hair, comprising a locking plate having prongs adapted to engage the hair in the reverse direction from that of the comb teeth.
3. The combination of a comb, a locking plate having prongs adapted to fit between the teeth of the comb for gripping the hair, and means for securing said plate to the comb.
4. The combination of a comb for ladies' hair, a lock ing plate having a pair of ears thereon and having prongs, and means upon the comb for engaging said ears whereby the prongs enter the spaces between the comb teeth.
5. The combination of a comb for ladies' hair, having extensions at each end, a locking plate having ears to engage said extensions and having prongs formed to enter between the teeth of the comb and engage the hair.
6 The combination of a comb for ladies' hair, a locking plate having prongs adapted to fit between the teeth of the comb, interlocking projections and said recesses on said comb and plate, and means for retaining the same in cooberative relation.
7. The combination of a comb for ladies' hair, having a pair of extensions thereon, the lower edges of said extensions being bevelled. and a locking plate baving ears adapted to engage said bevelled extensions and having prongs adapted to enter between the teeth of the comb.
8. The combination of \(a\) comb for ladies' hair, having a pair of extensions thereon, the lower edges of said extensions being bevelled, and a locking plate having bent over ears to engage said extensions and having prongs to enter between the tepth of said comb, said locking plate having projections thereon adapted to be received in corresponding recesses in the comb.

No. 102,354. Gas Burner. Brâleur à gaz.


The National Gas Light Company, assignee of John Doorenbos, both of Kalamazoo, Michigan, U.S.A., 4th December, 1906; 6 years. Filed 30th July, 1906. Receipt No. 138.259.
Claim.-1. The combination with a Welsbach burner having a gas orifice and a mixer tube into which said orifice opens, a self adjusting valve containing said orifice, pressure actuated means for actuating said valve, a passage for the gas around said means, and means for varying the amount of gas passing through said passage arcording to the variation in the gas pressure.
2. The combination with a Welsbach burner having a gas orifice and a mixer tube into which said orifice opens, a ralve controlling said orifice and equipped with a piston, a cylinder in which said piston moves, a passage leading to the cylinder beneath the piston, a passage extending around the cylinder to said first-named orifice and a valve controlling said last-named passage.
3. The combination of a nipple having a chamber therein, and a vertical passage from said chamber and a lateral passage from said chamber, a laterally extending threaded valve connected with said nipple and controlling said lateral passage, a cap surmounting the nipple and having an orifice, a cylinder within the cap surmounting the nipple and a piston within the cylinder equipped with a valve controlling said orifice.
4. The combination of a nipple having a chamber with a central vertical passage therefrom and a lateral passage, a cylinder connected with the upper portion of said nipple into which sald vertical passage opens, a piston within said cylinder, a cap surmounting said nipple and inclosing said cylinder, said cap having a central orifice at Its apex and a needle valve extending into said orifice and equipped with a piston working in said cylinder, for the purpose set forth.
5. The combination of a nipple having a chamber with two passages leading therefrom, a cylinder in co nmunication with one passage, a piston working in said cylinder and equipped with an upward extending valve, a cap surmounting said nipple and forming with the cylinder an annular passage for gas, the said cap having a reduced externally threaded upper portion and a mixer tube secured on said cap.

\section*{No. 102,355. Tanning Apparatus. Appareil de tannage.}


The Buffalo Leather Company, assignee of William Rosco Smith, all of Buffalo, New York, U.S.A., 4th December, 1906 ; 6 years. Filed 30th July, 1906. Receipt No. 138.255.
Claim.-1. An apparatus for treating skins, etc., comprising a vat, a liquid circulating pump adjacent to the vat,
suction and discharge pipes communicating with the pump and with the bottom portion of the vat, and an air inlet whereby the liquid forced by the pump into the vat is aerated.
2. An apparatus for treating skins, etc., comprising a vat, a liquid circulating pump adjacent to the vat, suction and discharge pipes communicating with the pump and with the bottom portion of the vat and an air inlet whereby the liquid forced by the pump into the vat is aerated, said air inlet having means for regulating the quantity of air admitted.
3. An apparatus for treating skins, etc., comprising a liquid retaining vat, a circulating pump adjacent to the vat, suction and discharge pipes communicating with the pump and with the vat, the said discharge pipe having radiating branches containing liquid distributing perforations which are arranged to direct the liquid in an approximately horizontal direction and impart a gyratory movement thereto.
4. An apparatus for treating skins, etc comprising a vat or a series of vats, a liquid storage tank, a circulating pump, a suction pump connecting the pump with the liquid storage tank and provided with an air inlet, and a discharge plpe connecting the pump with the vat or vats.
No. 102,356. Artificial Tooth. Dent artificielle.


Dental Protective Supply Company of the Uniter States of America, Chicago, Illinois, assignee of Joseph Morris, North Wales, Pennsylvania, U.S.A., 4th December. 1906;
6 years. Filed 30th July, 1906. Receipt No. 138,258.
Claim.-1. An artificial tooth comprising a body of porcelain, a backing of composition material containing a metal oxide, and one or more fastening devices embedded in said composition material, substantially as described.
2. An artificial tooth comprising a body of porcelain, a backing of composition material containing a metal oxide, capable of uniting wih sald porcelain body under burning, and one or more fastening devices embedded in said composition material, substantially as described.
3. An artificial tooth comprising a body of porcelain, a backing composed of mingled porcelain and metal oxide, and one or more fastening pins embedded in said backing, substantially as described.
4. An artificial tooth comprising a body of porcelain, a backing composed of mingled porcelain and aluminum oxide. and one or more fastening pins embedded in said backing, substantially as described.
5. An artificial tooth comprising a body of porcelain, a backing of mingled porcelain and metal oxide fused therewith, and one or more fastening pins embedded in said backing. substantially as described.
6. An artificial tooth comprising a body of porcelain, a backing of mingled porcelain and aluminum oxide fused therewith, and one or more fastening pins embedded in said backing, substantially as described.
7. An artificial tooth comprising a porcelain face, a cutling member backing the cutting edge of said face, a body member backing the major portion of said face, a body of porcelain and metal oxide inset in said body member, all of said parts being fused together, and one or more pins anchored in said composition member, substantially as described.
8. The method of manufacturing artificial teeth which consists in fusing with the porcelain body of a tooth, a backing of composition material containing a metal oxide constituting an anchorage for the usual fastening pins, substantially as described.
9. The method of manufacturing artificial teeth which consists in moulding with the porcelain body of a tooth a backing of composition materlal containing a metal oxide constituting an anchorage for the usual fastening pins, and then integrating said parts by heat, substantially as described.
10. The method of manufacturing artificial teeth which consists in moulding with the porcelain body of a tooth a backing of composition material containing a metal oxide constituting an anchorage for the usual fastening pins, drying the moulded tooth by a baking heat, trimming the tooth, and finally integrating and hardening the tooth by subjecting the same to a burning operation, substantially as described.
11. The method of manufacturing artificial teeth which consists in subjecting a metal oxide to a high temperature, subsequently mixing said oxide with powdered porcelain. and then fusing said mixture with the body of a porcelain footh and around the usual anchoring pins thereof, substantially as described.
12. The method of manufacturing artificial teeth which consists in charging the cavity of a mould member with a plastic porcelain, erecting in the cavity of a companion mould member, one or more fastening pins, partially charging said last-named cavity around said fastening pins with anchoring material of superior strength to the porcelain and fusible with the latter, filling the rest of said cavity with plastic porcelain, uniting the mould members with said cavities in registration, and fusing said parts of the tooth together, substantially as described.
13. The method of manufacturing artificial teeth which consists in charging the cavity of a mould member with plastic porcelain, erecting in the cavity of a companion mould member one or more fastening pins, charging one end of said last-named cavity with plastic porcelain to form in part the backing of the tooth, further partially charging said last-named cavity around said fastening pins with an anchoring material or mixed porcelain and metal oxide. charging the rest of said cavity with body porcelain. uniting the mould members with said cavities in registration, subjecting the mould to a baking heat, then removing and trimming the tooth, and finally subjecting it to a heat sufficient to fuse and integrate the parts, substantially as described.
14. The method of manufacturing artificial teeth which consists in subjecting a metal oxide to a high temperature, mixing said oxide with powdered porcelain in a plastic state to form an anchoring composition, charging the cavity of a mould member with plastic porcelain, erecting in the cavity of a companion mould member one or more fastening pins, charging one end of said last-named cavity with plastie parcelain to form the backing of the lower end of the tooth, further partially charging said last-named cavity around said fastening pins with said composition anchoring material, charging the rest of said cavity with body porcelain, uniting the mould members with said cavities in registration, subjecting the mould to a baking heat, then removing and trimming the tooth, and finally subjecting it to a heat sufficient to fuse and integrate said parts, substantially as described.

\section*{No. 102,357. Methods of Treating Asbestos.}

\section*{Méthode de traitcment de l'amiante.}

Alpheus Hugh Hipple, Omaha, Nebraska, U.S.A., 4th December, 1906; 6 years. Filed 30th July, 1906. Receipt No. \(138,246\).
Claim.-1. The method herein described of treating asbestos, which consists in working asbestos fiber and sulphur into a pulp with water, removing the water, saturating the residual mass with oil and subjecting the mass thus treated to the action of heat until vulcanization takes place.
2. The method herein described of treating acbestos, which consists in working asbestos fiber and sulphur into a pulp and water. shaping said pulp into the form of bap or of articles, causing said paper or articles to absorb oil a d subjecting said paper or articles containing said oil to the action of heat until vulcanization takes place.

\section*{No. 102,358. Process of Rendering Lithopone Stable Against Light.}

Procédé pour rendre le lithopone stable contre la lumière.
Dr. Wilhelm Ostwald, Leipzig, Germany, 4th December, 1906; 6 years. Filed 26th July, 1906. Receipt No. 138.185.
Claim.-1. The process for manufacturing lithopone stable against light, which consists in excluding the access of air to the mixture of sulphate of barium and sulphide of zinc during the burning process and cooling in water.
2. The process for manufacturing lithopone stable against light, which consists in burning and cooling the mixture of sulphate of barium and sulphide of zinc in an atmosphere deprived of free oxygen.

\section*{No. 102,359. Method of Making Substances for} Building and Isolating Substances.
Wéthode de faire des substances isoloires pour constructions.
Alfred Schlomann, München, Germany. 4th December, 1906 ; 6 years. Filed 7th August, 1006. Receipt No. 138,474.
Claim.-1. A process for the manufacture of moisture re-claim.-1. A process isolating material consisting in treating suitable substances with isolating properties inside a vacuum and heating and pressing same at the same time.
2. A process for the manufacture of moisture resisting isolating materials consisting in treating layers of moisture

attracting, isolating substances, such as asbestos fiber covered with layers of waterproof substances, such as copal inside a vacuum while heating and pressing same at the same time.
3. A process for the manufacture of moisture resisting isolating materials consisting in treating layers of a mixture of moisture attracting, isolating substances and other isolating materials. covered with layers of waterproof substances by heating and pressing same while inside a vacuum.
4. A process for the manufacture of moisture resisting isolating materials consisting in treating a mixture of a water attracting. isolating substance with a solution of a waterproof substance by heating and pressing same while inside a vacuum.
5. A process for the manufacture of moisture resisting isolating materials consisting in treating a mixture of isolating substances with a melt of waternroof substances inside a vacuum while heating and pressing same at the same time.
6. A process for the manufacture of moisture resisting isolating materials consisting in treating moisture attracting substances with isolating properties together with waterproof substances inside a vacuum while heating same and pressing same in employing an elastic pressure automatically regulating itself in accordance with the shrinking of the pressed material.
7. In an apparatus for the manufacture of materials by heating and pressing suitable substances inside a vacuum, a casing, a vacuum conduit conducting to said casing plates to be heated from inside, movably arranged within said casing, a pressing piston introduced into said casing and working said movable plates.
8. In an apparatus for the manufacture of materials by heating and pressing suitable substances inside a vacuum, a casing, a vacuum conduit for said casing, rectilinearly guided plates movable in said casing. means for heati \(g\) said plates from their inside, adjusting appliances between each of said heated movable plates, a pressing piston working against said movable plates.
9. In an apparatus for the manufacture of materials by heating and pressing suitable substances inside a vacuum, a casing with a vacuum condult, plates heated from inside, movably arranged in said casing, a pressing plate in said casing. means for automatically regulating the pressure of said pressing plate.

No. 102,360. Paper Making Machinery. Machine à faire le papier.


Robert B. Wolf, Berlin, New Hampshire, and Harry E. Tidmarsh. Sandy Hill, New York, U.S.A., co-inventors. 4th December, 1906 ; 6 years. Filed 21st September, 1906. Receipt No. 139.689.
Claim.-1. The combination of a stock vat, a cylinder mould therein, a white water chamber in conmunication with the interior of the cylinder mould, and an intermediate chamber between the stock vat and the white water chamber to prevent leakage between said vat and chamber.
2. The combination of a stock vat. a cylinder mould having an axial sleeve, a white water chamber communicating with the interior of the cylinder mould by way of said sleeve and an intermediate chamber between the vat and the white water chamber, said slecve passing through said intermediate chamber.
3. The combination of a stock vat, a cylinder mould having an axial sleeve, a white water chamber communicating with the interior of the cylinder mould by way of said sleeve, an intermediate chamber between the vat and the white water chamber and packing between the wall of the intermediate chamber and the sleeve.
4. The combination of a stock vat, a cylinder mould having an axial sleeve, a white water chamber communicating with the interior of the cylinder mould by way of said sleeve, an intermediate chamher between the vat and the white water chamber, and packing between the walls of the intermodiate chamber and the slneve to prevent loakage from the vat and white water chamber respectively into the intermediate or overfow chamber.
6. The combination of a stock vat, a cylinder mould therein having an axial sleeve and a shoulder between the sleeve and the cylinder end, a white water chamber communicating with the interior of the cylinder mould by way of caid sleeve, an intermediate chamber between the vat and white water chamber, and a packing collar or washer surrounding said sleeve and engaging the wall of the intermediate chamber and the shoulder of the rylinder respectively.
6. The combination of a stock vat, a cylinder mould therein having an axial sleeve and a shoulder between the sleeve and the cylinder end, a white water chamber communicating with the interior of the cylinder mould by way of said sleeve, an intermediate chamber between the vat and white water chamber, a packing collar or washer surrounding said sleeve and engaging the wall of the intermedate ehamber and the shoulder of the cylinder respectively, and a packing sleeve engaging the packing collar and shoulder of the cylinder respectively and overlying the joint between the two.
7. The combination of a stock vat, a rylinder mould having an axial sleeve provided with a shoulder at its junction with the cylinder and a flange at its outer end, a white water chamber communicating with the interior of the cylinder by way of said sleeve, an intermediate chamber between the vat and the white water chamber through Which said sleeve passes, and packing means interposed between the walls of the intermediate chamber and the shoulder and flange respectively of the sleeve.
8. The combination of a stock vat, a cylinder mould having an axial sleeve provided with a shoulder at its junction With the cylinder and a flange at its outer end, a white water chamber communicating with the interior of the cylinder by way of sald sleeve, an intermediate chamber between the vat and the white water chamber through which said sleeve passes, packing rings located between the walls of the intermediate chamber and the shoulder and flange respectively of the sleeve, and packing sleeves closing the joints between the packing rings and the shoulder and flange respectively.
9. The combination of a stock vat. a cylinder mould therein, a white water chamber in communication with the cylin. der mould, an intermediate chamber between the stock vat and the white water chamber to receive any leakage from the stock vat or the white water chamber, and means for discharging the collected secpage from said internediate chamber.
10. The combination of a stock vat, a cylinder mould therein, a white water chamber in communication with the cylinder mould, an intermediate chamber between the stock vat and the white water chamber to recrive any leakage from the stock vat or the white water chamber, and a connection for said intermediate chamber to a stock chest or other storage roceptacle.
11. The combination of a stock vat, a cylinder mould therein having an axial sleeve. a white water chamber communicating with the interior of the cylinder mould by way of said sleeve, and an Intermediate chamber between the vat and the white water rhamber, the wall separating sald intermediate chamber from the vat being lower that the vat sides to permit the stock to overflow into said chamber When the level of the stock is raised in said vat.
12. The combination of a stock vat. a cylinder mould therein having an axial sleeve, a white water chamber communicating with the interior of the cylinder mould by way of said sleeve, an intermediate chamber between the vat and the white water chamber. the wall separating said said intermediate chamber from the vat being lower than the vat sides to permit the stock to overflow into said chamber When the level of the stock is raised in-sail vat. and mea's for conducting the stock from said inter:nediate chamber to a stock chest or other receptacle.
13. The combination of a stock vat. a cylinder mould therein having an axial sleeve, a white water chamber com-
municating with the interior of the cyllnder mould by way of said sleeve, an intermediate chamber between the val and the white water chamber, the wall between said intertnediate chamber and the stock vat being lower than the vat sides to permit the stock to overflow into said chamber when the level of the stock is ralsed in said vat, and packing means between the other wall of said intermediate chamber and the end of the axial sleeve to preveat leakage between the intermediate chamber and the white water chamber.
14. The combination of a stock vat, a cylinder mould therein having an axial sleeve, a white water chamber communicating with the interior of the cylinder mould by way of said sleeve, an intermediate chamber between the vat and the white water chamber, the wall between said intermediate chamber and the stock vat being lower than the vat sides to permit the stock to overflow into said chamber when the level of the stock is raised in said vat, a packing ring between the other wall of the intermediate chamber and the flanged end of the axial sleeve and a packing slenvo embracing the peripheral edges of the packing ring and flange.

No. 102,361. Shuttle for Looms.
Navette pour meficrs.


Felix O Donnell and Susan Alwilda Brown, assignee of a half interest, both of Pawtucket, Rhode Island, U.S.A.. 4th December, 1906; 6 years. Filed 22nd October, 1906. Receipt No. 140,519.
Claim.-1. A device of the character described comprising an arm or member for engaging the shuttles as ahe latter is moved forward with the lay of the loom. and means carried by said arm for yieldingly holding the same in a normally outward position.
2. A device of the character described comprising an arm or member provided at one end with a shoe for engaging the shuttle as the latter is moved forward with the lay if the loom, and means carried by said arm for yieldingly holding said shoe in a normally outward position.
3. A device of the character deseribed comprising an arm or member for engaging the shuttle as the latter is moved forward with the lay of the loom, and a spring carried by saif arm for yieldingly the same in a normally outward nosition.
4. A device of the character described comprising a shuttle engaging arm mounted in bearings. and means carrierl by said arm for yieldingly holding the same in a normally forward position.
5. The combination with a longitudinally reciprocable arm or member arranged to intercept a projecting portion of a shuttle as the latter is carried forward by the lay of the loom, and means carried by said arm for holding the same in a normally outward position, of means for stopping the loom when said arm or member yields to the movement of said shuttle.
6. The combination with the breast beam of a loom of an arm or member for engaging a projecting portion of a shuttle as the latter is moved forward by the lay of the loom, a spring for holding said arm or member normally forward, a shaft mounted adjacent said breast beam and provided with a member normally in engagement with said first-mentioned arm or member, whereby said shaft will rock when said arm or member moves against the action of its spring, and means controlled by said shaft for stopping the loom.

\section*{No. 102,362. Stop Motion for Looms.}

Mouvement d'arrêt pour méticrs.


Felix O'Donnell and Susan Alwilda Brown, assignee of a half interest. both of Pawtucket, Rhode Island, 4th December, 1906; 6 years. Filed 22nd October, 1906. Receipt No. 140,520.
Claim.-1. In a stop motion for looms, the combination of the shuttle, the lay, and the temples, and means whereby the loom will be stopped automatically if for any cause the temples are drawn inward.
2. In a stop motion for looms, the combination of the shuttle, the lay, and the temples, and means whereby the loom will be stopped automatically to prevent breaking down the warp threads when the shuttle stops in the shed and is carreld forward by the lay against either of said temples.
3. In a stod motion for looms, the combination of the shuttle, the lay, and the vibrator, means whereby the vibrator beam will yield when an excess tension is exerted on the warp threads and spring actuaed means released by the movement of the vibrator to stop the loom.
4. In a stop motion for looms, the combination of the shuttle, the lay, and the vibrator, means in said vibrator arranged to hold it normally against the ordinary tension of the warp threads, and means whereby said vibrator may be allowed to yield when an excess of tension is exerted on the same, and means whereby the movement of said vibrator operates mechanism to stop the loom.
5. In a stop motion for looms, the combination of the shuttle, the lay and the vibrator a spring actuated lateh bolt arranged to normally hold said vibrator in a given position against the ordinary tension of the warp threads upon it, and means whereby said bolt is operated automatically to release sald vibrator and slacken the warp when an excessive strain is brought to bear upon the same and thereby prevtn the warp from breaking.
6. In a stop motion for looms, the combination of the shuttle, the lay, and vibrator, a spring actuated latch bolt arranged to normally hold said vibrator in a given position againstthe ordinary tension of the warp thread upon it, and means whereby said bolt is operated automatically to release said vibrator and slacken the warp when an excessive strain is brought to bear upon the same, and means whereby the movement of the vibrator when released operates to stop the loom and prevent the warp from breaking.
7. In a stop motion for looms, the combination of the shuttle, the lay, a vibrator pivotally hung from the loom frames, a spring actuated latch bolt arranged to normally hold said vibrator in a given position against the ordinary tension of the warp threads upon it, means whereby said bolt may be withdrawn automatically and allow said vibrator to tip down and release the warp when an excess tension is applied to the same, and means whereby the tipping down of said vibrator operates mechanism to stop the loom.

\section*{No. 102,363. Egg Lifter. Appareil a soutever les arifs.}

Joseph Magnie Anderson, assignee of Carl Fredrick Swanson, both of Eagle Bend, Minnesota, U.S.A., 4th December, 1906; 6 years. Filed 5th July, 1906. Receipt No. 137,564.
Claim.-1. An egg lifter, comprising a plate having openings and also having perforations. a plurality of pairs; of rock shafts mounted on the plate, loops attached to the rock shafts and having their members extending through said perforations, and means for causing movements of the rock shafts.
2. An egg lifter, comprising a plate having openings and perforations, a plurality of pairs of rock shafts provided with crank ends, having swinging connection with said plate, wire loops attached to the rock shafts and having their
members extended through the perforations in the plate, operating bars at opposite sides, of the plate, link connec-

tions between said bars and the rock shafts, whereby the rock shafts of the bar may be moved in opposite directions, and means for onerating said bars.
3. An egg lifter, comprising a plate having openings and perforations, a plurality of pairs of rock shafts provided with crank ends having swinging connection with the plate, spring yielding loops extended from the rock shafts through the perforations in the plate, operating bars at opposite sides of the plate, link counections between said bars and the rock shafts, whereby the rock shafts of a pair are swung in opposite dircetions when the said bars are moved upward or downward, guides on the bars and swinging levers having bars engaging in said guides.
4. An egg lifter, comprising a plate having openings and perforations, a plurality of pairs of loops movable in the perforations, and meaus for simultaneously swinging all the pairs of loons.

No. 102,364. Rotary Engine. Machine rotatoire.


Edward David Mousscau, assignee of Edward Anthony Ezra Mousscau, both of Hull. Quebec, Canada. 4th December, 1906: f; years. Filed 7th February. 1996. Receipt No. 132.662.

Cluim.-1. In a rotary engine the combination with the rotor of a plurality of transversely slidable plugs located within the same and adapted to protrude from either side thereof to form a fluid abutment and means for excrting a fluid pressure on the side of said plugs when protruding, as and for the purpose sperified.
2. In a rotary engine the combination with th? rotor of a Ilurality of transveresly slidable plugs located within the same, means alternately moving the plugs to protrude from one side to form fluid abutments and the other of the rotor and means for exterting the fluid pressure on the sides of plugs when so protruding, as and for the purpose specified.
3. In a rotary engine the combination with the rotor, of a plurality of transversely slidable plugs located within the same and adapted to protrude from either side thereof, a casing enclosing the rotor. a plurality of cam grooves in sald casing alternately moving the plugs from one side of the rotor to the othor. and means for exerting a fluid pressure on the side of saili plugs, as and for the purpose speciffed.
4. In a rotary engine the combination with the rotor, a rasing eliclosing the same. of a plurality of transver:ely slidable plugs located in the rotor and adanted to pme. from rither side of the same, a plurality of cam grooves in the casing altornatoly moving the plugs from one side of
the rotor to the other, and means for intermittently admitting a motive fluid into said cam grooves to exert a pressure on the plugs, as and for the purpose specified.
5. In a rotary engine the combination with the rotor of a plurality of transversely slidable plugs located in the same, and adapted to protrude from either side thereof and means for intermittently exerting a pressure on the sides of said plugs for a predetermined nart of the revolution thereof, as and for the purpose specified.
6. In a rotary engine the combination with the rotor and casing enclosing the same, of a nlurality of transvorsely slidable plugs. In the rotor adapted to protrude from either side thereof. a plurality of cam groovec in the casing. alternately moving the plugs from one side of thereto to the other and means for intermittently abutting and exhausting the motive fluid from said cam grooves for predetermined portions of the revolution, as and for the nurpose specifled.
7. In a rotary engine the combination with the rotor and casing enclosing the same, of a nluralitr of transversely slidable plugs in the rotor adanted to protrude from either side thereof to form steam abutments, a plurality of cam grnoves in the casing alternately moving the plugs from nom side of the rotor to the other and means automatically nonerated by the rotation of the rotor for intermittently adinit.ting and exhausting the motive fluid from said cam gronves for oredetermined portions of the revolution, as and for the purpose specifled.
8. In a rotary engine the comhination with the rotor. a casing enclosing the same, of a nluralitv of pressirer rec iving projections on satd rotor. fluid conducting ports through said casing and fluid conducting channels on safi rotor for conducting the motive fluid to said pressure recoivine projections during nredetermined portions of the revolution. as and for the purpose snecifled.
9. In a rotary engine the combination with the rotor and casing enclosing the same, of a plurality of transversely slidable plugs in said rotor adanted to protrude from either side thereof, cam grooves in said casing. alternately moving the plugs from one side of the rotor to the other, fiuid ports extending through said casing. and fluid conducting channels formed on the sides of the rotor for conducting the motive fluld from the ports to the grooves. as and for the purpose specifled.
10. In a rotary engine the combination with the rotor and casing enclosing the same, of a plurality of transversely slidable plugs in said rotor adapted to protrude from elther side thereof, cam grooves in said casing. alternately moving the plugs from one side of the rotor to the other, fluid ports extending through said casing, fluid conducting channels formed on the sides of the rotor for conducting the motive fluid from ports to the erooves and a plurality of exhaust ports automatically opening by the rotation of the plugs, as and for the purpose specified.
11. In a rotary engine the combination with the rotor and casing enclosing the same, of a plurality of transversely slidable plugs symmertically arranged around the rotor and adapted to protrude from either side of the same, a plurality of cam grooves in the casing alternately moving the plugs from one side of the rotor to the other, fluid ports extending through the casing, a plurality of fluid conducting channels formed on the sides of the rotor between the plugs and adapted to conduct the motive fluid from the ports to the grooves and exhaust ports in the bottom of the said grooves opened by the rotation of the plug, as and for the purpose specifled.
12 In a rotary engine the combination with the rotor and casing enclsing the same, of a plurality of transpersely slidable plugs located in said rotor and adapted to protrude from either side thereof, cam grooves for alternately moving the plugs to protrude from one side or the other thereof, steam ports extending through the casing at the beginning of said cam grooves, means for connecting the same to a suitable supply of motive fluid, fluid ports at the opposite end of said cam grooves, means for connecting the same to a supply of motive fluid, and a plurality of conducting channels on the rotor adapted to conduct the motive fluid from said ports to said grooves, as and for the purpose specified.
13. In a rotary engine the combination with the rotor and casing enclosing the same, of a plurality of transversely slidable plugs located in the rotor and adapted to protrude from either side thereof, a plurality of cam grooves in the casing alternately moving the plug from one side of the rotor to the other, a set of ports for admitting the motive fluid into said cam grooves, a second set for admitting the motive fluid to the cam grooves in the opposite dircction and a three-way valve controlling the admission of said motive fluid to said ports, as and for the purpose snnelfied.
14. In a rotary engine the combination with the rotor and casing enclosing the same, of a transversely slidable plug located in the rotor and adapted to protrude from the side thereof, to form a fluid abutment, a groove formed in sald casing within which said plug is adapted to rotate, a cam
surface at each end of said groove for moving the plug in and out of the groove, as and for the purpose specified.
15. In a rotary engine the combination with the rotor and casing enclosing the samet of a transversely slidable plug located in the rotor and adapted to protrude from the side thereof, to form a fluid abutment, a groove in the casing within said plug is adapted to rotate, a cam surface at each end of said groove, generated by radial lines passing through the axis of the engine for moving said plug in and out of the groove, as and for the purpose specifled.
16. An improved rotary engine comprising a rotor, a two part casing enclosing the same, a plurality of symmetrically arranged transversely slidable plugs located in slots provided in the rotor, a plurality of grooves in each side of the casing in which the plugs are adapted to rotate. cam surfaces at each end of said grooves for moving the plugs in and out of the same, steam ports extending through each side of the casing, conducting channels formed on each side of the rotor between the plugs for conducting the steam from said ports to said grooves and exhaust ports located in the bottom of said grooves and adapted to be opened hy the passage thereover of the plugs, substantially as described.

No. 102,365. Chaff Blower.
Machine souflante pour la balle.


The Neepawa Manufacturing Company, assignee of David Richard Gardiner, all of Necpawa, Manitoba, Canada, 4th December, 1906; 6 years. Filed 13th September, 1906. Receipt No. 139,483.
Claim.-1. A chaff blower comprising a casing having inlet openings at onposite sides and having a tangentially disposed outlet and a rotary fan therein, having its blades arranged to force air through said outlet and having central discs at its opposite sides, the said discs confronting the said onenings in the sides of the casing but located at a distance therefrom sufficient to allow the passage of air through said openings over said discs and in front of the outer lengths of the blades of the fan.
2. A chaff blower comprising a rotary fan having troughshaped blades facing in the direction of rotation of the fan and having central discs at the sides of less diameter than the fan as a whole, and a casing enclosing the fan having opposite inlet openings co-axial with said discs and having a tangentially disposed outlet, the sides of the casing being spaced at a substantial distance from the respective discs.
3. A chaff blower comprising a trough whose bottom slants downward from opposite ends towards an intermediate point, a vertically disposed blower casing located in the trough and having a tangentially disposed outlet, and a rotary fan therein adapted to blow the air taken from said inlet openings through said outlet.
4. In combination with a straw conveyer for conveying off the straw from a separator, a chaff blower comprising a casing located at an approximately central point between the separator and having opposite inlet openings and a tangentially disposed outlet chute, a rotary fan therein, a trough for directing chaff into said openings, and a shield for preventing the chaff from passing to the straw conveyer.

\section*{No. 102,366. Wood Planing Machinery. Machine à blanchir le bois.}

Major Harper and Son, assignee of Charles Ernest Harper both of Whitby, Ontario, Canada. 4th December, 1906; 6 years. Filed 4th October, 1906. Receipt No. 140,022.
Claim.-1. A feed roll section comprising an annular rim, clutch members therein, a clutch hub, clutch members car-
ried by the clutch hub to engage with the first-mentioned clutch members and cause the revolution of the rim, and

spring tensioned means within the rim to normally maintain it to revolve in a flxed curvilinear plane and permit it to yield therefrom under abnormal conditions.
2. A feed roll section comprising an annular rim. clutch members projecting inwardly from the inner surface thereof, a clutch hub, clutch members forming part of the clutch hub and co-acting with the first-mentioned clutch members, feed roll section hubs independent from the rim arranged at the sides of the clutch hub, spring tensioned spokes carried by the feed roll section hubs and engaging the inner surface of the rim.
3. A feed roll section comprising a rim, clutch members projecting inwardly from the inner surfaces thereof, a clutch hub, clutch members for the clutch hub co-acting with the first-mentioned clutch members to cause the revolution of the rim, feed roll section hubs at the sides of the clutch hub and separated from the rim, spoke seats in the feed roll section hubs, spokes contained in the spoke seats, flanges for the spokes between their inner and outer ends, springs encircling the spokes between the flanges and the bottom of the spoke seats to normally press them into contact with the inner surface of the rim, and a retaining ring encircling the feed roll section hubs to hold the inner ends of the spokes in the spoke seats.
4. A feed roll section comprising a feed roll shaft, a series of independently acting feed roll sections encircling the shaft and separated therefrom but revoluble therewith, each feed roll section comprising an annular rim, clutch members projecting inwardly from the inner surface thereof, a clutch hub for each feed roll section mounted on the shaft to revolve therewith. clutch members for each clutch hub co-acting with the clutch members of the rim to cause the latter to revolve with the feed roll shaft, feed roll section hubs loosely mounted upon the feed roll shaft and of less diameter than the rim to provide for the radial movement of the latter, spoke seats contained in the feed roll section hubs, spokes having their inner ends in the spoke seats. and springs normally pressing the spokes outwardly against the inner surface of the rim to maintain it normally concentric with the center of the feed roll shaft.
5. A feed roll section comprising a ferd roll shaft, a series of independently acting feed roll sections encircling the shaft and separated therefrom but revoluble therewith, cach feed roll section comprising an annular rim, clutch members projecting inwardly from the inner surface thereof, a clutch hub, for feed roll section mountrd on the shaft to revolve therewith, clutch members for each clutch hub co-acting with the clutch members of the rim to cause the latter to revolve with the feed roll shaft, feed roll section hubs loosely mounted unon th: feed roll shaft and of less diameter than the rim to provide for the radial movement of the latter, spoke seats contained in the feed roll section hubs, spokes having their inner ends contained in the spoke seats, and springs normally pressing the spokes outwardly against the inner surface of the rim to maintain it normally concentric with the center of the feed roll shaft, and means to limit the outward movement of the spokes.
6. A feed roll section comprising a feed roll shaft, a series of independently acting fed roll sections encircling the shaft separated therefrom but revoluble therewith, each feed roll section comprising an annular rim, clutch members projecting inwardly from the inner surface thereof, a clutch hub for each teed roll section mounted on the shaft to revolve therewith, clutch members for each clutch hub co-acting with the clutch members of the rim to cause the latter to revolve with the feed roll shaft, feed roll section hubs loosely mounted upon the feed roll shaft and of less diameter than the rim to provide for the radial movement of the ? atter. spoke scats contained in the feed roll section hubs,
spokes having their inner ends contained in the spoke seats, springs normally pressing the spokes outwardly against the inner surface of the rim to maintain it normally concentric with the center of the feed roll shaft, means to limit the outward movement of the spokes consisting of an annular rim encircling the feed roll section hubs having slots therein registering with the spoke scats, and flanges connected to the spokes within the circle of the annular rim to engage with the inner surface thereof.

No. 102,367. Pitchfork Blank. Blanc pour fourchcs.


The Maple Leaf Harvest Tool Company, assignee of Carl K. Jansen, Frank Eisbrenner, and Kash Eisbrenner, all of Tilsonburg. Ontario, Canada, 4th December, 1906; 6 years. Filed 23rd January, 1906. Receipt No. 132,154.
Claim.-1. An integral blank for forming pitchforks and the like, comprising the shank portion, the outer tine portions extending in the same direction as the shank, the inner tine portions extending in the opposite direction, the head of the fork connecting the parts and cut convex towards the inner tine portions. and intermediate tine portions connecting with the blank at the juncture of the head and the outer tine portions, e and extending in the same direction as the inner tine portions, substantially as described.
2. An integral blank for forming pitchforks and the like, comprising the shank portion, the outer tine portions, extending in the same direction as the shank, and separated therefrom by spaces corresponding in shape and size to the inner tine portions, the inner tine portions extending in the opposite direction, and separated by a space corresponding in shape and size to the shank, the head of the fork connecting the parts, and intermediate tine portions connected with the blank at the juncture of the head and the outer tine portions and separated from the inner tine portions by spaces corresponling in size and shape to the outer tinc portions. substantially as described.
3. An integral blank for forming pitchforks and the like, comprising the shank nortion, the outer tine portion extending in the same direction as the shank, and separated by spaces corresponding in shape and size to the inner tine portions, the inner tine portions extending in the opposite direction and separated therefrom by a space corresponding in shage and size to the shank, the head of the fork connecting the parts, and cut convex towards the inner tine portions. and intermediate tine portions connected with the blank at the juncture of the head and the outer tine and dircction, and separated therefrom by a space corresponding ing in size and shape to the outer tine portions, substantially as described.

\section*{No. 102,368. Screw Driver. Tourne-vis.}

Milo J. Cowgill, Victor, Colorado, U.S.A., 4th December. 1906; 6 years. Filed 12th October, 1906. Receipt No. \(140,255\).
Claim.-A screw driver having the forward end of its shank provided with a laterally enlarged head, the forward end of which is disposed at substantially right angles to the shank, the side edges of the head being inclined outwardly in opposite directions from the front edge, said edge portions constitute independent bits, the forward end of the shank
extending longitudinally across opposite sides of the head to points adjacent the front edge thereof with the sides of the

shank converging forwardly across the head in substantially parallelism with the respective side edges of the head.

No. 102,369. Clamp. Crampon.


James R. Kearney, Topeka. Kansas, U.S.A.. 4 th December, 1906; 6 years. Filed 8th October, 1906. Receipt No. 140,157.
Claim.-1. A supporting clamp for electric co.lductors comprising a pair of superposed clamping plates, binding means connecting these plates, and a hanger connection disposed at one side of the plane of the conductor extending between the plates.
2. A supoprting clamp for electric conductors comprising a pair of superposed clamping members or plates having conductor seats, binding means connecting these plates, and a hanger connection disposed at one side of the piane of the conductor extending between the plates.
3. A supporting clamp ior electric conductors comprising a pair of superposed clamping plates. one of which is provided with a hanger connzction, and binding means connecting the two plates.
4. A supporting clamp tor electric condu-tors conprising a pair of superposed clamping plates formed with longitudinal conductor seats and one of which is provided with a hanger connection, and binding means connecting the two plates.
5. A supporting clamp for electric conductors, conprising a pair of superposed clamping members formed with conductor seats and one of which is provided with a laterally offset hanger connection, and binding means connecting the two members.
6. A supporting clamp for electric conductors comprising a pair of superposed clamping members formed with longitudinally disposed conductor seats in their inner faces and one of which is provided at one end with a lateral'y offset hanger flange for the connection of a stain insulator therewith, a binding connection between the two nlates
7. A supporting clamp for electric conductors comprising a pair of superposed clamping members formed with longitudinally disposed conductor seats having gripping faces, one of said members being further provided at one end with a laterally offset hanger flange for the connection of a strain insulator therewith, and binding bolts connecting the two members at opposite sides of the plane of the seats.
8. A supporting clamp for electric conductors romprising a pair of superposed clamping nembers having wire gripping means and one of which is provided with a laterally offset
hanger flange, a supplemental clevis strap secured to one of the members and overlying the hanger flange to recoive the connecting rod of a strain insulator, and binding bolts connecting the two members.
9. In combination with an electrical conductor having a right angle bend, of supnorting clamps secured uyon the conductor respectively at opposite sides of the bend thereof and each of which clamps is provided with a hanger connection, a strain insulator secured to a bracis:g guy leading from each insulator in line therewith.
10. In combination with an electrical conductor having a right-angled bend and the supporting cross arm, of a pair of supporting clamps clamped upon the conlu tor respectively at opposite sides of the bend thereof. said clamps being disposed at right-angles to each other and each provided on one of its members with a hanger flange, a strain insulator connected with the fange of each clamp, and a bracing guy leading from each insulator.
No. 102,370. Hammer. Marteat.


Henry C. Lyon, Howard Lake, Minnesota, U.S.A., 4th Decem-
ber, 1906: 6 years. Filed 19th O tober, 1906. Receipt
No. 140,426.
Claim.-1. The combination with a hammer had having a handle secured thereto, of a hopper, curvel \&ulte plates connected with said hopper, a movable shutter provided with an clongated slot, a shelf arranged below said shutter, a hopper enclosing said shelf, a reciprocating blo \(k\), and means for moving said shutter and block together, substantially as shown and described.
2. The combination with a hammer head having a handle secured thereto, of a hopper having a bent lever pivoted thereto and provided on one end with a weight and adapted to extend at its opposite end into said hopper. curved guide plates arranged below said hopper, a recipro:ating shutter. provided with an elongated slot, a shelf arranged below said shutter, a conical hopper enclosing said sholf, a reciprozating block provided with clamping jaws. and meins for operating said shutter and block together, subsiantially as shown and described.
3. The combination with a hammer head hiving a handle secured thereto. of a hopper. curved guide platez having diverging edges arranged below said hopper, a reciprocating shutter provided with an elongated slot adapted to register with a passage formed by said guide plates. a shelf arranged beneath said shutter, a conical hopper enclosing sill shelf. a reciprocating block provided with clamping jaws and means for operating said shutter and block toveth: \(r\), substantially as shown and described.
4. The combination with a hammer head having a landle secured thereto, of a hopper. inclined guide plates arranged beneath said hopper, a reciprocating shutter provilod with an elongated slot having end slots connected therewith, a shelf arranged below said shutter, a conical honpe- enclosing said shelf, a reciprocating block provid d with clamping jaws. and means for operating said shutter and block together, substantially as shown and described.
5. The combination with a hammer head having a handle secured thereto. of a hopper, inclined guide plates co nected with said hopper, a reciprocating shutter provided with an elongated slot, a shelf adapted to register with the clot of said shutter, a conical hopper provided with off cet lips adapted to register with the ends of the slot for nef in said shutter. a reciprocating block provided with clamping jaws, and means for operating said shutter and block together, substantially as shown and described.
6. The combination with a hammor head having a handle secured thereto, of a hopper, curved guide plates connected
with said hopper, a reciprocating shutter provided with an elongated slot, a shaft arranged beneath said shutter, a hopper enclosing said shelf and provided with offset lips, a reciprocating block provided on its upper portion with a guide plate having an open-ended slot and with spring clamping jaws secured to the central portion of said block, and means for operating said shutter and block together, substantially as shown and described.
7. The combination with a hammer head having a handle secured thereto. of a hopper, curved guide plates conected therewith, a reciprocating shutter, a shelf arranced beneath said shutter, a conical hopper enclosing said shelf. a reciprocating block provided with spring jaws and a slotted guide plate, a rod having a longitudinal movement on said handle and provided with an upper arm engaging said shutter, and a lower arm engaging said block, a bent lever pivoted on said handle and connected with said rod. and a spring bearing against said lever and handle. subs'a tially as shown and described.
8. In a hammer having a ball provided with a transversp recess, the combination with a hopper, of curved guide plates connected therewith, a reciprocating shutter proviled with an elongated slot, a reciprocating block provited with clamping jaws and movable in said recess, and a reriprocating bar provided with arms connected with said shutler and block respectively, substantially as shown and described.
9. In a hammer the combination with a handle havi \(g\) a head secured thereto and provided with a transverse recess, of a hopper, a block movable in said recess and provided with spring jaws and an upper guide plate having an openended slot and bevelled edges adjacent to said slot, a reciprocating bar mounted upon said handle, and connected with said block, and means for reciprocating said block in one direction, substantially as shown and described.

No. 102,371. Trolley Hanger. Support de trolléc.


Thomas Price, Minneapolis. Minnesota, U.S.A., 4th December, 1906; 6 years. Filed 26th October, 1906. Receipt No. 140.660.
Claim.-1. A trolley hanger comprising essentially a link having an upwardly extending threaded pin portion and a swivel mounted thereon, a grapnel having a threaded opening therein and adapted to engage with, and adjustment upon the said threaded pin portion, a cylindrical bar of non-conducting material suspended in the said link, legs rigidly secured to the said insulated bar, elamps or grips loosely connected to the said legs, a slecve mounted upon and longitudinally movable upon the said leg and clamps and a jam nut mounted and adjustable upon the said leg above the said sleeve, all substantially as shown and for the purpose speclifed.
2. In a trolley hanger, the combination of a link, a grapnel adjustably affixed thereto. a cylindrical bar of nonconductive material suspended in the said link, legs of conductive material affixed to the said suspended bar. clamps loosely pivoted to the said legs, a sleeve mounted upon the said legs and means for holding the said sleeve in engagement with the said leg and clamps, substantially as shown and for the purpose specified.
3. In a trolley hanger, the combination of the legs \(d\) square or rectangular in cross section and having their lower portions reduced upon their opposite sides, pins extending laterally from said reduced portions, clamps square or rectangular in cross section, and having their upper portions reduced in thickness, holes in or through the said reduced portions, a square or rectangular sleeve mounted upon and longitudinally movable upon the said legs and clamps, and means for holding the said sleeve in place, all substantially as shown and for the purposes specified.

No. 102,372. Apger Brace. Vilebrqquin.


Zaccheus Scott, McKeesport, Pennsylvania, U.S.A., 4th December, 1906; 6 years. Filed 13th October, 1906. Receipt No. 140,271.
rlaim.-1. The combination with a brace, of an angular one-piece shank and a handle consisting of a single section of material, the said handle having annular grooves in its inner wall, holes opening into sald grooves, balls loacted in said grooves, and means for closing the holes after the balls are introduced and the said shank having grooves corresponding to the grooves in the handle.
2. In a brace, a shank having a screw-threaded end and a shoulder adjacent said end, said end being adapted to receive a chuck having a screw-threaded socket with a spring pressed pin passing hrough the shoulder and adapted to engage the chuck.
3. In a brace, the combination with a one-piece shank, having a cranked portion, of a one-picce handle mounted on said cranked portion and revoluble thereon, and sustained against longitudinal movement by grooves in the shank, corresponding grooves in the handle and interposed balls.
4. In a brace, a shank having a crank portion formed exclusively by bending the shank and of even diameter between the bends, said crank portion being provided with a plurality of circumferential grooves, in combination with a handle consisting of a single piece of metal pierced for the passage of the shank and provided with grooves in its bore, located wholly inside the ends of the handle and spaced apart a distance equal to the spacing of the grooves in the shank and balls located in the ways formed by the coinciding grooves in the shank and handle.
5. In a brace the combination with a shank baving a shoulder near its end and a screw thread exteriorly of the shoulder, a pin passing through the shoulder a spiral spring surrounding said pin and impelling the pin through the shoulder. of a chuck having a screw-threaded cavity in its end. to receive the threaded end of the shank and a hold adjacent said cavity to receive said pin.
6. In a brace the combination of a shank, a slecve revolubly mounted on the shank, means for maintaining the sleeve on the shank, a curved bar carried by said sleeve, a curved metallic breast plate, bolts having nuts countersunk in said breast plate and heads disposed on the outer side of said bar, and spiral springs interposed between the breast plate and said bar and seated in recesses in said bar.

\section*{No. 102,373. Shaft Packing.}

\section*{Garniture d'arbre de couchc.}

James Wilkinson, Providence, Rhode Isiand, U.S.A., 4th December, 1906; 6 years. Filed 17th September. 1906. Receipt No. 139,532.
Clain.-1. A liquid packing for rotating shafts comprising in combination a chamber around the shaft, a rotatab. element within said chamber, and a circulating body within said chamber, and a circulating body of liquid acted upoin by said element to produce a continuous axial circulation thereof in said chamber under a head of pressure exceeding the differential in the pressures between which the packing is disposed.
2. In a liquid packing means for rotating shafts, a centrifugal pump driven by the shaft, a pump chamber surrounding the shaft, and a body of liquid in said chamber which is acted upon by sald pump and by the pressures to which \(i_{1}\) it exposed to induce an axial circulation thereof between said pump and chamber which seals all openings or clearances in or around said pump. for the purposes specified.
3. The combination with a rotating shaft and a stationary element surrounding it, of an annular chamber in said ele-
ment also surrounding sald shaft, an annular element rotatable with said shaft and having a rim which rotates in close

proximity to the circumferential wall of said chamber, one or more passages leading through said element from its low to its high pressure side, and an axially circulating body of liquid in said chamber which enters said passages at their low pressure ends and is forced through them by centrifugal action against the higher pressure to which the liquid is exposed to maintain the circulation of said liquid, for the purposes described.
4. In a liquid packing means for a rotating shaft, a chambered element rotatable with the shaft, liquid in the chambers exposed to different pressures and subjected to centrifugal action by rotation with said element, a port in said element connecting said chambers, and a stationary chamber in which said element rotates and induces an axially flowing belt of circulating liquid to seal the clearance between the element and chamber, substantially as described.
5. In a liquid packing means for a rotating shaft, an eie ment rotatable with said shaft an exposed to different pressures, a conduit rotatable with said element and exposed to said pressures, a chamber in which said element rotates. and a body of sealing liquid trerein which circulates in said chamber around said element and through said conduit, in the manner and for the purpose described.
6. In a liquid packing means for rotating shaft, a chamber around said shaft, an element rotatable with said shaft and disposed in said chamber, a body of sealing liquid in said chamber acted upon by the pressures to which it is exposed and by said element to produce an axial circulation thereof for the purposes described, and means to throttle the stream of circulating liquid.
7. In a liquid packing means for a rotating shaft, a chamber around said shaft, an annular element rotatable with the shaft and disposed in said chamber, a body of liquid exposed to different pressures and continuously actei upon by said element to produce a constantly flowing belt of liquid which circulates axially around the periphery of said element between said element and chamber, and means to retard the flow of said body of liquid, as and for the purposis described.
8. In a liquid packing means for a rotating shaft, a chamber around sald shaft, an element rotatable with the shaft and disposed in said chamber, projections on said chanber and element which form a tortuous passage, and a sealing liquid upon which said element acts continuously to produce an annular axially circulating body or belt of liquil flowi:!g through said tortuous passage, for the purposes described.
9. In a liquid packing means for a rotating shaft, a stationary chamber around said shaft, an element rotatable with the shaft and provided with two annular rotating chambers opening toward said shaft and disposed within said stationary chamber, means to establish communication between said rotating chambers near their outer peripheries, a liquid in said chambers subjected to centrifugal effect by their rotation, means to discharge the liquid in a substantially annular stream from the rotating chamber exposed to the higher pressure, said anular body of fluid being acted upon by said higher pressure and caused to flow back around said element to the low pressure rotating chamber and in its passage to seal the joint between said rotating element and stationary chamber.
10. In a liquid packing means for a rotating shaft, a rotating element provided on each side with anular chimijers, means to establish communication between said chanbers through said element, bodies of liquid in said chambers exposed to different pressures, an annular jet orifice in the outer side wall of the chamber exposed to the higher pressure, the centrifugal effect on said bodies of liquid being such as to cause the discharge of an annular jet through said orifice, and a stationary chamber in which said element rotates, the joint between said latter chamber and element
being sealed by the flow of said anular jet of liquid induced by the difference in pressures to which the liquid is exposed. 11. In a liquid packing means for a rotating shaft. an annular chamber surrounding said shaft, an element rotatable with said shaft, a body of liquid in said chamber, and a circulating passage for sald liquid formed by the clearance between said element and stationary chamber and by one or more ports in said element, said element being adapted to act as a centrifugal pump to maintain the circulation of the liquid through said passage to seal it.
12. In a liquid packing means for a rotating shaft, an annular chamber surrounding sald shaft, an element rotatable with sald shaft, a body of liquid in said chamber, a circulating passage for said liquid formed by the clearance between said element and stationary chamber and by one or more ports in said element. said element being adapted to act as a centrifugal pump to maintain the circulation of the liquid through said passage to scal it, valves for said ports which are opened by the circulating liquid towards a pressure which closes them when the element ceases to rotate, means to produce a tortuous passage in the rlevrance between said element and chamber. and mans to introduce liquid into said tortuous passage to flush and scal it, for the purposes described.

\section*{No. 102,374. Wire Drawing Drum.}

Tambour pour laminoirs pour fls ale fre.

he Iroquols Machine Company, New York City, assignee of Jane Alexander, Horton, Providence, Rhode Island, U.S.A., 4th December, 1906; 6 years. Filed 15th November, 1906. Receipt No. 141,235.
- Clain.-1. A wire drawing drum having a positively driven circumferential wire forwarding seat mounted for a limited yielding movement.
2. In a wire drawing machine, a clrum having a radially yielding positively driven wire seat.
3. In a wire drawing machine, a drum, and a shoe or wire seat so mounted on the drum as to yield elastically to the varying tension of the wire, and connected for positive rotation thereby.
4. In a wire drawing machine, a drum, a wire seat driven by and having a peripheral movement on said drum, and means for positively limiting said movement.
5. In a wire drawing machine, a drum and a circumferen tial spring ring forming a seat for the wire so mounted on the drum as to enable it to contract and expand and having a positive driving connection with said drum
6. In a wire drawing machine, a drum and a cushioned wire seat positively driven thereby.
7. In a wire drawing machine, a drum, a circumferential positively driven wire seat thereon, and a cushion between said seat and the drum.
8. In a wire drawing machine, a series of drums and dies adapted to impart successive reductions to the wire, said drums having yielding positively driven wire seats.

\section*{No. 102,375. Flushing Tank.}

\section*{Chasse d'eau pour cabinets d'aisance.}

The Ideal Manufacturing Company, assignee of Frank V. Bartlett, Detroit, Michigan, U.S.A., 4th December. 1906 ; 6 years. Filed 25th June, 1906. Receipt No. 137,278.
Claim.-1. The combination with a flushing tank for water closets, of a facing detachably secured to the tank and covering the sides exposed to view.
2. The combination with a flushing tank for water closets, of a finished facing therefor and means by which said facing may be detachably secured to cover an exposed face of said tank.
3. The combination of a flushing tank, operating devices on the outside of said tank, and a detachable facing for

said tank spaced therefrom to enclose the operating devices.
4. The combination of a flushing tank, a detachable facing for the exposed face thereof, and guides and guide-ways on the facing and tank whereby the two parts may be slidingly engaged and disengaged.
5. In a flushing apparatus for low down closets, the combination of a tank proper and a removable facing therefor enclosing the sides. front and top of the tank, and having a sliding engagement with the latter.
6. In a flushing apparatus for low down closets, the combination of a tank proper, of a removable facing therefor, comprising sides, front and top. and flanges at the rear free edges of the sides engaging corresponding grooves in the tank.
7. In a flushing apparatus for low down closets, the combination of the tank proper, valve actuating means therein, a removable facing for the tank, and a detachable member for the valve mechanism extending through the facing.
8. In a flushing apparatus for low down closets, the combination with the tank proper, of a flushing valve lever therein, a removable finished facing enclosing the tank and having a slot formed in one of its walls, and a detachable handle extending through the casing slot and having connections with the valve lever.
9. In a new article of manufacture, a facing for water closet flushing tanks provided with means for detachably securing it to such tanks.
10. As a new article of manufacture, a closet tank. a removable facing therefor, the facing having a slidably interlocking engagement with the tank.
11. As an article of manufacture, a closet tank, a removable facing therefor, and a detachable interlocking engagement between the facing and tank substantially throughout their respective lengths.
No. 102,376. Cylinder Drain Valve.
Noupape pow cylindre ar drainage.


Posey P. Brooks and William C. Bennett, assignee of a half interest, both of Hattiesburg. Mississipyi. U.S.A.. tih December. 1906; 6 years. Filed 10th September, 1906. Receipt No. 139.386.
Claim.-1. An automatic drain cock comprising a casing provided at the front with an outlet and having a lateral inlet at an intermediate point for connection with a steam
cylinder, said casing being also provided in rear of the lateral inlet with a piston head chamber and having a rear inlet port for the admission of fluid pressure, a valve seat located in advance of the lateral inlet, and a valve cooperating with the seat and provided with a piston head operating in the said chamber in rear of the lateral inlet, said valve being also provided at an intrermediate point with a face of less area than the piston head and located at the lataral inlet, whereby it is subjected to constant cylinderpressure.
2. An automatic drain valve comprising a casing having a lateral inlet and provided in rear of the same with a piston head chamber and having a rear inlet port for the admission of fluid pressure, a valve seat arranged in advance of the lateral inlet, and a valve co-operating with the seat and provided with a piston head operating in the said chamber, said piston head being of greater diameter than the valve and provided at its front with a partial steam groove exposed at the lateral inlet.
3. An automatic drain valve comprising a casing having a lateral inlet and provided in rear of the same with a piston head chamber and having a rear inlet for the admission of fluid pressure, a valve seat arranged in advance of the lateral inlet, and a valve having a front seat engagi.ig portion and provided with a rear piston head operating in the said chamber in rear of the lateral inlet and provided at its front with a partial stem groove exposed at the said lateral inlet. said valve being also provided with an intermediate connerting nortion located between the sleam groove and the seat engaging portion.
4. An automatic drain valve comprising a casing having a lateral inlet and provided in rear of the same with a piston head chamber and having a rear inlet port for the admission of fluid pressure, a valve bonnet secured to the casing in advance of the lateral inlet and provided with a valve seat. said bonnet being also provided with an interiorly arranged shoulder, and a winged valve having a seat engaging portion and provided in rear of the lateral inlet with a piston head, the wings of the valve extending into the bonnet and terminating short of the said shoulder.
5. An automatic drain valve comprising a casing having a lateral inlet and provided in rear of the same with a piston head chamber and having a rear inlet port for the admission of fluid pressure, a separate valve bonnet secured to the front of the casing in advance of the inlet and provided with a valve scat and having a front outlet, and a valve cooperating with the valve seat and provided with a piston head operating in said chamber in rear of the lateral inlet, said valve being also provided at an intermediate point with a face of less area than the piston head and located at the lateral inlet, and the said outlet being located in front of the valve and at a point opposite the rear inlet which is located back of the piston head.

No. 102,377. Waste Pipe. Tuy/au de trop-plein.


Charles Nevin Fiscus, assignec of Henry Joseph Luff, botb of Cleveland, Ohio, U.S.A., 4th December. 1906: 6 years. Filed 17th October, 1906. Receipts Nos. 140,395 and 14'.36:
claim.-1. The combination with a waste pipe and a closet bowl, of a connection comprising an annular cup formed integral with the rim of the waste pipe, a pipe section having one end arranged to extend into said cup and provided at its other end with means for supporting the closet bowl, a seal arranged in said cup around the end of the pipe section and a ring arranged within said pipe section and adapted to rest on the inner wall of said cup. said ring havi g a bevelled inner face to serve as a deflector for material passing through the pipe section, substantially as described and for the purpose set forth.
2. The combination with a waste pipe and a closet bowl, of a connection comprising an annular cup formed integral with the rim of the waste pipe, a pipe section arranged to extend into said cup, means for locking the pipe section in the cup so as to. prevent the withdrawal of the pipe section from the cup or the turning of the pipe section in the cup and a deflector arranged within the pipe section so as to rest on the rim of said cup. for the purpose set forth.
3. The combination with a waste pipe and a closet bowl, of an annular cup formed integral with the rim of the waste pipe, a pipe section provided at one end with means for securing it to the closet bowl and having its lower end extending into the said cup so as to divide the cup into two chambers, one of said chambers being accessible from the exterior of said pipe section and a seal arranged in sald cup around the end of said pipe section, substantially as described and for the purpose set forth.
4. The combination with a waste plpe and a closet bowl, of a connection comprising an annular cup formed integral with the rim of the waste pipe, a pipe section provided at one end with means for securing it to the closet bowl and having its other end extending down into said cup, projections arranged on the interior surface of said cup and on the lower end of said pipe section, and a seal arranged in said cup and forming a locking medium between said projections so as to prevent the said pipe section turning in the sald cup.
5. The combination with a waste pipe and a closet bowl, of a connection comprising an annular cup formed integral with the rim of the waste pipe, a pipe section having one end arranged to fit into said cup and provided a short distance above said end with an annular shoulder arranged to rest on the inner wall of said cup and a seal arranged in sald cup around the ends of the pipe section, substantially as described and for the purpose set forth.

No. 102,378. Wood Fibre Cutter.
Machine potr faire des flbrcs de bois.


The Ohlo Fiber Machinery Company, assignee of Howard Martin Leonard, both of Elyria, Ohio, U.S.A., 4th December, 1906; 6 years. Filed 16th Jnue, 1906. Receipt No. \(136,962\).
Claim.-1. A wood fibre cutting machine provided with a set of saws and means to feed a \(\log\) to the saws and to rotate the logs before the saws comprising a line of mechanism proceeding from the saw carrylng shaft to the arbours carrying the logs and adapted to vary the speed of rotation of the logs, and a line of mechanism for governing the feed of the log to the saws proceeding initially from the arbours carrying the logs and engaging the log carrier between their ends.
2. A wood fibre cutting machine adapted to cut one or two logs at a time and comprising a pivoted carrying yoke for each log, a line comprising mechanism for rotating each log independently of the other berore the saws, and each of said lines of mechanism supplemented by means for in-\(12-4\)
dependently pressing the logs to the saws, said supplemental mechanism comprising pulleys on said yokes respectively, and spring tightened cords over said pulleys.
3. In wood fibre cutting machines, a set of saws, a yoke to carry a log before said saws pivoted at its bottom on the main frame, an arbour shaft for said \(\log\) and differential gear mechanism for conveying power from the shaft carrying the saws to the arbour shaft for the log. a pulley mounted on said yoke above its pivot, a stretched cord engaged around said pulley to control the position of the log in respect to the saws and positive actuating connection from said arbour shaft to the shaft of said pulley, so that the speed of rotation of the log controls the rate of feed of the log to the saws.

No. 102,379. Bath Tub. Baignoire.


Eugene H. Sloman, Detroit, Michigan, U.S.A., 4th December, 1906; 6 years. Filed 25th August. 1906. Receipt No. 138,976.
Note.-This patent is a re-issue of No. 99,863 , dated tho 3rd day of July, 1906.

Claim.-1. A both tub made from a single piece of metal in which the metal is in such a state of rest that it can be reheated without distartion when cooled.
2. A porcelain coated bath tub in which the metal body is formed from a sheet of metal in such a state of rest that on reheating it to apply the porcelain it was not distorted when cooled.

\section*{No. 102,380. Valve for Flush Tanks.}

Soupape de chasse d'eau pour cabinets d'aisance.


William A. Alexander, Wilkinsburg, Pennsylvania, U.S.A., 4th December, 1906; 6 years. Filed 27th September, 1906 Receipt No. 139,853.
Claim.-A shut-off valve for flush tanks, consisting of the base partion provided with a means for connection with a water supply pipe and formed with a valve seat, the valve 29, operating within a casing, the float lever 18 , the short lever 14, the yoke 16 connected thereto, the float lever 18 connected to sald yoke, the double link connection 21 and 25 connecting the valve 29 and the float lever with the intermediate lever 14, in a manner that will cause the two links to be brought the one in line with the other when the float moves upward, as and for the purpose described.

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No. 102,381. Razor. Rasoir.


Morton Green Bunnell, Porter, Indiana, U.S.A., 4th December, 1906 ; 6 years. Filed 26th September, 1906. Receipt No. 139,791
Claim.-1. A safety razor having a substantially flat detachable blade and clips to clamp the blade at its corners.
2. A safety razor having a substantially flat detachable blade and clips to clamp the blade at its corners, at least one of the clips being movable to permit the insertion and withdrawal of the blade.
3. A safety razor having a substantially flat detachable blade and clips to clamp the blade at its corners, at least one of the clips being yieldingly held thereon to permit the insertion and withdrawal of the blade.
4. A safety razor having a substantially flat detachable blade, two rigid clips and two yielding clips.
5. In a safety razor the combination of a substantially flat detachable blade and a holder therefor having a rigid clip on one side and a yielding clip on the other side.
6. In a safety razor the combination of a substantially flat rectangular blade ground on two edges and without perforations, recesses or projections and a holder therefor having clips to clamp the blade thereto at its corners.
7. In a safety razor the combination of a substantially fiat detachable blade, a rigid clip for the blade, a yielding clip for the blade, a bracket to which the yielding clip is secured and a spring co-operating with the bracknt.
8. In a safety razor the combination with a substantially flat detachable blade, ground on two edges, of a holder therefor havine a guard, two rigid clips upon one side of the Einder, and two movable clips on the other side of the holder to clamp the blade at its corners to the holder, a bracket to which the two movable clips are secured, a spring pressing upon a bracket and a housing for the spring. the bracket projecting from the housing and forming a pressure piece for the thumb.

No. 102,382. Wire Perforating and Forming Machine.
Machine à perforer ct former le fll.


George Crompton, Toronto, Ontario, Canada, 4th December, 1906; 6 years. Filed 9th November, 1906. Receipt No. 141,051.
Claim.-1. In a wire perforating and forming machine, the combination with a reciprocating punch and associated parts, of duplex forming dies disposed in ylelding relation to one another between which the wire passes and thereby chamfering the perimeter of the previously formed perforation simultaneously with the punching operation, substantially as and for the purpose hereinbefore set forth.
2. In a wire perforating and forming machine the combination with a reciprocating punch and associated parts, of upper and lower plates between which the wire passes and having aligning openings therein, duplex forming dies
disposed in yielding relation to one another and adapted to reciprocate within the oppositely disposed openings of sald plates, means for forcing said forming dies towards each other simultaneously with the punching operation and thereby chamfering the previously formed preforation, substantially as and for the purpose hereinbefore set forth.
3. In a wire perforating and forming machine the combination with a reciprocating punch and associated parts, of upper and lower plates between which the wire passes, a combined stripper and gripping jaw inserted in the upper plate and actuated by a locking lever pivoted in the sald plate, duplex forming dies adapted to reciprocate within the oppositely disposed openings of the said plates, and means for forcing said forming dies towards each other simultancously with the punching operation and thereby chamfering the perimeter of the previously formed perforation. substantially as and for the purpose hereinbefore set forth.

No. 102,383. Wrench. Clé à écrou.


John F. Dickason, Keystone, Indiana, U.S.A., 4th December, 19066 years. Filed 19th November, 1906. Receipt No. 141,336.
Claim.-A wrench comprising a stock having a handle at one end and bifurcations at its other end, a head pivoted between said bifurcations, said head consisting of a circular portion provided with ratchet teeth, wrench jaws extending laterally from sald circular portion and being so disposed with relation to each other and the circular portion that radial lines drawn from the center of said circular portion to the outer pointed ends of the jaws will lie along their entire length within the edges of the circular nortion and the jaws, all portions of the opposite surfaces of the sides of said head lying in planes parallel to each other, and a spring operated pawl pivoted between said bifurcations and normally engaging said ratchet teeth at one end and extending beyond the stock and terminating in a finger grip at its opposite end, said nawl adapted to be swung on its pivot to engage at one edge the end of the stock between the bifurcations and at its end one of the laterally extending wrench jaws and at its opposite edge one of the ratchets of the circular portion.

No. 102,384. Machine for Crushing Clods of Earth. Machine d broyer les mottes de terre.


Charles Henry, Cayuga, Ontario, Canada, 4th December, 1906; 6 years. Filed 2nd November, 1905. Receipt No. 129,734.
Claim.-1. In a machine for crushing clods or lumps of earth, a frame, a centrally located bar in the frame, a
stationary transverse shaft rigidly secured to said bar and the frame, a section or number of discs secured in contiguity with each other on the shaft, and on each side of the bar, and adapted to rotate on the shaft.
2. In a machine for crushing clods or lumps of earth, a frame, a centrally located bar forming a part of the frame, a stationary transverse shaft rigidly secured to the frame, a section or runiber of dises in contiguity with each other on the shaft and on each side of the bar, and adapted to rotate on the shaft, means on a number of the discs to center and to rotate on the shaft, and means on the dises to rigidly secure each said section of the discs together.

No. 102,385. Shower Bath. Douche.


Andrew Murdock, Montreal, Quebec, Canada, 4th December, 1906; 6 years. Filed 7th September, 1906. Receipt No. 139,318.
Clatm.-1. A device of the class described comprising a wertical standard, a revoluble brush mounted thereon, and a sprinkler adagted to direct streams of water onto said brush.
2. A device of the class described comprising a vertical standard, a revoluble brush slidably mounted thereon. and an overhead sprinkler adapted to direct streams of water onto said brush.
2. A device of the class described comprising a vertical fixed standard, a brush slidably mounted thereon at right angles thereto, means for rotating said brush, and means for directling streams of water onto said brush.
4. A device of the class described comprising a fixed standard, a block slidably mounted thereon, a revoluble shaft mounted on said block at right angles to sald standard, a removable brush rigidly mounted on one end of said shaft, means for rotating said shaft, and means for directing streams of water onto said brush.
5. A device of the class described comprising a vertical standard, a ball bearing block slldably mounted thereon, means for locking said block at any point on the standard, a revoluble shaft mounted on said block at right angles to the standard, a removable brush rigidly mounted on the outer end of said shaft. means for rotating said shaft, and means for directing streams of water vertically downward onto said brush.

\section*{No. 102,386. Flunhing Valve.} Soupape de chasse d'cau.
Whilam S. White, Denver, Colorado, U.S.A., 4th December, 1990 : 6 years. Filed 15th September, 1906. Receipt No. 139,539.
Claim.-1. The combination of a reservoir or receptacle having a chamber at the lower end, a water supply pipe leading to said chamber, a water outlet pipe communicating with said chamber, a float valve in said reservoir and controlling the communication between said chamber and the outlet pipe, means for raising the float valve and means for gradually decreasing the bouyancy of the float valve to permit the gradual descent of the valve to its seat.
2. The combination of a reservoir, a water supply pipe leading to the lower part of the reservoir, a water outlet pipe leading from the lower end of the reservoir and communicating with the water supply pipe, a float valve located in said reservoir and controlling the said communication, means for raising the float valve from its seat to permit the water to flow from the supply pipe into the outlet, and means for gradually withdrawing the air from the float valve to permit the gradual descent of the valve.
3. The combination of a reservoir, a float valve operating therein, means establishing a water passage. said passage being commanded by said float valve, means for raising the float valve, and a tubular stem extending from the interior
of the float into said water passage, whereby the current of water in the passage will act through the stem to withdraw

air from the float valve and permit the descent of the same to the seat.
4. The combination of a reservoir, a water supplf pipe leading into the lower part thereof, a water outlet pipe communicating with the supply pipe, a float valve controlling said communication, means for raising the float valve from its seat and a tubular stem extending from the interior of the float downward into the outlet pipe, for the purpose specifled.
5. The combination of a reservoir, a float valve operating therein, a supply pipe leading to the lower part of the reservoir. an outlet pipe communicating with the supply pipe, such communication being controlled by said float valve, a tubular stem adapted to withdraw alr from the float valve for the purpose specificd. a cushioning or dash pot device in connection with the stem and means adapted to engage the stem for raising the float valve from its seat.
6. The combination of a reservoir. a float valve operating therein, a supply pipe leading to the reservoir, an outlet pipe communlcating with the supply pine. such communication being controlled by said float valve, a tubular stem fastened in the float valve and rommunicating at its upper portion with the interior thereof. an inverted cun or cylinder attached to the lower portion of the tubular stem, a piston-like member operating in said cup or cylinder, a tuhular stem extension attached to said piston-like member and telescoping over the main tubular stem. and means adapted to engage said tubular stem nxtension for lifting the float valve from its scat.
7. The combination of a rescrvoir. a float valve noerating therein. a sunply nipo leafing to the reservoir an outlit nive communicating with the sunnlv nine. such rommunication being controlled by sald float valve. a tubular stem fastened to the float valve and communicating at its upper nortion with the interior thereof. an inverted cun or cylinder attached to the lower portion of the tubular stem, a niston-like member operating in said cup or cylinder. a tubular stem extension attached to salid piston-like member and telescoping over the main tubular stem, and means adapted to engage said tubular atom extension for lifting the float valve from its seat, sald means comprising a slide operating in the outlet plpe. a swinging arm having connection with the slide and means for rocking said arm.
8. The combination of a rescrvoir. a guide therein, a float valve contained in the reservoir and operating in the guide, a supply pipe, walls forming a chamber at the base of the reservoir into which chamber the float valve projects, an outlet pipe, the supply and outlet pipes communicating with the chamber, the float valve controlling sald communication, means for raising the float valve from its seat, and means for withdrawing the air from the float valve to permit the gradual return of the valve.
9. The combination of a reservoir. a guide therein, a float valve contained in the reservoir and operating in the guide, a supply pipe, walls forming a chamber at the base of the reservoir into which chamber the float valve projects, an outlet pipe, the supply and outlet pines communicating with the chamber, the float valve controlling said communication, means for raising the float valve from its seat, means for withfrawing the air from the fioat valve to permit the gradual return of the valve and walls forming a by-pass passage extending from the upper part of the reservoir to the said outlet pipe, the by-pass passage being also controlled by the float valve.
10. The combination of a reservoir having a chamber at its lower end, a float valve contained in the reservoir and projecting into the said chamber, a supply pipe and an out-
let pipe communicating with said chamber, the said foat valve controlling the communication of the outlet pipe with said chamber. means forming a passage leading from the upper part of the reservolr to said outlet pipe, the said float valve also controlling said passage, means for raising the float valve from Its seat. and means for gradually decreasing the buoyancy of the float valve to permit the gradual descent of the valve to its seat.
11. The combination of a reservoir. a water supply pipe leading to said reservoir, a water outlet pipe communicating with the supply pipe, a float valve controlling said communication, means forming a passage establishing communication between the upper end of said reservoir and the outlet pipe, means for raising the float valve from its seat. and a tubular stem extending from the interior of the float valve downward into the outlet pipe and adapted to withdraw air from the float valve.
12. The combination of a reservoir provided with an opening in its bottom and having a chamber at its lower e"d communicating at its top with sald opening. the said chamber baving an odening in ita bottom, an annular flange surrounding said opening and having its innor pace tanered. a cunnlv pine connected rirectiv with sald chamber at one cide thereof. an nutlet pine connected with the lower end of the reservoir and communicating the onening in the hottom of said chamber. a float valve incatry in cald ragervoir and ofanted to extend through saif chamber. the said finat valve living \(\rightarrow\) tapered lower portion adapted to seat within the sald flange, the sald reservoir being provided with a nassage leading from the upper part of the reservoir to the discharge pipe. the sald float valve controlling the communiration between the saif chamber and the outlet nine and also controlling the said passage, and mcans for raising the float valve from the seat.
13. The combination of a reservoir. a water supnly pipe communicating therewith. the sald water supply nine also communicating with a water outlet pipe. a float valve controlling said communication. and means for raising and lowering the said float valve from and to its seat.
14. The combination of a reservoir. a water supply pipe communicating therewith, the sald water supply pipe also communicating with the water outlet pine, the upper part of the reservoir also communicating with the water outlet nipe by mrans of a by-pass passage. a float valve controlling the said three communications, and means for raising and lowering the sald float valve from and to its seat.
15. The combination of a reservoir having a chamber at its base. a water supply plpe leading to sald chamber, a water outlet pipe communicating with said chamber. the chamber communicating with the reservoir, the upper part of the reservoir communicating with the water outlet pine. and means for controlling the said three communications.

No. 102,387. Dental Flask and Clamp.
Appareil dentaire.


Thomas Wlllams, Summerhill, New South Wales, Australia, 4th December, 1906; 6 years. Filed 9th August, 1906. Recelpt No. 138,526.
Claim.-An improved dental moulding and vulcanizing flask and clamp. consisting of the usual flask and cover provided with sultable lugs to prevent their shifting, a frame to receive this flask, a screw and star-shaped spring to exert an equal pressure on top of the flask, and a suitable detach-
ed device providing means for lifting and handling the whole apparatus when in a heated condition, all as berein fully described and illustrated by the accompanying drawings.
No. 102,388. Box Bit. Portc-mèches.


Frederick Alonzo Hanes and William Staples, co-inventors. both of Huntsville, Ontario, Canada, 4th December. 19.56: 6 years. Filed 21st November, 1906. Receipt No. 141.376. Claim.-A box bit comprising a stock having a reduced upper and lower end and slot at the side, and a pin extendinp through the lower end, opposing jaws internally tapered or inclined and outwardly flared and provided at the outer end with opposing notches to grip the nut and at the inner end with openings through which the pin in the stock extends, a casing provided with flaring sides and a pin exlending into the inclined or tapered inside portion of thr jaw, and a set screw extending through the upfer ends of the casing into the slot in the stock. as and for the purnose syecified.

No. 102,389. Metallic Packing For Piston Rode. Garniture métallique pour tiges de piston.


John H. Lewls and Louis G. Kunzer, Chicago, Lllinois. U.S.A., 4 th December, 1906; 6 years. Filed 4th September, 1906. Receipt No. 139,237.
Claim.-1. In a metallic packing ring for piston rods. the combination with the cylinder head and piston rod. of a packing head ring \(C\), gland \(D\), division ring \(G\) and a palr of metallic segmental packings rings \(F\) F each comprising a plurality of segments, having at their meeting ends doubie notches or offsets in different planes forming overlappiag leaves, and three joints at different points of the circumference, one of which points extends only through on portion of the radial thickness of the packing ring and th. other two of which joints extend each only part way throuri the other portion of the radial thickness of the paching ring, said segments being furnished on their inner learis or members with a compression finger or member orerlapped by the outer leaf or member of the adjacent segment asd serving by its upsetting or compression to permit the sef. ments to contract and compensate for each other, subsiantially as speciffed.
2. In a metallic packing for piston rods, the combinat:inn with the cylinder head and piston, of a packing head riag C. a gland \(D\), a division ring \(G\) fitting within sald glans and between it and said ring \(C\) and a nair of segmencel
metallic packing rings \(F F\), one fitting on each side of said division ring \(G\) and each comprising a plurality of segments having overlapping leaves or members at their meeting ends forming a plurality of partial radial joints, substantially as syecified.
3. In a metallic packing for piston rods, the comblnation with the cylinder head and piston, of a packing head ring C, a gland \(D\), a division ring \(G\) fitting within said gland and between it and said ring \(C\) and a pair of segmental metallic packing rings \(F\) F, one fitting on each side of said division ring \(G\) and each comprising a plurality of segments having overlapping leaves or members at their meeting ends forming a plurality of partial radial joints, said division ring \(G\) being of a \(T\)-shape in cross section and its outer rim being clamped between said gland \(D\) and ring \(C\), substantially as specified.
4. In a metallic packing for piston rods, the combination with the cylinder head and piston, of a packing head ring C, a gland D, a division ring G fitting within sald gland and between it and said ring \(C\) and a pair of segmental metallic packing rings \(F F\), one fitting on each side of said division ring \(G\) and each comprising a plurality of segments having overlapping leaves or members at their meeting ends forming a plurality of partial radial joints, said segments of each of said metallic packing rings being provided with narrow compression members yielding or upsetting to permit contraction of the segments and compensation for wear, substantially as syecified.

No. 102,390. Monld. Moule.


Nason M. Goodwin, San Diego, assignee of Harry J. Schade, Los Angeles, both in California, U.S.A., 4th December, 1906; 6 years. Filed 5th August, 1906. Recelpt No. 140,300.
Claim.-1. In a block forming machine a bed plate having transverse guideways therein, supporting benches having legs resting in and guided by said guideways, a die plate resting upon said benches, side and end plates adjustably secured together and adapted to be moved vertically upwardly and downwardly past said die plates, sald die plate, sides and ends forming a mould box, and means to move said side and end boards comprising a shaft mounted 1 , bearings in the bed plate, two bevel gears secured upon said shaft, one at each end thereof, two vertical shafts each carrying bevel gears at their lower end and having their upper end screw-threaded, said bevel gears meshing with the gears on the horizontal shaft, bearings secured to the center of the end of the mnilt 'nx and having vertical threaded openings extending therethrough for the reception of said threaded shafts, vertical guide frames for ouiding said bearings, and means for rotating said horizontal shaft.
2. In a block forming machine a mould hox comnosed of ond plates having bearing lugs centrally secured upon their outer faces, side plates adjustably secured to said end plates, said side and end plates forming when adjusted the sides and ends of the mould box, a die nlate adapted to form the bottom of the mould box, adjustable means for supnorting said die plate in position while the block is being formed, guide frames for receiving and guiding vertically the bearing lugs of the cond plates, screw-threaded shafts nassing vertically through said bearing lugs in threaded contact therewith and revolubly mounted in crossbars in the guide frame. and means to cause the simultancous revolution of said vertical shafts.
3. In a moulding machine a mould box composer of \(n\) die nlate forming the bottom thereof. two end nlates having the bearing lugs in the center of the outer surfaces thefrof and having slots near the corners thereof. vertical adiusting bars on the exterior sides of said end nlates. bolts nassing through said adiusting bars and through the slots in thn end plate and secured to the side nlates. screw-threaded horizontal rods passing through said adjusting bars in threaded contact therewith and having a right hand thread on one end
and a left hand thread on the other end thereof, sald rods also passing through said bearing lugs revoluble therein and having means secured thereto to prevent the longitudinal movement of the rods in the lugs.
4. In a block forming machine a bed having transverse guideways therein, supporting benches having lugs resting In and guided by said guideways, and supporting benches having transverse slots in the top thereof, a die plate resting upon said benches, end plates having bearing lugs in the outer surfaces thereof and having slots near the corners thereof, vertical adjusting bars exterior said end plates at the ends thereof, side plates between said end plates secured to the adjusting bars by bolts passing through said adjusting bars in threaded contact therewith and having a right hand thread on one end and a left hand thread on the other end, said rods also passing through said bearing lugs revoluble therein and having means secured thereto to prevent the longitudinal movement of the rods within the lugs, means to cause the simultaneous movement of said horizontal rods, screw-threaded shafts passing vertically through said bearing lugs in threaded cotnact therewith. means to cause the simultaneous revolution of said vertical shafts, means to support said vertical shaft. means to giude the bearing lugs of the end plates vertically, a turntable composed of two L-shaped end pleces connected by a transverse bar, a supporting frame upon which said turntable rests, and means to move said turntable into engagement with the stone black upon the lowering of the sides and ends below the block.
5. In a block forming machine a turntable composed of two L-shaped end pieces connected by a transverse bar, a supporting frame upon which said turntable rests, a removable bottom board on sald turn table, and means to move said turntable and bottom board into engagement with the stone block upon the lowering of the sides and ends below the block.
6. In a moulding machine, a mould box composed of vertically movable side and end pieces, a stationary closure for the bottom of the opening between the side and end pleces, a removable lid secured to the top of said side and end pleces, and means to move said side and end pieces and lid toward the bottom closure.

No. 102,391. Flushing Tank.
Chasse d'eau pour cabinets d'aisance.


William A. Alexander, Wilkinsburg, Pennsylvania. U.S.A., 4th December, 1906; 6 years. Filed 27th September, 1906. Receipt No. 139,854.
Claim.-1. In an apparatus of the class described the combination with a tank having an inlet and an outlet, a valve controlling said inlet and a valve controlling said outlet, a lever pivotally mounted within said tank and adapted to control said outlet valve, of an auxiliary tank mounted within the first-named tank, said auxiliary tank having an outlet located near the bottom of the first-named tank, a flap valve controlling said outlet, a float controlling the movement of said flap valve, and means mounted within said auxiliary tank to control said inlet valve and close sald outlet valve.
2. In an apparatus of the class described the combination with a tank having an inlet and an outlet both located below the normal low water line of the tank, a valve controlling said inlet and a valve controlling said outlet. a lever nivotally mounted within said tank and adapted to control said outlet valve, a rod arranged exteriorly of the tank and connected to said lever, of an auxiliary tank mounted within the first-named tank, said auxiliary tank having an outlet located adjacent the bottom of the first-named tank. means to control said outlet, and means mounted within said auxi-
liary tank to close said inlet and said outlet valves, substantially as described.
3. In an apparatus of the class described the combination with a flushing tank having an inlet and an outlet. a valve controlling said inlet and a valve conbrolling said outlet. of an auxiliary tank mounted within the first-named tank, said tank having an outlet. a flay valve carried by said lastnamed outlet. means to control said flan valve. means carried by the first-named tank to open said first-named outlet valve, and means mounted within said auxiliary tank and adapted to automatically close said inlet valve and said firstnamed outlot valve. substantially as described.
4. In an apparatus of the class described, the combination with a flushing tank having an inlet and an outlet, of a valve controlling said inlet and a valve controlling said outlet. a lever mounted within said tank and actuated from the exterior of said tank to open said outlet valve, an auxiliary tank mounted within the first-named tank, and means supported within said auxiliary tank and adapted to successively close said valves at predetermined times, substantially as described.
5. In an apparatus of the class described. the combination with a flushing tank having an inlet and an outlet. a valve controlling said inlet and a valve controlling said outlet, and means for onening said outlet valve from the exterior of the tank, of an auxiliary tank. and means mounted within said auxiliary tank for closing said inlet and said outlet, substantially as described.
6. In an apparatus of the class described, the combination with a flushing tank having an inlet and an outlet, a valve controlling said inlet and a valve controlling said outlet. and means for establishing a primary flush. of an auxiliary tank mounted within the first-named tank, means carricd by said auxiliary tank and actuated by the primary flusb to cause a secondary flush, and means mounted within said auxiliary tank and actuatgd by the secondary flush to close said inlet valve and said outlet valve, substantially as described.
7. In an apparatus of the class described, the combination with a flushing tank having an inlet and an outlet. a valve controlling said inlet and a valve controlling said outlet means actuated from the exterior of the flushing tank tc establish a primary flush, of means for maintaining a secondary flush within said flushing tank independent of the primary flush, means actuated by, the nrimary flush to bring into action the secondary flush. an auxiliary tank and a foat arranged in said auxiliary tank and connected to the inlet and the outlet valves and actuated by the secondary flush to close said inlet and said outlet valves, substantially as described.
8. In an apparatus of the class described, the combination with a flushing tank adapted to contain a body of water, said tank having an inlet and an outlet port, a valve controlling each port, of means for maintaining a body of water independent of the first-named body. means actuated by the first-named body when passing through said outlet to release the indenendent body of water prior to the complete passage of the first body of water, and means actuated by the passage of the independent body of water to close the valves controlling said inlet and said outlet ports. substantially as described.
9 . In an apparatus of the class described, the combination with a flushing tank adanted to contain a body of water, said tank having an inlet and an outlet port, a valve controlling each port. of means for maintaining an independent body of water within said flushing tank, means actuated by the first-named body when passing through said outlet to release the indegendent body of water and permit it to llow into the flushing tank prior to the complete passage of the first body of water, means to re-establish said independent body of water, and means actuated by the reestablishment of the indenendent body of water to close establishment inlet and outlet valves, substantially as described.
10. The combination of a flushing tank having inlet and outlet ports and valves controlling both ports, with an auxiliary tank having a port leading into the main tank, a valve governing the gassage of water through the lastnamed port, a float connected to the last-named valve and a float arranged in said auxiliary tank and means connected to said last-named float for governing the valves on the inlet and outlet ports of the flushing tank.
11. In an apparatus of the class described, the combination with a flushing tank having an inlet port and an outlet port. a valve controlling said inlet port, and a valve controlling said outlet port, of a pivoted lever connected to the valve on the outlet nort, means connected to said lever and extending exteriorly of the tank for operating said lever, a second lever susgended from said plvoted lever and having a groove. a pivotally mounted rod having its free end extending into said groove, said rod being connected to the valve on said inlet port, and a float carried by said rod.
12. In an apparatus of the class described, the combination wth a flushing tank having inlet and outlet ports and valves controlling sald ports, of a pivoted lever connected to the valve controlling the outlet port, a pivoted rod connected to the valve controlling the inlet port, a float carried by said rod. a swinging lever connected to the said pivoted lever and adapted to be engaged by said rod, and means extending outside of the said tank for moving said pivotal lever to open the outlet valve.

No. 102,392. Mould. Moule.


Willis Herman Fisher, Baltimore, Maryland, U.S.A., 4th December, 1906; 6 years. Filed 22nd September, 1906. Receipt No. 139,715.
Claim.-1. A mould box comprising a bottom, side plates and end plates hinged to the bottom, a partition dividing the box into compartments, and a facing plate mounted upon the partition.
2. A mould box comprising a bottom, side plates and end plates hinged to the bottom, a partition dividing the box into compartments and a facing plate removably mounted upon the partition.
3. A mould box comprising a bottom, side plates and end plates hinged to the bottom, a removable pallet provided with core-receiving openings adapted to be placed upon the bottom, downwardly tapering cores detachably fitting in the openings of the pallet and resting upon the bottom of the box.
4. A mould box for forming artificial stone and the like provided on one of its sides with a facing plate being provided with a plain surface and an ornamental surface below the plain surface whereby a compression plate may be placed on top of the material to form the block and it the mould.
5. A mould box provided with a partition adapted to divide the box into compartments, a facing plate mounted upon the partition, said facing plate being provided with a plain surface and an ornamental surface below the plain surface, whereby a compression plate may be placed upon the top of the material to form the block and fit the compartment.
6. A mould box provided with a partition adapted to divide the box into compartments, a facing plate removably secured to the partition, said facing plate being provided with a plain surface and an ornamental surface whereby a compression plate may be placed upon the ton of the material to form the block and fit the compartment.
7. In a mould box the combination with hinged doors. means for dividing the mould box into compartments, pallets having core receiving openings arranged in the compartments, removable and detachable cores fitting in the opening of the pallets, and compression plates having openings adanted to receive the cores.

\section*{No. 102,393. Carbureter. Carburatetur.}

Richard M. Mick, Bussey. Iowa, U.S.A.. 4th December. 1906;
6 years. Filed 20th November, 1906. Receipt No. 141,354. Claim.-An improved carbureter comprising a T-plpe coupling, a supply main screwed into one branch thereof. an air pipe screwed into another branch thereof. a supporting leg connected with the \(T\)-pipe coupling, a plug in the lower end of the supply pipe, an open-ended tube supported by said plug, a hydro-carbon supply pipe, a valve therein. said valve supported unon the said sunporting leg, a coil pipe communicating with said valve, said coil inclined as se forth and filled with granular substance. a valve communicating with said coil and discharging into the \(T\)-coupling below said tube, a burner arranged below the coil. a pipe contained within the supply main passsed through the plug in the bottom thereof, a plug in theT-coupling having said
pipe passed through it, a burner pan supported upon said burner and a casing completely inclosing the burner, the

coil and said valves and formed with a doorway to provide access to the interior thereof, as set forth.

No. 102,394. Lubricator for Engine Valves.
Graisseur pour tiroir de machine.


David Morehouse, Delphos, Ohio, U.S.A., 4th December, 1906; 6 years. Filed 21st September, 1906. Receipt No. 139,672.
Claim.-In a lubricator for engine slide valves, a valve seat having oil outlets in its face adjacent to and o: the outer side of or beyond the inlet ports therein and so arranged that both will be covered by the valve during the middle part of its stroke, and alternately covered and uncovered by the valve at the ends of its strokes. whereby oil delivered from the outlets will be carried i.to and through the ports into the cylinder as the inlet ports are opened respectively, and means indepondent of the pressure of the valve chest, to supply oil to said outlets.

\section*{No. 102,395. Extraction of Precions Metals.}

Extraction de métaux précicux.


Sidney Theodore Muffly, Philadelphia, Pennsylvania, U.S.A., 4th December, 1906; 6 years. Filed 14th December, 1905. Receipt No. 131,023.
Claim.-1. The process of treating ores which consists in pulverizing sald ores while they are immersed in a solution capable of dissolving the contained gold and silver, said solution being exposed to air under pressure greater than that of the atmosphere, substantially as described.
2. The process of treating ores which consists in subjecting them to the action of the cyanide solution exposed to constantly rencwed bodies of air under pressure greater than that of the atmosphere, collecting the hydro-cyanic acid gas evolved, passing the gas with air to a solvent liquid. dissolving said gas in the liquid and afterward permitting said air to escape, substantially as described.
3. The process of treating ores which consists in continuously conveying them through successive bodies of a cyanide solution, absorbing in a liquid the hydro-cyanic acid gas evolved. and using said liquid to act on further bodies of ore, substantially as described.
4. The process of treating ores which consists in acting upon them by a solution of cyanlde, dissolving the hydrocyanic acid gas evolved in a solution of a double cyanide, and using said solution to act on further bodies of ore, substantially as described.
5. The process of treating ores which consists in acting upon them by a solution of cyanide, dissolving the hydrocyanic acid gas evolved in a solution of a double cyanide and a hydrate compound, and using said solution to act on further bodies of ore, substantially as described.
6. The process of treating ores which consists in continuously conveying the pulverized ores through successive bodies of a cyanide solution under a direct downward air pressure greater than that of the atmosphere, substantially as described.
7. The process of treating ores which consists in continuously conveying the pulverized ores through a cyanide solution exposed to direct downward pressure of constantly renewed bodies of compressed air, absorbing the hyrocyanic acid gas evolved in a body of liquid, and using said llquid to act upon further bodies of ore, substantially as described.
8. The process of treating ores which consists in first crushing the ores, then subjecting them to the action of an alkaline hydrate solution, then pulverizing said ores within a cyanide solution, then conveying the pulverized ores through further bodies of cyanide solution, substantially as described.
9. The process of treating ores which consists in pulverizing said ore within a cyanide solution, then conveying said ore through successive bodies of a solution under air having a direct downward pressure greater than that of the atmosphere, substantially as described.
10. The process of treating ores which consists in pulverizing said ore within a cyanide solution after neutralizing acid salts in the same. then conveying said ore through successive bodies of cyanide solution under a direct downward air pressure greater than that of the atmosphere, said air being maintained at a temperature above the normal, substantially as described.
11. The process of treating ores and extracting gold and silver therefrom, which consists in rapidly and continuously passing them through an alkaline hydrate solution and immediately thereafter conveying them through an alkaline cyanide solution under a direct downward air pressure greater than that of the atmosphere, substantially as described.
12. The process of treatng ores whirh consists in subjecting them to an alkaline hydrate solution and immediately thereafter subjecting them to the combined action of an alkaline cyanide solution and air of an equable temperature having a direct downward pressure upon the solution greater than that of the atmosphere, substantially as described.
13. The process of treating ores continuously for the extraction of gold and silver, which consists in acting upon them with an alkaline neutralizing solution, then immedately thereafter conveying and subjecting them to a cyanide solvent solution in the presence of heated air having a direct downward pressure upon the solution greater than that of the atmosphere, and passing the hydro-cyanic acid fumes to and absorbing same in a compound alkaline cyanide and alkaline hydrate solution, and at the same time precipitating base metal vapours arising with the hydrocyanic acid fumes, substantially as described.
14. The process of treating ores to extract the gold and silver they contain, which consists in crushing the ore and neutralizing the acid salts in same, immediately conveying and pulverizing the sald ores in an alkaline cyanide solution under air pressure greater than that of the atmosphere, immediately and continuously conveying the ores through other bodies of cyanide solutions also under air pressure greater than that of the atmosphere and forcing the hydrocyanic acid fumes through and absorbing same in a compound alkaline cyanide and alkaline hydrate solution, using said solution in the treatment of further bodies of ore and simultaneously precipitating vapours of base elements arising with the hydro-cyanic acld fumes, substantially as described.

\section*{No. 102,396. Apparatug for Extracting Precions Metals.}

Appareil pour extraire les métaux precieus.


Sidney Theodore Muffly, Philadelphia, Pennsylvania, U.S.A. 4th December, 1906; 6 years. Filed 14th December, 1905. Receint No. 131,024.
Claim.-1. A system for treating ores to extract the preclous metals therein contained, which consists of the combination of an ore neutralizing device, an enclosed stamp mortar, and a closed conduit connecting said device with the stamp, substantially as described.
2. A system for treating ores to extract the precious metals therein contained, which consists of the combination of an ore neutralizing device, an enclosed stamp mortar, a closed conduit connecting said device with said stamp mortar, and an automatic valve in said conduit, substantially as described.
3. A system for treating ores to extract the precious metals therein contained, which consists of the combination of an ore neutralizing device, an enclosed stamp mortar, and a closed conduit connecting sald device with the stamp mortar, said conduit having a conveyer placed to receive material from sald neutralizing device, and an automatic valve placed to receive material from the conveyer, substantially as described.
4. A system for treating ores to extract the precious metals therein contained, which consists of the combination of an ore neutralizing device, a stamp mortar having an air tight casing, and a source of air supply connected to deliver air to sald stamp mortar casing, substantially as described.
5. A system for treating ore to extract the precious metals therein contained, which consists of the combination of an ore neutralizing device, a stamp mortar having an air tight casing, and a source of air supply connected to deliver air to the said stamp mortar and casing, said mortar having within it means for discharging the air both above the surface of a body of liquid in it and also under the surface of said liquid adjacent to the stamps and dies, substantially as described.
6. A system far treating ores to extract the precious metals therein contained, the same consisting of an enclosed conduit, an ore neutralizing device discharging into one end of said conduit, and a stamp mortar and lixiviating means, all operative in the conduit, substantially as described.
7. A system for treating ores to extract the precious metals therein contained, the same consisting of an enclosed conduit, a stamp mortar, lixivating means connected to receive material from the stamp mortar, and a source of air supply connected to cause direct downward pressure upon the bodies of liquid in seid conduit, substantially as described.
8. A system for treating ores to extract the precisus metals therein contained, which includes a crusher, a neutralizing device, a stamp mortar, a lixiviating device, means connecting said parts to form a continuous enclosed passage for ore, and a compressor connected to said passage for maintaining the air in the stamp mortar and in the lixiviating device under a pressure above the normal, substantially as described.
9. A system for treating ores to extract the precious metals thereln contained, which includes a stamp mortar having an enclosed casing, a series of lixiviators connected to the stamp mortar, each lixiviator consisting of a casing having a drum provided with buckets and riving means, and means for supplying cyanide solution and air under pressure to the stamp mortar and to the lixiviator casings, substantially as described.
10. In a system for treating ores to extract the preclous metals therein contained, the combination of an enclosed stamp mortar, a series of enclosed lixiviators connected to receive material from the stamp, a vessel for receiving liquid from lixiviators, means for removing the tailings, and an absorbing apparatus connected to said lixiviators for receiving the hydro-cyanic acid gas evolved in said lixiviators, substantially as described.
11. A system for treating ores to extract the precious metals therein contained which includes an enclosed stamp mortar, a series of enclosed lixivfators connected to receive material from the stamp, a series of receiving tanks, an absorbing device and a conveyer, all connected to the lixlviators, said abeorbing devices consisting of a chamber having connected to it a source of supply for solution capable of absorbing hydro-cyanic acid fumes, substantially as described.
12. A system for the treatment of ores of precious metals including a series of lixiviators and an absorbing chamber connected thereto, said chamber having a serles of partitions forming a tortuous passage therethrough, and being provided with means whereby a solvent solution may be supplied to said partitions, substantially as described.
13. A system for the treatment of the ores of precious metals including a serles of lixiviators and a gas absorbing chamber connected thereto, said chamber having series of partitions forming a tortuous passage therethrough, one series of partitions being formed of fabric aprons having means whereby they are made to dip into a body of liquid in the bottom of the chamber, and means whereby their surfaces are supplied with relatively thin films of said liquid.
14. In a system for the treatment of the ores of precious metals, the combination of a series of lixiviators, a source of compressed air connected thereto, means for receiving liquid and pulp after said materials have passed through lixiviators, an absorbing chamber for receiving the hydrocyanic acid gas evolved, and means for permitting the escape of the compressed air after it has passed through the absorbing chamber, substantially as described.
15. In a system for the treatment of the ores of precious metals, the combination of a series of lixiviators, a source of compressed air, means for receiving liquid and plup after said materials have passed through said lixiviators, with an absorbing chamber connected to the lixiviators for receiving the hydro-cyanic gas evolved, and pasitively acting means for periodically permitting the escape of the compressed air after it has passed through the absorbing chamber, substantially as described.
16. A chamber for absarbing gas consisting of a container having partitions extending upwardly from its bottom, pairs of rollers between certain of the partitions, fabric aprons extending vertically between each pair of rollers and entering bodies of liquid in the lower part of the chamber, substantially as described.
17. A chamber for absarbing gas, cousisting of a container having partitions extending upwardly from its bottom, pairs of rollers between certain of the partitions, fabric aprons extending vertically between each pair of rollers and entering bodies of liquid in the lower part of the chamber, and means for turning certain of the rollers to cause movement of the aprons, substantially as described.
18. A system including the combination of an enclosed stamp mortar and a series of enclosed lixiviators, with a chamber connected thereto for absorbing hydro-cyanic acid gas evolved, a container for cyanide solution, and a container for alkaline hydrate solution, both connected to said absorbing cbamber, substantially as described.
19. In a system for the treatment of the ores of precious metals, the combination of a stamp mortar capable of holding liquid, a casing therefor capable of holding compressed air, a source of compressed air, and means for connecting said source of air with the casing, said connecting means including a pipe connecting with the top of the stamp mortar and a second pipe placed to discharge adjacent to the stamps and dies, substantially as described.
20. In a system for the treatment of fine are sand clays, concentrates and mail tailings containing precious metals, which consists of the combination of an acid neutralizer with a chute at the back for the material to enter, a closed conduit at the front having a conveyer with an automatic valve placed to discharge the material to a series of lixiviators connecting with a gas absorbing chamber, having an automatic valve, connection with an ore conveyer, with a sand pump, with a solution pump, with solution tanks, with an air compressor, and with an electrolytic or other gold and silver precipitating apparatus, substantially as described.
21. In a system for the treatment of ores containing precious metals, which consists in the combination of an ore crusher connected by a chute with an acid neutralizer at the back for the broken ore to enter, with a closed conduit at
the front having a conveyer with an automatic valve to discharge the broken ore into a fine crushing or pulverizing mill having pipe attachments for supplying air under pressure, a pipe for supplying solvent solution, connecting bv an enclosed conduit with a series of lixiviators having air recelvers, with pipe connections with an air compressor, with pipe connections, with solution tanks, with a gas absorbing chamber, with an ore conveyer, with a solution pump, with a sand pump and an electrolytic or other gold and silver precipitating apparatus, substantially as described.

\section*{No. 102,397. Elastic Fluid Turbine. Turbine a fuide élastique.}


James Wilkinson, Providence, Rhode Island, U.S.A., 4th December, 1906; 6 years. Filed 15th September, 1906. Recelpt No. 139,533.
Claim.-1. An elastic fluid turbine having a sectional casing, in combination with a shell or jacket surrounding said casing, elements projecting inwardiy from said shell and disposed so as to hold the casing between them, and means to force the sections of said casing together.
2. An elastic fluid turbine having a sectional casing, in combination with a shell or jacket surrounding said casing, abutments carried by sald shell and adapted to engage the end sections of the casing, and adjustable means to force the sections of the casing together between said abutments.
3. An elastic fluid turbine having a sectional casing, a shell or jacket surrounding said casing, means carried by said shell which engages one end of said casing, a detachable abutment connected to said shell and overhanging the other end of said casing, adjustable devices such as screws carrled by said abutment and adapted to be forced against said casing to hold its parts in position.
4. An elastic fluid turbine having end sections, a tubular shell or jacket provided with abutments adapted to engage said end sections, one of said abutments being removable, and adjustable means carried by an abutment and adapted to engage the adjacent end section.
5. An elastic fluid turbine having a sectional casing, in combination with a shell or jacket surrounding said casing and provided with an abutment adapted to engage one end of said casing, a channel or groove in said shell, a locking ring seated in said channel and projecting therefrom, means to prevent the disengagement of said ring from said channel, and screws carried by said ring and adapted to be screwed against the adjacent end of sald casing to force the latter againgt sald abutment.
6. An elastic fluid turbine having an inner casing and an outer shell or jacket, a chamber formed between said shell and casing, a packing chamber between said shell and casing, and a movable element adapted to enter said chamber and act upon the packing therein to pack the joint between said shell and casing.
7. An elastic fluid turbine having an inner casing and an outer shell or jacket, a steam chamber formed between said casing and shell, an annular packing chamber formed between an end of said casing and said shell, a packing ring, and adjustable means to force said ring into said packing chamber.
8. An elastic fluid turbine having an inner casing and an outer shell or jacket, locking abutments in said shell between which said inner casing is disposed, means to hold said casing in place between said abutments, a fluid pressure chamber between said shell and casing, and means to prevent leakage from said chamber comprising an annular packing chamber near an end of the casing, a segmental ring adapted to enter sald chamber, and screw means to force sald ring into said chamber.
9. An elastic fluid turbine having a sectional casing, in combination with a shell or jacket surrounding said casing 12-5
and provided with means adapted to engage one end of said casing, a detachable abutment carried by said shell near the other end of said casing, an annular packing chamber between said shell and casing adjacent to said abutment, a packing ring adapted to enter said packing chamber, and set screws carried by said abutment and adapted some of them to engage said ring and some the adjacent end of the casing, substantially as described.
10. A turbine comprising an inner sectional casing, an outer shell, a fluid pressure chamber between said parts, an annular packing chamber between the ehell and casing near an end of the latter, and an annular element adapted to enter said chamber, packing for said chamber between the oppositely disposed faces of said element and chamber, said faces being so inclined relatively to each other as to force said packing outwardly against the shell when moved together to compress it.
11. In an elastic fluid turbine, an inner casing, an outer shell or jacket surrounding said casing, and means connecting the inner casing to the shell which comprise an element projecting inwardly from the shell and overhanging an end of the casing, and adjustable devices interposed between said element and casing.

No. 102,398. Mould for Building Blocke.
Moule pour blocs de construction.


John Wengs, Monroe, Michigan, U.S.A., 4th December, 1906;
6 years. Filed 25th October, 1906. Receipt No. 140,604.
Claim.-1. The comblnation with a mould box, of a bench for supporting the mould box having a top, bearing brackets on the bench extending laterally therefrom, a shaft rotatable in said bearings at one side of the top, means for securing the mould box at one side of its longitudinal center line to the shaft to turn therewith, said box being adapted to rest upon said top when in its vertical position and be supported by said top and shaft, and means for turning the shaft.
2. The combination with a mould box, of a bench having a toD, laterally extending bearing brackets on said bench, a shaft mounted on said bearing brackets, bolts secured to the mould bottom at one side of its longitudinal center llne and extending through openings in the shaft, sleeves on the bolts for spacing the mould box from the shaft, and means for turning the shaft.
3. In a mould, the combination with a bed plate and sides attached to sald bed plate, of end plates hinged to the bed plate, facing plates inside the end plates, adjusting screws extending through the end plates and secured to the facing plates to adjustably support said facing plates, and coiled springs attached to the base pläte at one end and to the end plates at their opposite ends to normally hold sald ends turned outward on their hinges.
4. In a mould, the combination with a bed plate, of a side and ends hinged to said bed plate, brackets secured to the bed plate opposite the hinged side, a detachable board forming the opposite side, adjusting screws oxtending through the brackets and engaging the board, a movable bottom facing plate, arms on the ends adapted to engage the outer surface of the hinged side and provided with outwardly extending pins, and hooks on the hinged slde to engage said pins.
5. In a mould, the combination of a bench having laterally extending bearings, a shait in sald bearings, a bed plate, bolts extending through said shaft to secure the bed plate thereto, sleeves on the bolte between the shaft and bed plate, brackets secured to one edge of the bed plate, a movable facing bottom, bolts on the facing bottom, extending through openings in the bed plate, a board forming the slde wall of the mould engaging the brackets, ends hinged to the ends of the bed vlate, facing plates, adjusting screws on the ends secured to and supporting said facing plates, arms on the ends engaging the outer surface of the hinged side wall, pins on said arms, hooks on the side wall engaging sald pins, outwardly extending arms on the ends of the
bed plate, springs attached at one end to said arms and at their opposite ends to the mould ends, a top board, and means for securing the top board in place.

\section*{No. 102,399. Mould for Artificial Stone Building Blocks. \\ Moule pour blocs de pierre artificielle pour construction.}


Albert A. Pauly, Youngstown, Ohio, U.S.A., 4th December, 1906 ; 6 years. Filed 23rd October, 1906. Receipt No. 140,529.
Claim.-1. In an apparatus the combination of a trackway, a plurality of presses erected above said trackway, a car adapted to travel upon said trackway beneath said presses, a moulding frame carried by said car and comprising hinged gates, detachable dies carried by said presses, a polishing device mounted between sald presses above said trackway, said polishing device consisting of a plurality of notary polishers, an endless conveyer mounted adjacent to said presses, means to vertically reciprocate said dies, means to revolve said polishers, and means to simultaneously operate said conveyer, substantially as described.
2. An apparatus of the type described embodying a trackway, a car mounted upon said trackway, a moulding frame carried by said car and consisting of a plurality of interlocking gates, presses mounted above said trackway, vertically reciprocating interchangeable dies carried by said presses, a polishing device mounted between two of said presses, and means to simultaneously operate and independently control said presses and said polishing device, substantially as described.
3. An apparatus of the type described embodying a plurality of presses, a movable car located beneath said presses, a moulding frame carried by said car and adapted to receive concrete. pallets mounted in said moulding frame, vertically reciprocating dies carried by said presses and adapted to engage said concrete, and adjusable polishing device mounted between two of said presses, means to operate said presses, means sto operate said polishing device, means to strip said moulding frame, substantially as described.
4. An apparatus of the type described embodying a plurality of presses, a movable car located beneath said presses, a moulding frame carried by said car, vertically reciprocating detachable dies carried by sald presses, an adjustable polishing device supported between two of said presses, means to operate said presses, and means to operate said polishing device, substantially as described.
5. In an apparatus the combination with a trackway, of a car mounted upon said trackway, a moulding frame carried by said car, interlocking gates hinged to said frame, pallets mounted in said frame, presses mounted above said trackway, a plurality of detachable dies carried by said presses, a polishing device supported between two of eaid presses, revoluble polishers adjustably carried by said device, an endless conveyer mounted adjacent to said presses, means to strip said moulding frame, means to operate said presses, means to operate said polishing device, means to operate said conveyer, and means to independently control said presses, sald device and said conveyer, substantially as described.
6. In an apparatus the combination with a trackway and a car mounted thereon, of a moulding frame carried by said car, interlocking gates hinged ito said frame, pallets mounted in said frame, a plurality of presses mounted above said trackway, vertically reciprocating dies detachably carried by sald presses, a polishing device supported between two of said presses, means to reciprocate said dies, and means to operate said polishing device, substantially as described.
7. In an apparatus the combination with a moulding frame, interlocking gates carricd by said frame, pallets supported by said frame, of a plurality of presses, vertically reciprocating dies detachably carried by said presses a polishing device mounted between two of said presses, means to operate said presses, means to operate said device, and means to move said moulding frame beneath sald presses and sald device, substantially as described.

8, In an apparatus the combination of a moulding frame, pallets carried by said frame, a plurality of presses, detachable dies carried by sald presses, a polishing device mounted between two of said presses, means to vertically reciprocate said dies, means to operate sald device, and means to move said moulding frame beneath said dies and polishing device, substantially as described.
9. In an apparatus the combination with a trackway and a car mounted thereon, of a moulding frame carried by sald car and adapted to receive concrete, interlocking gates hinged to said frame, pallets carried by said frame, means to strip said frame, means to lock said gates, means to subject the concrete in said irame to an initial pressure and a refilling pressure, and means to smooth and polish the concrete in said frame, substantially as described.
10. In an apparatus the combination with a trackway and a car, of a moulding frame carried by sald car and adapted to recelve concrete, interlocking side gates and end gates carried by said frame, supplementary side gates and supplementary end gates mounted within the first-named side gate and end gates, pallets carried by said frame, means to strip said frame, means to subjecat the concrete of sald frame to pressure, substantally as described.
11. In an apparatus the combination with a trackway and a car, of a moulding frame adapted to receive concrete, interlocking side gates and end gates carried by said frame, supplementary side gates and supplemenstary end gates mounted Within and interlocked with the first-named gates, means to strip said frame, means to subject the concrete of said frame to pressure, substantially as described.
12. In an apparatus the combination with a trackway and a car, of a moulding frame carried by said car, presses mounted above said trackway, movable dies carried by said presses, a polishing device supported between two of sald presses, a conveyer arranged adjacent to said trackway, means to operate said presses, means uto operate said polishing device, and means to operate said conveyer, substantiaily as described.
13. An apparatus of the type described embodying a plurality of presses, detachable dies carried by said presses, a movable moulding frame adapted to travel beneath said dies. means to vertically reciprocate said dies, and means to move said frame, substantially as described.
14. An apparatus of the type described embodyng a plurality of presses, dies carried by said presses, a moulding frame, a polishing device interposed between said presses, means to move said moulding frame beneath said presses and said polishing device, and means to independently operate said presses and said polishing device, substantially as described.
15. An apparavtus of the type described embodying a plurality of vertically reciprocating dies, a movable moulding frame adapted to travel beneath said dies \({ }^{4}\), a polishing device mounted adjacent to said dies, and means to independently operate said dies and said polishing device, substantíally as described.
16. An apparatus embodying a plurality of sets of vertically reciprocating dies, a moulding frame, and means to move said frame from one set of dies to another set of dies, substantially as described.
17. An apparatus consisting of a polishing device, a moulding frame adapted to contain concrete, means to subject the concrete of said frame to pressure, and means to move sald frame to meet said polishing device to be polished thereby, substantlally as described.
18. An apparatus consisting of a moulding frame, presses, a polishing device, a conveyer, and means for simultaneously operating hthe presses and polishing device, substantially as and for the purpose described.
19. An apparatus consisting of a moulding frame, presses, a polishing device, and means for simultaneously operating the presses and polishing device, substantially as and for the purpose described.

No. 102,400. Monld for Blocks. Moule pour blocs.
The Ideal Concrete Machinery Company, London, Ontario. Canada, assignee of Frank A. Borst, South Bend Indiana, U.S.A., 4th December, 1906; 6 years. Filed 22nd October, 1906. Receipt No. 140,517.
Claim.-1. In a building block mould, the combination of a frame, a stationary back plate mounted thereon, a front plate hinged to said frame and normally parallel to the back plate, end plates, a bottom plate extending across
said mould and connected to said front plate and provided with a groove and a vertically slidable dividing plate ad

apted to fit in said groove in the bottom plate and divide the mould.
2. In a building block mould, the combination of a frame, a back plate having notches at its upper edge, a front plate hinged to said frame and normally parallel to the back plate, said front plate also provided with notches at its upper edge, end plates, a bottom plate extending across said mould and connected to said front plate and provided with grooves and a dividing plate adapted to fit in said grooves and provided with extensions to engage the notches in the plates
3. In a building block mould, the combination of sides, ends and bottom of the same, a dividing plate adapted to be securely held in said mould to permit the forming of a plurality of blocks simultaneously, and a guide for said plate comprising a movable slotted bar having hooks to engage a side of said mould.

No. 102,401. Mould for Building Blocks.
Moule pour blocs de construction.


The Ideal Concrete Machinery Company, London, Ontario, Canada, assignee of Frank A. Borst, South Bend, Indiana, U.S.A., 4th December, 1906; 6 years. Filed 22nd October, 1906. Receipt No. 140,516
Claim.-1. A core for concrete block machines comprising members hinged together and adapted to have their adjacent ends contact when the members form a right angle, a post attached to one of said members, and a brace pivoted on said post and adapted to engage the free end of another member and lock the same in position.
2. A core for concrete block machines comprising three members, hinged together and adapted to have adjacent ends contact when the adjacent members form substantially right angles, a post on the middle member, and a brace pivoted on said post and adapted to engage the free ends of the other members to lock the same in position.
3. A core for concrete block machines comprising a main member, a loaf hinged thereto, and a brace to hold said leaf at a predetermined angle to the main member.

\section*{No. 102,402. Carbureter for Explosive Engines. Carburateur pour machincs d explosions.}

Emanuel John Boyler, Courtland John Aggett and Angus Stalker, the two latter being assignees of two-thirds of the interest, all of Peterborough, Ontario, Canada, 4th December, 1906; 6 years. Filed 25th May, 1906. Receipt No. 136,206.
Claim.-1. A carbureter comprising a mixing chamber having a fuel inlet and an air inlet, an automizer con-
tained within the mixing chamber to assist the vapourization of the fuel, a gas outlet and a valve controlling the?

gas outlet automatically opened by the gas within the mixing chamber.
2. A carbureter comprising a mixing chamber, having a fuel inlet and an air inlet, an atomizer contained within the mixing chamber to assist the vapourization of the fuel, a gas outlet, a valve controlling the gas outlet automatically opened by the gas within the mixing chamber, and a spring to automatically close the valve against its seat when the gas has passed out of the mixing chamber.
3. A carbureter comprising a mixing chamber having a fuel inlet and an air inlet, an atomizer contained within the mixing chamber, a gas outlet and a valve controlling the gas outlet automatically opened by the pressure of the gas within the mixing chamber and and an injector comprising a fuel chamber, a fuel inlet connected with the fuel chamber, a valve to close the communication between the fuel chamber and the fuel inlet, a fuel outlet for the fuel chamber connected with the fuel inlet of the mixing chamber, a valve to close the fuel outlet and an operable means to create a partial vacuum within the fuel chamber to admit fuel thereto and then create a pressure therein to eject the fuel therefrom.
4. A carbureter comprising a mixing chamber, having a fuel inlet and an air inlet, an atomizer contained within the mixing chamber to assist the vapourization of the fuel, a gas outlet, a valve controlling the gas outlet automatically opened by the gas within the mixing chamber and a spring to close the valve against its valve seat when the gas has been passed out of the mixing chamber, and an injector comprising a fuel chamber, a fuel inlet connected with the fuel chamber, a valve to close the communication between the fuel chamber and the fuel inlet, a fuel outlet for the fuel chamber connected with the fuel inlet of the mixing chamber, a valve to close the fuel outlet and an operable means to create a partial vacuum in the fuel chamber to admit fuel thereto, and then create a pressure therein to eject the fuel therefrom.
5. A carbureter comprising a mixing chamber, having a fuel inlet and an air inlet, an atomizer contained within the mixing chamber to assist the vapourization of the fuel, a gas outlet and a valve controlling the gas outlet automatically opened by the gas within the mixing chamber, and an injector comprising a fuel chamber, a fuel inlet connected with the fuel chamber, a valve to close the communication between the fuel chamber and the fuel inlet, a fuel outlet for the fuel chamber connected with the fuel inlet of the mixing chamber, a valve to close the fuel outlet, a sucker and operable means for actuating the sucker.
6. A carburcter comprising'a mixing chamber, having a fuel inlet and an air inlet, an atomizer contained within the mixing chamber to assist the vapourization of the fuel, a gas outlet, a valve controlling the gas outlet automatically opened by the gas within the mixing chamber and a spring to automatically close the valve against its seat when the gas has passed out of the mixing chamber, and an injector comprising a fuel chamber, a fuel inlet connected with the fuel chamber, a valve to close the communication between the fuel chamber and the fuel inlet, a fuel outlet for the fuel chamber connected with the fuel inlet of the mixing chamber, a valve to close the fuel outlet, a sucker, and operable means for actuating the sucker
7. A carbureter comprising a mixing chamber, having a fuel inlet and an air inlet, an atomizer contained within the mixing chamber to assist the vapourization of the fuel, a gas outlet and a valve controlling the gas outlet automatically opened by the gas within the mixing chamber and an injector comprising a fuel chamber, a fuel inlet, a valve seat located between the fuel chamber and fuel inlet. a valve to engage the valve seat, a valve stem for the valve, a spring to close the valve against the valve seat, a fuel outlet for the fuel chamber connected with the fuel inlets of the mixing chamber, a valve controlling the fuel
outlet, a spring to close the last-mentioned valve against its seat, a slideway opposed to the fuel chamber and a sucker contained in the slideway.
8. A carbureter comprising a mixing chamber having a fuel inlet and an air inlet, an atomizer contained within the mixing chamber, a gas outlet and a valve controlling the gas outlet opened by the gas within the mixing chamber, and an injector comprising a fuel chamber, a fuel inlet, a valve seat located between the fuel chamber and fuel inlet, a valve to engage the valve seat, a spring to close the valve against the valve seat, a fuel outlet for the fuel chamber connected with the fuel inlet of the mixing chamber, a valve controlling the fuel outlet, a spring to close the last-mentioned valve against its seat, a slideway opposed to the fuel chamber, a sucker contained in the slideway, and operable means for actuating the sucker.
9. A carbureter comprising a mixing chamber having a fuel inlet, an air inlet and a gas outlet and a valve controlling the gas outlet automatically opened by the action of the gas within the mixing chamber.
10. A carbureter comprising a mixing chamber having a fuel inlet, an air inlet and a gas outlet, a valve controlling the gas outlet automatically opened by the gas within the mixing chamber, and a spring to automatically close the valve against its seat when the gas has passed out of the mixing chamber.
11. A carbureter comprising a mixing chamber having a fuel inlet, an air inlet and a gas outlet. a valve controlling the gas outlet automatically opened by the pressure of the gas within the mixing chamber and an injector comprising a fuel chamber, a fuel inlet connected with the fuel chamber, a valve to close the communication between the fuel chamber and the fuel inlet, a fuel outlet for the fuel chamber connected with the fuel inlet of the mixing chamber, a valve to close the fuel outlet, and an operable means to create a partial vacuum within the fuel chamber to admit the fuel thereto and then create a pressure therein to aject the fuel therefrom.
12. A carbureter comprising a mixing chamber having a fuel inlet, an air inlet and a gas outlet, a valve controlling the gas outlet automatically opened by the gas within the mixing chamber, and a spring to close the valve against its valve seat when the gas has passed out of the mixing chamber, and an injector comprising a fuel chamber, a fuel inlet connected with the fuel chamber, a valve to close the communication between the fuel chamber and the fuel inlet. a fuel outlet for the fuel chamber connected with the fuel inlet of the mixing chamber, a valve to close the fuel outlet, and an operable means to create a partial vacuum in the fuel chamber to admit fuel thereto and then create a pressure therein to eject the fuel therefrom.
13. A carbureter comprising a mixing chamber having a fuel inlet, an alr inlet and a gas outlet, and a valve controlling the gas outlet automatically opened by the gas within the mixing chamber, and an injector comprising a fuel chamber. a fuel inlet connected with the fuel chamber. a valve to close the communication betwren the fuel chamber and the fuel inlet. a fuel outlet for the fuel chamber connected with the fuel inlet of the mixing chamber, a valve to close the fuel outlet, a sucker, and operable means for actuating the sucker.
14. A carbureter comprising a mixing chamber having a fuel inlet, an air inlet and a gas outlet, a valve controlling the gas outlet automatically opened by the gas within the mixing chamber, and a spring to automatically close the valve against its seat when the gas has passed out of the mixing chamber, and an injector comprising a fuel chamber, a fuel inlet connected with the fuel chamber, a valve to close the communication between the fuel chamber and the fuel inlet, a fuel outlet for the fuel chamber connected with the fuel inlet of the mixing chamber, a valve to close the fuel outlet, a sucker, and operable means for actuating the sucker.
15. A carbureter comprising a mixing chamber having a fuel inlet, an air inlet and a gas outlet, and a valve controlling the gas outlet automatically onened by the gas within the mixing chamber, and an injector comprising a fuel chamber, a fuel inlet, a valve seal located between the fuel chamber and the fuel inlet, a valve to engage the valve seat, a spring to hold the valve against the valve seat, a fuel outlet connected with the fuel Inlet of the mixing chamber, a valve controlling the fuel outlet, a spring to close the last-mentioned valve against its seat, a slideway opposed to the fuel chamber, and a sucker contained in the slideway.
16. A carbureter comprising a mixing chamber having a fuel inlet. an air inlet and a gas outlet and a valve controlling the gas outlet opened by the gas within the mixing chamber, and an injector comprising a fuel chamber, a fuel inlet, a valve seat located between the fuel chamber tuel infet, a valve inlet, a valve to engage the valve seat, a spring to hold the valve against the valve seat, a fuel outlet connected with the fuel inlet of the mixing chamber, a
valve controlling the fuel outlet, a valve stem therefor, a spring to close the last-mentioned valve against its seat, a slideway opposed to the fuel chamber, a sucker contained in the slideway and operable means for actuating the sucker.

\section*{No. 102,403. Fead Rest for Beds. \\ Appui-têtes pour lits.}


Joseph S. Visger and Cleophas Pagnuelo, assignee of a half interest, both of Montreal, Quebec, Canada, 4th December, 1906 ; 6 years. Filed 3 rd October, 1906. Receipt No. 140,010.
Claim.-1. In a head rest for beds, a pair of brackets fixed tho the side rails of the bed, a pair of side members pivoted to said brackets, thrust blocks pivoted to said brackets, plvoted blocks on the lower extremities of said side members and threaded rods revolubly mounted in said thrust blocks and co-aching with said pivoted blocks.
2. In a deyice of the class described, the combination with the side ralls of a bed, of a pair of brackets fixed thereto a pair of side members pivoted to said brackets, pivoted thrust blocks on said brackelts pivoted blocks on the lower extremities of said side members, threaded rods revolubly mounted in said thrust blocks and co-acting with said pivoted blocks, and pulleys mounted on said rods.
3. In a device of the class described the combination with the side rails of a bed, of a pair of brackets fixed thereon, a pair of side members pivoted to sald brackets, a plurality of transverse members connecting said side members, thrust blocks pivoted to said brackets, pivolted blocks on the lower extremities of said side members, threaded rods revolubly mounted in said thrust block and co-acting with said pivoted blocks, pulleys fixed to said rods adjacenit the thrust blocks and an endless belt connecting said pulleys.

No. 102,404. Method of Drawing Wire.
Laminoir de fll de fer.


The Iroquois Machine Company, New York City, assignee of James Alexander Hortoh, Providence, Rhode Island, U.S. A., 4 th December, \(1906 ; 6\) years. Filed 3rd September, 1904. Recelpt No. 118,225.

Claim.-1. A wire seat for wire drawing drums composed of a material softer than the wire.
2. In a wine drawing machine, a drum having a wire seat composed of lubricalting material capable of coating by attrition wire having substantially the hardness of steel.
3. A wire seat for wire drawing drums composed of a metallic alley similar to that used in coating the wire.
4. The process of drawing wire consisting in lubricating the wire by attrition with the wire forwarding seat by revolving a wire forwarding sealt composed of a wire coating material faster than the speed of the wire and reducing the wire in a die.

\section*{No. 102,405. Shortening Compound.}

\section*{Composé pour le pain, etc.}

Frederick Alfred Sallemand, Montreal, Quebec, Canada, 4th December, 1906; 6 years. Filed 28th April, 1905. Recelpt No. 124,664.
Clasim.-1. An improved shortening compound consisting of fatty animal oll and an alkaline solution sufficient to produce a partial saponification of the oll.
2. An improved shortening compound consisting of animal fat and a dilute alkaline solution sufficient to produce a partial saponification of the oll.
3. An improved shortening compound consisting of animal fat, lime water, and an alkali, the latter of a strength and in quantity sufficient to produce a partial saponification of the fat.
4. An improved shortening compound consisting of partially saponified fatty animal oil and milk.
5. An improved shortening compound consisting of fatty animal oil, lime water, an alkali bicarbonate, and milk, the alkali bicarbonate being of a strength and in quantity sufficlent to produce a partial saponification of the oil.
6. The improved shortening compound consisting of animal fat, water, lime and bicarbonate of sodium combined substantially as and in the proportions set forth.

No. 102,406. Means of Vaponrizing Heavy Hy-dro-Carbons.
Moyen de vaporiser l'hydro-carbure.


Dan Albone and Frederick Boswell, co-inventors, both of Biggleswade, Bedford, England, 4th December, 1906; 6 years. Filed 30th August, 1906. Recelpt No. 139,096.
Claim.-1. In a device of the class described the combination with the mixing pipe, of a serles of tubes extending across and through the mixing pipe and means for passing the products of combustion through the said tubes, as and for the purpose specified.
2. In a device of the class described the combination with the carbureter, of a mixing pipe jointed thereto, a series of tubes extending within and through the mixing pipe and means for passing the products of combustion from the motor through the said tubes, as and for the purpose specified.
3. In a device of the class described the combination with the mixing pipe, of a pipe passing obliquely across the mixing pipe and opening thereinto, end plates to the oblique pipe, tubes supported in the end plates and extending therebetween and means for passing the products of combustion from the motor through the tubes, as and for the purpose sjecifled.
4. In a device of the class described the combination with the mixing pipe, of a pipe passing obliquely across the mixing pipe and opening thereinto, end plates within the oblique pipes, tubes supported from the end pipes and extending therebetween, a nozzle at the outlet and an inlet fitting, to the oblique pipe, said inlet being elastically attached to the pipe by means of studs passing within the openings in the flange of the fitting and having adjustable nuts for the studs and spiral compression springs enveloping the studs and between the nut and the flange, a cock in communication with the inlet and means whereby the
products of combustion may be passed to the inlet and through the tubes, as and for the purpose specified.
5. In a device of the class described the combination with the mixing pipe and the oblique pipe and its dependent tubings, of adjustable means denendent from the pipes whereby access may be had for initially heating the tubes, as and for the purpose specifled.
6. In a device of the class described the combination with the mixing pipe and the oblique pipe with its dependent tubings, of a branch pipe directly connected to the inner chamber and in proximity to the lower end of the tubes, a normally closed pivoted cover to the pipe and a wing nut designed in withhold the cover in the closed position, as and for the purpose specified.

No. 102,407. Vapouriser for Combuntion Engines. Vaporisateur pour machines à combustion.


Francis W. Brady Englewood, New Jersey, U.S.A., 4th December, 1906; 6 years. Filed 13th September, 1906. Receipt No. 139,487 .
Claim.-1. In a vapourizer for internal combustion engines, a fuel port, means for feeding fuel through the port into the vapourizer at intervals, and means for creating a back draft through the port after the fuel feed.
2. In a vapourizing apparatus for internal combustion engines, a fuel port, a fuel supply pipe communicating with said port, means for feeding fuel through said pipe and port at intervals, and means for withdrawing the fuel in the pipe from proximity to the port after the fuel feed.
3. In a vapourizer for internal combustion engines, a heated vapourizing surface, a fuel port. means for feeding through the port and onto said surface at intervals, a quantity of liquid hydro-carbon and means for creating a back draft through said port after each fuel feed.
4. In a vapourizing apparatus for internal combustion engines, a vapourizing chamber, a fuel inlet port therein, a fuel supply pipe communicating with said inlet port, a fuel pump feeding oll to said supply pipe and means for adjusting the amount of fuel fed from the pump chamber to the supply pipe on each stroke of the pump without varyIng the length of the pump stroke.
5. In a vapourizing apparatus for internal combustion engines, a vapourizing chamber, a fuel inlet port therein and a fuel pump having an eduction port communicating with the fuel inlet port in the vapourizing chamber, a fuel induction port in the pump and means for relleving the suction through said fuel induction port during part of the suction period of the pump.
6. In a vapourizing apparatus for internal combustion engines, a vapourizing chamber, a fuel inlet port therein, and a fuel pump having a pump chamber, a plunger moving therein, an eduction port in said pump chamber communicating with the inlet port in the vapourizing chamber, an induction port in said pump chamber for the admission of fuel, a second induction port in said chamber and means for opening the second induction port during the outward movement of the pump plunger to relieve the suction through the fuel induction port.
7. In a vapourizing apparatus for internal combustion engines, a vapourizing chamber, a fuel inlet port therein. and a fuel pump having an eduction port, a fuel feed pipe connecting the eduction port of the pump with the fuel inlet nort of the vapourizing chamber, a fuel induction port in the pump, a second induction port in the pump, a pipe connecting the second induction port with the said fuel feed pipe and means for opening the second induction port at a predetermined time during the suction period of the pump to relleve the suction through the fuel induction port of the pump and withdraw the fuel from proximity to the fuel inlet nort of the vapourizing chamber.
8. In a vapourizing apparatus for internal combustion engines, a vapourizing chamber, a fuel inlet port therein and a fuel pump having an eduction port communicating with the fuel inlet port in the vapourizing chamber, a fuel induction port in the pump and adjustable means for relleving the suction through said fuel induction port during part of the suction period of the pump.
9. In a vanourizing apparatus for internal combustion engines, a vapourizing chamber, a fuel inlet port therein, and a fuel pump having a pump chamber, a plunger moving therein, an eduction port in said pumn chamber communicating with the inlet port in the vapourizing chamber, an induction nort in said pump chamber for the admission of fuel, and a second induction port in said chamber and adjustable means for opening second induction port during the outward movement, of the pump plunger to relieve the suction through the fuel induction port.
10. In a vapourizing device for internal combustion engines, a vapourizing chamber, a fuel inlet port therein, a fuel pump having a plunger. a chamber in which said plunger reciprocates, an eduction port in the pump chamber, a fuel feed pipe connecting the eduction port of the pump with the fuel inlet port of the vapourizing chamber, a fuel induction port in the pump chamber, a second induction port opening into the side of the pump chamber in a position to be opened by the outward movement of the pump plunger, and a pipe connecting the second induction port with the said fuel feed pipe. whereby the second induction pipe is opened at a predetermined point in the suction stroke of the pump, to relieve the suction through the fuel induction port and withdraw the fuel from proximity with the fuel inlet port of the vapourizing chamber.
11. In a vapourizing device for internal combustion engines, a vapourizing chamber, a fuel inlet port therein, a fuel pump, a plunger for said pump having a bevelled end, a chamber in which the plunger reciprocates, an eduction port in the pump chamber, a fuel feed pipe connecting the eduction port of the pump with the fuel inlet port of the vapourizing chamber, a fuel induction port in the pump chamber, a second induction port opening into the side of the pump chamber in a position to be uncovered by the outward movement of the pump plunger, the pump plunger being so supported that it can be rotated to vary the point at which it uncovers the second induction port.

No. 102,408. Internal Combustion Engine.
Machine al combustion interne.


Francis W. Brady, Englewood, New Jersey, U.S.A., 4th December, 1906; 6 years. Filed 13th September, 1906. Receipt No. 139,488.
Claim.-1. An internal combustion engine having a vapourizer comprising a vapourizing chamber provided with a curved spraying surface, a hot fluid passage formed in part by the partition bearing surface, a valve for the admission of air at one side of said chamber and an outlet on the other end connecting with the explosion chamber of the engine, a fuel tank connected with said vapourizer, a regulating valve for varying the amount of fuel fed to the vapourizer, a second regulating valve between the engine and vapourizer for varying the amount of vapour fed to the engine, a centrifugal governor geared to the main shaft of the engine, and means connecting said governor with both of said valves, whereby a variation of the speed of the engine varies proportionally the amount of vapour fed to the engine and of fuel fed to the vapourizer, substantially as described.
2. An internal combustion engine having a vapourizer adapted to supply air saturated with vapourized fuel, said vapourizer comprising a vapourizing chamber provided with a spraying surface, a regulable valve for the admission of air at one side of said chamber and outlet at the other end connecting with the explosion chamber of the engine, a fuel tank connected with said vapourizer, a regulating valve for varying the amount of fuel fed to the vapourizer, a second regulating valve between the engine and vapourizer
for varying the amount of vapour fed to the engine, a governor geared to the main shaft of the engine and means connecting said governor with both of said valves, whereby a variation of the speed of the engine varies proportionally the amount of vapour fed to the engine and of fuel fed to the vapourizer, substantially as described.
3. A vapourizer having a casing, a curved partition therein engaging with the ends and sides of the casing and dividing the vapour into two chamber, means for spraying fuel upon one side of sald partition, means for conducting air through the chamber into which the fuel enters, and means for conducting a heating fluid through the other of said chambers.
4. A vapourizer having a casing, a curved partition therein engaging with the ends and sides of the casing and dividing the vapourizer into two chambers, means for spraying fuel upon the convex side of said partition, means for conducting air through the chamber into which the fuel enters, and means for conducting a heating fluid through the other of said chambers.
5. A vapourizer having a cylindrical casing, a longitudinally extending and laterally curved partition thereln which engages with the ends and sides of the casing and means for spraying fuel upon one side of said partition, means for conducting air through the chamber into which the fuel enters, and means for conducting a heating fluid through the other of said chambers.
6. A vapourizer having a cylindrical casing, a longitudlnally extending and laterally curved partition therein which engages with the ends and side of the casing and divides the vapourizer into two chambers, means for spraying fuel upon the convex side of said partition, means for conducting air through the chamber into which the fuel enters and means for conducting a heating fluid through the other of said chambers.
7. A vapourizer having a casing, a partition therein engaging with the ends and sides of the casing and dividing the vapourizer into two chambers, means for supplying fuel to one of said chambers, means for conducting air througn the chamber to which the fuel is supplied, means for conducting a heating fluid through the other of said chambers and an adjustable valve controlling the flow of air through the fuel chamber.

No. 102,409. Stuffing Box Packing. Garniture de boites d étoupe.


Samuel M. Guss, Reading, Pennsylvania, U.S.A., 4th December, 1906; 6 years. Filed 3rd November, 1906. Receipt No. 140,887 .
Claim.-1. In a stuffing box packing, a clamping ring having an oppositely flared opening, and a pair of split packing rings of conical form arranged with their smaller ends contiguous and their larger ends projecting oppositely through said clamping ring, substantially as set forth.
2. A stuffing box packing comprising a clamping ring having an oppositely flared opening, a pair of split packing rings of conical form arranged with their smaller ends contiguous and their larger ends projecting oppositely through said clamping ring. a compressible packing and interposed washer, and an adjustable gland, substantially as set forth.
3. A hydraulic stuffing box packing comprising a clamping ring of porous material having an oppositely flared opening, a pair of split conical packing rings within said clamping ring arranged with their smaller ends adjacent and forming between them an annular lubricating chamber and with their larger ends projecting oppositely through said clamping ring, and means for pressing together said packing rings, the norous material of said clamping ring enabling the operating medium under pressure to occupy said annular lubricating chamber.

\section*{No. 102,410. Extraction of Metal.}

Extraction des métaux.
Adolf Gutensohn, Plaistow, London, England. 4th December, 1906; 6 years. Filed 5th March, 1906. Receipt No. 133,573.
Claim.-A flux for use in extracting metal from ore or waste material, consisting of the admixture of one part borate of manganese, one part carbon, and four parts of a slag liquifying material, substantially as set forth.

No. 102,411. Grinding Wheel. Roue \(d\) moufur:


Gilbert Hart, Detroit, Michigan, U.S.A., 4th December, 1906; 6 years. Filed 3rd July, 1906. Receipt No. 137,491. Claim.-1. As an article of manufacture, a grinding segment having pin receiving openings, a metallic plate provided with pins to enter said openings, and solder to connect the plate and segment and interposed between the pins and the segment.
2. As an article of manufacture, a grinding segment having pin receiving openings, a metallic plate provided with integral headed pins to enter said openings, and solder to connect the plate and segment, the diameter of the pins being greater than that of the openings, the solder surrounding the pins.
3. As an article of manufacture, a grinding segment having pin receiving openings, and pouring openings extending into the same from a side edge and intersecting the other openings.

No. 102,412, Wrench. Clé à érrou.


Frederick Alonzo Hanes and William Staples, co-inventors. both of Huntsville, Ontario, Canada, 4th December, 1906; 6 years. Filed 17 th September, 1906. Receipt No. 139.576.

Claim.-1. In a ratchet wrench and bit therefor, the combination with an arm having an orifice formed in the end thereof provided with an annular enlargement and a retalning plate, of a socket having gear teeth fitting in the annular enlargement and having an orifice extending therethrough and through the arm, and a bit fitting exteriorly on the outer end of the socket and means for securing the bit of the socket, as and for the purpose specified.
2. In a ratchet wrench and bit therefor, the combination with an arm having an orifice formed in the end thereof provided with an annular enlargement and a retaining plate, of a socket having gear teeth fitting in the annular enlargement and having an orifice extending therethrough and through the arm, and a bit fitting exteriorly on the outer end of the socket, and a spring finger extending around one of the gear teeth of the socket at one end and into a notch in the bit at the opposite end, as and for the purpose specifled.
3. In a device of the class described, the combination with the arm and socket suitably held therein and operated and having an open-ended orifice extending therethrough and through the arm, of a bit having an open-ended orifice extending therethrough and fitting on to the outside of the profecting end of the socket, as and for the purpose specifled.
No. 102,413. Strainer for Fried Caken.
Passoirc pour gateaux rôtis.


John Ramsey, Syracuse, New York, U.S.A., 4th December, 1906; 6 years. Filed 29th May, 1906. Receipt No. 136,385.
Claim.-1. The combination with the base frame and relicular strainer attached to said frame, of posts attached to said frame at one side of the periphery thereof, a plurality of superposed reticular strainers hinged to said posts and formed with coinciding slots extending across said superposed strainers, and a bail attached to the base frame and passing through the aforesaid slots, as set forth and shown.
2. The combination with the kettle, of a fried cake strainer consisting of a base frame seated in said kettle, a reticular strainer attached to said frame, posts attached to the frame at one side of the periphery thereof, a Dlurality of reticular strainers hinged to said posts at different elevations and provided with props diametrically opposite the posts and with coinciding slots extending across the strainers, a bail attached to the base frame and passing through the aforesaid slots, a standard provided with a supporting foot engaging the bottom of the kettle, and an arm pivoted at the top of the standard and adapted to bear on the top of the bail, as and for the purpose set forth.

No. 102,414. Cnlinary Vessel. Ustensile de cuisinc.


William Sowerby, Indiana, Pennsylvania, U.S.A., 4th December, 1906; 6 years. Filed 26th June, 1906. Recelpt No. 137,307.
Claim.-1. An attachment for culinary vessels having handles comprising a spring clamp formed of wire and
adapted to engage the handle of the vessel, a plate carried by said clamp, said plate being sheared to form brackets, a strap carried by said plate, a lid hinged to said strap, a rod mounted in said brackets and connected to said lid, the one end of said rod being bent upwardly to form a handle, substantially as described.
2. In an attachment of the character described, the combination with a culinary vessel having a handle and a lid. of a spring clamp adapted to embrace said handle, a strap carried by sald clamp to which said lid is hinged, a reciprocating rod mounted upon said clamp and connected to said lid.
3. An attachment for culinary vessels comprising a clamp composed of spring wire having a U-shaped arm adapted to engage the underneath surface of a handle and having arms parallel to said \(U\)-shaped arm and connected thereto by a coll, a plate carried by sald last-named arms, a strap carried by said plate, a lid hinged to said strap and a reciprocating rod, slidably mounted on brackets carried by said plate, and pivotally connected to the said lid.

No. 102,415. Polishing Machine. Machine à polir.


Gustav Tüschel. New York City, New York. U.S.A., 4th December, 1906; 6 years. Filed 6th June, 1906. Receipt No. 136,597.
Claim.-1. In a polishing machine, the combination. with a frame and a work holder on the same, of a plurality of polishing ball carriers, polishing balls arranged in said carriers, and means for effecting movement of the work holder and ball carriers the one with reference to the other, substantially as described.
2. In a polishing machine of the class described, the combination with a frame, and a movable work holder on the same, of a plurality of adjustable hollow polishing ball carriers, a plurality of polish balls made of felt carrier by each carrier, a suitable fabric covering said balls, means for adjusting said ball carriers vertically, means for adjust ing the same laterally, and means for rotating the same, substantially as set forth.
3. In a polishing machine of the class described, the combination with a frame, a suitable work holder arranged on the same, and means for moving said work holder forwardly and backwardly, of a plurality of vertical rotatable spindles arranged above said work holder, a hollow polishing ball carrier for each spinde, and capable of containing any desired polishing material, means for removably attaching the ball carriers to the rotatable spindles, a plurality of felt balls projecting from the under side of each ball carrier, means for adjusting the same vertically, and means for rotating the same, substantially as set forth.
4. In a polishing machine of the class described, the combination with a frame, a suitable work holder arranged on the same, and means for moving said work holder forwardly and backwardly, of a plurality of vertical rotatable spindles arranged above said work holder, a hollow polishing ball carrier for each spindle, and capable of containing any desired polishing material, means for removably attaching the ball carriers to the rotatable spindles, a plurality of felt balls projecting from the under slde of each ball carrier, a bearing for each spindle, and a laterally adjustable bracket, wherein said bearing may be moved upward and downward, means for adjusting said brackets laterally, and means for rotating the spindles, substantially as set forth.
5. In a polishing machine of the class described, the combination with a frame, a sultable work holder arranged on the same, and means for moving said work holder forwardly and backwardly, of a plurality of vertical rotatable spindles arranged above said work holder, a hollow pollshing ball carrler for each spindle, and capable of containing any desired polishing material, means for removably attaching the ball carriers to the rotatable spindles, a plurality of felt balls projecting from the under side of each ball carrler, a bearing for each spindle, and a laterally adjustable bracket, wherein said bearing may be moved upward and. downward, a belt pulley on the upper end of each spindle,
an electric motor, means for mechanically connecting said motor, to the belt pulleys on the spindles, and means for laterally adjusting said brackets, substantially as set forth.

No. 102,416. Carbureter. Carburateur.


Carl Alfred von Soden-Fraünhofen, Unterturkheim, Wurttemberg, Germany, 4th December, 1906; 6 years. Filed 24th September, 1906. Receipt No. 139,731.
Claim.-1. A carbureter comprising in combination a mixing chamber provided with a nozzle for the entrance of the gaseous fiuid, a throttle mounted in said chamber, and adapted to partially revolve, a shaft fixedly connected with said throttle and adapted to partially revolve, and means connected with said shaft to counteract to the motion of the latter and governing the throttle in such manner that as the load on the motor increases, the resistance which the said means exercises against the alteration of position of the throttle, also increases.
2. A carbureter comprising in combination a mixing chamber provided with a nozzle for the entrance of the gaseous fluid, a throttle mounted in said chamber and adapted to partially revolve, a shaft fixedly connected with said throttle and adapted to partially revolve, a crank fixedly connected with said shaft, tubular pivoted casings forming a hollow space and adapted to be operated by said crank, a spring located in said hollow space and having helices of increasing pitch.
3. A carbureter comprising in cumbination a mixing chamber provided with a nozzle for the entrance of the gaseous fluid, a throttle mounted in sald chamber and a lapted to partially revolve, a shaft fixedly connected with said throttle and adapted to partially revolve, a cam carried by said shaft, a leaf spring bearing with its free end on said cam, and a set screw for varying. the degree of compression.
4. \(A\) carbureter comprising in combination a mixing chamber provided with a nozzle for the entrance of the gaseous fluid, a throttle mounted in said chamber and adapted to partially revolve, a shaft fixedly connected with said throttle and adapted to partially revolve, a cam disc of varying thickness, two clamping or contact springs adapted to come in contact with the disc and a set screw for regulating the amount of frictional contact.
5. A carbureter comprising in combination a mixing chamber provided with a nozzle for the entrance of the gaseous fluid, a throttle mounted. in said chamber and adapted to partially revolve, a shaft fixedly connected with said throttle and adapted to partially revolve a bell crank lever consisting of an about vertical and about horizontal arm, and also adapted to partially revolve, a weight adjustably secured to the vertical arm, a cam fixedly mounted on said shaft and supporting the horizontal arm of the bell crank lever.

\section*{No. 102,417. Valve Stem Clamp and Lubricator. Agrafe de tige de soupape et graisseur.}

Joseph Carter Williamson and William D. Barker, both of Tallahassee, Florida, U.S.A., 4th December, 1906; 6 years. Filed 3rd October, 1906. Receipt No. 140,015.
Claim.-1. A combined valve stem clamp and lubricator, comprising upper and lower members having vertical registering recesses forming a chamber for the lubricant, and transverse recesses co-acting to form an opening for the passage of the valve stem, sald chamber communicating with said opening, said upper member having ears provided with openings for receiving the stuffing box bolts. and vertical bolts traversing both of the members and provided with nuts whereby to tighten said members on the valve stem.
2. A combined valve stem clamp and lubricator, comprising upper and lower members having registering recesses forming a chamber for lubricants, and having recesses co-acting to form an opening for the passage of the
valve stem. said chamber communicating with said opening, and bolts traversing both of said members, and provided

with nuts whereby to tighten said members on the valve stem.

No. 102,418. Cash Register. Rrgistre ìmonnaie.


The National Cash Register Company, assignee of Frederick J. Nutting, both of Dayton. Ohio, U.S.A., 4th December, 1906; 6 years. Filed 21st October, 1905. Receipt No. 129,434.
C'laim.-1. In a cash register, the combination of a plurality of keys, of a plurality of pivoted operating arms having operating edges of different lengths, and also provided with projecting noses, projections mounted on the keys and engaging said edges, and arms mounted on the keys and adapted to engage said noses.
2. In a cash register, the combination with a plurality of keys, of a plurality of cam arms having projecting cam noses, projections on the keys engaging said cam arms to move them in one direction, and arms mounted on the keys and adapted to engage the cam noses to move the cam arms in the opposite direction.
3. In a cash register, the combination with a plurality of main operating keys, of a pivoted operating lever arranged to be operated by said keys, a locking device for said lever, a plurality of special keys, and means connecting the locking device and the special keys whereby said device is unlocked upon the depression of any one of sald special keys.
4. In a cash register, the combination with a plurality of keys, of a printing mechanism, two pivoted printing levers, separate toggle links plvoted together and to the respective
printing levers, and means for aligning the toggle links when the keys are operated and thus imparting movement to the printing levers.
5. In a cash register, the combination with a plurality of keys, of a printing mechanism adapted to be operated by the same, a printing lever having a permanent joint, a special key. and means connecting said key and lever for rendering the joint of the latter either flexeible or rigid at will.
6. In a cash register, the combination with a plurality of keys, of a printing mechanism adapted to be operated by the same, feeding devices for a check strip, an independent motor for actuating said devices, and a release for said motor.
i. In a cash register the combination with a plurality of keys, of a printing mechanism connected thereto, a knife for cutting a check strip, an indeyendent motor for operating said knife independently of the regular operation of the machine, and a release device for said motor.
8. In a cash register. the combination with a plurality of heys, of a printing mechanism, a printing lever having a permanent joint. a spring for normally holding the respective portions of said lever in alignment, and a locking device for the joint of said lever adapted to be operated hy a socecial key.
9. In a cash register, the combination with a plurality of keys, of a printing mechanism, a printing lever comprising two permanently joined seetions, devices for locking or unlocking the joint between said sections, means for locking one of said sections to the frame, and a special key for operating said devices and means.
10. In a cash register, the combination with a plurality of keys, of a printing mechanism, an inking device, a lever for operating said knife independently of the regular opersaid lever, and devices connected to the keys and adapted to engage said foot when operated in one direction but force it to one side out of its path when operated in an opposite direction.
11. In a cash register, the combination with a plurality of keys, of a printing mechanism, a spring actuated feeding mechanism for a paper supply, a latch for said latter mechanism, a ratchet wheel adapted to operate said lateh. means for operating said ratchet wheel connected to the keys, and a special key for throwing said means into or out of engagement with the ratchet wheel.
12. In a cash register, the combination with a plurality of keys, of a printing mechanism, pivoted printing levers. toggle levers connected to the first-mentioned levers and adapted to move eccentrically to part a double back and forth movement to the first-mentioned levers at each operation of the machine, and means connecting the toggle levers with the keys.
13. In a cash register, the combination with a plurality of keys, of a printing mechanism, a slide, inking arms carried by said slide, projections mounted on said arms and extending into suitable slots formed in a fixed portion of the frame for positively spreading or drawing said arms together, and means connecting the slide with the keys.
14. In a cash register, the combination with a plurality of keys, of an operating lever connected to the same, a pivoted catch lever having a locking stud engaging the operating lever, a rod for operating said catch lever, and special keys which are adapted to operate said rod.
15. In a cash register, the combination with a plurality of keys, of an operating lever adapted to be operated by the same, a plurality of printing wheels, a plurality of alignang arms adapted to engage said printing wheels, a rock shaft carrying said arms, a trip on said shaft, and a projection on the operating lever adapted to strike said tria.
16. In a cash register, the combination with a recording mechanism, of a series of keys, a series of operating arms adapted to be engaged by sald keys when the latter are moved in one direction and having operating edges of different lengths, and projections mounted on said keys and adapted to return said arms to their normal positions when the keys are moved to opposite directions.
17. In a cash register, the combination with a plurality of keys, of a printing mechanism, devices for feeding and cutting a check strip, an independent motor for actuating said latter mechanism, and a release for said motor.
18. In a cash register, the combination with a plurality of keys, of a printing mechanism, devices for feeding and cutting a check strip, a spring motor for actuating said latter mechanism, and means for releasing said motor by the operation of the machine.
19. In a cash register, the combination with a series of keys each having a pendant projection, of a movable spring pressed rack plate so arranged as to be engaged by all of said pendant projections whereby the keys are locked in their adjusted pasitions.
20. In a cash register, the combination with a plurality of keys, of a printing mechanism, devices for feeding and cutting a check strip, an independent motor for actuating said devices independently of the regular operation of the machine, means for releasing said motor. and devices for arresting said motor after a predetermined period of operation.
21. In a cash register, the combination with a recording mechanism, of a series of keys each having a pendent projection, a pivoted spring pressed rack plate arranged to be engaged by all of said projections to lock the same in position, independent keys, and means connected to the latter and arranged to rock the rack plate to release the first-mentioned keys.
22. In a cash register, the combination with a plurality of keys, of a plurality of arms having cam edges of diffcrent lengths, and projections mounted on the keys and arranged to engage opposite sides of said arms and force them positively backward and forward, the construction being such that the arms are locked against independent movement by the projections.
23. In a cash register, the combination with a plurality of keys, of a printing mechanism, feeding means for a paper supply, an independent motor device for said feeding means, a latch for said motor, a releasing device for said latch, and means connecting the releasing device to said keys.
24. In a cash register, the combination with a plurality of keys, of a printing mechanism, feeding devices for a paper supply, an independent motor for said feeding devices, a latch for sald motor, means connected to the keys for tripping said latch, and a special key for throwing said means into and out of operative condition.
25. In a cash register, the combination with an operating mechanism, a printing mechanism, a motor for operating a part of the printing mechanism independently of the regular operating mechanism, means for releasing the motor controlled by the operating mechanism, and a special key for throwing said means out of operative condition.
26. In a cash register, the combination with a series of amount keys, of a key coupler arranged to be operated thereby, a lever connected to said coupler, a series of special keys, a movable frame common to the special keys, a lock for the lever, and a cam slide intermediate the special key frame and the lock.
27. In a cash register, the combination with an operating mechanism, of a printing mechanism including movable platen carrying members, toggle levers connected to said members, and means for causing the toggle levers to impart a double back and forth movement to the platen carrying members at each operation of the machine.
28. In a cash register, the combination with a series of amount keys, of a printing mechanism connected to said keys, a series of special keys, a type carrier controlled by the special keys, and means for locking the amount keys until one of the special keys is operated.
29. In a cash register, the combination with a series of amount keys, of a type carrier controlled thereby, a series of special keys, a type carrier controlled by said special keys, and means for preventing the operation of the amount keys until one of the special keys is operated.
30. In a cash register, the combination with a series of amount keys, of a type carrier operated thereby, a series of special keys, a type carrier operated by these latter keys, and means for preventing the setting of the amount type carriers until the special type carrier is first set.
31. In a cash register, the combination with a printing mechanism, of a series of keys for operating the same, a series of special keys, a type carrier for the special keys, and means for preventing the operation of the printing mechanism until the type carrier for the special keys has first been set.
32. In a cash register, the combination with a printing mechanism including amount type carriers, of a series of amount keys for controlling the printing mechanism and type cariers, a series of special keys, a type carrier for the same, and means for locking the amount keys until one of the special keys has been operated.
33. In a cash register, the combination with a series of amount keys, a type carrier operated by said keys, a platen also operated by the keys, a series of special keys, a type carrier for these latter keys, and means for compelling the operation of one of the special keys for recording which clerk makes the sale, before the amount keys ing which clerk
34. In a cash register, the combination with a plurality of operating keys, of a common member arranged to be actuated by any one of said keys, a locking device for sald member, a series of special keys, and means connecting the mecking device to the special keys whereby said device is operated upon the depression of any one of said special keys.
35. In a printing attachment for cash registers, the combination with type carriers and means for setting the same, of a paper feeding device, a spring motor, a special key for controlling the release of said spring motor, and means for causing the paper feed device to be operated when the spring motor is so released.
36. In a printing attachment for cash registers, the combination with type carriers and means for setting the same, of means for taking an impression on a check strip. a knife for severing said check strip, and a spring motor for operating sald knife.
37. In a printing attachment for cash registers, the combination with type carriers and means for setting the same, of means for taking an impression on a check strip, a knife for severing said check strip, a spring motor for operating said knife, and a special key for controlling the release of said spring motor.
38. In a printing attachment for cash registers, the combination with type carriers and means for setting the same. of a platen for taking an impression on a check strip, a feeding device for said check strip, a knife for severing the check strip, a spring motor, and means connected with said spring motor for operating the check feed device and also the knife.
39. In a printing attachment for cash registers, the combination with type carriers and means for setting the same, of a platen for taking an impression on a check strip. a feeding device for sald check strip, a. knife for severing the check strip, a spring motor, means connected with said spring motor for operating the check feed device and also the knife, and a special key for controlling the release of said spring motor.
40. In a cash register, the combination with printing devices, of a spring motor with connections for controlling certain parts co-operating with the printing devices, and means for releasing said motor.

No. 102,419. Cash Register. Registre à monnaie.


The National Cash Register Company, assignee of William H. Muzzy, Dayton, Ohio, U.S.A., 4th December, 1906; 6 years. Filed 21st October, 1905. Receipt No. 129,435.
Claim.-1. A machine of the character described, comprising a primary accounting device containing mechanism arranged to be preliminarily adjusted according to desired numbers or designations, and a distant and structurally separate accounting device whose accounting mechanism is controlled in extent of movement by the primary accounting mechanism, with devices for positively limiting the extent of such movement of the distant accounting mechanism.
2. A machine of the character described, comprising \(\varepsilon^{8}\) primary accounting device containing mechanism arranged to be preliminarily adjusted according to desired numbers or designations, and a distant and structurally separate accounting device whose accounting mechanism is controlled in extent of movement by the primary accounting mechanism, with devices controlled by a movable part of the primary accounting device for effecting the actual morement of the accounting mechanism of the distant accounting device.
3. A machine of the character described, comprising a primary accounting device contrining mechanism arranged to be preliminarily adjusted according to desired numbers or designations, and a distant and structurally separate accounting device whose accounting mechanism is control-
led in extent of movement by the primary accounting mechanism, with devices for positively limiting the extent of such movement of the distant accounting mechanism, and also with devices controlled by a movable part of the primary accounting device for effecting the actual movement of the accounting mechanism of the distant accounting device.
4. The combination with a cash register including its operating member, of circuit controlling devices forming part of the cash register mechanism and controlling differont circuits for different amounts or designations, a distant accounting device controlled in extent of movement by said circuit controlling devices. and means controlled by said operating member for effecting the actual movement of said accounting device.
5. The combination with a cash register containing a differentially movable accounting element. of a distant and structurally separate differentially movable element controlled in position by said last-mentloned differentially movable element.
6. The combination with a cash register containing a differentially movable accounting element, of a distant and struoturally separate differentially movable element controlled as to its extent of movement in one direction by said first-mentioned differentially movable element, and means for restoring said distant element to normal position after such movement.
7. The combination with a cash register containing amount determining mechanism arranged to be preliminarily adjusted according to desired numbers or designations, of a distant and structurally separate differentially movable element controlled as to its extent of movement in one direction by said amount determining mechanism, and means for restoring said distant element to normal position after such movement
8. The combination with a cash register, of circuit controlling devices forming part thercof and controlling different circuits for different amounts, an accounting element arranged to be controlled by said circuit controlling devices, a circuit controller movable with said accounting element. and a magnetic stop device for said element included in said circuits.
9. In an accounting device. the combination with an accounting element, of means for moving the same, and amount determining mechanism and electrical devices coonerating therewith for positively limiting the movement of said element whereby to determine the extent of movement of the same.
10. The combination with a cash register. a distant and structurally separate accounting instrument comprising devices for effecting an accounting. means for operating said devices. and means controlled from the cash register for controlling said operating means.
11. The combination with a cash register containing devices arranged to be set in predetermined positions corresponding to numbers selected, of a distant and structurally separate accounting instrument comprising devices for effecting an accounting, means for operating sald devices, and means controlled from the said cash register devices for controlling said operating means.
12. In a recording instrument, the combination of a device for giving a record. means for moving said device, a locking means for engaging the device and locking the same in any one of a plurality of positions, an electro-magnet for controlling said locking means, and a circuit closer operated by said device in its movement, said circuit closer included in the circuit for said electro-magnet.
13. The combination with a cash register, of a recording instrument including a device for giving a record, means for moving said device, a locking means for engaging the device and locking the same in any one of a plurality of positions, an electro-magnet for controlling sald locking means, a circuit closer operated by said device in its movement. said circuit closer included in the circuit for said electro-magnet, and a selector for said circuit operated from said cash register.
14. In combination with a cash register having recording devices, of a recording instrument having recording devices, and means for adjusting them to a recording position upon and through the adjustment to a recording position of the recording devices of the cash register.
15. In combination with a recording mechanism, a recording instrument comprising a plurality of devices for recording purposes, means for shifting the devices to a position to give a record, and electro-magnetically operated means for controlling the position of said devices, said electro-magnetically operated means being controlled from the recording mechanism.
16. In combination with a recording mechanism, a recording instrument comprising a plurality of devices for recording purposes, means for shifting the devices to a position to give a racord, electro-magnetically operated means for controlling the position of sald devices, oircuits for
the electro-magnets of sald means, and means for controlling the circuits, which are operated from the recording mechanism and the recording instrument.
17. The combination with a cash register having recording devices, of a recording instrument, and means for operating the recording instrument upon an operation of the recording devices in the cash register.
18. The combination with a cash register having recording devices, of a recording instrument comprising recording devices and electrically controlled means for operating the recording devices, which means are controlled upon an operation of the recording devices in the cash register.
19. The combination with a recording mechanism, of a recording instrument comprising devices for giving a record, means for operating and setting said devices, and means controlled from the recording mechanism for controlling the operating and setting means.
20. The combination with a recording mechanism, of a recording instrument comprising devices for giving a record, means for operating said devices, electro-magnetically operated means for controlling the said operating means, and means for controlling the electro-magnets of sald elec-tro-magnetically operated means from the recording mechanism.
21. The combination with a cash register, of a recording instrument comprising a device for giving a record, means for moving said device from a normal to a recording position, electro-magnetically operated means for controlling the position of said record device, a clrcuit for said elec-tro-magnetically operated means, and a circuit selector operated from the cash register for controlling the said circuit.
22. In a cash register, the combination with circuit controllers, of an operating mechanism, a motor, indicators controlled by the motor, means for controlling the motor from the operating mechanlsm, and means for preventing the movement of the operating mechanism to de-energize the motor until after said motor has made its full movement.
23. In a cash register, the combination with circuit controllers, of an operating mechanism, a motor, means for energizing the motor by movement of the operating mechanism, and means for preventing the motor being deenergized by the operating mechinasm until the motor has been fully operated.
24. In a cash register, the combination with circuit controllers, of an operating mechanism, a series of indicators also having controllers, a motor for operating the indicators, means controlled by the operating mechanism for energizing the motor, and means for preventing the motor being de-energized until it has been fully operated.
25. In a cash register, the combination with circuit controllers, of an onerating mechanism, a motor, indicators operated by the motor, means, controlling the motor from the operating mechanism, and means for preventing the operating mechanism de-energizing the motor until the latter has concluded its full movement.
26. In a cash register, the combination with circuit controllers, of an operating mechanism, a motor, circuit controllers moveable by the motor and locking devices for the latter circuit controllers for locking them in their set positions while the first mentioned controllers return to their normal jositions.
27. In a cash register, the combination with differentially movable circuit controllers, of an operating mechanism, a motor, differentially movable circuit controllers actuated by the motor, indicators controlled by the last-mentioned circuit controllers, and means for locking the last-mentioned circuit controllers in their set positions while the firstmentioned controllers return to their normal positions.
28. In a cash register, the combination with setting means, of an operating mechanism, a series of indicators located at a distance from the register, a motor for actuating the Indicators, means controlled by the operating mechanism for energizing and de-energizing the motor, and means controlled by the motor for preventing movement of the operating means to de-energize the motor, until said motor has made its full stroke or operation.
29. In a cash negister, the combination with a series of differentially movable circuit controllers, of a cash drawer for operating the same, a motor, a series of differentially movable corresponding circuit controlkers actuated thereby, means oontrolled by the cash drawer for energizing and deenergizing the motor, and means controlled by the motor for preventing movement of the cash drawer to de-energize it until the motor has made a full operation.
30. In a cash register, the combination with a series of oscillatory elements having differential movements, keys for limiting the movements of said elements in one direction, a cash drawer for returning the elements in an opposite direction, circuit controllers movable with said elements, a motor, indicator operated by said motor, means controlled by the cash drawer for energizing and de-ener-
gizing the motor, and means controlled by the motor for preventing it being de-energized by the cash drawer until said motor has been fully operated.
31. In a cash register, the combination with a series of oscillatory differentially movable elements, circuit controllers carried by said elements, a cash drawer for operating raid clements, a motor, indicators operated by the notor, means for energizing the motor upon the opening of the cash drawer and de-energizing it when the cash drawer is closed, and means for locking the cash drawer in its oprn position until the motor has been fully operated.

3:. In a cash register, the combination with circuit controllers, of an operating mechanism, a motor, indicators actuated by the motor, means for energizing the motor during the initial movement of the operating mechanism and de-energizing it during the final movement of said mechanism, and means for locking the operating mechanism between its initlal and final movements until the motor has been completely operated.
33. In a cash register system in which are employed sending and receiving machines, electrically connected means for controlling the receiving machine by the sending machine, and means for preventing the improper control of the receiving machine by too rapid movement of the sending machine.
34. In a cash register system employing a sending ma--hine and a receiving machine, and means for locking the receiving machine in set position while the sending machine resumes its normal position.
35. In a cash register system employing a sending machine and a receiving machinc, of controlled means intermediate the two machines, and means for preventing a misoperation of the receiving machine by too rapid operation of the sending machine.

No. 102,420. Cash Register. Rigistrc à monnaic.


The National Cash Register Company of Ohio, assignee of William H. Muzzy, both of Dayton. Ohio. U.S.A., 4th Decrmber, 1906; 6 years. Filed 21st October, 1905. Recelpt No. 12!.437.
cluim.-1. In a cash register, the combination with an operating mechanism, of a series of clerks' setting ele\(m\) nts, a special signalling device controlled thereby, a series of cash receptacles, means controlling said receptacles, and special drawer signalling devices governed by the drawer controlling means whereby the two signalling devices co-act to produce a single intelligible signal.
2. In a cash rcgister the combination with an operating mechanism, of a plurality of cash receptacles, clerk's controlling clements, and independent signals representing the cash receptacles and the clerks controlling elements, and co-acting to produce a single intelligible signal.
3. In a cash register, the combination with an operating mechanism, of clerks controlling mechanism, a series of cash rrceptacles, and independent signals representing the clorks' selecting mechanism and the cash receptacles, and co-acting in such manner as to produce a single intelligible signal.
4. In a cash register, the combination with an operating mechanism, of a series of clerks' keys, a series of cash receptacles, a serles of keys controlling said receptacles, and independent signals for the clerks' keys and receptacles, coacting in such manner as to produce a single intelligible signal.
5. In a cash register, the comblnation with an operating mechanism, of a serles of clerks' keys, a series of casb receptacles, a special indicator, a special signal connected to the indicator, and independent signals for the cash receptacles, said signals co-acting to produce a slagle inceptacles, said
telligible signal.
6. In a cash register, the combination with an operating mechanism, of a series of clerks' keys, a special indicator controlled by the same, a rotary signal connected to said indicator, a series of cash receptacles, and independent signals representing said receptacles, and signals co-acting to produce a single intelligible signal.
7. In a cash register, the combination with an operating mechanism, of a series of clerks' keys, a series of cash r . reptacles, and a series of receptacle keys located immediately adjoining the corresponding clerks' keys whereby a clerks' key and a receptacle key corresponding thereto may be onerated by the pressure of a single finger.
8. In a cash register, the combination with an operating mechanism, of a series of clerks keys, a series of casb drawers, and a series of independent drawer release kess located immediately adjoining the clerks' keys whereby corresponding clerks' and drawers, keys may be simultaneously onerated by one finger.
9. In a cash register, the combination with an operating mechanism, of a series of cash receptacles, apertured k-s guides, and a series of controlling elements mounted in the respective apertures in said guides and each comprising a clerks' key and a drawer release key sliding against the same, and guided by said clerks' key.
10. In a cash register, the combination with an operating mechanism, of a clerks' controlling mechanism, a movabla member formed with an aperture and connected to the controlling mechanism whereby the aperture may be posilloned according to the operation of said controlling mechanism, a series of cash receptacles, and signals representing said recentacles and located at the different points senting said receptacles and located at
to which the aperture may be brought.
11. In a cash register, the combination with an operating mechanism, of a clerks' selecting mechanism. a morable apertured member controlled by said selecting mechanism whereby the aperture may be brought to different positions. a series of cawh recentacles, and a series of signals rrpresenting sald receptacles and occupying the different positions to which the aperture may be brought.
12. In a cash register, the combination with an operating mechanism, of a series of clerks' keys, an apertured discontrolled by said keys whereby the aperture may bbrought to different positions. a series of cash receptacles. means for opening said receptacles, a series of signals occupying the different positions to which the aperture of the dise may be brought, and means for bringing the sigaals into operation according to the cash receptacle opened.
13. In a cash register, the combination with an operating mechanism, of a series of clerks' keys, an apertured disc controlled by said keys, a series of cash drawers. a series of signals. and means for bringing the signals toto operation according to the cash drawer opened.
14. In a cash drawer. the combination with an operating mechanism, of a series of clerks' keys, an indicator controlled by said keys, a series of cash drawers, a series of drawer release keys, a rotary disc provided with signal apertures and connected to the indicator, and a series of signals controlled by the drawer release keys. the apirtured disc and signals co-acting to produce a single intellifible signal.
15. In a cash register, the combination with an operating mechanism, of a series of clerks' keys, a series of drawer keys, an indicator controlled by the clerks' keys, a oreies of cash drawers released by the drawer keys, and independent signals controlled by the drawer keys and the indicator and co-acting to produce a single intelligible signal.
16. In a cash register, the comblnation with an operating mechanism, of a clerks' setting mechanism, a movable member controlled by the clerks' setting mechanism and formed with a series of apertures covered by transparins rolored matcrial, a scries of cash receptacles, a scries of signals positioned back of the movable member. and tacan. for bringing the signals into operation according to th. cash receptacle opened.
17. In a cash register. the combination with an op-ra:tng mechanism and connections, of a special rotary indicator: an apertured dise connected to said indicator, a series of lights occupying the different positions to which the aperture of said dise may be brought, a series of cash reref. tacles. and means for bringing the lights into operation ac. cording to the cash receptacle opened.
18. In a cash register, the combination with an operating mechanism, of two spaced rotary discs connected thereto and formed with apertures, a series of cash receptacles, and a series of lights located between the spaced discs and arranged to be thrown into operation according to the receptacle opened to display the signal from each side of the machine.
19. In a cash register, the combination with an operating mechanism, of two spaced rotary discs connected thereto, and each of the same formed with a series of apertures covered with transparent coloured material. lights located between said discs, a serirs of cash receptacles, and means for bringing the lights into operation according to the receptacle opened whereby a coloured signal is displayed at both sides of the machine.
20. In a cash register, the combination with an operating mechanism, of a series of clerks' keys, a signal operating member controlled by the same, a sories of cash drawers, drawer release devices, series of illuminated signals controlled by the drawer release devices, and means for retaining the illuminated signals in operation after one drawer release device is actuated until another drawer release is subsequently moved.

No. 102,421. Cash Register. Registrc à monnaic.


The National Cash Register Company of Uhio, assignce of William H. Muzzy, both of Dayton, Ohio, 4th December, 1906: 6 years. Filed 21st October, 1905. Receipt No. 129,438.
Claim.-1 In a cash register, the combination with a series of cash receptacles, of a series of indicators, means for operating the indicators, mechanism for concealing the indicators when any one of the cash receptacles is released, and devices for releasing the receptarles independently of the indicator operating means.
2. In a cash register, the combination with a series of cash receptacles, of a series of indicators, means for operating the indicators, devices for concealing the indicators, and means for causing the opening of the respective receptacles and the operation of the concealing means independently of the indicator operating means.
3. In a cash register, the combination with a series of cash receptacles, of a series of indicators, means for operating the indicators, means for concealing the indicators, and devices for releasing the cash receptacles arranged to control the concealing means independently of the movement of the indicator operating means.
4. In a cash register, the combination with a series of cash drawers, of a series of indicators, means for operating the indicators. indication concealing means and devices for releasing the cash drawers arranged to control the consealing means independently of the movement of the indicator operating means.
5. In a cash register, the combination with an operating mechanism, of a series of cash receptacles, a series of indicators, means for concealing the indicators, devices for releasing means independently of the movement of the operating mechanism, and a connection between the concealing means and the operating mechanism.
6. In a cash register, the combination with a series of cash drawers, of a seríes of indicators. means for operating the indicators, a flash for said indicators, and a series of keys for releasing the cash drawers and controlling the flash independently of the movement of the indicator operating means.
7. In a cash register, the combination with a series of cash drawers, of a series of indicators, indicator operating
mechanism. a flash for the indicators, a series of keys for releasing the cash drawers and means intermediate the keys and the flash for causing the latter to conceal the indicators when any one of the keys is operated and independently of the operation of the indicators.
8. In a cash register, the combination with a series of cash receptacles, of a series of indicaters, Indicator operating mechanism, concealing devices for said indicators, a printing mechanism, a series of controlling clements, and mechanism intermediate said elements and the cash receptacles, printer, indicators and concealing devices for releasing the receptacles and the concealing devices without operating the indicators.
9. In a cash register the combination with a series of cash drawers, of a series of indicators, concealing flashes for the indicators, a printing mechanism. and a series of keys for controlling the cash drawers, the printing mechanism and the flashes.
10. In a cash register the combination with an operating mechanism, of a serles of cash receptacles, a series of indicators. a flash for the indicators, and a series of keys arranged to release the receptacles and drop the flash independently of the regular operation of the machine.
11. In a cash register the combination with a series of cash receptacles. of a series of indicators, flashes for the indicators, a latch for holding the flashes away from the indicators, and means for exposing the desired receptacle and tripping said latch.
12. In a cash register the combination with a series of cash receptacles, of a series of indicators, flashes for the indicators, a printing mechanism, a latch for the flashes, and a series of keys for releasing the cash receptacles, tripping the latch and controlling the printing mechanism.
13. In a cash register the combination with a series of cash receptacles, of a series of indicators, flashes for the indicators, a printing mechanism, a series of controlling keys for the printing mechanism and indicators, an operating mechanism for setting the indicators and operating flash, controlling means intermediate the keys and flash, and devices operated by the keys for releasing the cash recentacles.
14. In a cash register the combination with a series of cash receptacles, of a series of indicators, means for concealing the indicators, and devices for determining which receptacle will be opened, arranged to release the concealing means.
15. In a cash register the combination with a series of cash drawers, of a series of indicators, a flash for the indicators, an operating mechanism for setting the flash, and a drawer selecting mechanism arranged to trip the flash.
16. In a cash register, thec ombination with a series of cash receptacles, of a series of indicators, flashes for the indicators, a printing mechanism, and a selecting means controlling the receptacles and printing mechanism and arranged to release the flash.
17. In a cash register the combination with a series of keys controlling the indicator, means for controlling the flash operated by the keys, a printing device also controlled by the keys, and a series of drawer latches connected to the keys.
18. In a cash register the combination with an operating mechanism, of printing devices for printing the amounts, a series of cash receptacles. a series of indicators, a series of spec'al keys for controling the cash receptacles, a flash, connecting means intermediate the special keys and flash, and a special printing device controlled by the special keys. 19. In a cash register the combination with a operating mechanism, of a series of cash drawers, a series of Andicators for indicating the amounts and the clerks' designation, a flash for the indicators, a printing mechanism for printing the amounts and the clerks' designation, and \(a\) series of keys for releasing the cash drawers and tripping the tlash.
20. In a cash register the combination with a series of indicators, of a flash, an operating mechanism for raising the flash, a latch for securing the flash in its raised position, a series of keys, means common to said keys for controlling the latch, and a series of cash receptacles controlled by the keys.
21. In a cash register the combination with a series of cash drawers, of a series of indicators, flashes for the indicators, latches for the cash drawers, a series of keys, independent means connecting the keys to their respective latches, and means operated by the keys for tripping the flashes.
22. In a cash register the combination with a series of cash receptacles, of a series of indicators, a flash for the indicators, a series of keys for controlling the receptacles, means operated by the keys for releasing the flash, and printing devices onerated by the keys.
23. In a cash register the combination with a serles of cash receptacles, of a series of indicators, a flash for the
indicators, a printing mechanism including a series of independent type carriers, a series of keys for controlling the cash receptacles, means operated by the keys for releasing the fiash, and means connecting the keys independently to their respective type carriers.
24. In a cash register the combination with a series of cash receptacles, of a printing mechanism for printing the amounts and the clerks' designation, an operating mechanism for the amount printing devices, keys for controlling said mechanism and keys for controlling the cash receptacles and operating the special clerks' designation printing devices.
25. In a cash register the combination with a series of cash receptacles, latches for the same, a series of special keys having projecting pins, a series of pivoted levers having cam slots into which the pins project, and means connecting said levers to their respective latches.
26. In a cash register the combination with the main operating mechanism, a series of keys, an indicator controlled by the keys and actuated by the operating mechanism, a detent for the keys actuated by the operating mechanism, a series of cash receptacles, and latches for said receptacles controlled by the keys alone.
27. In a cash register the combination with a series of cash receptacles, an indicator for the same, an operating mechanism for said indicators, and a series of keys which alone control the cash receptacles and also limit the movements of the indicators.
28. In a cash register the combination with a series of cash receptacles, of a serles of latches for the same, a scries of keys arranged to operate the latches when fully depressed, means for arresting the keys in intermediate positions in which the latches will not be operated and accounting devices co-operating with the keys when in their intermediate positions.
29. In a cash register the combination with a series of receptacle, of a series of latches for the same, a series of keys arranged to operate the latches and again free the same upon being released, an operating mechanism, means controlled thereby for preventing the full return of the keys and accounting devices co-operating with the keys.
30. In a cash register the combination with a series of cash drawers, of a series of latches for the same, a series of keys for operating said latches independently of the regular operation of the machine, an indicator, and means controlled by the keys for preventing the completion of the indication until after the regular operation of the machine.
31. In a cash register the combination with the register proper'including indicating and printing mechanism, of a series of cash receptacles, setting means for controlling the printing and indicating mechanism. latches for the receptacles operated by setting devices. and means operated by the setting devices for rendering one of the regular functions of the machine ineffective until after the regular operation of the machine.
32. In a cash register the combination with register indicating and printing mechanism, of a series of cash receptacles, latches for said receptacles, a series of keys for operating the latches, and means operated by the keys'for rendering one of the regular functions of the machine ineffective until after the operation of the machine.
33. In a'cash register the combination with an operating mechanism, of accounting devices connected thereto, a series of independent cash receptacles, latches for said roceptacles, means independent of the operating mechanism for actuating the latches to open the receptacles and means intermediate the latches and the operating mechanism for preventing the relatching of any one of the receptacles after it is opened until the operating mechanism has first been operated to actuate the accounting devices.

\section*{No. 102,422. Cash Register. Registre ì monnaic.}

The National Cash Register Company of Ohio, assignee of William H. Muzzy, both of Dayton, Ohio, U.S.A., 4th December, 1906 ; 6 years. Filed 11th November, 1905. Receipt No. 129,988.
Claim.-1. In a cash register the combination with operating devices, of a selecting mechanism for different clerks or departments connected therewith, a serles of independent cash safes having movable members, a telltale device normally'inactive, and means for setting or operating said telltale device when the operation of the selecting mechanism and a cash safe do not correspond.
2. In a cash register the combination with operating devices, of a selecting mechanism for the clerks or departments, a series of cash drawers, an alarm or slgnal normally inartive, and means for rendering said alarm or signal active should an attempt be made to open a cash drawer without actuating the selecting mechanism correspondingly.
3. In a cash register the combination with operating devices, of a selecting mechanism for the clerks or depart-
ments, a series of cash receptacles, an alarm or signal normally inactive, and means for rendering said alarm or signal

active if a cash receptacle is opened without first setting the selecting mechanism corresponding thereto.
4. In a cash register the combination with operating devices, of a selecting mechanism, means for latching the selecting mechanism co-operating with the operating devices, a series of cash receptacles, an alarm or signal normally inactive, and means for rendering the alarm or signal active if the opening of a cash receptacle is not'accompanied by a corresponding setting movement of the selecting mechanism.
5. In a cash register the combination with an operating mechanism. of a series of selecting devices connected therewith, a series of cash receptacles, an alarm or signal normally inactive, and means for rendering the alarm or signal active if a cash receptacle is opened without a corresponding operation of the selecting devices pertaining thereto.
6. In a cash'register the combination with an operating mechanism, of a series of clerks or department keys, a series of rash receptacles, an alarm or signal normally inactive, and means for rendering said alarm or signal active if a cash recentacle is opened without depressing the corresponding clerks or department key.
7. In a cash register the combination with an operating mechanism. of a series of clerks or department keys connected thereto. a series of cash drawers. an alarm or signal normally inactive, and means for rendering said alarm or signal active if a cash drawer is opened without the depression of the corresponding clerks or department key.
8. In a cash register the combination with operating devices. of a clerk's or department selecting mechanism connected thereto, an accounting device controlled by the selecting mechanism, a series of cash receptacles, an alarm or signal normally inactive, and means for rendering said alarm or siganl active when the opening of a cash receptacle is not accompanied by a corresponding setting movement of the selecting mechanism.
3. In a cash register the combination with operating devires. of a clerk's or department selecting mechanism, a recording dovice controlled'by said selecting mechanism, a series of cash receptacles, an alarm or signal normally inactive. and means for rendering said alarm or signal active when the operation of a cash receptacle is not accompanied by a corresponding operation of the selecting mechanism.
10. In a cash register the combination with an operating mechanism. of a series of selecting devices, a series of electric circuits including contact pieces operated by sadd selecting devices, a main circuit controlled by all of the individual circuits, an alarm or signal controlled by the main eircuit, a series of cash receptacles having movable members and contact pieces for the individual circuits controlled by said movable members.
11. In a cash register the combination with an operating mechanism, of a series of clerk's or department keys, a series of electric circuits controlled by said keys, a series of cash receptacles also controlling said circuits and an aiarm or signal included in said circuits.
12. In a cash register the combination with an operating mechanism, of a series of clerk's or department keys, a printing device controlled by said keys, a series of cash drawers, a series of electric circuits controlled by said keys and said drawers and an alarm included in said circuits.
13. In a cash register the combination with operating devices, of a series of clerk's or department keys, a series of individual electric circuits controlled by the respective keys, a serles of cash drawers, means independent of the keys for
releasing the drawers, contact pieces for the individual circuits, controlled by the drawers, and an alarm or signal included in said circuits.
14. In a cash register the combination with operating devices, of a selecting mechanism, a series of cash receptacles, individual circuits controlled by the selecting mechanism and their respective cash receptacles, an alarm included in said circuits and independent means for opening the respective cash receptacles.
15. In a cash register the combination with an operating mechanism, of a series of clerk's or department keys, a printer controlled thereby, a series of cash drawers, an electric circuit including an alarm, means for closing said circuits when a key is operated without a corresponding exposure of a cash drawer. and independent means for releasing the respective cash drawers.
16. In a cash register the combination with an operating mechanism, of a series of clerk's or department keys, a series of individual circuits having contact pieces co-acting with the respective keys, a series of cash receptacles, contact pleces included in the circuits and co-operating with said receptacles, an alarm or signal included in said circuits and a series of independent keys for releasing the respective cash receptacles.
17. In a cash register the combination with an operating mechanism, of a series of indicators, selecting devices, means for destroying the indication controlled by said selecting devices, a series of cash receptacles arranged to be exposed at will, a normally inactive alarm or signal. and means for rendering said alarm or signal active if a cash receptacle is exposed without a corresponding operation of the selecting devices.
18. In a cash register the combination with an operating mechanism, of a series of indicators, means for causing the indicators to return to normal positions when unrestrained, latches for securing the indicators in set positions, a series of clerk's or department keys controlling said latches, a series of cash receptacles arranged to be exposed at will, a normally inactive alarm or signal, and means for rendering said alarm or signal active if a cash receptacle is exposed without the operation of the corresponding key.
19. In a cash register the combination with operating devices, of a selecting mechanism, a series of cash receptacles, an alarm or signal normally inactive, means for rendering the alarm or signal active if the operation of the receptacle is not accompanied by the corresponding operation of the selecting mechanism. and means under lock and key for preventing the control of the alarm or signal by the operator after it is once rendered active.
20. In a cash register the combination with an operating mechanism, of a series of clerks' or department keys, a detent for holding the keys in their depressed positions. means connected to the operating mechanism for actuating the detent, a series of cash receptacles, a series of circuits and connections for breaking the circuits by the depression of the keys and making the circuits by the opening of the cash receptacles. and an alarm or signal included in said circuits.
21. In a cash register the combination. with operating deVices, of a selecting mechanism. a series of cash receptacles arranged to be exposed at will, an alarm or signal normally inactive, means for rendering the alarm or signal active if the receptacle is exposed alone without a corresponding operation of the selecting mechanism, and a special indicator connected to the operating mechanism for indicating when the movement has not been completed.
22. In a cash register the combination with a series of oscillatory elements. of means for limiting the movernents of the elements in one direction, an operating handle for returning the clements to their normal positions, a special indicator mounted independently of the operating handle, and means connecting the handle to the indicator whereby the two move together for indicating an incomplete operation of said handle.
23. In a cash register the combination with an operating mechanism including a series of oscillatory elements. of keys for limiting the movements of the elements in one direction. an operating handle for moving the elements in the opposite direction and a special indicator mounted independently of the handle but connected thereto for movement therewith for indicating the position of the same.
24. In a cash register the combination with operating devices, of a selecting mechanism, a series of independent cash receptacles, a normally inactive electric alarm or signal, a relay instrument controlling sald alarm, connections for operating the relay whenever a cash receptacle is opened without a corresponding movement of the selecting mechanism, and devices for holding the contacts of the relay permanently together after they have been electrically operated.
25. In a cash register the combination with an operating mechanism, of a series of selecting keys, a serles of individual circuits. a contact breaker for each key included in said
circuits, a series of cash drawers, a contact breaker for each drawer also included in the circuits, an alarm or signal included in the circuits, and means for closing one of the circuits if the opening of a cash drawer is not accompanied by the depression of the corresponding key.
26. In a cash register the combination with a plurality of auxiliary operating yokes, of keys for limiting the movements of the yokes in one direction, a main operator for moving the yokes in opposite direction, an operating handle connected to said main operator, a special indicator mounted independently of the handle, and means connecting said special indicator and main operator for simultaneous movement whereby a partial operation of the latter will be shown by said indicator.
27. In a cash register the combination with an operating mechanism, of a series of indicators, means for automatically returning the indicators to their normal positions when released, a series of special keys, latches for the indicators operated by said keys, a series of cash receptacles, an alarm normally inactive and means for rendering said alarm active if a cash receptacle is exposed without the depression of a corresponding key.
28. In a cash register the combination with an operating mechanism, of a series of keys, a series of indicators, latches for the indicators, a detent for said keys, detents for the indicators, a latch for the detent operated by the keys, means connecting said latch to the indicator latches, a series of cash receptacles, an alarm or signal, and means for oderating said alarm or signal if a cash receptacle is exposed without the depression of one of the keys.

No. 102,423. Cash Register. Registre d monnaie.


The National Cash Register Company of Ohio, assignee of John H. McCormack, Columbus, Ohio, U.S.A.. 4th December, 1906; 6 years. Filed 11th November, 1905. Receipt No. 129,989.
Claim.-1. In a cash register, the combination with a counter, of a counter operating lever means for supporting said lever in position, but adapted to release it at will, and a hand operating lever for resetting the register operating lever but movable independently of the same.
2. In a cash register, the combination with a registering device, of a main yoke having an oscillatory movement, a series of auxiliary yokes operated by the main yoke. means for limiting the movements of the auxiliary yokes, and a hand lever for moving the main yoke in one direction, the construction being such that the main yoke moves independently in the opposite direction.
3. In a cash register, the combimation with a registering mechanism, of a series of auxiliary yokes and connections, a series of keys for limiting the movements of said yokes, a main yoke for operating the auxiliary yokes, and a hand lever for actuating the main yoke only during a portion of its stroke.
4. In a cash register, the combination with a counter, of a counter oderating member, an operating lever for said member, a latch for said lever arranged to be tripped by said member, after the latter has made a predetermined portion of its stroke, and means for moving the operating lever after it has been released.
5. In a cash register, the combination with a counter, of counter operating pawls, a yoke for operating said pawls, an operating lever, a latch for said lever arranged to be tripped by the yoke after the latter has made a predetermined portion of its stroke, and means for moving the operating lever after it has been released.
6. In a cash register, the combination with a counter or register, a main yoke, a series of auxiliary yokes, means for limiting the movement of the auxiliary yokes, an operating lever for elevating the main yoke, and a latch for said lever arranged to be tripped by the main yoke after the latter has made a predetermined independent movement.
7. In a cash register of the class described. the combination with a counter, of an operating mechanism, an operating lever for said mechanism, a resetting lever adapted to move the operating lever, a latch for said resetting lever adapted to be actuated by the operating lever and means for moving the resetting lever.
\(s\). In a cash register of the class described, the combination with a counter, of a counter operating mechanism, an indicating mechanism, locking devices for the indicating mechanism, alever for operating the cutting and indicating mechanisms, mechanism for supporting said lever and moving the locking devices and a hand lever for actuating this latter mechanism.
9. In a cash register, the combination with a counter, of a cash drawer, a pivoted hand operated member, a drawer closing lever adapted to be engaged by a projection of said member during a portion of its stroke only and counter operating devices arranged to be operated by said hand operated member.
10. In a cash register of the class described, the combination with a counter, of an operating mechanism. a cash drawer, a pivoted operating lever for actuating said mechanism, means for releasing said lever, a resetting lever, for resetting the first-mentioned lever and \(a\) hand lever for operating the resetting lever and closing the drawer.
11. In a cash register, the combination with a counter. of a counter operating lever, a support for said lever, a cash drawer, a drawer latch, means connecting the drawer latch and lever support and devices for resetting the operating lever.
12. In a cash register, the combination with a counter. of an operating mechanism, an operating lever for said mechanism, an operating shaft. a support for said lever mounted on said shaft, and means connecting the shaft and support whereby the former may move a predetermined distance before moving the latter.
13. In a cash register, the combination with a counter, of an operating mechanism, a cash drawer, an operating lever, a spring actuated shaft, a support for said lever mounted on said shaft and means for releasing said shaft to permit it to operate.
14. In a cash register of the class described, the combination with a counter. operating mechanism, a support for the said mechanism, means for withdrawing said support and means for first resetting the counter operating mechanism and then forcing the support under the same.
15. In a cash register, the combination with a counter, of an operating mechanism, a counter operating lever and a support for the same comprising a rock shaft and a lever mounted thereon and means for tripping said shaft to allow the same to rock and withdraw the lever from supporting gosition.
16. In a cash register of the class described, the combination with a plurality of keys, of a counter, an operating mechanism, a rock shaft, a release device for the said mechanism mounted on said shaft. key locking devices, and means connecting the shaft with said devices so that they are operated simultaneously with the release.
17. In a cash register, the combination with a frame, a plurality of keys, of a register, register operating devices, a rock shaft, means for operating said shaft. a tripping plunger connected to said shaft and adapted to strike a stationary projection, and a key locking mechanism adapted to be operated by the said tripping plunger.
18. In a cash register, the combination with a counter, of operating pawls for the same, supporting devices for said pawls, arranged when operated to permit said pawls to drop independently, a rock shaft connected to sald devices and a hand lever for operating said rock shaft.

\section*{No. 102,424. Cash Regiater Mechanism.}

\section*{Mécanisme de registre à monnaif.}

The National Cash Register Company of Ohio. assignee of Thomas Carroll, both of Dayton, Ohio, U.S.A., 4th December, 1906; 6 years. Filed 8th May, 1906. Receipt No. 135.699.
Claim.-1. In a cash register the combination with an operating mechanism, of a cash safe for moving same. means normally preventing outward movement of said safe, said means being disabled by an inward movement of the receptacle.
2. In a cash register the combination with an operating mechanism. of a cash safe and means normally locking the operating mechanism, said locking means arranged to be released by an inward movement of the cash safe.
3. In a register the combination with an operating mechanism, of a cash safe for controlling same normally prevent-

ed from outward movement, means preventing an inward movement of said safe and keys for disabling said preventing means.
4. In a cash register the combination with an operating mechanism, of a cash safe having a movable part of controlling said mechanism, an abutment preventing inward movement of said movable part, and keys for removing the abutment from the path of the said movable part.
5. In a cash register the combination with an operating mechanism, of a reciprocating cash safe having a movable part for operating same, means normally preventing outward movement of said movable part, an abutment normally preventing inward movement of said part, means for removing the abutment, and means operated by a movement of said safe inward from normal position for disabling the first-mentioned preventing means.
6. In a cash register the combination with an operating mechanism, of a cash safe having a movable part for driving said mechanism, means normally preventing operation of the movable part, and means operated by an inward movement of said part for disabling said preventing means.
7. In a cash register the combination with an operating mechanism, of a cash safe having a movable part for driving said mechanism and normally slightly advanced from its rearmost position, and means for preventing outward operative movement of said movable part until an inward movement has been made.
8. In a cash register the combination with an operating mechanism and a cash safe having a movable part for operating same, of releasable means for preventing inward movement of said movable part.
9. In a cash register the combination with an operating mechanism. of a cash safe having a movable part for operating same, means for preventing inward movement of said part and keys for releasing said preventing means.
10. In a cash register the combination with an operating mechanism, of a cash safe having a movable part for operating same and normally in intermediate position, means preventing inward movement thereof and keys for cont.olling said means.
11. In a cash register the combination with an operating mechanism and a cash sale having a movable part for eperating same, of two devices preventing movement of sald part and separate means for disabling said devices respectively.
12. In a cash register the combination with an operating mechanism, of a main motor spring for driving same and an auxiliary spring and connections for assisting the maln spring.
13. In a cash register the combination with a cash receptacle. of a bar normally preventing movement of same, a series of keys, a plate moved by any of said keys and connections between said plate and bar.

No. 102,425. Thermostats for Fire Alarm Cirouits. Thermostate pour circuits d'arertisseur d'incendic.
John Dunklee Gould, assignee of Max Johann Levy, both of New York City. New York, U.S.A., 11th December, \(1900^{\circ}\); 6 years. Filed 13th November, 190 . Receipt No. 130,068 . Claim.-1. An electric cable for fire detecting or thermostatic alarm circuits, consisting of an inner conductor of low fusing metal, a relatively porous insulating covering thereon. and an exterior enveloping metallic tubular conductor of relatively high fusing point.
2. An electric cable for fire detecting or thermostatic alarm circuits, consisting of an inner conductor composed of con-
tiguous strips of metal respectively, of relatively high and low fusing points, a covoring for the inner conductor which

covering is of insulating material readily dissociated by heat and an enveloping metallic tubular conductor of relatively high fusing point.
3. A thermostatic section in a fire detecting circuit, consisting of an inner conductor of low fusing metal, an insulating covering thereon, an enveloping metallic tubular conductor of relatively high fusing point, and one or more insulating blocks in which the ends of the low fusing conductor are sealed, which blocks have metallic terminals, each of which is adapted for electrical connection with one of the conductors of the thermostatic section and one of the circuit conductors.
4. In an electrical thermostat provided with two conductors normally insulated from each other. an insulating block or base provided with an interior recess for the cxposed ends of the conductors, and a can for the base provided with means substantially as described, to prevent moisture from entering the recess in the basc.
5. In an electrical thermostat provided with two conductors normally insulated from each other. a base provided with an interlor chamber for the exposed ends of the conductors, and depressions as \(b^{1}\), around the openings for its fastening devices, and cap for the base provided with projections, as \(c^{8}\), around the openings for its fastening devices, for the puryose described.

No. 102,426. Tape Measure. Mrsure c'и rubrn.


Charles Ernest Flint and David Barclay. assignec of a third interest, both of West Hobart. Australia. 11th December, 1906; 6 years. Filed 7th September, 1906. Receipt No. 139.313.

Claim.-1. The combination with a tape measure, of markers slidable thereon, and means for securing the tape in position upon the figure of a person being measured.
.2. The combination with a principal tape of one or more attached tape measures adapted to be moved along sald principal and to swing from side to side thereof, and markers sliding upon the tapes, as and for the purpose set forth.
3. A tape measure having a hook at one end and a weight at the other end and markers upon the tape adapted to slide thereon, as herein described.
4. A principal tape measure and one or more secondary tapes loosely connected to the principal in such a way as to slide and swing thereon, in combination with the hooks on the tapes and markers adapted to slide along the same, as and for the purpose specified.
5. In combination, a principal tape, a hook on one end thereof and a weight upon the other. a secondary tape swinging on said principal, and other tapes slidable thereon and swinging on their sliding pieces, hooks on said sliding pieces and markers upon the tapes adapted to be moved along the same to the place to be marked, substantially as described.

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No. 102,427. Hot Water Feater. Chauffeur d'cau.


Thomas Benjamin Stultz, Roanoke, and the Coppridge Heater Corporation, Richmond, Virginia, U.S.A., assignee of Joel Anderson Coppridge, 11th December, 1906; 6 years. Filed 14th November, 1906. Receipt No. 141,211.
Claim.-1. The hot water heater herein described comprising the outer shell or casing, the inner wall plate within said shell and made in trunco conical form and inclined inwardly toward its upper end forming a water chamber within the shell the lower end of the inner plate being secured to the outer plate or shell. the top plate tlanged att its inner and outer edges and secured at such edges respectively to the inner wall plate and the shell forming the top of said water chamber, the intermediate plate or partition flanged at its upper end and secured at such end to the top plate between the inner and outer plates and provided at its lower end with reversely projecting lugs spacing it apart from the inner and outer plates, said partition forming the water chamber into inner and outer compartments, the lower dome arranged above said water chamber, the tapered slip nipples connecting said dome with the inner compartment of the water chamber, the centrally depending tubular extension projecting from said dome downwardly into the fireloox formed by the upper end of the inner wall plate and provided with downwardly extending tubes, the upper dome having a central discharge opening for smoke, etc., and fitting within the upper end of the outer shell and provided above said shell with the lateral flange, the tapered slip nippers connecting said upper dome section with the lower dome section, the bolts secured at their lower ends to the shell and projections thence upwardly through the lateral flange of the upper dome section, the nuts on said bolts, the feed pipes leading from the upper dome section for connection with the radiators and the return pipes delivering to the outer compartment of the water chamber within the shell, all substantially as and for the purpose set forth.
2. In a heater substantially as described, the combination of the outer shell, an inner wall, a top plate between the outer shell and inner wall. a partition plate depending from said top plate and dividing the water chamber between the outer and inner plates into separate compartments, means being provided whereby said compartments communicate at their lower ends.
3. A water heater having an annular water chamber and an intermediate partition dividing the same into inner and outer compartments, means for feeding the water to the outer compartment and for conducting the water from the inner compartment, the outer compartment forming a cover for the inner compartment and communicating there with, substantially as set forth.
4. The combination in a water heater with the shell or casing, of the water chamber and firepot within the same, and the dome over the firepot and communicating with the water chamber, and provided with a depending central extension having laterally projecting tubes within the firepot, substantially as described.
5. The combination with the outer shell and the inner trunco conical plate forming a water chamber within the
suter shell, of a partition plate dividing sald water chamber into inner and outer compartments which communicate at their lower ends, and the dome above said water chamber and communicating with the inner compartment thereof, substantially as set forth.
6. The combination of the outer shell or casing, the trunco conical inner plate within the shell, the top plate between the upper end of said inner plate and the shell and the partition plate depending from said top plate and spaced at its lower end away from the shell, the dome above the water chamber and connected with the compartment or space between the inner plate and the partition plate.
7. The combination of the outer shell, the trunco conical inner plate, rivets securing the lower end of said plate to the outer shell, the top plate secured at its outer edge to the shell, and at its inner edge to the trunco conical plate. the partition depending from the top plate between the inner plate and the shell and forming inner and outer compartments in the water chamber, said compartments communicating at their lower ends, and the dome above the water chamber and communicating with the inner compartment thereof, substantially as set forth.
8. The combination in a heater of the shell, the plate within the same and forming a water chamber, the lower dome slip nipples connecting the lower dome with the water chamber, the upper dome, slip tubes connecting said dome with the lower dome, and devices between the upper dome and the casing or shell whereby the upper dome may be pressed down toward the lower dome and the latter toward the water chamber, substantially as set forth.
9. The water heater comprising the shell having an annular water chamber, a lower dome above and communicating with the water chamber, an upper dome above and communicating with the lower dome, and devices for securing the upper dome in connection with the shell, substantially as set forth.
10. In a water heater the combination with the shell or casing and means providing a frepot within the same, of a dome above said firepot, a tubular extension depending from said dome within the firepot, and laterally and downwardly extending tubes projecting from said extension within the firepot, substantially as set forth.
11. The combination in a hot water heater with a shell, and an inner wall plate, of a partition plate extending between the shell and inner wall plate and provided at its lower end with reversely projecting lugs spacing it apart from the inner wall plate and the shell whereby to establish communication between the compartments at the outer and inner side of the said partition, substantially as and for the purposes set forth.

No. 102,428. Tack Puller. Arrache-broquettcs.


The United Shoe Machinery Company of Canada, Boston, Massachusetts, assignee of Clarence Lamber Eaton, Rochester, New York, U.S.A., 11th December, 1906; 6 years. Filed 7th December, 1904. Recelpt No. 120,598.
Claim.-1. In a tack pulling machine, the combination with a rotating head and a tack puller carried thereby, of a curved guard or foot provided with a closed slot against one end of which the tack is held to be acted upon by the tack puller, substantially as described.
2. In a tack pulling machine, the combination with a rotating head and a tack puller carried thereby, of an adjustable guard or foot provided with a closed slot notched at one end, substantially as described.
3. In a tack pulling machine, the combination with a rotating tack puller having a tack engaging edge parallel with the axis of rotation, of a guard or foot against which the tacks are held, and means for relatively adjusting the tack puller and the guard or foot to secure the position of the tacks in proper relation to the path of movement of the tack puller, substantially as described.
4. In a tack pulling machine, the combination of a movable tack puller and a guard or foot provided with an abutment arranged transversely to the line of movement of said tack puller and against which the tacks are held, substantially as described.

No. 102,429. Linotype. Linotype.


The Linotype and Machinery Limited, assignee of Frederick William Sutcliffe, all of London, England, 11th December, 1906; 6 years. Filed 12th December, 1905. Receipt No. 130,942.
Claim.-1. The combination of mould carrier having a single mould of the longer length, vice having a movable jaw, filling piece adapted to be al ternately but into and out of its operative position, mutilated gear, gear alternately driven and left by the multilated gear, and rod connecting the filling piece to the alternatively driven gear.
2. The combination of mould carricr having a single mould of the length, vice having a movable jaw. flling piece adapted to be alternately put into and out of its operative position, mutilated gear, gear alternately driven and left by the mutilated gear, and detachable rod connecting the flling piece to the alternately driven gear.
3. The combination of mould carrier having a single mould of the longer length, vice having a movable jaw, flling piece adapted to be alternately put into and out of its operative position, mutilated gear, gear alternately driven ani le.t by the mutilated gear, rod connecting the filling pdece to the alternatively driven gear, automatic means for presenting the composed line to the mould twice in succession, automatic means for justifying it to the respective bength after each pnesentation, and an automatic repeating machanism to provide for such second presentation.
4. The comblnation of mould carrier having a single mould of the longer length, vice having a movable jaw, filling piece adapted to be put alternately into and out of its operative position, mutilately into and out of its operative position, mutilated gear, gear alternately driven and left by the mutilated gear, rod connecting the flling plece to the alterastively driven gear automatic means for presenting the composed line to the mould twice in succession, automatic means for justifying it to the respective length after each presentation, and an automatic repeating mechanism to provide for such second prosentation.
5. The combination of mould carrier having a single mould of the longer length, vice having a movable jaw, the respective end liner of the mould fast to the said jaw, filling piece adapted to be alternately put into and out of its operative position, mutllated gear, gear alternately driven and left by the mutilated gear, and rod connecting the filling piece to the alternately driven gear.
6. The combination of mould carrier having a single mould of the longer length, vice having a movable jaw, the respective end liner of the mould fast to the said jaw, fllling plece adapted to be alternately put into and out of its operative position, mutflated gear, gear alternately driven and left by the mutilated gear, and detachable rod connecting the flling piece to the alternately driven gear.
7. The combination of mould carrier having a single mould of the longer length, vice having a movable jaw, the respective end liner of the mould fast to the said jaw, flling plece adapted to be alternately put into and out of Its operative position, mutilated gear, gear alternately driven and lefi br the mutilated gear, rod connecting the filling plece to the alternately driven gear, automatic means for presenting the composed line to the mould twice in succession, and automatic means for justifying it to the respective length after each presentation.
8. The combination of mould carrier having a single mould of the longer length, vice having a movable jaw, the respective end liner of the mould fast to the said jaw, flling plece adapted to be put alternately into and out of its operative position, mutllated gear. gear alternately driven and left by the mutilated gear, rod connecting the fllling plece to the alternately driven gear, automatic means for presenting the composed line to the mould twice in succession, automatic means for justifying it to the respective length after each presentation. and an automatic repeating mechanism to provide for such second presentation.
9. The process of casting two linotypes of different lengths from the same composed line. consisting in composing the line for the shorter length, shortening the vice previously set for the longer length by means of a filling piece. justifying the said line to the shorter length. presenting the respective mould. casing the respective linotype, withdrawing the filling piece. justifying the composed line to the louger length, presenting 'the respective mould, and casting the respective linotype.

No. 102,430. Linotype. Linotypr.


The Linotype and Machinery Company Limited, assignee of Frederick William Sutcliffe, all of London, England, 11th December. 1906; 6 years. Filed 7th August, 1906. Recelpt No. 138.467.
Claim.-1. The combination of mould carrier having a single mould of the lenger length, vice to recetve the composed line and having a movable jaw, fllling plece adapted to be put alternately into and out of its operative position, automatic alternating mechanism worked by the first elevator, and a repeating mechanism controlled by the said elevator.
2. The combination of mould carrier having a single mould of the longer length, vice to recelve the composed line and having a movable jaw, filling piece adapted to be put alternately into and out of its operative position, spring and cam controlling the respective positions of the filling piece, ratchet wheel, gravity lever and pawl pivoted thereon and engaging with the ratchet wheel to turn the cam, and reciprocating arm to rock the lever agalngt gravity in one direction.
3. The combination of mould carrier having a single mould of the longer length, vice to receive the composed line and having a movable jaw, fllling piece adapted to be put alternately into and out of its operative position, spring and cam controlling the respective positions of the filling plece, ratchet wheel, gravity lever and pawl pivoted thereon and engaging with the ratchet wheel to turn the cam, reciprocating arm to rock the lever against gravity in one direction, and a repeating mechanism-controlled by the cam.
4. The combination of mould carrier having a single mould of the longer length, vice to receive the composed line and having a movable jaw, flling plece adapted to be put alternately into and out of its operative position, spring and cam controlling the respective positions of the filling piece, ratchet wheel, gravity lever and pawl plvoted thereon and engaging with the ratchet wheel to turn the cam, automatic means for presenting the composed line to the mould twice in succession, and automatic means for justifying it to the respective length after each presentation.
5. The combination of mould carrier having a single mould of the longer length, vice to receive the composed line and having a movable jaw, flling plece adapted to be put alternately Into and out of its operattve position, spring and cam controlling the respective positions of the filling piece, ratchet wheel, gravity lever and pawl pivoted thereon, and engaging with the ratchet wheel to turn the cam, automatic means for presenting the composed line to the mould twice in succession, automatic means for justifying it to the respective length after each presentatiun, and automatic repeating mechanism controlled by the said cam to provide for the second presentation of the composed line and for its distribution alternately.
6. The combination of mould carrier having a single mould of the longer length, vice to receive the composed line and having a movable jaw, respective end liner of mould tast to the said jaw, flling piece adapted to be put alternately
into and out of its operative position, automatic alternating mechanism worked by the first elevator, and a repeating mechanlsm controlled by said cam.
7. The combination of mould carrier having a single mould of the longer length, vice to receive the composed line and having a movable jaw, respective end liner of mould fast to the said jaw, flling plece adapted to be put alternately into and out of its operative positions of the filling plece, ratchet wheel, gravity lever and pawl pivoted thercon and engaging with the ratchet wheel to turn the cam, and reciprocating arm to rock the lever against gravity in one direction.
8. The combination of mould carrier having a single mould of the longer length, vice to receive the composed line and having a movable jaw, respective end liner of mould fast to the said jaw, flling piece adapted to be put alternately into and out of its operative position, spring and cam controlling the respective positions of the filling piece, ratchet wheel, gravity lever and pawl pivoted thereon and engaging with the ratchet wheel to turn the cam, reciprocating arm to rock the lever against gravity in one direction, and a repeating mechanism controlled by the cam.
9. The combination of mould carrier having a single mould of the longer length, vice to receive the composed line and having a movable jaw, respective end liner of mould fast to the said jaw, filling piece adapted ta be put alternately into and out of its operative position. spring and cam controlling the respective positions of the filling plece, ratchet wheel, gravity lever and pawl pivoted thereon and engagin with the ratchet wheel to turn the cam, automatic means for presenting the composed line to the mould twice in succession, and automatic means for justifying it to the respective length after each presentation.
10. The combination of mould carrier having a single mould of the longer length. vice to receive the composed line and having a movable faw, respective end liner of mould fast to the sald jaw, flling piece adapted to be put alternately into and out of its operative position, spring and cam controlling the respective positions of the flling piece, ratchet wheel. gravity lever and pawl pivoted thereon and engaging with the ratchet wheel to turn the cam, automatic means for presenting the composed line to the mould twice in succession, automatic means for justifying it to the respective length after each presentation, and automatic repeating mechanism controlled by the said cam to provide for the second presentation of the composed line and for its distribution alternately.
No. 102,431. Linotype. Linotype.


The Linotype and Machinery Company, Limited, assignee of Frederick William Sutcliffe, all of London, England, 11th December, 1906; 6 years. Filed 7th August, 1906. Receipt No. 138,468.
Claim.-1. The combination of moulds, vice, flling piece, automatic means for alternately Inserting and withdrawing the latter, automatic means for presenting the composed line in the casing position twice in succession, and automatic means for justifying it to the respective length after each presentation.
2. The combination of mould carrier, two moulds of different lengths, filling piece adapted to be put into operative position by the mould carrier as it presents the shorter mould in the casting position, and automatic means for putting the said piece out of operative position when the shorter mould is not in the cauting position.
3. The combination of mould carrier, two moulds of different lengths, means for presenting them successively in the casting position, vice and filling plece, means by which the mould carrier puts the filling piece in to operative position when it presents the shorter length mould in the casting position, automatic means for withdrawing the filling plece from that position when the shorter length mould is not in
the casting position, automatic means for presenting the composed line in the casting position twice in succession, and automatic means for justifying it to the respective length after each presentation.
4. The combination of mould carrier, two moulds of different lengths mounted thereon, vice adapted to hold the composed line in the casing position and having one jaw movable to and from the other jaw. abutment adjustable to hold the movable jaw at a given distance from the said other jaw, filling piece situated between the abutment and the movable jaw. spring to hold it in its inoperative position and in the path of the mould carrier when the shorter length mould is to be cast from. and a hole in the mould carricr to pass over the filling piece when the longer length mould is to be cast from.
5. The combination of mould carrier, two moulds of different lengths mounted thereon, vice adanted to hold the composed line in the casting position and having one jaw movable to and from the other iaw. abutment adjustable to hold the movable jaw at a given distance from the said other jaw. filling piece slutated between the abutment and the movable jaw, spring to hold it in itc inonerative position and in the path of the mould carrier when the shorter longth mould is to be cast from, a hole in the mould carrier to pass over the filling niece when the longer length mould is to be cast from. and automatic means for nutting the said plece out of onerative nosition when the shorter mould is not in the easting nocition.
6. The combination of mould carrier. two moulds of different lengths mounted thereon. vice adanted to hold the composed line in the casing nosition and having on faw movable to and from the other faw. abutment adjustable to hold the movable iaw at a given distanen from the said other iaw. flling piece situated between the abutment and the movable faw. snring to hold it in its inoperative oosition and in the nath of the mould earrior when the longer length mould is to be cast from. a hole in the mould rarrier to nass over the flling niere when the chorter length mould is to to cast from. automatic means for presenting the composed line in the casting nocition twire in succession. and automatic means for fustifying it to the respective length after each presentation.
7. The combination of mould carricr, two moulds of different lengthe mounted thereon. filling niece adapted to be nut into operative nosition by the monld carrine as it presents the shorter mould in its rasting nosition automatic means for putting the filling niece ont of onerative nosition when the shorter mould is not in the casing position, and automatic means for presenting the composed line to each mould in succession.
8. The combination of mould carrier. two moulds of different lengths mounted thereon. filling niece adanted to be put into onerative nocition by the mould carrior as it nresents the shorter mould in its casting nocition automatic means for putting the filling niere nitt of onerative nosition when the shorter mould ic not in the eacting nosition antomatic means for presenting the comnosert line to rarh mould in succession. and automatio moans for fustifyins the said line to the respective length after each such presentation.

\section*{No. 102,432. Draft Gear for Railway Cars.} Appareil de tirage pour rhars de chemin de fer.
The W. H. Miner Comnany. assignee of John F. O'Connor both of Chicago. Illinois. U.S.A.. 11th December. 1906; 6 years. Filed 12th November, 1906. Receipt No. 141.142.
Claim.-1. In a tandem spring draft rigging the combination with the drawbar and drawhar strap. of side plates or stop castings having front and rear stops, tandem arranged s.prings, a front follower bearing against the front end of the front spring, a rear follower bearing against the rear pnd of the rear spring and two intermeshing, flush fitting. telescoping skeleton intermediate followers. one integral with the front follower and the other integral with the rear follower, the two intermediate flush fitting followers both engaging the adjacent ends of each spring when the springs are not compressed, and sliding or telescoping in respect to each other to compress the springs. and integral interfitting longitudinally extending tongurs connecting said intermediate followers and the front and rear followers respectively, substantially as snecified.
2. In a tandem spring draft rigeing the combination with the drawbar and drawbar stran. of side plates or ston castings having front and rear stons, tandem arranged springs, front and rear followers. and two intermeshing skelnton insprings are not compressed, and to telescone or slide anart when the springs are compressed. and integral interfitting bongitudinally extending tongues connerting said intermediate followers and the front and rear followers respectivels. substantially as specified.
3. In a tandem spring draft rigging the combination with the drawbar and drawbar strap, of side plates or stop cast-
ings having front and rear stops, tandem arranged springs, front and rear followers, and two intermeshing skeleton in-

termediate followers adapted to shut together when the springs are not compressed and to telescope or slide apart when the springs are compressed, and two interfitting sets of integral tongues, one set integral with one of said intermediate followers for connecting it with the front follower, and the other set integral with the other intermediate follower for connecting it with the rear follower, substantially as specified.
4. In a tandem spring draft rigging. the combination with the irawbar and drawbar strap, of side plates or stops castIngs having front and rear stops. tandem arranged springs, front and rear followers, and two intermeshing skeleton intermediate followors adapted to shut together when the springs are not compressed and to telescope or slide apart when the springs are compressed, said intermeshing skelpton intermediate followers being integral one with the front foll: wer, and the other wi'h the rear follower, and integral interftiting longitudinally extending tongues connecting said intermediate followors and the front and rear followers respectively, sub ta tililly as specified.
5. In a tandem spring draft rigging, thec ombination with the drawbar and drawbar strap, of side plates or stop castings having front and rear stons, tandem arranged springs, front and rear followers, and two intermeshing skeleton intermediate followers adapted to shut together when the springs are not compressed and to telescope or slide apart when the surings are compressed. sald intermeshing skeleton intermediate followers having each an \(H\) shap d centinvous crossbar and a slotted crossbar, substantially as specified.
6. In a tandem, spring draft rigging, the combination with tandem arranger springs, of front and rear followers, and two complementing ir intermeshing skeleton intermediate followers adapted to shut together when the springs are not compressed, and to telescope or slide apart to compress the springs. whereby the adjacent ends of the two tandem springs are adapted to be brought close together or be separated a distance only equal to the necessary thickness of one follower, and integral interfitting longitudinally extending tongues connecting said intermediate followers and the front and rear followers respectively, substantially as soecified.
7. In a tandem spring draft rigging, the combination with tandem springs, front and rear followers, and two complementing or intermeshing skeleton intermediate fullowers, one of said intermediate skeleton followers being integral with the front follower and the other with the rear follower, and integral interftting longitudinally extending tongues connecting said intermediate followers and the front and rear followers respectively, substantially as spectfled.
8. In a tandem spring draft rigging. the combination with tandem springs, front and rear followers, and two complementing or intermeshing skeleton intermediate followers one of said intermediate skeleton followers being integral with the front follower and the other with the rear follower. one of said intermediate followers having extension legs to limit the follower movement and the compression of the springs, substantially as specified.
3. In a tandem spring draft rigging, the combination with tandem springs. front and cear followers, and two comple-
menting or intermeshing skeleton intermediate followers one of said intermediate skeleton followers being integral with the front follower and the other with the rear follower, said intermediate followers having interfitting extension legs engaging shoulders on the front and rear followers to limit the movement and the compression of the springs, substantially as spectfied
10. In a tandem spring draft rigging, the combination with the drawbar and drawbar strap, of side plates or stop castings having rear and front stops, tandem arranged springs, front and rar followers, and two intermeshing skeleton intermediate followers adayted to shut together When the springs are not compressed and to telescope or slide apart when the springs are compressed, a plurality of integral tongue connections between one of said intermediate followers and the front follower and a plurality of integral tongue connections between the other intermediate follower and the rear follower, said tongue connections of the one intermediate follower interfitting and alternating with those of the other intermediate follower, substantially as specified.
11. In a tandem spring draft rigging, the combination with tandem arranged springs, of a front follower having an integral bottom plate or web, a rear follower having integral bottom plate or web, and two complementing or intermeshing skeleton intermediate followers adapted to shut together when the springs are not compressed. and to telescope or slide apart to compress the springs, and integral Interfitting longitudinally extending tongues connecting sald intermediate followers and the front and rear followers respectively. substantially as specified.
12. In a tandem spring draft rigging. the combination with tandem arranged sorings, of a front follower having an integral bottom plate or web, a rear follower having an integral bottom glate or web and two complementing or intermeshing skeleton intermediate followers adapted to shut together when the springs are not compressed, and to telescope or slide apart to compress the springs, the ends of said integral bottom plates or webs on the front and rear followisrs abutting together to linit the compression of the springs, substantially as specified.
13. In a tandem spring draft rigging, the combination with tandem springs, front and rear followers having integral bottom plates or webs and integral side walls, and two complementing or intermeshing skelet on intermediate followers integral one with the front follower and the other with the rear follower. and integral interfitting longitudinally extending tongues connecting said intermediate followers with the front and rear followers respectively, substantially as specifled.
14. In a tandem spring draft rigging. the combination with tandem springs, front and rear followers having integral bottom plates or webs and integral side walls, and two complementing or intermeshing skeleton intermediate followers intgeal one with the front follower and the other with the rear follower. and itegral interfitting longitudinally extending tongues connecting said intermediate followers with the front and rear followers respectively, sald intermediate followers having interfitting extension legs, substantially as specified.
15. In a tandem spring draft rigging, the combination with tandem arranged springs, front and rear followers, and two iterfiting telfscoping \(H\)-shaped and slotted crossbar intermediate followers. substantially as specified.
16. In a tandem spring draft rigging. the combination with tandom arranged springs. front and rear follnwers, and two interfitirg telescoping \(H\)-shap d and slotted crossbar intermediate followers, one of said interm diate followers being integral with the front follower and the other with the rear follower, substantially as sprcified.

\section*{No. 102,433. Draft Gear for Cars.}

Appareil de tirage pour chars.
The W. H Miner Comrany, assignee of John O'Connor, both of Chicago. Illinois. U.S.A.. 11th December. 1906: 6 years. Filed 12th November, 1906. Receipt No. 141,143.
Claim.-1. In a railway car coupling and raft appliance. the combination with the main frame of a car, of a supplemental swinging frame pivotally connected at its rear end to said main frame, a coupler and draft rigging mechanism mounted upon and carricd by said supplemental swinging framn and a socket and plunger at the opposite sides of the swinging frame adaitert to engage the co-operating plunger and socket of tho swinging frame of the adjacent car to turn the two swinging frames into parallelism and the couplers and dawbars into alignment with each other ai the cars approach, substantially as specified.
2. In a rallway car coupling and draft appliance, the combination with the main frame of the car. of a supplemental swinging frame pivotally connected at its rear end to said main frame, a coupler and draft rigging mechanism mounted
upon and carried by said supplemental swinging frame, a curv'd track and hangers for supporting the front end of

said supplemental swinging frame, and a socket and plunger at the opposite sides of the swinging frame adapted to engage the co-operating plunger and socket of the swinging crame of the adjacent car to turn the two swinging frames Into parallelism and the couplers and drawbars into alignment with each other as the cars approach, substantlally as soecified.
3. In a railway car coupling and draft appliance, the combination with the main fiame of the car, of a supplemental swinging frame pivotally connected at its rear end to said main frame, a coupler and draft rigging mechanism mounted upon and carried by said supplemental swinging frame, means for centering said supplemental swinging frame with the main frame, and a socket and plunger at the opposite sides of the swinging frame adapted to engage the co-operating plunger and socket of the swinging frame of the adjacent car to turn the two swinging frames into parallelism and the couplers and drawbars into alignment with each other as the cars approach, substantially as specified.
4. In a railway car coupling and draft appliance, the combination with the main fame of the car, of a supplemental swinging frame pivotally connected at its rear end to said main frame, a coupler draft rigging mechanism mounted upon and carried by said supplemental swinging frame, a curved track and hangers for supporting the front end of said supplemental swinging frame, and means for centering said supplemental swinging frame with the main frame. and a socket and plunger at the opposite sides of the swinging frame adanted to engage the co-operating plunger and socket of the swinging frame of the adjacent car to turn the two swinging frames into parallellsm and the couplers and drawbars into alignment with each other as the cars approach, substantially as syecified.
5. The combination with the car frame, of a supplemental drawbar and draft rigging carying frame pivotally connected to the main framc, and a coupler drawbar and cushioning device mounted upon and carried by saif supnlemental frame, said supplemental frame having socket and plunger devices adapted to engage similar devices on the adjacent car to turn sald supplemental frame on its pivot so as to bring the drawbar carried thereby into alignment with the drawbar of the adjacent car, substantially as specified.
6. The combination with a car erame. of a supplemental drawbar and draft rigging carrying frame pivotally connected to the main frame, and a coupler drawbar and cushioning device mounted unon and carried by said supplemental frame, and means for centering said supplemental frame with the car frame, said supplemental frame having socket and plunger devices adapted to engage similar devices on the adjacent car to turn said supplemental frame on its pivot so as to bring the drawbar carried thereby into alignment with the drawbar of the adjacent car, frame, substantially as specified.
7. The combination with the car frame, of a supplemental triangular frame pivotally connected to the main frame and provided with parallel bars, side plates or stop castings secured to said parallel bars, followers, a cushioning device
and a drawbar mounted upon and carried by said supplemental frame, substantially as specified.
8. The combination with the car frame, of a supplemental triangular frame pivotally connected to the main frame and provided with parallel bars, side plates or stop castings secured to sald parallel bars, followers, a cushioning device, a drawbar mounted upon and carried by said supplemental frame, and a centering device for said supplemental frame. slbstantially as specifled.
9. The combination with the car frame, of a supplemental triangular frame pivotally connected to the main frame and provided with parallel bars, side plates or stop castings secured to said parallel bars, followers, a cushioning device, a drawbar mounted upon and carried by said supplemental frame, a centering device for said supplemental frame and means for turning said supplemental frame on its pivot to bring the drawbar carried thereby into alignment with the drawbar of the adjacent car as the cars approach each other for coupling on a curve, substantially as specified.

No. 102,434. Draft Gear for Railway Cars. Apparedl do tirage pour chars de chemin de fer.


The W. H. Miner Company, assignee of John F. O'Connor both of Chicago, Illinois, U.S.A., 11th December, 1906; 6 years. Filed 12th November, 1906. Receipt No. 141,144.
Claim.-1. In a draft rigging, the combination with side plates or stop castings and the drawbar and drawbar strap or extension, of a reciprocating spring cage or box furnished with a pair of chambers or pockets to recelve two series or sets of flat straight spring plates, a pair of followers, said followers and said spring cage or box having co-operating curved bearing faces engaging the springs, and two tandem arranged sets or series of flat straight springs interposed in the chambers or pockets of said spring cage or box bebox, substantially as specified.
2. In a draft rigging, the combination wlth side plates or stop castings and the drawbar and drawbar strap or extension, of a reciprocating spring cage or box furnished with a pair of chambers or pockets to recelve the series or sets of flat straight spring plates, a pair of followers, said followers and said spring cage or box having co-operating curved bearing faces engaging the springs, and two tandem arranged sets or series of flat straight springs interposed in the chambers or pockets of said spring cage or box between it and the followers, said followers having walls or flanges telescoping with the ends of said spring cage or flanges substantially a sspecified.
3. In a draft rigging, the combination with side plates or stop castings and the drawbar and drawbar strap or extension, of a reciprocating spring cage or box furnished with a pair of chambers or pockets to recelve two series or sets of flat straight spring plates, a pair of followers, said followers and said spring cage or box having co-operating curved bearing faces engaging the springs, and two tandem arranged sets or series of flat stralght springs interposed in the chambers or pockets of sald spring cage or box between it and the followers, said followers having shoulders abutting against the ends of said spring cage or box to limit the extent of flexure or compression of the springs, substantially as specified.
4. In a draft rigging, the combination with the drawbar and drawbar strap or extension, and side plates or stop castings having front and rear stops for the followers to abut against, of a reciprocating spring cage or box, a fol-
lower and a series of straight flat springs interposed between said follower and the spring cage or box, said spring cage or box and the follower having co-operating curved bearing faces to engage the springs and cause their flexure, substantially as specifled.
5. In a draft rigging, the combination with the drawbar and drawbar strap of extension and side plaes or stop castings having front and rear stops for the followers to abut against, of a reciprocating spring cage or box, a follower and a serles of straight flat springs interposed between cald follower and the spring cage or box, said spring cage or box, and the follower having co-operating curved bearing faces to engage the springs and cause their flexure and means for connecting said serles of straight flat springs together, substantially as specified.
6. In a draft rigging, the combination with the drawbar and drawbar strap or extension, and side plates or stop castings having front and rear followers to abut against. of a reclprocating spring cage or box, said spring cage or box and the follower having co-operating curved bearing faces to engage the springs and cause their flexure, said side plates or stop castings having a lower removable guide upon which said spring cage or box and said follower reciprocates, substantially as specified.
7. In a draft rigging, the combination with the drawbar, and drawbar strap or extension, of side plates or stop castings having front and rear stops for the followers to abut against, of a reciprocating spring cage or box having a closed or air confining pocket to receive the springs and a curved bearing face to engage the springs, a follower having a correspondingly curved bearing to engage the springs. and a series of straight flat springs interposed between said follower and the spring cage or box and operating to compress the air in the confined chamber of the cage or box as the springs are flexed, substantially as specifled.
8. In a draft rigging, the combination with a spring cage or box having a closed or air confining chamber into which the springs are flexed, a follower and a series of straight flat spring plates interposed between the follower and the bearing face of the spring cage or box and operating in compress the air in the chamber of the spring cage or box as the springs are flexed, and thus increasing the resisting capacity of the draft rigging. substantially as specifled.
9. A combined air and spring resistance draft rigging having in combination a spring cage or box, a follower, and interposed straight flat springs fitting the interior of said spring cage or box and forming therewith a closed air chamber, substantially as specified.

\section*{No. 102,435. Draft Gear for Railway Cars.} Apparetl de tirage pour chars de chemin de fer.


The W. H. Miner Company, assignee of John F. O'Connor, both of Chicago, Illinois, U.S.A., 11th December, 1906; 6 years. Filed 12th November, 1906; Receipt No. 141,145. Claim.-1. In a draft rigging for rallway cars, the combination with the drawbar, springs and followers, of side plates or stop castings each cosisting of a cast web of substantially uniform thickness throughout, free from T and other flange-like sections, and having integral upright convolutions therein forming upright stop shoulders. and having also horizontal convolutions therein forming longitudinal strengthening ribs or flanges, substantially as specified.
2. A railway draft rigging side plate or stop casting. consisting of a cast web of substantially uniform thickness, free from \(T\) and other flange-llke sections, and having upright convolutions therein forming stops or shoulders for the followers to abut against, substantially as specified.
3. A railway draft rigging side plate or stop casting, consisting of a cast web of substantially uniform thickness
throughout, free from \(T\) and other flange-like sections, and furnished with a series of upright convolutions therein forming stops or shoulders for the following to abut against and furnished with horisontal or longitudinal convolutions therein forming longitudinal strengthening ribs or flanges, substantially as specifled.
4. A railway draft rigging side plate or step casting, comprising a cast metal web of substantially uniform thickness throughout, free from \(T\) and other flange-like sections, and having a plurality of upright convolutions therein forming stops or shoulders for the followers to abut against, and provided with further upright convolutions therein forming intermediate stops or shoulders for the followers to abut against to limit the compression of the springs, substantially as specified.
5. In a draft rigging for railway cars, the combination with the drawbar, springs and followers, of side plates or stop castings each consisting of a cast web of substantially uniform thickness throughout, having integral upright bends or convolutions therein forming upright stop shoulders, and having also horizontal convolutions therein forming longltudinal strengthing ribs or flanges, sald horizontal convolutions extending between but not across said upright convolutions, substantially as specified.
6. In a railway draft rigging side plate or stop casting, consisting of a cast web of substantially uniform thickness throughout, furnished with a series of upright convolutions therein forming stops or shoulders for the following to abut against, and furnished with horizontal or longitudinal convolutions therein forming longitudinal strengthening ribs or flanges, gaid horizontal convolutions extending between but not across sald upright convolutions, substantially as shecifled.
7. A rallway draft rigging side plate or stop casting, comprising a cast metal web of substantially uniform thickness throughout, and having a plurality of upright convolutions therein forming stops or shoulders for the followers to abut against, and provided with further upright convolutions therein forming intermediate stops or shoulders for the followers to abut against to limit the compression of the springs, said main web having also horizontal or longitudinal convolutions therein, substantially as specified.
8. A railway draft rigging side plate or stop casting, comprising a casting metal web of substantially uniform thickness throughout, and having a plurality of upright convolutions therein forming stops or shoulders for the followers to abut against, and provided with further upright convolutions therein forming intermediate stops or shoulders far the followers to about against to limit the compression of the springs, said main web having also horizontal or longitudinal convolutions thereln extending between but not across said upright convolutions, substantially as specified.

No. 102,436. Draft Rigging for Railway Cars. Apparetl do tirage pour chars de chemin de fer.


The W. H. Miner Company, assignee of John F. O'connor, both of Chicago, Illinios, U.S.A., 11th December, 1906; 6 years. Filed 12th November, 1906. Recelpt No. 141,146.
Claim.-1. In a draft rigging the combination with the drawbar, springs and followers, of a one piece stop casting comprising a main cast web of uniform thickness throughout free from \(T\) and other flange-like sections, and having a plurality of longitudinal convolutions and a plurality or tranverse convolutions to form stops or shoulders for the followers to abut against, substantially as specified.
2. A one piece stop casting for railway draft rigging consisting in a continuous cast web of substantially uniform thickness free from \(T\) and other flange-like sections furnished with longitudinal convolutions, and wih a plurality of transverse convolutions to form stops or shoulders for the followers to abut against, substantially as specified.
3. A one piece stop casting for railway draft rigging, consisting in a continuous cast web of uniform thickness free from \(T\) and other fiange-like sections provided with a plurality of transverse convolutions to form stops or shoulders for the followers to abut against, substantially as specified.
4. A one plece stop casting for railway draft rigging, consisting in a continuous web of uniform thickness provided with a plurality of transverse convolutions to form stops or shoulders for the followers to abut against, and provided also with intercediate c-nvolutions to limit the compression Cf the springs, substantially as specified.
5. A one piece stop casting consisting in a continuous single plece web having upright outer limbs \(f\), adapted to fit against and be secured to the car frame sills or pleces, and integral inclined members \(\mathcal{P}\), integral upright members \(f\), and integral horizontal members \(f\), said web being also provided with transverse convolutions to form stops or shoulders for the followers to abut against, substantially as specifled.

No. 102,437. Draft Gear for Railway Passenger Cary.
Appareil de tirage pour chars de passagers.


The W. H. Miner Company, assignee of John F. O'Connor, both of Chicago, Illinois, U.S.A., 11th December, 1906; 6 years. Filed 12th November, 1906. Receipt No. 141,147.
Claim.-1. In a draft rigging for railway passenger cars the combination with the drawbar, springs and followers, of side plates or stop castings, each consisting of a cast web of substantially uniform thickness throughout, having an integral upper longitudinal convolution therein adapted to fit against and be secured to the upright web of the center sill, and furnished also with a plurality of upright convolutions forming steps or shoulders for the followers to abut against, substantially as specified.
2. In a draft rigging for rallway passenger cars the combination with the drawbar, springs anl followers, of said plates or stop castings, each consisting of a cast web of substantially uniform thickness throughout, having an integral upper longitudinal convolution therein adapted to fit against and be secured to the upright web of the center sill, and furnished also with a plurality of upright convolutions forming stops or shoulders for the followers to abut against, said cast web having also a longitudinal convolution at its lower part, substantially as specified.
3. In a draft rigging for railway passenger cars the combination with the drawbar, springs and followers, of side plates or stop castings, each consisting of a cast web of substantially uniform thickness throughout, having an integral upper longitudinal convolution therein adapted to fit against and be secured to the upright web of the center sill, and furnished also with a plurality of upright convolutions forming stops or shoulders for the followers to abut against, said upright convolutions terminating below said upper longitudinal convolutions, substantially as specified.
4. The rallway passenger car draft rigging side plate or stop casting, consisting of a cast web of substantially uniform thickness having upright convolutions therein forming stops or shoulders for the followers to abut against, and an upper longitudinal convolution to fit against the car sill, substantially as specified.
5. The railway passenger car draft rigging side plate or stop casting, consisting of a cast web of substantially uniform thickness having upright convolutions therein forming stops of shoulders for the followers to abut against and an
upright longitudinal convolution to fit against the car sill. said upright convolutions being below said upper longitudinal convolution, substantially as specifled.
6. The railway passanger car draft rigging side plate or stop casting, consisting of a cast web of substantially unlform thickness having upright convolutions therein forming stops or shoulders for the followers to abut against, and an upper longitudinal convolution to fit against the car sill. said web having also at its lower portion a longitudinal convolution, substantially as specifled.
7. The railway passenger car draft rigging side plate or stop casting, consisting of a cast web of substantially uniform thickness, having upper and lower longitudinal or horizontal convolutions. and provided with upright convolutions extending below the upper longitudinal convolutions and forming stops or shoulders for the followers to abut against, substantially as specified.

No. 102,438. Draft Gear for Railway Cars.
Appareil de tirage pour chars de chemin de frr.


The W. H. Miner Company, assignee of John F. O'Connor, both of Chicago, Illinois, U.S.A., 11th December, 1906 ; 6 years. Filed 12th November, 1906. Receipt No. 141,148.
Claim.-1. In a draft rigging the combination with the side plates or stop castings, springs and followers, of a drawbar strap or extension and a drawbar having a pivotal connection therewith to enable it to swing laterally, said drawbar being provided with lateral pivot or rocker arms, and a longitudinally movable drawbar centering block interposed between the rear end of the drawbar and the front follower and having lateral seats or bearings to engage said lateral rocker or pivot arms on the drawbar to cause the draft rigging spring to be compressed when the drawbar swings, and thus to center the drawbar or restore it to position through the action of the draft rigging spring itself. and fller blocks and rivets connecting the drawbar, drawbar strap and drawbar centering block, substantially as specified.
2. In a draft rigging the combination with the side plates or stop castings, springs and followers, of a drawbar strap or extension and a drawbar having a pivotal connection therewith to enable it to swing laterally, said drawbar being provided with lateral pivot or rocker arms, and a longitudinally movable drawbar centering block interposed between the rear end of the drawbar and the front follower and having lateral seats or bearings to engage said lateral rocker or pivot arms on the drawbar to cause the draft rigging spring to be compressed when the drawbar swings laterally, and thus to center the drawbar or restore it to position through the action of the draft rigging spring itself. fller blocks furnished with hubs or thimbles, rivets connecting the drawbar with its strap or yoke and extending through the filler blocks, the drawbar having a transverse slot to receive the front rivet and filler block hub or thimble, and the drawbar centering block having a longitudinal slot to receive the rivet and filler hub block or thimble passing through it. substantially as specified.
3. In a draft the combination with the spring and follower, of a drawbar strap or yoke, a drawbar pivotally connected to sald drawbar or yoke and having lateral pivot or rocker arms, and a longitudinally movable drawbar centering block having sets or bearings engaging said arms on the drawbar, fller blocks furnished with three hubs or thimbles to recejive the rivets, rivets passing through the drawbar strap or yoke and said hubs or thimbles, the drawbar having a transverse slot to recelve the front rivet and fller block hubs or thimbles and the drawbar centering block having longitudinal slots to receive the middle and rear rivets and filler block hubs or thimbles, substantially as specified.
4. A draft rigging and drawbar centering mechanism consisting in the combination with a drawbar, of a drawbar
strap or yoke, draft rigging spring and followers and a longitudinally movable drawbar centering block interposed between the front follower and the drawbar, the drawbar being provided with lateral rocker or pivot arms and sald centering block having seats to engage said arms, and means comprising a pair of filler blocks and three rivets connecting the drawbar, drawbar straps and drawbar centering block whereby the drawbar is permitted to swing laterally and the centering block to move longitudinally and compress the draft rigging spring as the drawbar swings laterally and thereby cause it to be restored to position. substantially as specifled.

No. 102,439. Draft Rigging for Railway Cars.
Appareil de tirage pour chars de chemin de fer.

friction shoes in said case or shell at one end of said spring, a pair of rockers pivotally mounted on said friction shoes and having circular contacting faces about a center in advance of the pivotal center of said rocker and a movable pressure block interposed between said rocker and the drawbar, said friction shoes having central strengthening ribs and said rockers having slots to recelve said ribs, substantially as specifled.
6. In a friction spring draft rigging the combination with the side plates or stop castings, drawbar and drawbar strap or extension, of a longitudinally movable friction case or shell, a spring therein, sliding friction shoes in said case or shell at one end of said spring, rocking spreaders bearing against sald shoes to force the same into frictional engagement with said case or shell, a pressure block bearing against said rocking spreaders and actuated by the drawbar, said rocking spreaders and pressure block being provided with means to cause the lateral or spreading force exerted upon the friction shoes to bear a constant ratio to the longitudinal thrust or load upon the drawbar, substantially as specifled.

No. 102,440. Acetylene Gas Generator. Générateur à gaz acétylène.


Joseph Octave Bousseau, North Hatley. Quebec, Canada, 11th December, 1906; 6 years. Filed 3rd Feburary, 1906. Reclept No. No. 132,549.
Resumd.-1. Dans un appareil a acetylène, la combinaison dun levier sous pression, lequel en ouvrant automatiquement l'ouverture supérieure du magasin a garbure, couvre en meme temps le dessus de la tire qui communique au bouchon inferieur du dit magasin, et par ce fait, empeache ce bouchon d'être ouvert pendant que l'ouverture supérieure du magasin est ouverte, tel que d crit en substance.
2. Dans un appareil a acetylène, la combinaison, d'un cou vercle sur l'embouchure latérale servant a recevoir l'eau de l'extérieur lequel couvercle est muni de deux broches ou leviers, dont l'un est raccordé à un robinet qui ouvre un passage d'air de l'exterieur au genérateur, et dont l'autre est reccordé a la chantepleur ou robinet servant à vider le générateur cette combinasion ayant pour but empecher la perdition du gaz, et le melange d,air au gaz, tel que derit en substance.
3. Dans un appareil a acétylene, une valve fiottante \(C\) fig. \(1: 5\), composée d'un capuchon 19, avec deux flottants 18 , l'un attaché de chaque coté du dit capuchon et deux barres une chaque coté du bout inférieur des flottants 18 les rattachant ensembles, le tout formant la soupage flottante.
4. Dans un appareil à acêtylène d'une résêrre le carbure restant dans le magasin et ne tombant que par l'opération du mécanisme automatique de l'apparnil, mais tombant sous un choc quelconque transmis a l'extericur de l'appareil, tel que décrit en substance.
5. Dans un apparell a acetylee d'un couvercle hermétique sur la boite de surêté, par laquelle s'echappe le gaz ou l'air expulse de l'appareil, solt sous un surcrolt de pression dans les differentes parties de l'appareil, ou pendant le changement de l'eau, dans le générateur, tel que décrit en substance.
6. Dans un appareil a acetylène la comblnaison dyune trappe liquide placée au bas du tube, par lequel l'eau descend du gazogène ou cloche, dans le générateur cette trappe ayant pour effet de laisser descendre l'eau, sans laisser descendre le gaz, mals au contraire de laisser monter le gaz du générateur au gazogène ou cloche, tel que décrit en susbtance.
7. Dans un appareil à acétylène la combinaison d'un generateur, d'un gazogène ou cloche, d'un réservoir a garbure, dont l'ouverture supérieur est formée par une trappe a penture, dont la pésanteur est suffisante pour contrebalancer la pression du gaz interne et l'empêcher de sortie.

No. 102,441. Bearing. Coussinct.
 Joseph Dove-Smith and Frank Edward Lauer, co-inventors, both of Toronto, Ontario, Canada, 11th December, 1906 ; 6 years. Filed 18th August, 1906. Receipt No. 138,788.
Claim.-1. An anti-friction bearing for end, thrust and step bearing purposes comprising a series of load bearing rollers each having two conical bearing surfaces tapering from the middle of its peripheral surface towards the ends thereof, a series of spacing rollers intermediate the load bearing rollers, each having its ends tapered to correspond with the taper of the conical surfaces of the load bearing rollers, and having a V-shaped groove extending from the inner edges of the tapered ends of the medium line of its peripheral surface with the apex of the V-shaped groove aligned with the apex of the conical suriace of the adjacent load bearing roller, a retaining ring at each end of the load bearing and spacing rollers and fastening bolts locking the retaining rings together to hold the load bearing and spacing rollers in their assembled condition.
2. An anti-friction bearing for ond, thrust and step bearing purposes comprising a series of load bearing rollers. each having two conical bearing surfaces tapering from the middle of its peripheral surface towards the ends thereof, a series of spacing rollers intermediate the load bearing rollers, each having its ends tapered to correspond with the taper of the conical surfaces of the load bearing rollers, and having a \(V\)-shaped groove extending from the inner edges of the tapered ends to the medium line of its peripheral surface with the apex of the \(V\)-shaped groove aligned with the apex of the conical surface of the adjacent load bearing roller, a retaining ring at each end of the load bearing and spacing rollers and fastening bolts passing through the retaining rings and centrally through their respective load bearing rollers.
3. An anti-friction bearing for end, thrust and step bearing purposes comprising a series of load bearing rollers, each having two conical bearing surfaces tapering from the middle of its peripheral surface towards the ends thereof, a series of spacing rollers intermediate the load bearing rollers. each having its ends tapered to correspond with the taper of the conical surfaces of the load bearing rollers and having a \(V\)-shaped groove extending from the inner edges of the tapered ends to the medium line of its peripheral surface with the apex of the \(V\)-ghaped groove aligned with the apex of the conical surface of the adjacent load bearing roller, a retaining ring at each end of the load bearing and spacing rollers and fastening bolts locking the retaining rings together to hold the load bearing and spacing rollers in their assembled condition, in combination with a shaft having a conical bearing surface contacting the conical bearing surfaces at one side of the middle of the load bearing rollers and tapered to correspond with the taper thereof. and a load resisting element having a conical bearing surface contacting the conical bearing surfaces at the other side of the middle of the load bearing rollers, at a place
diametrically opposite and parallel to the place of contact of the conical bearing surface of the shaft.
4. An anti-friction bearing for end, thrust, and step bearing purposes, comprising a series of load bearing rollers each having two conical bearing surfaces tapering from the middle of its peripheral surface towards the ends thereof, a series of spacing rollers intermediate the load bearing rollers, each having its ends tapered to correspond with the taper of the conical surfaces of the load bearing rollers and a V-shaped groove extending from the inner edges of the tapered ends to the median line of its peripheral surface with the apex of the V-shaped groove aligned with the apex of the conical surface of the adjacent load bearing roller, a retaining ring at each end of the load bearing and spacing rollers and fastening bolts passing through the retaining rings and centrally through their respective load bearing and spacing rollers, in combination with a shaft having a conical bearing surface contacting the conical bearing surfaces at one side of the middle of the load bearing rollers, and tapered to correspond with the taper thereof, and a load resisting element having a conical bearing surface contacting the conical bearing surfaces, at the other side of the middle, of the load bearing rollers at a place diametrically opposite and parallel to the place of contact of the conical bearing surface of the shaft.

No. 102,442. Trolley Head. Tête de trollé.


Garnet Bowen Holmes and Arthur Dunscombe Allen, coinventors, both of Wellington, New Zealand, 11th December, 1906; 6 years. Filed 29th March, 1906. Receipt No. 134,410.
Claim.-1. Apparatus for the purpose indicated comprising in combination a trolley pole, a head secured thereto, a bracket pivotally secured to the head, a jaw swivelled in the bracket, a trolley wheel journalled in the jaw, the pivotal connection of said bracket with the head arranged in such position that the bracket normally tends to turn over upon said pivot out of its vertical position, and means for rotating the bracket in its vertical position through the upward pressure of the trolley wheel against the electrical conductor cable, substantially as specified.
2. Apparatus for the purpose indicated comprising in combination a trolley pole, a head secured thereto, a bracket pivotally secured to the head in such manner that it tends to foll out of its vertical position, a jaw swivelled in the bracket, a trolley wheel journalled in the jaw, cheeks projecting from the bracket a pin secured in the checks, slots in the head adapted to receive the said pin and spring, means tending to raise the bracket so that the pin leaves the slots. substantially as set forth.
3. Apparatus for the purpose indicated comprising in combination a trolley pole, a head secured thereto, a pivot pin projecting a each end from the head, a bracket, slots in the bracket receiving said pivot pin, the position of said pivot pin being such that the bracket tends to turn upon it out of its vertical position, a jaw swivelled in the bracket, a trolley wheel journalled in the jaw, cheeks projecting from the bracket, a pin secured in the checks, slots in the head adapted to receive said pin and a spring secured to said pin and to said pivot pin tending to raise the bracket and to cause the pin to leave the slots in the head, substantially as specified.
4. Apparatus for the purpose indicated comprising in combination a trolley pole, a head secured thereto, a bracket pivotally secured to the head in such manner that it tends to sall out of its vertical position, a jaw swivelled in the bracket, a trolley wheel journalled in the jaw, cheeks projecting from the bracket, a pin secured in the checks, slots in the head adapted to receive said pin, spring means tendIng to raise the bracket and to cause the pin to leave the slots in the head, a lever adapted to be struck by said pin, a contact plece upon the lever in connection with an electrical bell wire and a second contact plece upon the other wire of the bell adapted to be engaged by the first contact plece, substantially as specified.

No. 102,443. Car Fender. Chasse-corps pour tramicays.


George Allen, Franklin. Pennsylvania, U.S.A., 11th December, 1906: 6 years. Filed 20th November, 1906. Receipt No. 141,335.
Claim.-1. The combination of a vertical fender having a centrally located vertical pivot, and means for positively turning said fender on its pivot.
2. The combination of a vertical fender having a centrally located vertical pivot and a lever constructed to turn the fender to an inclined or diagonal position and for locking it in such position.
3. The combination with supports, of a vertical shaft mounted near its ends in said supports, a vertical fender, rearwardly converging bars connected at their front ends to said fender, and at their rear ends to sald shaft and means for turning the shaft, substantially as described.

\section*{No. 102.444. Fiber Reducing Machine.}

Machine à réduire les flbres.


Herman Samuel Albrecht, St. Louis, Missourl, U.S.A., 11th December, 1906; 6 years. Filed 17th June, 1906. Receipt No. 137,902.
Claim.-1. In a fibre cutting machine the combination with a pair of upright directing plates converging toward their inner ends, of two series of toothed feed rollers arranged at the inner ends of the directing plates to receive the material between them, the outer rollers of the two series being more widely separated and having larger teeth than the inner ones, a throat cutter plate receiving the material from the inner rollers, and a cutter operating upon the material delivered from the throat cutter plate.
2. In a fibre cutting machine the combination with means for compressing the fibre and a throat cutting plate through Which the compressed material is delivered, of a cutter casing into which the material is delivered, a plurallty of cutter bars arranged within said casing, a rotary cutter havIng a plurality of knives extending from one end of the cylin der to the other and pockets between the knives for holding
the material cut from the supply and subjecting the same to the action of the cutter bars within the casing, means for adjusting the rotary cutter toward the cutter plate, and means for adjusting the cutter bars toward the rotary cutter.
3. A feeding mechanism for fibre cutting machines comprising a table having transversely extending slots, converging upright directing plates mounted at the forward portion of the table, feed rollers located below the table and operating in the slots, the rear two of which are toothed and are located beyond the converging directing plates. a swinging frame yieldingly supported at one end above the lower toothed feed rollers, and feed rollers carried by the swinging frame, the outer one being a greater distance above the rollers below the table than the inner one.
4. In a machine of the character described the combination of a casing, a cutter mounted in said casing, an apertured throat plate at the entrance way into said casing, a table leading to said throat plate. lower feed rollers operating through said table, an oscilliating frame surmounting said lower feed rollers, boxes sidably positioned in said oscillating frame and in which said upper feed rollers are journalled, spring surmounting said boxes, and means for yieldingly holding said osclllating frame, substantially as set forth.
5. In a machine of the character described the combination of a casing, a cutter mounted in said casing, an apertured throat plate at the entrance-way into said casing, a table leading to said throat plate, lower feed rollers operating through said table, an osciliating frame surmounting said table, upper feed rollers surmounting said lower feed rollers, boxes slidably positioned in said oscillating frame and in which said upper feed rollers are fournalled. springs surmounting sald boxes, and spring controlled tension rods connected to said osclilating frame, substantially as set forth.
6. The combination of a cutter casing having guldeways on opposite sides thereof, a fixed throat cutter bar. a pressure bar movable at its ends in said guldeways. set screws mounted in the casing, and springs each seated at one of its ends against the pressure bar and bearing at their other ends against said set screws, substantially as set forth.

No. 102,445. Vehicle Propelling Machine.
Machine d propulsion pour véhiculcs.


August Ahlbrecht, Pittsburg. Pennsylvania, U.S.A.. 11th December, 1906; 6 years. Filed 18th May, 1906. Recelpt No. 136,060.
Claim.-1. An apparatus for propelling vehicles comprising a series of vertically disposed propeller bars supported upon the vehicle and above the roadway and means for moving caid propeller bars vertically and horizontally in opposite relation, said means comprising a reciprocating crosshead carrying said propeller bars and an eccentric grooved disc for moving said bars vertically within the crosshead, whereby one series is engaged to propel the vehicle while the other is moving into position.
2. In an apparatus for propelling vehicles, the propeller 'bars arranged in series and supported in a vertical position
within reach of the roadway, means for giving the same a reciprocating movement and means comprising an eccentric grooved wheel operated to give the propellers a vertical movement.
3. In an apparatus for propelling vehicles, the propeller bars loosely mounted and supported in reciprocating crossheads, said bars being moved vertically by means of an eccentric grooved disc operated by the drive shaft and a serles of connecting bars, as described.

No. 102,446. Fruit Crate. Manne d fruits.


Levin R. Bacon, Laurel, Delaware, U.S.A., 11th December, 1906; 6 years. Filed 20th November, 1906. Receipt No. 141,356.
Claim.-In a knockdown crate the combination with side and end sections of different lengths, respectively, arranged end to end in spaced alternate relation and connected one with the other by means of flexible metallic strips, means carried at the outer end of one of said sections whereby when said sect:ons are folded in crate form said section may be secured to an abutting section, a bottom adapted to be inserted within the side and end sections, flexible metallic straps connected at one end to the bottom of one of sald side sections and extending across and projecting beyond the outer side of, and being secured to said bottom, the projections of said straps being adapted to be secured to the bottom of the other side section, and a lid hinged to the top of said other side section.

No. 102,447. Mould. Moule.


Herman Besser, Alpena, Michigan, U.S.A.; 11th December, 1906; 6 years. Filed 5th September, 1906. Receipt No. 139,280.
Claim.-1. In a mould the combination of a side wall adapted to serve as a pallet and having wedges connected therewith, and a plurality of movable walls, certain of said movable walls being adapted to co-act with said wedges.
2. In a mould the combination of a pallet, movable end walls, a plurality of movable walls connected with the end walls, and means connected with the pallet for moving the last-named walls when the end walls are moved.
3. In a mould the combination of a pallet, a bottom or side wall adapted to be mounted on the pallet, a pair of end walls connected with said bottom or side wall, and means connected with the pallet for lifting the mould when the end walls are swung outwardly therefrom.
4. In a mould the combination of a pallet, a bottom or side wall adapted to be mounted on the pallet, a pair of end walls connected with said bottom or side wall, means connected with the pallet for lifting the mould when the end walls are swung outwardly therefrom, said means comprising a plurality of wedges, and a guide connected with each wall.
5. In a mould the combination of a plate, a wall pivoted to the plate at a point beyond the edge thereof, a frame having guides, and means connected with said wall for moving said frame away from the plate when the wall is swung on its pivot.
6. In a mould the combination of a plate, a wall pivoted to the plate at a point beyond the edge thereof. a frame having guides. means connected with said wall for moving said frame away from the plate when the wall is swung on its pivot. and means for moving both the plate and the frame in a direction transverse to the direction of sald movement.
7. In a mould the combination of a plate, a wall pivotally connected therewith, a movable frame having guides extending outwardly therefrim and drawn on the arcs of circles whose centers are nearer the center of the piate than the pivots on which th wall is mounted. and means connected with said wall for engaging the guides and controlling the motion of the frame.
8. In a mould the combination of a plate, a wall pivotally connected therewith, a movable frame having guides extending outwardiv therefrom and drawn on the arc of circles whose centers are nearer the center of the plate than the pivots on which the wall is mounted, and means connected said wall for engaging the guides and controlling the motion of the frame. and means on said wall for moving it and for locking the wall with respect to the frame.
9. In a mould the combination of a movable wall. a handle nivotally mounted thereon, a bar mounted on said handle and having a slot, a frame provided with a guide having a notch and nassing through said slot. whereby the motion of the wall will cause said frame to move.
10. In a mould the combination of a movable side wall. a movable end wall, a frame. means connected with the end wall for automatically moving the frame when the end wall moves. and means connected with the frame for moving the side wall.
11. In a mould the combination of a movable side wall, a movable end wall. a frame, means connected with the end wall for automatically moving the frame when the end wall moves. and means connected with the frame for moving the sidn wall. sald last-named means comprising a slide mounted on the frame and having a profection, and a nalr of wavs on the side wall having a slotted portion adapted to be oncaged hv said projection.
12. In a mould the combination nif a movable side wall. a movibin nid wall. n frame mennc connected with thn end wall for antomatically moving the frame when the end wall mores, means connccted with the frame for moving the side wall, a pallet located onposite sald sido wall. sald nallet heing provided with a slot, said side wall being provided with a perforation, and a core adapted to rest in said perforation, and extend across the mould, said core having a locking device adapted to pass through the slot in the pallet.

\section*{No. 102,448. Shipping Tag. Etiquette de chargoment.}

Caleb D. Bradham. New Bern, North Carolina. U.S.A.. 11th December. 1906; 6 years. Filed 24th September. 1906. Receipt No. 139,743.
Claim.-1. A shipping tag embodying a holder having marginal guides and an extension at one end provided with an orifice, and a tag adapted to engage the guides and provided at one end with an extension terminating in a notch in alignment with the orifice.
2. The combination with a receptacle of a holder provided with marginal guides and having at one end an extension provided with an orifice, an attaching device engaging the orifice, and a tag adapted to engage the guides and having one end provided with an extension having a notch to engage the attaching device.
3. The combination with a receptacle, of a holder having the name of the sender stamped thereon and provided with marginal guides and with a terminal extension having an
oriffce, an attaching device engaging the orifice, and a tag adapted to engage the guides and provided at one end with

a reduced extension having a notch to engage the attaching device.

\section*{No. 102,449. Fire Extinguisher.}

Extincteur d'incendie.


Charles Brent, Brandon, Manitoba, \({ }^{\circ}\) Canada, 11th December, 1906; 6 years. Filed 30th August, 1906. Receipt No. 139,101.
Claim.-In a fire extinguisher in combination, a tank, and an inverted liquified gas container provided with means for delivering gas only therefrom to the liquid in said tank.
2. In a fire extinguisher in combination, a water tank. a filling plug removably secured to said tank, and a gas contalner removably carried by said plug.
3. In a fire extinguisher in combination, outlet means, a liquified gas container inverted upon the top of sald extinguisher and means for leading off such liquified gas in gascous form and delivering it into said tank.
4. In a fire extinguisher in combination, a tank for holding a quantity of water, suitable outlet means, a plug in top of said tank, a gas container mounted in said plug, and a gas container pipe extending to the upper part of such container for delivering gas alone to the water tank below.
5. In a fire extinguisher in combination, a water tank, suitable discharging means, a plug mounted in the upper part of said tank, a gas container mounted in said plug. and a regulator valve for controlling the admission of gas from said container to said tank.
6. In a fire extinguisher in combination, a tank, a plug in the upper end of said tank, a gas container mounted in said plug, and a reducing valve also mounted in said plug and adapted to controlling the admission of gas from said container to said tank.
7. In a fire extinguisher in combination, a water tank, a plug in the upper end of said tank, a gas container mounted in said plug, a valve in said plug for reducing the pressure of the gas from said container as it enters the water tank, and means for adjusting said valve.
8. In a fire extinguisher in combination, a water tank, a plug in the upper end of said tank, a gas container remorably secured in said plug, a pipe within said container profecting to a point above the level of the liquid thereln and other end, and a valve mounted in said plug for controlling the flow of gas therefrom.
9. A liquified gas container consisting of a tank, a plug in the end of said tank and having an outlet port, a discharge
tube mounted in said plug and projecting to a point near the other end, and a valve mounted in said plug for controlling the passage of gas through said port.
10. In a fire extingulsher in combination, a water tank having suitable discharge means, a plug mounted in the upper end of said tank and having a gas container socket and a valve opening communicating with said socket, a pressure reducing valve mounted in said valve opening. a liquified gas container removably secured in its socket and having a gas outlet tube extending to a point near its upper end, and a valve carried by sald container for controlling the discharge of gas therefrom.
11. In a fire extinguisher in combination, a water tank, discharge means connected to said tank. a plug in the upper end of said tank and having a container socket and a valve opening communicating therewith, a valve seat within said valve opening, an adjacent plug mountod in said valve opening, a valve guided in said plug and co-operating with said valve seat, a spring between said valve and said adjusting plug, means for holding said plug in any adjusted position
12. In a fire extingulsher in combination. a water tank, a filling plug mounted therein and having a gas container socket and a valve opening communicating with each other by means of a suitable port, a valve seat about said port, an adjusting plug having suitable ports through the same and adapted to be shifted within said valve opening. a pressure reducing valve guided in said adjusting plug removably mounted in sald socket and having a gas dischargs pipe extending to a point near the upper end thereof, a valve for controlling the discharge of gas from said contalner. a discharge pipe mounted in said flling plug extending to the bottom of the water tank, and a suitable valve for controlling the discharge from said discharge pipe.

\section*{No. 102,450. Land Marker.}

Machine d marquer les terrain.


Elmer Lewis Brillhart, Ludington, Michigan, U.S.A.. 11th December, 1906; 6 years. Filed 12th November. 1906. Receipt No. 141,105.
Claim.-1. A field marker comprising a beam graduated with a linear scale from its middle to its extremities, teeth adjustable longitudinally thereon, slecves having seats therein adapted to detachably secure the teeth upon the beam at varying distances apart, means for attaching a draft animal to the beam and handles projecting rearwardly from each side of the center.
2. A land marker comprising a graduated beam, adjustable means affording attachment for thills and handles and spring tceth adjustably secured thereon and affording the marking means.
3. A land marker comprising a metallic beam, a graduated scale thereon extending from the center towards the extremities, slotted sleeves adjustably engaged on said beam, spring teeth engaged in said slots, means adjustably engaged on the beam at equal distances from the center adapted to secure thills anl handles, and thills and handles engagad therein.
4. A knock down land marker comprising a bar provided with a linear scale indicated thercon from the center to the extremities of the bar, sleeves engaged on said bar and each provided with an aperture at the rear of the bar, a leg engaged in the aperture in each sleeve, a set screw passing therethrough and acting to lock the sleeve on the bar. thills and handles for said marker and means-for adjustably engaging said thills and handles on the bar.
5. In a device of the class described the combination with a bar provided with a linear scale thereon of recessed sleeves adjustably engaged on said bar, a tooth engaged in
the recess of each sleevc and means for adjustably engaging thills and handles ous said bar.
6. In a device of the class described the combination with a beam of a linear scale thercon. sleeves adjustably engaged on said beam provided with shoulders on their inner surfaces adapted to contact with the beam, a tooth engaged in a recess in each sleeve, a set screw passing therethrough and engaging the beam, clamps adjustably engaged on the beam and thills and handles engaged in said clamps.
7. In a land marker the combination with a beam of legs adjustably engaged thereon, clamps at equal distances from the center of said beam and provided with seats in the top thereof and thills and handles rigidly engaged in said seats.
8. In a land marker the combination with a channel iron beam provided with a linear scale thereon of sleeves adjustably engaged on said beam, bearing shoulder on the inner side of the said sleeve, a spring tooth engaged in each sleeve, -lamps adjustably engaged on said beam and thills and handles carried in said clamps.
9. In a land marker the combination with a channel iron beam of rectangular sleeves adjustably longitudinally thereof, legs engaged in said sleeves, plates having parallel ribs thereon adapted to receive the beam therebetween, thills engaged in seats on the upper plates, a clamping plate above each thill, bolts rigidly engaging said plates and thills to the beam, handles integral with the thills and means for attaching a draft animal.
10. In a land marker the combination with a beam provided with linear scales thereon extending from the center toward the ends, sleeves slidably engaged on said beam, teeth removably engaged in said sleeves, plates having parallel ribs thereon adapted to engage the beam, seats in the upper plates, thills and handles in said seats and a clamping plate adapted to hold the same in place.

No. 102,451. Plough. 'harrue'.

-harles Carlson, Renville, Minnesota, U.S.A., 11th December, 1:06; 6 years. Flled, 14th November, 1906. Receipt No. 141,192.
Claim.-1. In a plough of the class described the combination with a wheel supported frame, of a plough mounted within the frame and having side brackets with inclined slots therein, a bail or arch mounted in the frame engaging in said slots and being adapted to fold forward from an upright to an inclined position and in front of the frame a coupling adapted to release automatically the plough when obstructed, and thus allow said arch to raise it above the obstruction, a spring arranged to pull the raised plough forward into coupled position again, a latch engaging automatically the arch to hold it upright while the spring pulls the plough forward, and means carried by the plough for disengaging the latch automatically when the arch and plough are to descend again.
2. In a plough of the class described the combination with a wheel supported frame, of a plough mounted to move vertically and longitudinally and to tilt in the frame, means for raising the plough above obstructions in the ground by a rearward motion of the plough in the frame and a spring
pulling the raised plough forward again in the frame, said plough having the front end of its beam or a special head plece secured thereon for that purpose formed with opposite longitudinal side grooves having in their rearward ends downward recesses 22, a coupling having at its front and rear ends hooks or lugs slidable in said grooves, two of the lugs being adapted to engage in the recesses and draw the plough, a spring pressed lever pivoted to the head piece and holding the coupling in the recesses. a rock shaft journalled transversely in the front end of the frame and having rocker arms pivotally supporting the coupling intermediate its ends, said coupling being adapted when thus supported and the plough beam is jerked downward by an obstruction to the plough to disengage from the recesses, and means for drawing the plough by the coupling, and means for holding the coupling at different elevations or even let it rest upon the front end of the frame.
3. In a plough of the class described the combination with a wheel supported frame, of a plough mounted to tilt, slide. raise and fall in the frame, said plough having the front end of its beam or a special head plece secured thereto for that purpose provided with longitudinal grooves having downward notches or recesses in their rear ends, a coupling sliding in the grooves and adapted to engage in the recesses and draw the plough, a spring pressed trip lever pivoted to the head plece and pressing the coupling into engagement, a normally partly bent knee point helping to hold the lever against the coupling. means for regulating the normal bending of the knee ioint. means for adjusting the tension of the spring acting on the lever, and means for throwing the coupling automatically out of and into engagement.
4. In a plough of the class described the combination with a wheel supported frame, of a plough monuted to tilt. slide. raise and fall in the frame, said plough having the front end of its beam or a special head plece secured thereto for that purpose provided with longitudinal grooves having downward notches or recesses in their rear ends. a coupling sliding in the grooves and adapted to engage in the recesses and draw the plough. a spring pressed trip lever pivoted to the head plece and pressing the coupling into engagement, a normally partly bent knee joint helping to hold the lever against the coupling. means for regulating the normal bonding of the knee joint. means for adjusting the tension of the spring acting on the lever. and means for throwing the counling automatically out of and into engagement, a spring pressed latch holding the trin lever suspended above the nath of the coupling while the latter ia uncoupled. said latch being disengaged from the lever by the coupling when it returns into the coupled position.
5. A plough comprising a wheel supported frame and a plough mounted to move vertically and longitudinally and to tilt forwardly in the frame, a spring arranged to pull the nlough forwardly in the frame. a coupling mounted in the front end of the plough frame and engaging the plough beam to draw the plough. automatic means for disengaging the coupling from the beam by the obstruction of the plough and engaging the beam again when the plough is pulled forward by the spring. and means for forcing the plough automatically out of the ground by its rearward movement relative to the frame when uncoupled at the front thereof.

No. 102,452. Coop. Cage à volailles.


George J. Cook, Hutchinson, Minnesota, U.S.A., 11th December, 1906; 6 years. Filed 20th November, 1906. Receipt No. 141,358.
Claim.-1. A coop or crate for poultry and the like embodying a bottom, sides and ends and a top composed of slats of different thicknesses, some of the slats extending higher than the remaining slats to form rests whereby when the coops are piled one upon another an air space is left between the tops and bottoms of the same, substantially as described.
2. A coop or crate for poultry and the like comprising a bottom, sides and ends, the ends being provided in their
upper edges with notches or recesses, keeper strips extending across the tops of said notches or recesses, a sliding door having the end portions thereof fitted in said recesses beneath the keepers and a stop carried by said door for limiting the endwise movement thereof, substantially and for the purpose described.
3. The combination with a coop or crate for poultry and the like, of a water trough holder extending across the bottom thereof, a water trough slidably mounted in said holding and a spring catch for holding said trough when pushed inward.
4. The comblnation with a coop or crate for poultry and the like, of a semi-cylindrical water trough holder extending across the bottom of the coop, a semi-cylindrical water trough mounted to move lengthwise in said holder and having end walls, and a spring catch having a reversely beveled lip adapted to engage the inner end wall of said trough, substantially as and for the purpose described.

\section*{No. 102,453. Mowing Machine Guard.}

Garde de faucheuses.


John A. Cumming, Monkland Station, Ontario, Canads, 11th
December, 1906 ; 6 years. Filed 6th September, 1906.
Recelpt No. 139,298.
Claim.-1. In a device of the class described the combination with a finger bar, of a guard removably secured thereto and resilient means for locking the same in position, as and for the purpose specified.
2. In a mowing machine guard the combination with the finger bar of a guard removably secured thereto and a spring operated dog locking the guard in position, as and for the purpose specified.
3. In a mowing machine guard the combination with the finger bar having a transverse slot in the bottom thereof of a guard having a tennon thereon engaging said slot. a dog pivoted to the guard and adapted to engage the finger bar and means for normally holding the dog in its locked position, as and for the purpose specifled.
4. In a mowing machine guard the combination with the finger bar having a transverse slot in the bottom thereof, of a guard having a tennon thereon engaging the slot, of a dog pivoted to the guard and having an- upturned end engaging the rear of the finger bar and means for locking the dog in position, as and for the purpose specified.
5. In a mowing machine guard the combination with the finger bar having the transverse slot in the bottom thereof of a guard having a tennon thereon engaging sald slot. a dog located in a recess in the guard and pivoted thereto. an upturned end on the dog engaging the end of the finger board and spring means for holding the dog in its engaged position. as and for the purpose specifled.
6. In a mowing machine guard the combination with the finger bar having a transverse slot in the bottom thereof of a guard provided with a tennon extending into sald slot, 2 recess in rear of the guard, a dog pivoted within said recess having an upturned end adapted to engage the inner side of the finger bar, a cam surface provided on the end of the dog extending within the slot, a plunger abutting said cam surfaces and reciprocating within the recess provided in the guard and a spring normally holding the plunger in contact with the cam surface, as and for the purpose specified.
7. In a mowing machine guard the combination with the finger bar having a vlurality of transverse dovetailed slots of a plurality of guards fitting within the same and spring operated means for locking the guards in the slots, as and for the purpose specifled.
8. In a mowing machine the combination with the finger bar having a plurality of transversely extending dovetailed slots, of guards fitting within said slots and a spring held dog pivoted to each guard and engaging the finger bar, as and for the purpose specifled.

No. 102,454. Switch. Aiguille.


Henry Dickinson, Flushing, New York, U.S.A., 11th December, 1906 ; 6 years. Filed 31st July, 1906. Receipt No. 138,312.
Claim.-1. In a switch operating mechanism the combination of the switch, a shoe carried by the rall, connections arranged to move parallel to the rail from said shoe to the switch and a cam operating piece carried by the car for wedging between the rail and shoe to operate the switch.
2. In a switch operating mechanism the combination of the switch, shoes carried by the rail at opposite sides thereof, connections arranged to move parallel to the rall from said shoes to the switch and two cam operating pieces carried by the car for wedging between the rail and the shoe to operate the switch.
3. In a switch operating mechanism the combination of the switch, a shoe carried by the rall, connections therefrom to the switch, a locking mechanism for the shoe and an operating piece carried by the car for unlocking the shoe and for wedging in between the same and the rail to operate the switch.
4. In a switch operating mechanism the combination of the switch, shoes carried by the rail at opposite sides thereof connections therefrom to the switch, four operating pieces and two treadles carried by the car, one treadle being arranged to throw two operating pieces into position inside the rails, and the other treadle being arranged to throw two operating pleces into position outside of the rails.
5. In a switch operating mechanism the combination of the switch, a shoe carried by the rall, connections arranged to move parallel to the rall from the shoe to the switch and a cam operating piece yieldingly carried by the car for wedging between the rail and the shoe to operate the switch.
6. In a switch operating mechanism the combination of the switch, shoes carried by the rail, connections therefrom to the switch, a shaft and sleeve carried by the car, operating pleces carried by the shaft and sleeve, a foot treadle connected to the shaft and a foot treadle connected to the sleeve.
7. In a switch operating mechanism the combination of the switch, shoes carried by the rall, connections therefrom to the switch, a bell crank lever carried by each shoe. a latch carried by the bell crank levers and operating pleces carried by the car.
8. In a switch operating mechanism the combination of the switch, brackets from the rall, shoes mounted thereon and running on anti-friction rollers, connections from the shoes to the switch and operating pieces carried by the car.
9. In a switch operating mechanism the combination of the switch, a shoe carrled by the rail, connections therefrom to the switch, locking mechanism for the shoe and an operating plece carried by the car and having a rib to operate the locking mechanism and move the shoe to actuate the switch.

\section*{No. 102,455. Cover for Kegs. Courercle de barils.}

Hans Dittmann and Hermann Dahms, co-inventors, both of Lubeck, Germany, 11th December, 1906 ; 6 years. Filed 16th November, 1906. Receipt No. 141.274.
Claim.-1. Cover for kegs consisting of an open frame having a groove at its lower side adapted to fit into the mouth of the keg, a projecting rim round the opening of the frame, loops at the sides of the frame with which the frame is attached to the keg, means to attach the frame into the keg, a cover having a groove adapted to fit into the rim of the irame turnably arranged on the frame. means to hold the cover in any position, bearings on the frame for supporting the cover, tappets on the cover, a bar passing through the tappets of the cover and the bearings of the frame for turn-
ing the cover any way desired, means to turn the bar, substantially as described and shown.

2. Cover for kegs consisting of an open frame having a groove at its lower side adapted to fit into the mouth of the keg, a projecting rim round the opening of the frame, loops at the sides of the frame with which the frame is attached to the keg, means to attach the frame into the keg consisting of spring hooks, a cover having a groove adapted to fit into the rim of the frame turnably arranged on the frame, means to hold the cover in any position by employing springs between the tappets as shown, bearings on the frame for supporting the cover, tappets on the cover, a bar passing through the said tappets and the bearings for turning the cover, means to turn the cover by providing the bar with a lever, all substantially described and shown.
3. Cover for kegs consisting of an open frame having a groove at its lower side adapted to fit into the mouth of the keg, a projecting rim round the opening of the frame, loops at the side of the frame with which the frame is attached to the keg, means to attach the frame into the keg consisting of spring hooks, a cover having a groove adapted to flt into the rim of the frame turnably arranged on the frame, means to hold the cover in position by employing \(\mathbf{V}\)-shaped springs situated under the tappets as shown, bearings on the frame for supporting the cover, tappets on the cover, a bar passing through the said tappets and the bearings for turning the cover, means to turn the cover by providing the bar with a lever, substantially described and shown.

No. 102,456. Clothes Washer and Wringer.
Laveuse et cssoreuse.


Odon Guitar, Columbia. Missouri, U.S.A., 11th December, 1906; 6 years. Filed 17th November, 1906. Recelpt No. 141,285.
Claim.-1. In a machine of the character described, a tank provided with legs, a concave presser bed therein, a flexible facing secured to the presser bed and provided with transverse corrugations, a hinged frame to which said plate is secured, a spring actuated latch upon said frame and adapted to support the same, a convex presser plate for co-acting with said presser bed, a flexible facing secured to said presser plate and provided with transverse corrugations staggered with relation to the corrugations on the presser bed, the bed and the plate having transverse series of perforations between the corrugations, a hinged frame to which said convex plate is secured, a coll spring for securing said convex plate normally elevated, and means whereby the plate may be elevated and depressed.
2. In a machine of the character described, a tank, a concave presser bed therein, an elastic facing secured to the presser bed and provided with transverse corrugations, a frame supporting said presser bed, means whereby to adjust said frame in the tank, a convex presser plate hinged to the tank and adapted to co-act with said presser bed, an elastic facing securing to said presser plate and provided with transverse corrugations staggered with relation to the corrugations in the lower plate, and means for retaining the presser plate normally out of contact with the bed.
3. A combined clothes washer and wringer comprising a presser bed, an elastic facing on the operating face of the presser bed, transverse corrugations on the facing. the bed and facing having perforations therethrough between the corrugations, a presser plate adapted to co-act with the presser bed, an elastic facing on the operative face of the presser plate, transverse corrugations on the facing. the presser plate and facing having perforations therethrough between the corrugations and means for moving the presser plate.
4. In a combined clothes washer and wringer, a tank provided with legs, a frame hinged to the tank, a presser bed mounted on the frame, a spring actuated latch on the frame, and means on the tank for engaging the latch to support the frame.

No. 102,457. Steam Cooker.
Appareil à cuire à la vapeur.


Verena Ehrsam-Jetzer, Zurich, Switzerland, 11th December, 1906: 6 years. Filed 14th November, 1906. Receipt No. 141,213.
Claim.-1. A steam cooker comprising an oxter cylindrical vessel having a reduced neck and an outwardly flaring collar, an inner cylindrical vessel having a collar to fit that of the external vessel and a fllling nozzle forming safety valve for said external vessel, as set forth.
2. In a steam cooker the combination with an inner cylindrical vessel, an inwardly bulging bottom and an outwardly flaring neck on said vessel, of a larger outer vessel, a reduced neck to fit the inner vessel, an outwardly flaring collar to fit the collar of said inner vessel, an annular groove in the collar of the outer vessel and a packing ring in said groove, as set forth.
3. In the steam cooker herein characterized the combination with the outer vessel, of a filling nozzle, a screw cover for said nozzle, an internal guide tube connecied with the cover, a spring controlled safety valve mounted on said guide tube, as set forth.
4. In the steam cooker herein characterized the combination with the screw cover of the filling nozzle, of an innsr guide tube, an outer valve tube, a valve seat fommed at the bottom of the valve tube, a valve combined with a slide tub, to fit over said guide tube, a flange on said valve and a helical spring mounted upon said slide and guide tubes and pressing against said flange, as set forth.

\section*{No. 102,458. Pulp Screen Mechanism.}

Mécanisme de tamis à pulpe.
Carl Jentz, Grand Mere, Quebec, Canada, 11th December, 1906; 6 years. Filed 31st July, 1906. Receipt No. 138,294.
Claim.-1. In combination with a pulp screen frame having cross braces, headed screw-threaded members removably secured to the cross braces, nuts on the screw-threaded members, bevel edged locking strips disposed under the nuts and bevel edged screen plates abutting against the locking strips.
2. In combination with a pulp screen frame having cross braces, headed screw-threaded members removably secured to the cross braces, nuts on the screw-threaded membirs. bevelled edged locking strips disposed under the nuts, bevel edge screen plates abutting against the locking strips and means for locking the ends of the screen plates.
3. In combination with a pulp screen frame having cross braces. headed screw-threaded members removably secured

to the cross braces, nuts on the screw-threaded members, bevel edged locking strips disposed under the nuts, bevel edged screen plates abutting against the locking strip, removable stirrups disposed on the ends of the screen plates and the locking strips and means for applying pressure to the stirrups.
4. In combination with a pulp screen frame having cross braces, headed screw-threaded members removably secured to the cross braces, nuts on the screw-threaded members, bevel edge locking strips disposed under the nuts, bevel edged screen plates abutting against the locking strips, removably stirrups disposed on the ends of the screen plates and the locking strips and screw-threaded members carrled on the frame and adapted to bear on the stirrups.
5. In combination with a pulp screen frame having cross braces, headed screw-threaded members removably secured to the cross braces, nuts on the screw-threaded members, bevel edged locking strips disposed under the quts. bevel edged screen plates abutting against the locking strips, removable stirrups disposed on the ends of the screen plates and the locking strips, brackets carried by the frame and provided with projecting ears and screw-threaded members disposed through the ears and adapted to bear on the stirrups.
6. In combination with a pulp screen frame having cross braces provided with recesses therein, bolts having heads removably disposed in the recesses, strips secured to the crossbars and provided with registering openings and reduc ed slots through which the bolts project, bevel edged locking strips having openings through which the bolts are disposed, nuts on the bolts and bevel edged screen plates disposed with their edges beneath the edges of the bevel edged locking strips.
7. In combination with a pulp screen trame having cross braces provided with recesses therein, bolts having heads removably disposed in the recesses, strips secured to the cross braces and adapted to maintain the bolts against upward movement, bevel edged locking strips having openings through which the bolts are disposed, which openings are provided with flanges, nuts disposed on the bolts and provided with flanges adapted to abut against the flanges of said openings and bevel edged screen plates disposed with their edges beneath the bevel edged locking strips.
8. In combination with a pulp screen frame, cross braces provided with recesses therein, headed bolts removably disposed in the recesses, means for maintaining the bolts against upward movement, bevel edged locking strips, nuts on the bolts adapted to bear on the upper surface of the locking strips. bevel edged screen plates adapted to be held against movement by the locking strips, and means for locking the ends of the locking strips and the screen plates.

\section*{No. 102,459. Switch. Aiguille.}

Philip Deforest Hibner, Seattle, Washington, U.S.A., 11th December, 1906; 6 years. Filed 3rd November, 1906. Receipt No. 140,883.
Claim.-1. The combination with a rallway track and a winging switch tongue, of a frame, a chambered block having guideways on the outer face of its side walls, sald block being slidable within said frame, mechanical connections between said tongue and the block, a vertically movable pin carried by the block and adapted to be normally in its lowermost position, and means actuated by a
car wheel whereby said pin is elcvated into operative position.

2. The combination with a rallway track and a swinging switch tongue, of a frame in the track bed, a chambered block having guideways on the outer face of its side walls, said block being slidable within said frame. mechanical connections between said tongue and the block, a normally depressed pin carried by the block, means actuated by the wheel of a car for protruding the pin above the top of said frame, and devices carried by the car and adapted to be controlled therefrom whereby the said pin is engaged to predeterminately move said tongue in either direction.
3. The combination with a railway track, a swinging switch tongue, of a frame having transversely arranged guldes, a block slidably mounted on said guides, a vibratory lever connected to said block, mechanical connections between the lever and said tongue, a device carried by said block and arranged to be normally in its lowermost position, means actuated by the wheel of a car for raising said device into position to be engaged by devices carried upon the car when the same are depressed, sald last-named devices, and means to control the actions thereof.,
4. The combination with a railway track, a swinging switch tongue and a semaphore, of a frame having transversely arranged guides, a block slidably mounted on said guides, a vibratory lever connected to said block, mechanical connections between the lever and said tongue and also detween the lever and the semaphore, a device carried by said block and arranged to be normally in its lowermost position, means actuated by the wheel of a car for raising said device into position to be engaged by devices carried by the car when the same are depressed, said last-named devices, and means to control the actions thereof.
5. The combination of a railway track, a switch tongue, a slidable chambered block having guideways on the outer face of its side walls, mechanical connections between the block and the tongue, and means actuated by the wheel of a car for rendering the said block capable of being engaged by devices carried by the car for predeterminately swinging said tongue.
6. The combination of a railway track, a switch tongue, a semaphore, a slidable chambered block having guideways on the outer face of its side walls, mechanical connections between the block and the tongue and also with said semaphore, and means actuated by the wheel of a car for rendering the said block capable of being engaged by devices carried by the car for predeterminately swinging said tongue.
7. The combination of a rallway track, a switch tongue, a slidable block, mechanical connections between the said black and the tongue, and means actuated by the wheel of a car for rendering the said block capable of being engaged by devices carried by the car for predeterminately swinging said tongue, said devices comprising a vertically movable spindle having an off-set in its lower portion, a blade connected to said off-set portion of the spindle. a spring tending to maintain the spindle at its most elevated position, a shaft having an arm at Its top end, means to retain the shaft in various rotary positions, and operative connection between the shaft and the spindle.
8. The combination of a rallway track, a switch tongue, a semaphore, a slidable block, mechanical connections between the block and the tongue and also with the said semaphore, and means actuated by the wheel of a car tor rendering the said block capable of being engaged by devices carried by the car for predeterminately swinging said tongue, said devices, and comprising a vertically

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movable spindle having an off-set in its lower portion, a blade connected to said off-set portion of the spindle, a spring tending to maintain the spindle at its most elevated position, a shaft having an arm at its top end, means to retaln the shaft in various rotary positions, and operative connection between the shaft and the spindle

No. 102,460. Machine for Steaming Grain. Machine i ir:hauder le grain.


Edmond F. Kiler, Sr., Santa Barbara, California, U.S.A., 11th December, 1906; 6 years. Filed 17th November, 1906. Receipt No. 141,291 .

Claim.-1. A grain steamer, consisting of an upright barrel, open at its lower end, adapted to be provided with any style bottom applicable to the device, a cap \(c\). fitting on the upper end of said barrel, and having in its center a threaded perforation, a cylinder \(h\), fitting vertically in said threaded perforation, a packing cylinder \(b\). fitting in the last-mentioned cylinder \(h\), and adapted to revolve therein. a lining \(g\). fitting between the two last-mentioned cylinders, a pulley \(f\). rigidly secured to the cylinder \(l\), above the upper end of said cylinder \(h\), a packing ring \(r\). secured in the upper end if said cylinder \(b\), a perforated cap \(a\), secured on the upper end of said cylinderr \(b\), a steam pipe A, assing down through said cylinder \(b\), a cross pipe \(A^{\perp}\), secured to the lower end of said pipe \(A\), perforated cylinders \(K\) and \(L\), branching out from said cross pipe and running down parallel to each other to near the bottom of the barrel, a supporting shaft \(M\). extending from the lower part of the cross cylinder \(A^{1}\), secured in block \(J\), its lower end pivoted in the bearing \(m\), arms \(T\), extending inwardly from the wall of the barrel, supporting the lower end of said shaft, and a chute \(V\), for conducting the grain in the said barrel, substantially as shown and described, and for the purposes set forth.
2. A vertical barrel open at its lower end, and adapted to be provided with a bottom, a perforated cap secured on the upper end of said barrel, a bearing vertically secured in the perforation of the said cap and carrying a lining a cylinder vertically journalled in said bearing, a pulley rigidly secured near the upper end of said cylinder. a steam pipe, passing down through said cylinder, a packing ring secured in the upper end of said cylinder and held in by a cap, a perforated block secured in the lower end of said cylinder, a \(U\)-shaped pipe, its horizontal part secured to said steam pipe and in said block, its parallel arms perforated and extending downwardly into said barrel, said cylinder, said block and said U-shaped pipe adapted to be revolved by said pulley, and a chute adapted to carry the grain into said barrel, substantlally as shown and described and for the purposes set forth.

\section*{No. 102,461. Load Carrier. Porte-paquet.}

Asher Lambert, Newark, New Jersey, U.S.A., 11th December, 1906; 6 years. Filed 16th November, 1906. Receipt No. 141,252.
Claim.-1. In an apparatus of the character described. the combination of a load carrier, a flexible tripping device, a take-up for said tripping device, and means for adjustably fastening the flexible tripping device to vary the time of discharge of the load carrier.
2. In an apparatus of the character described, the combination of a load carrier, a flexible tripping device. a take-up including a weight for the said tripping device. and means for adjustably fastening the flexible tripping device to vary the time of discharge of the load carrler.
3. In an apparatus of the character described, the combination of a load carrier having a plurality of sections, a
flexible tripping device, a take-up for said tripping device. and means for adjustably fastening the flexible tripping device to vary the time of opening of said load carrier.

4. In an apparatus of the character described, the combination of a load carrier having a plurality of sections, a flexible tripping device, a take-up device including a weight for said tripping device. and means for adjustably fastening the flexible tripping device to vary the time of opening of said load carrier.
5. In an apparatus of the character described, the combination of a skip having two hinged sections, a flexible opening device provided with a takr-up and connected with the outer portions of said sections and means for adjustably fastening the flexible opening device to vary the time of opening the skip.
6. The combination in an apparatus of the character described, of a skip having hinged sections, a support, a suspending device extending from the support to the skip, a flexible opening device provided with a take-up connected with the outer portions of said sections, a guide for the opening device located on the support and means for varying the operative length of said opening device,
7. The combination in an apparatus of the character described, of a skip having two hinged sections, a hoisting rope, a tripping rope provided with a take-up, and means for holding fast either one of said roves and transferring some of the support of the skip to the other rope.
8. The combination in an apparatus of the character described, of a skip having two hinged sections, a hoisting rope, a tripping rope, an automatic take-up for said tripping rope, two independent drums, one for each rope, and means whereby some of the support of sald skip may be transferred from one rope to the other.
9. The combination in an apparatus of the character described, of a skip having two hinged sections, a hoisting rope, a tripping rope, an automatic take-up for said tripping rope , a suitable drum for each rope, and means for holding one drum while the other is rotated.
10. The combination in an apparatus of the character described, of a load carrier, a tripping rope, an independent, suitable drum for the tripping rope, a take-up for said tripping rope, and a brake for holding said drum.
11. The combination in an apparatus of the character described, of a skip having two hinged sections, a hoisting rope, a tripping rope, a take-up for said tripping rope, a power driven drum for the hoist rope, a suitable drum for the tripping rope, and a brake for holding the lastnamed drum.
12. The combination in an apparatus of the character described, of a skip having two hinged sections, a holsting rope, a tripping rope, a power driven drum for the holsting rope, a suitable drum for the tripping rope, said drum being driven in both directions by the movement of said tripping rope, and a brake for holding the last-named drum.
13. The combination in an apparatus of the character described, of a skip, a hoisting rope, a tripping rope, a power driven drum for the hoisting rope, a separate independent drum fixed in position for the tripping rope, a suitable brake for said drum and a take-up device for said tripping rope.
14. A skip combined with a hoist rope, a tripping rode. means for detacbably connecting the hoist rope with said skip, and an independent flexible connecting device for connecting said tripping rope with said means.
15. A skip combined with a hoist rope, a tripping rope, means for connecting the hoist rope directly to the pulley
block and means for connecting the tripping rope to said pulley block through an independent, flexible connecting device.
16. A skip combined with a hoist rope, a tripping rope, means for connecting the hoist rope directly to the pulley block, means for connecting the tripping rope to said pulley block through an independent, flexible connecting device and a take-up device for the tripping rope.
17. The combination in an apparatus of the character described, of a hoist rope, a tripping rope, a counter weight for the tripping rope, a pulley block for the hoist rope, the pulley block and the parts fixedly attached thereto having greater gravity than the counterweight, and a flexible connection between the tripping rope and said pulley block.
18. The combination of a two-part skip with a hoist rope, a tripping rope, means for connecting the hoist rope to a pulley block and means for connecting the tripping rope to said block consisting of a flexible connecting device.
19. The combination of a skip in two sections hinged together, closing points of support and opening points of support on said skip, a haul rope, means connecting the haul rope to the closing points, a tripping rope, means including a detachable connection connecting the tripping rope to the opening points, and a separate flexible section between said tripping rope and the detachable connection.
20. The combination in apparatus of the character described, of a pulley block, a rigid iron bar supparted thereby, a skip having two sections hinged together, exterior points of support on each end of each section, flexible connections between said bar and said points of support, a pair of supporting points on the exterior of the skip intermediate the first-named points, a hoist rope connected to said bar, a tripping rope connected to said intermediate points and means whereby the hoisting rope when tightened closes sald sections and the tripping rope when tightened opens said sections.
21. The combination in apparatus of the character described, of a pulley block, a skid having two sections hinged together, a hoisting rope, a tripping rope, points of connection on the skip for the hoisting rope, points of connection on the skip for the tripping rope, means whereby the slacking of one rope and the tightening of the other cpens the skip and vice versa, and a take-up device for the tripning rope.
22. The combination in apparatus of the character described, of a pulley block, a skip having two sections hinged together, a hoisting rope, a tripping rope, points of connection on the skip for the holsting rope, points of connection on the skip for the tripping rope, means whereby the slacking of one rope and the tightening of the other opens the skip and vice versa, and a take-up device for the tripping rope consisting of a weight and pulley.
23. The combination in apparatus of the character described, of a pulley block, a skip having two sections hinged together, a hoisting rope, a tripping rope, points of connection on the skip for the hoisting rope, points of connection on the skip for the tripping rope, means whereby the slacking of one rope and the tightening of the other opens the skip and vice versa, a take-up device for the skipping rope and means for checking and holding the tripping rope.
24. The combination in apparatus of the character described, of a pulley block, a skip having two sections hinged together, a hoisting rope, a tripping rope, points of connection on the skip for the hoisting rope, points of connection on the skip for the tripping rope, means whereby the slacking of one rope and the tightening of the other opens the skip and vice versa, a take-up device for the tripping rope and means for checking the tripping rope consisting of an independent drum or roller and a suitable friction brake.
25. The combination in apparatus of the character desoribed, of a pulley block, a skip having two sections hinged together, a hoisting rope, a tripping rope, means for connecting the hoisting rope with said skip, means for connecting the tripping rope with said skip so arranged that upon slacking one rope and tightening the other the skip will be opened, a suitable power driven drum for the holsting rope, a suitable take-up device for the tripping rope and means for checking the movement of the tripping rope.
26. The combination in apparatus of the character described, of a pulley block, a skip having two sections hinged together, a hoisting rope, a tripping rope, means for connecting the hoisting rope with said skip, means for connecting the tripping rope with said skip so arranged that upon slacking one rope and tightening the other the skip will be opened, a suitable power driven drum for the hoisting rope, a suitable take-up device for the tripping rope, and means for checking the movement of the tripping rope consisting of an independent wheel or roller and a friction brake therefor.

No. 102,462. Mould. Moule.


Charles Frederick Lancaster, Petoskey, Michigan, U.S.A
11th December, 1906; 6 years. Filed 28 th September, 1906. Receipt No. 139,883 .

Claim.-1. In a moulding apparatus for bullding walls, the combination of a scaffold or support, a mould carried by the scaffold and movable horizontally thereon to be advanced lengthwise of the wall in construction, and means for moving said mould transverse to the line of its movement abovementioned to admit of passage of obstructions in the length of the wall.
2. In a moulding apparatus for building walls, the combination of a scafiold, a platform vertically adjustable upon and at one side of the scaffold, a carriage movable along the platform, and a mould mounted on the carriage.
3. In moulding apparatus for building walls, the combination of a scaffold, a track adjustable vertically upon the scaffold, and a mould movable along the track and arranged to be tilted bodily.
4. In moulding apparatus for building walls, the combination of a scaffold or like support, a track upon said scaffold, a carriage mounted upon the track, a mould composed of parts movably mounted upon the carriage, and means for bodily moving the mould transverse of the track to avoid obstructions in the length of the wall.
5. In moulding apparatus for building walls, the combination of a scaffold or like suport, a track upon said scaffold, a carriage mounted upon the track, a mould movably mounted upon the carriage, and means for tilting the mould independent of the carriage.
6. In moulding apparatus for building walls, the combination of a scaffold, a track upon the scaffold, a carriage mounted upon the track, a mould carried by the carriage, means for moving the mould vertically, and means for tilting the mould laterally with respect to the line of travel of the carriage.
7. In moulding apparatus for building walls, the combination of a scaffold, a mould carried by the scaffold, means for moving the mould horizontally and vertically, and means for tilting the mould laterally with respect to the line of its horizontal movement.
8. In moulding apparatus for building walls, the combination of a scaffold, a vertically movable mould carried by the scaffold, and means for tilting the mould.
9. In moulding apparatus for building walls, the combination a scaffold, and a vertically movable mould pivotally mounted upon the scaffold.
10. In a moulding apparatus for bullding walls, the combination of a scaffold, a vertically movable platform mounted upon the scaffold, a carriage movable along said platform, vertical bars movably mounted on the carriage, means for actuating said bars, arms projected laterally from the bars aforesaid, supporting members supporting the arms upon the bars and embodying socket members receiving the arms, and operating means carried by each supporting member aforesaid for actuating the arms.
11. In a moulding apparatus for building walls, the combination of a scaffold, a support movable vertically of the scaffold, and a mould vertically movable upon the support.
12. In moulding apparatus for building walls, the combination of a scaffold, a vertically movable platiorm carried by the scaffold, a vertically movable mould upon the platform, and means for tilting the mould.
13. In moulding apparatus for building walls, the combination of a scaffold, a carriage movable upon the scaffold, und a mould pivoted so as to be tilted bodily on the carriage.
14. In moulding apparatus for building walls, the combination of a scaffold, and a mould pivoted to the scaffold.
15. In a moulding apparatus ior building walls, the combination of a scaffold, a vertically movable platform mounted upon the scaffold, a carriage movable along said platform, vertical bars movably mounted on the carriage, means for actuating said bars, arms projected laterally from the bars aforesaid, supporting members supporting the arms upon the bars and embodying socket members recelving the arms, and a lever pivoted to each supporting member and operably connected with each arm for actuation thereof, as specifled
16. In moulding apparatus for bullding walls, the combination of a scaffold, a track carried by the scaffold, a carriage movable along the track, vertlcal bars supported by the carriage, means for actuating said bars, arms projected from the bars, a lever for moving said arms, and mould parts carried by sald arms.
17. In moulding apparatus for building walls, the comsination of a scaffold, a track carrled by the scaffold, a carriage movable along the track, vertical bars supported by the carriage, means for actuating said bars, arms projected laterally from the bars aforesaid, levers adjustably connected with said arms, and mould parts carried by the arms and adapted for actuation by the levers aforesaid.
18. In moulding apparatus for building walls, the combination of a scaffold, a track carried by the scaffold, a carriage movable along the track, vertical bars supported by the carriage, means for actuating said bars, arms projected laterally from the bars aforesaid, means for adjusting sald arms to vary the normal operative positions thereof, mould parts carried by the arms, and means for actuating the arms to impart movement to the mould parts.
19. In moulding apparatus for building walls, the combination of a scaffold, a track carried by the scaffold, a carriage movable along the track, vertical bars supported by the carriage, means including rack and pinion devices for actuating the bars aforesaid, a mould supported by the bars and composed of mould parts, and means adjustably connected with the mould parts for actuation thereof.
20. In moulding apparatus for building walls, the combination of a scaffold, a track upon the scaftold, a carriage upon the track, supporting members connected with the carriage and adapted for tilting movement, vertically movable bars carried by the supporting members, means for actuating the bars, and mould parts carried by said bars.
21. In moulding apparatus for building walls, the combination of a scaffold, a track upon the scaffold, a carriage upon the track, supporting members connected with the carriage and adapted for tilting movement, vertically movable bars by the supporting members, means for actuating the bars, arms extending laterally from the bars, mould parts pendent from sald arms, and means for actuating said arms to lmpart movement to the mould parts.
22. In mould apparatus for building walls, the combination of a scaffold a track upon the scaffold, a carriage movable along the track, supporting members pivoted to the carriage, vertically adjustable arms carried by the supporting members, hook devices for holding the supporting members in a predetermined position, means for actuating the vertically movable bars, and mould parts carried by the vertically movable bars.
23. In moulding apparatus for building walls, the combination of a scaffold composed of a plurality of uprights, brackets movably mounted upon the uprights, dogs carried by the brackets to hold the same at a gredetermined adjustment, a track supported by the brackets, a carriage movable upon the track, and a mould mounted upon the carriage.
24. A mould for building walls comprising a plurality of arms, mould parts caried by said arms, a socket member receiving the arms, and a pivot levar operably connected with the arms for actuation thereof.
25. In combination, a socket member, a plurality of arms passing through the socket member, mould parts carried by the arms, a lever pivoted to the socket member, and pins projected from the lever and operably connected with the arms for actuation thereof.
26. In combination, a socket member, a plurality of arms passing through the socket member, mould parts pendent from the arms, a lever pivoted to the socket member. pins projected from the lever and operably connected with the arms for actuation thereof, and a latch pivoted to the sockel member to hold the lever in operative position.
27. In combination, a mould embodying movable sides, a clamp for the mould comprising a bar, a plurality of clamp members pivoted to the bar, and a lever operably connected with said clamp members.
28. In combination, a mould embodying movable sides, a clamp for said mould comprising a bar, a plurality of clamp members pivoted to the bar, toggle links connecting certain of sald members, and a lever pivoted to the bar and operably connected with the toggle links aforesaid.

No. 102,463. Journal Bearing. Coussinet de tourillom


Fred Latulip, Syracuse, New York, U.S.A., 11th December, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138.824.

Claim.-1. A machine bearing, consisting of multiple sheets of mica roughened on their adjacent. surfaces and having the roughened scoring filled with a Iubricant, said sheets being compresed into a composite block, as and for the purpose specified.
2. A machine bearing, consisting of multiple sheets of mica roughened on their adjacent surfaces and having the roughened scorings flled with a lubricant, said sheets being compressed into a composite block, and a metal body having a seat for the said block. the mica block being arranged in the metal body with the sheets of mica at right angles to the direction of motion, as and for the purpose specifled.
3. A journal bearing, comprising a plurality of blocks of mica longitudinally arranged therein and parallel in relation one to the other, as and for the purpose specified.
4. A journal bearing. comprising a plurality of mica forms arranged circumferentially in said bearings, as and for the purpose syecified.

No. 102,464. Aerial Tramway. Tramuay aéricn.


William C. Lawson, Rural Retreat, Virginia, U.S.A., 11th December, 1906; 6 years. Filed 19th November, 1906. Recelpt No. 141,338.
Claim.-1. In an aerial tramway, a track including a plurality of carriage supporting ralls formed from a single cable, and means for maintaining the rails in taut condition and against longitudinal movement.
2. In an aerial tramway, a track including a plurality of carriage supporting rails formed from a looped cable, the sides of said loop constituting said rails, and means for clamping the rails against longitudinal movement.
3. In an aerial tramway, the combination with a support, of guides mounted on the support, and a looped cable havIng one end portion passing about the guldes, the sides of said loop being spaced apart and constituting carriage supporting ralls.
4. In an aerial tramway, the combination with a support, of spaced guide sheaves mounted on the support, another guide sheave mounted on the support between the spaced sheaves and transversely thereof, and a looped cable having its looped end portion passing about the sheaves, the sides of said looped able being spaced apart and constituting carriage supporting rails.
5. In an aerial tramway, the combination with spaced standards, of spaced cross beams connecting the same, spaced sheaves mounted transversely of the cross beams, another sheave mounted between the beams longitudinally thereof and between the spaced sheaves, and a looped cable having its looped end portion passing about the spaced sheaves and the intermediate sheave, the sides of sald loop
being spaced apart and constituting carriage supporting rails.
6. In an aerial tramway, the combination with spaced supports, of a looped cable having its side portions stretched between the supports and forming spaced carriage supporting ralls, the looped end of the cable being movably gulded on one of the supports, and means mounted on the other support for securing the ends of the cable.
7. In an aerial tramway, the combination with spaced supports, of a looped cable having its side portions stretched between the supports and forming spaced carriage supporting rails, sheaves mounted on one of the supports for guiding the looped end portion of the cable, and clamps mounted on the other support for securing the ends of the cable.
8. In an aerial tramway, the combination with a support, of a guide mounted thereon, a rail cable passing about the guide, a clamp engaging the cable, and a holding device engaging the cable and also engaging the clamp to hold the same in position.
9. In an aerial tramway. the combination with a support, of a guide roller mounted thereon, a rail cable passing about the roller, a clamp engaging the portion of the cable that passes about the roller, and a holding clip embracing the cable and also engaging the clamp to hold the same in position.
10. In an aerial tramway, the combination with supporting standards, of cross beams mounted thereon. spaced plates located on the beams, a roller fournalued between the plates, a rall cable passing over the roller, a clamp plate interposed between the spaced plates and engaging the portion of the cable that passes over the roller, said clamp plate having a recess. and a holding clip embracing the cable and engaing in the recess of the clamp plate.
11. In an aerial tramway, a track composed of a series of sections, each section comprisng a plurality of spaced carriage supporting rails formed from a single cable.
12. In an arrial tramway. a track composed of a serles of sections, each section comprising a looped cable independent of the other section, and each looped cable forming spaced carriage supporting rails.
13. In an acrial tramway. the combination with a plurality of spaced supports, of guides mounted on the supports, and a track composed of a series of sections. each section extending between a set of supports and comprising a looped cable extending about the guides on one of the supports and having its ends affixed to the other support.
14. In an aerial tramway, the combination with a plurallty of spaced supports, of spaced guide sheaves mounted on each support, a plurality of looped cables, each cable having its ends sccured to one support and having its looped end portion passing over the sheaves of the other support and extending across the space between said sheaves.
15. In an aerial tramway. the combination with a plurality of spaced supports. of spaced guide sheaves mounted on each support, a plurality of looped cables, each cable having its ends secured to one support and having its looped end portion passing over the sheaves of the other support and cxtending across the space betwen said sheaves, and track section plates bridging the spaces between the ends of the adjacent cables.
16. In an aerial tramway, the combination with a plurality of cable track sections disposed in angular relation and having their ends spaced apart, of a curved track plate interposed between and having its ends aligned with the adjacent ends of the sections.
17. In an aerial tramway, the combination with a plurality of cable track sections disposed in angular relation and having their ends spaced apart, of a curved track plate interposed between and having its ends aligned with the adjacent ends of the sections, said track plate constituting clamps therebetween that engage the sections.
18. In an aerlal tramway, the combination with supporting means, of guides mounted thereon, angularly disposed track cables passing over the guides, and a laterally curved track plate mounted on the supporting means between the guides and bearing against the portions of the cables passing thereover.
19. In an aerial tramway, the combination with spaced supports, of spaced plates mounted on each support, a guide sheave journalled between the plates of each support, a track cable passing over each sheave, and a curved track section plate bridging the space between the supports. the ends of said plate being engaged between the spaced sets of plates on the support and being disposed in co-acting relation to the ends of the track cable.
20. In an aerial tramway, the combination with spaced supports, of a track section connected to each support and comprising a single cable having spaced stretches, said stretches forming substantially parallel carriage supporting rails, and curved track plates bridging the space between the supports and between the corresponding cable fails of each track section, said track plates having their eñas aligned with the cable ralls.

Ne. 102,465. Brake. Frein.


Elias Lewis, Terre Haute, Indiana, U.S.A., 11th December, 1906; 6 years. Filed 19th November, 1906. Receipt No. 141,533.
claim.-1. The combination with a whecled truck, brake shoes pivotally mounted on the truck, rotatable shafts carried by each truck. means co-operatively connecting the shafts and the brake shoes together, said shaft and said connecting means having provisions in virtue of which when the shaft is rotated in one direction the brake will be applied and when rotated in an opposite direction the brakes will be released, and means for rotating the shaft.
2. The combination with a wheeled truck, brake shoes pivotally mounted on the truck, rotatable shafts carried by each truck, means co-operatively connecting the shafts and the brake shoes together, said shaft and said connecting means having provisions in virtue of which when the shaft is rotated in one direction the brakes will be applied, and when rotated in an opposite direction the brakes will be released, means for rotating the shaft, said last-named means comprising a pulley segment secured to the shafts. an operating cable connected with the pulley segment, and means for drawing taut or relaxing the cable, substantially as shown and described.
3. The combination with a wheeled truck, hangers pivotally mounted thereon, brake heads pivotally carried by said hangers, brake shoes carried by said brake heads, a tumbler shaft mounted on said truck, cam heads for said tumbler shaft, cam bars connecting said cam heads and said brake heads, and means for rotating said tumbler shaft to apply the brakes, substantially as shown and described.
4. The combination with four wheeled truck, brake heads pivotally supended from said truck, one for each wheel, a tumbler shaft carried by the truck and having cam portions, cam heads connecting the cam portions of the shaft with each brake head, means for rotating said shaft to apply or release the brakes, substantially as shown and described.
5. The combination with a four wheeled truck, brake heads pirotally supported from said truck, one for each wheel, a tumbler shaft carried by the truck and having cam portions, cam heads connecting the cam portions of the shaft with each brake head, means for rotating said shaft to apply or release the brakes, said last-named means comprising an operating cable and a pulley segment connected with the shaft.
6. The combination with a wheeled truck, of brakes for each wheel carried by the truck, a tumbler shaft co-operatively connected with said brakes, means for rotating said tumbler shaft, said tumbler shaft and its connection with the brakes having provisions in virtue of which when the shaft is rotated in one direction, the brakes will be applied to the wheels and when the shafts rotate in the opposite direction the brakes will be withdrawn from the wheels, substantially as shown and described.
7. The combination with a wheeled truck, bracket members supported theron, hangers pivotally mounted on said brackets, brake heads pivotally secured to said hangers, one brake head for each truck wheel. a brake shoe carried by each of said brake heads, tumbling shaft holders having bearings and secured to said truck, a tumbling shaft mounted in said tumbling shaft holder bearing and having cam portions, a cam lever connecting each of said brake heads with said cam portions of the tumbling shaft, a gear carPled by the tumbling shaft, a cable mounted thereto and passed over the gear segment. Idler pulleva mounted in bearings secured to the car body over cach of said cables, and an air actuating mechanism for operating said cable, substantially as shown and described.
8. The combination with a brake shoe and a rotatable shaft, of means connecting the brake shoe and the shaft and having provision in virtue of which when the shaft is rotated in one direction, the brake shoe will be applied to the wheel and when the shaft is rotated in the other direction the brake shoe will be withdrawn from the wheel, substantially as shown and described.
9. The combination with a plurality of brake shoea and means for mounting the same, of a rotatable shaft common to all of said brake shoes and co-operatively consected therewith, said rotatable shaft and its connection with the brake shoes having provision in virtue of which when the shaft is rotated in one direction the brake shoe will be applied to the wheel and when the shaft is rotated in the opposite direction the brake shoes will be withdrawn from the wheel, substantially as shown and described.
10. The combination with a plurality of brake shoes and means for mounting the same, of a rotatable shaft common to all of said brake shoes and co-operatively connected therewith, said rotatable shaft and its connection with the brake shoes having provisions in virtue of which when the shaft is rotated in one direction the brake shoes will be applied to the wheel and when the shalt is rotated in the opposite direction the brake shoes will be withdrawn from the wheel, and means for rotating said shaft.
11. The combination with a wheeled truck. of bracket members carried thereby and arranged in pairs, hangers pivotally suspended from said bracket members, brake heads carried by said hangers, brake shoes carried by said brake heads, a tumbler shaft having cam heads, one for each pair of brakes, cam levers connecting said brake heads with said cam heads. a cable co-operatively connecting with said shaft for rotating the same, and means for drawing in or letting out the cable, substantially as shown and described.
12. The combination with a wheeled truck, of bracket members carried thereby and arranged in pairs, hangers pivotally suspended from sald bracket members, brake heads carried by said hangers, brake shoes carried by said brake heads, a tumbler shaft having cam heads, one for each pair of brakes. cam levers connecting said brake heads with said cam heads, a cable co-operatively connecting with said shaft for rotating the same, said cam heads comprising a body portion. a pair of disc members and cam pins held between said disc members and uniting the same and receiving said cam levers, substantially as shown and described.
13. The combination with a wheeled truck, bracket members supported thereon. hangers pivotally mounted on said brackets, brake heads pivotally secured to said hangers, one brake for each truck wheel, a brake shoe carried by each of said brake heads, tumbling shaft holders having bearings and secured to said truck, a tumbling shaft mounted in said tumbling shaft holder bearings and having cam portions, a cam lever connecting each of said brake heads with said am portions of the tumbling shaft, a gear carried by the tumbling shaft, a cable secured thereto and passed over the gear segment, idler pulleys mounted in bearings secured to the car body over each of said cables, and air actuated acchanism for operating said cable. said air actuating mechanism comprising an air operated cylinder and piston, a lever pivotally connected with the car body and with the eylinder piston, a float lever connected with said piston connected lever, said cables connected with said float lever, substantially as shown and described.
14. The combination with a wheeled truck, brake shoes pivotally mounted on the truck, rotatable shafts carried by each truck, means co-operatively connecting the shafts and the brake shoes together, said shaft and said connecting means having provisions in virtue of which when the shaft is rotated in one direction the brakes will be applied, and when rotated in an opposite direction the brakes will be released, means for rotating the shaft, said last-named means comprising a pulley segment secured to the shafts, and operating cable connected with the pulley segment, means for drawing taut or relaxing the cable, said lastnamed means comprising an air actuated pusher rod, a lever connected therewith, a float lever connected with gald pusher rod connected lever, said cables connected with said float lever and means for supporting sald float lever, substantially as shown and described.
15. A brake operating mechanism combined with means for adjusting the braking percentage of the brake operating mechanism, substantially as shown and described.
16. A car truck, brake devices mounted on the car truck, pneumatic means for operating the brake devices, connecting means between the operating means and the brake devices, combined with means interposed in said connecting means for adjusting the breaking percentage, substantially as shown and described.
17. Brake operating means. brakes operable by said brake operating means, connections between sald brake operating means and said brakes combined with means interpased in said connecting means for varying said connecting means
to change the breaking percentage，substantially as shown and described．
18．The combination with a wheeled truck，bracket mem－ bers supported thereon，hangers pivotally mounted on said brackets，brake heads pivotally secured to said hangers，one brake for each truck wheel，a brake shoe carried by each of said brake heads，tumbling shaft holders having bearings and secured to said truck，a tumbling shaft mounted in said tumbling shaft holder bearings and having cam portions，a cam lever connecting each of said brake heads with said cam portions of the tumbling shaft．a pulley segment car－ ried by the tumbling shaft，a cable secured thereto and passed over the pulley segment，idler pulleys mounted in bearings secured to the cam body over which said cable passes，an air actuated mechanism for operating said cable． said air actuating mechanism comprising an air operated cylinder and piston，a lever pivotally connected with the car body and with the cylinder piston，a float lever con－ nected with said niston connected lever，said cables con－ nected with said float lever．and adjusting mechanism co－ operating with the piston connected lever，substantially as shown and described．
19．The combination with a whecled truck．brake shoes plvotally mounted on the truck．rotatable shafts carried by each truck，means co－operating connecting the shafts and the brake shoes together．said shafts and said connect－ ing means having provisions in virtue of which when the shaft is rotated in one direction the brakes will be applied． and when rotated in an opposite direction the brakes will be released，means for rotating the shaft．said last－named means comprising a nulley scement secured to the shafts， an operating cable connected with the pulley scoment， means for drawing taut or relaxing the cable．said last－ namod means comprising an air actuated pusher rod．a lever connected therewith．a float lever connected with said push－ or rod connected lever．said cabies connerted with sald float lover．means for supnorting said foat lever，and adiusting mechanism co－operating with the piston rod connected Inver．substantially as shown and described．

2＾．In a brakn rigging．a brakn merhanism，a brake oper－ ating mechanism．nower transmission connections between tho brakn operating mechanism and the brake mechanism． said nower transmission connections including a pivoted power transmitting lever．combined with an adjusting mech－ anisin for varying the leverage of said lever．substantially as shown and described．
21．In a brake rigging，a brake mechanism．a brake oper－ ating mechanism．power transmission connertions between the brake operating mechanism and the brake mechanism． said power transmission connections including a pivoted power transmitting lever．combined with an adjusting mech－ anism for varying the levorage of sald lever，said adjust－ ing mechanism comprising an endwise movable rod．a slid－ ing conncetion for said lever to which said rod is pivotally connected．and means for moving sald rof longitudinally． substantially as shown and described．

22．In a brake rigging．a brake mechanism，a brake oper－ ating mechanism，power transmission ronnertions between tho brake operating mechanism and the brake mechanism． said power transmission connections including a pivoted power transmitting lever．combined with an adjusting mech－ anism for varying the leverage of said lever，said adjusting mechanism comprising an endwise movable rod．a sliding connection for said lever to which said rod is pivotally connected．means for moving said rod longitudinally，said last－named means comprising a slide bar connected with said rod．a crank shaft．a worm carried by said crank shaft， and entering a slot in said slide rod．substantially as shown and described．
23．In a brake rigging a brake mechanism，a brake oper－ ating mechanism．power transmission connections between the brake operating mechanism and the brake mechanism． said power transmitting connections including a pivoted power transmitting lever．combined with an adjusting mech－ anism for varying the leverage of said lever，said adjusting mechanism comprising an endwise movable rod．a sliding connection for said lever to which said rod is pivotally connected．means for moving said rod longitudinally．said last－named means comprising a slide har connected with said rod．a crank shaft．a worm carried by said crank shaft，and entering a slot in said slide rod．and means for holding the crank shaft in its adjusted positions，substan－ tially as shown and described．

No．102，466．Garment Fitting System． Nystìme d＇ajuster les vêtements．
Harry Litwin，Montreal，Quebec，Canada，11th December， 1906： 6 years．Filed 16 th November，1906．Receipt No． 141，263．
Claim－1．A fitting system comprising a plurality of flex－ ible mezabers，and means for sticking the said members to－
gether in conformity with the figure or thing being fitted， substantially as described and for the purpose set forth．


2．A fitting system comprising a plurality of flexible pat－ tern shapes and other pieces and means for sticking the said shapes and other pieces together in conformity with the figure or thing being fitted，substantially as described and for the purpose set forth．
3．A pattern comprising a plurality of flexible strips stuck together，substantially as described and for the purpose set forth．

4．A shape comprising a series of separate patterns conjointly corforming to a figure or thing to be fitted and each made up of a plurality of fiexible pleces stuck to－ gether，substantially as described and for the purpose set forth．
5．A shape comprising a series of separate patterns con－ jointly conforming to a figure or thing to be fitted and each made up of a plurality of flexible pleces stuck together． and a cord tied around the smallest part of the figure or thing，substantially as described and for the purpose set forth．

6．A form unon which to fit a garment，comprising a series of united patterns conjointly conforming to a figuire or thing to be fitted and each made up of a plurality of flexible pieces stuck together，substantlally as described and for the purpose set forth．

7．A form unon which to fit a garment，comprising a series of united patterns conjointly conforming to a figure or thing to be fitted and each made up of a plurality of flexible pieces stuck together，and a cord tied around the smallest part of the figure or thing．substantially as des－ cribed and for the purpose set forth．
8．The method of forming a pattern consisting in sticking together，unon the figure or thing to be fitted，a plurallty of nieces of flexible material and mounding the sald pleces to the figure or thing while being stuck together，substan－ tially as lescribed and for the purpose set forth．
9．The method of forming a pattern consisting in sticking together，unon the figure or thing to be fitted，a plurality of pleces of flexible material and moulding the said pieces to the figure or thing while being stuck together and tying a cord around the figure or thing during the process，sub－ stantially as described and for the purpose set forth．

No．102，467．Commode Top．Dcssus de commode．

William H．Mackenrot，Fort William，Ontario，Canada，11th December，1906： 6 years．Filed 27th June，1906．Ro－ ceipt No．137，336．
Claim．－1．In a commode the combination of a seat pro－ vided with the usual opening and having an annular groove formed therein to receive the rim of a pail，a tubular rub－ ber nacking in the bottom of the groove，a lld provided with a tubular rubber packing ring adapted to engage the

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top of the seat, and a projection on the IId of substantially the same size and shape as the opening in the seat, substantially as described.
2. In a commode the combination of a seat provided with the usual opening and having an annular groove formed thereln to receive the rim of a pail, and a tubular rubber packing in the bottom of the groove, substantially as descri blead.

No. 102,468. Vehicle Brake. F'vin de véhiculcs.


John W .McIlvain, Canyon Creek, Montana, U.S.A., 11th December, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,008.
Claim.-1. In a vehicle brake, the combination with a rotatable device having an annular flange at one side, of a brake shoe, a suitable support therefor, a flange extending from the shoe at one side, a iriction device interposed between the shoe and rotatable device and interposed between and detached from their flanges, and means for preventing longitudinal displacement of the friction device.
2. The combination with a rotatable device adanted to be secured to the wheel of a vehicle, of a beam, a recessed shoe forming a seat for the beam, an annular strap secured to the shoe and extending over the recess, sald strap surrounding the beam, means within the strap for adjustably securing the shoe to the beam, an integral flange at one side of the shoe, and a friction plate concentric with the rotatable device and engaging the shoe and overlapped by its flange, said plate adapted to contact with and to be held in engagement with the shoe solely by the rotatable device.
3. The combination with wheels of a vehicle and flanged friction drums secured thereto, of a spring controlled brake beam interposed between eaid wheels, recessed shoes constituting seats for the brake beam, angular straps secured to said shoes and extending around the beam, means within the straps for adjustably securing the shoes to the beam, said shoes having integral flanges upon their adjoining faces, friction plates concentric with the drums and interposed between the flanges of the shoes and drums, and means upon the plates for detachably engaging the shoes, said plates being adapted to contact with and to be held in engagement with the shoes solely by the drums.
4. In a vehicle brake, the combination with a rotatable device having an annular flange at one side, of a beam, a brake shoe secured thereto, a flange extending from the shoe, a friction plate interposed between the shoe and the rotatable device and between their flanges and means upon the plate for loosely engaging the shoe, said means being held in engagement with the shoe by the rotatable device upon which the friction plate works.

No. 102,469. Bod. Lit.
John Gilbert Ryan, Montreal, Quebec, Canada, 11th December, 1906; 6 years. Filed 5th ctober, 1906. Receipt No. 140,046.
Claim.-1. A head rest comprising a U-shaped frame, pivoted members supporting the extremities of said frame, a toothed segment integral with one of said pivoted members. a worm engaging said segment. a lever formed integral with the other of said pivoted members, a spring actuated tension drum, means connecting the extremity of the lever and the drum, and a sliding stop adapted to lock said drum in position.
2. A head rest comprising a pivotally supported frame. a toothed segment mounted on one side of said frame, a worm engaging said segment, a lever mounted on the op-
posite side of said frame, a pin on the extremity of said lever, a spring actuated drum, means connecting said pin and drum, and means for locking sald drum in position.

3. A head rest comprising a U-shaped frame work, pivoted members supporting the extremities of said framework, a toothed segment mounted on one of said pivoted members, a worm engaging said segment, a lever mounted on the opposing pivoted member, a pin on the extremity of said lever, a spring actuated drum, a chain connecting said pin and drum and locking said drum in position.
4. In a device of the class described, a U-shaped frame, pivoted members supporting the extremities of said frame, a toothed segment integral with one of said pivoted members, a"worm engaging with said segment, a lever integral With the opposite pivoted member, a pin on the extremity of said lever, a drum, a fixed post carrying said drum, a spiral spring carried by said drum, a chain connecting said pin and drum, and a sliding stock adanted to lock said drum in position.
5. In a device of the class described, a U-shaped framework, a pivoted member supporting the extremities of said framework, a toothed segment mounted on one of said pivoted members, a worm engaging said segment, a lever mounted on the opposite pivoted member, a spring actuated drum, means connecting the extremity of the lever and the drum, toothed flanges mounted on said drum, and means for locking saîd drum in position.

No. 102,470. Horseshoe. Fer d cheval.


Harvey W. Seiber, Canal Dover, Ohio, U.S.A., 11th Deccember, 1906; 6 years. Flled 19th November, 1906. Receipt No. 141,334.
Claim.-1. A horseshoe provided with a recess defined by a concave wall with its radius substantially equal to the radius of the adjacent portion of the shoe, a caulk having convex sides so proportioned that either will fit the concave wall and the other conform to the curvature of the shoe, and means for securing the caulk within the recess.
2. A horseshoe provided with a recess defined by a concave wall with its radius substantially equal to the radius of, but oppositely disposed to the curvature of the adjacent portion of the shoe, a caulk having convex sides so proportioned that either will fit the concave wall and the other conform to the curvature of the shoe and means for securing the caulk removably within the recess.
3. A harseshoe provided with a recess, one side of which is defined by the curvature of the shoe and the opposite wall curved in a similar ardius, a socket formed within the area of the recess, a caulk having convex sides so pro-
portioned as to interchangeably fit the concave wall of the recess and baving a stud proportioned to fit within the socket and means to secure the stud removably within the socket.
4. A horseshoe provided with a recess, one side of which is defined by the curvature of the shoe and the opposite wall curved in a similar radius. a socket formed within the area of the recess, a caulk having convex sides so proportioned that either will fit the concave wall and the other conform to the curvature of the shoe and having a stud proportioned to fit within the socket, and means to secure the stud removably within the socket.
5. A horseshoe provided with a recess, one side of which is defined by the curvature of the shoe and the opposite wall curved on a similar radius, a socket formed within the area of the recess, an opening transecting the socket, a caulk having convex sides so proportioned that either will fit the concave wall and the other conform to the curvature of the shoe, a stud formed rigid with the caulk and proportioned to fit within the socket and having an opening approximately registering with the opening in the shoe, and a pin proportioned to be removably driven into the opening in the shoe and through the opening in the caulk.

\section*{Mo. 102,471. Addressing Machime.}

Machine à adresser.


Edward P. Sheldon and Ward B. Story, co-inventors, both of New York City, New York, U.S.A.. 11th December, 1906; 6 years. Flled 18th November, 1904. Receipt No. 120,116.
Claim.-1. In an addressing machine, the combination with a Prame having a bed and galleys adapted to hold separate lines or groups of lines of type and to be slid over the bed, of feeding fingers adapted to engage the successive lines or groups of lines of type of one or the other of the galleys and move the same the distance occupied by the line or group of lines, and means for moving the fingers to enable them to propel the galleys.
2. In an addressing machine, the combination with a frame provided with anti-friction rollers and a bed, of galleys adapted to hold lines of type and to travel, one at a time. over the bed and rollers, pivoted fingers adapted to engage successive lines of type of one or the other galley, sliding blocks carrying the pivots of the fingers, and means for actuating the blocks.
3. In an addressing machine, the combination with a frame having a bed, of galleys adapted to contain separate lines or grouns of lines of type and to travel on either side of the bed, feeding fingers adapted to alternately engage successive lines or groups of lines of the galleys, means for actuating the feeding fingers and means for shifting the feeding fingers so that but one is operating at a time.
4. In an addressing machine, the combination with a frame having a bed, of galleys adapted to slide on either side of the bed and carry separated lines or groups of llnes of type, feeding fingers engaging the type of one of the galleys on each side of the bed alternately, means for aotuating the fingers so as to advance a galley a certain distance and means operated by the advancing galley to shift the fingers for engagement with the galley on the other side of the bed.
5. In an addressing machine, the combination with a frame having a bed, of galleys adapted to travel on either side of the bed and carrying lines of type, pivoted fingers adapted to be alternately in and out of engagement with the lines of type, sliding blocks carrying the pivoted fingers, means for sliding the blocks to cause the fingers to
reciprocate longitudinally and advance a galley a predetermined distance, a projection carried by the galleys and means connected with the fecding fingers sdapted to strike the projection and throw out of operation the feeding finger of the galley and render operative the finger for the galley on the other side of the machine.
6. In an addressing machine, the combination with a frame having a bed, of galleys adapted to travel over the bed alternately and carry separated lines or groups of lines of type, feeding fingers adapted to alternately engage a line of type of one or the other galley, sliding blocks carrying the fingers, means for sliding the blocks, a plate carried by the bed between the two galleys, a sliding bar carried by the plate and obstructing the movement of the inoperative galley, projections carried by the galleys and adapted to shift the obstructing bar and simultaneously disengage one feed finger and engage the other, and means carried by the plate, connected with the slide bar and feed fingers, and adapted to be struck by the projections and shift those parts.
7. In an addressing machine, the combination with a frame having a horizontal bed, of galleys adapted to travel on each side of the horizontal bed and carrying separated lines or groups of lines of type, feeding flugers on each side of the bed adapted to be alternately shifted so as to be thrown in and out of engagement with the lines of type, sliding blocks carrying the feed fingers, means for sliding the blocks, a plate carried by the bed between each galley, a slide bar carried by the plate and adapted to obstruct the movement of either one galley or the other. projections carried by the galleys and their ends, a fourarm lever pivoted to the plate, curved fingers connected with the lever and adapted to engage the projections carried by the galleys, and change the position of the lever and means connected with the lever for automatically carrying and holding one feed finger beyond the range of the lines of type and allowing the other feed finger to engage the lines of type or vice versa.
8. In an addressing machine, the combination with a frame having a horizontal bed, of galleys adapted to travel on each side of the bed and carrying separated lines or groups of lines of type and projections, feeding fingers adapted to be alternately shifted and held out of engagement with the lines of type, means for alternately holding the fingers out of range of the lines of type, a plate secured to the bed between the galleys, a sliding bar carried by the plate and adapted to be moved in the path of the indejection of one or the other galley and prevent its reverse movement, means for sliding the bar, curved fingers adapted to engage the projection of the moving galley and means connected with the engaging curved finger for effecting the shifting of the bar and actuating the means for holding the feed fingers out of range of the lines of type.
9. In an addressing machine the combination of a trame having a bed, of galleys adapted to travel over the bed one at a time and carry separated lines or groups of lines of typs, feeding fingers adapted to alternately engage the type lines of one or the other galley, sliding blocks carrying the feedIng fingers, oscilliating levers connected with the sliding blocks, and means for rocking the oscillating levers.
10 In an addressing machine the combination wih a frame having a bed, of galleys adapted to travel over the bed and carry separated lines or groups of lines of type, feeding fingers adapted to be thrown into engagement with the type of the galleys alternately, means for alternately shifting the fingers, sliding blocks carrying the feed fingers, a shaft journalled in the frame of the machine, crank arms carried by the shaft and connected with the sliding blocks by links, an arm carried by the shaft, a driving shaft and a cam on the driving shaft adapted to rock the arm on the first shaft.
11. In an addressing machine the combination with a framo having a bed, of galleys adapted to travel over the bed and carry separated lines or groups of lines of type, sliding blocks carried by the bed, guide ways with retaining means for the sliding blocks, feeding fingers pivoted to the blocks and alternately engaging the type in one galley or the other galley, means carrled by the galleys for alternately disengaging the feeding fingers, and means for actuating the sliding blocks.
12. In an addressing machine the combination with a frame having a horizontal bed, of galleys adapted to traverse the bed, means for propelling the galleys, a laterally disposed and sliding bar on the bed adapted to be set in the path of one of the galleys, to limit its movement along the bed, a driving shaft, a pulley loosely mounted on the driving shaft, means for connecting the pulley with the driving shaft, and means interposed between the connecting means and the sliding bar for starting the machine when the bar is slid out of the path of the galley.
13. In an addressing machine the combination with a frame having a horizontal bar, of galleys adapted to traverse the
bed, means for propelling the galleys, a laterally disposed and sliding bar adapted to be set in the path of one of the galleys, a spring connected yoke carried by the sliding bar, a crank arm carried by a vertical shaft journalled in the bed of the machine, said crank arm having its free end connected with the yoke, a second crank arm carried by the vertical shaft, a lever fulcrumed to the under side of the bed and having one end connected with the second crank arm by a link, a starting rod connected with the other end of the lever, u driving pulley, a driving shaft carrying same and having means for connecting and disconnecting to itself the driving pulley, and means connected with the starting rod and lever for operating the connecting and disconnecting means on the driving shaft.
14. In an addressing machine the combination with a frame having a bed, of galleys adapted to traverse the bed, feeding fingers adapted to propel one or the other galley, means for operating the feeding fingers, a laterally disposed and sliding bar adapted to be set in the path of one or the other of the galleys, a forked leves connected wih the sliding bar, crank arms carried by a vertical shaft journalled in the bed of the machine, one of the arms being connecird with the forked lever, hooked fingers carried by opposite arms on the vertical shaft and adapted to shift the la:t.... slugs or projections carried in the lower ends of the gall?ys and engaged by one or the other of the hooked fingers, means for disengaging the hooked finger after it has ion carried a limited distance by the slug, a spring connected with an arm of the vertical shaft to hold the same in one if two shifted positions, arm secured to engage the feeding fingers and hold them alternately out of play and connections between the cams and the arms beneath the table for operating the cams when the hooked fingers shift the vertical shaft.
15. In an addressing machine the combination with a irame having a bed, of galleys carrying separated lines of type or groups of lines of type and adapted to traverse each side of the bed of the machine, sliding blocks moving longitudl aily along the bed, means for sliding the blocks, feeding fitgers pivoted to the blocks and adapted to engage the lines of one or the other galley, cams controlling the swing of the fingers and adapted to throw one or the other out of line of engagement with the lines of type, projections or slugs carried by the galleys, and means adapted to engage the slugs and reverse the action of the cams.
16. In an addressing machine the combination with a irame having a bed, of galleys carrying separated lines or groups of lines of type and adapted to travel on different sides of the bed, blocks carried by the bed and adapted to reciprocate parallel with the movement of the galleys, means for reciprocating the blocks, pivoted feed fingers carried by the blocks and adapted to alternately engage the type of the galleys, cams with shafts journalled in the bed and acting upon the fingers so as to bold one or the other finger out of engagement with the lines of type, crank arms at the lower ends of the cam shafts, slugs or projections in the galleys, a plate secured to the bed between the path of the galleys, a four-armed lever pivoted to he plate, curved fingers carried by opposite arms of the lever and held in the path of the projections or slugs to engage the same so as to shift the four-armed lever, a lever secured to the pivot of the latter, links connecting the ends of the same to the crank arms on the shafts of the cams and a spring connected with one of the thems of the four-armed lever to hold it to one side or the arms
17. In an addressing machine the combination with a frame having a bed, of galleys adapted to traverse each side of the bed, independently operating feed fingers far propelling the galleys, means for operating the feed fingers, inking rollers carried by brackets at the front end of the machine, a yoke pivoted to the brackets and carrying at its free end an ink supply roller which is nermally adapted to rest on the inking rollers, means for rotating the supply roller, levers pivoted to the frame, the inner ends of which are connected with the yoke by a link, a roller carried by the outer ends of the levers and adapted to be depressed when either galley with type is introduced into the machine and to cause the supply roller to leave the inking rollers.
18. In an addressing machine, the combination with a frame having a bed, of galleys adapted to move singly alone the bed, means for moving the galleys, impression blocks adapted to carry the paper to be addressed against the face of the type in one of the galleys, a crossbar carrying the stems of the impression blocks, springs interposed between the blocks and the crossbar, vertical rods carrying the ends of the crossbar and playing through openings in the bed, and means for actuating the vertical rods.
19. In an addressing machine, the combination of the following parts: a power shaft, cams carried by the same, a horizontal bed, vertically moving rods actuated by the cams and passing through the bed, a crossbar joining the vertical rods above the bed, lmpression blocks with stems brerings on the crossbar for the stems each having a slot
to receive a pin on the stem and springs interposed betwen the tions and the bearings.
20. In an addressing machine, the combination with a bed, of a latterly disposed and slotted frame carried by the bed, punches plying through the upper wall of the slot, a crossbar moving vertically, means for moving the crossbar, a spring adjustable on the crossbar and pressing on the puluches to actuate the same when the crossbar descends. fird mians for removing the bits of paper removed by the juments.
21. In an addrocsing machine, the combination with a bcc, of a latterly disposed and slotted frame carried by the bed, punclies piaying vertically through the horizontal walls of the s.ot a compartment for the reception of waste benezth the slot and open at one end, a bellows discharging into the compartment at the closed end, a srossbar cirryisy in adjustable spring which is adapted to depress tiue punches when the cross arm descends, means for oferaing the crossbar and means for operating the bellows.
22. In 37 addressing machine, the combination with a bed, of galleys adapted to move singly along the bed, in \(\rightarrow\) ans for prictling the galleys, means for supporting a wob of paper. infans for feeding the web of paper, impressior tlocks, a crossbar carrying the blocks, vertical rods carrying the ciossbar at each end and adapted to move vcrtically through the bed, a power shaft, means carried by the sam: in actuate the vertical rods, punches adapted to overate simultareously with the impression blocks to perforala the paper when the address is printed, a presser spring carried ijy the crossbar and adapted to operate the punches, wians for removing the waste from beneath the punches and micans connected with the dower shaft for operatizg this means.
23. In an addressing machine, the combination with a fram? having a bed, of galleys adapted to traverse the bed one at a time, means for propelling the galleys, anti-frictlon rollers, levers carryifg the rollers and pivoted beneath the hed, pivoted arms supporting the free ends of the l.vers, and means automatically operated by the galleys to rock the arms and release the free ends of the levers.
24. In an addressing machine, the combination of a frame having a bed provided with openings, of galleys adapted to move singly along each side of the bed, means for moving the galleys, levers pivoted at one end in the openings, rollers carried by the levers, pivoted arms supporting the levers at their free ends, means operated by .he galleys to automatically release the levers from the support of the pivoted arms when the galleys leave the bed and reach the rollers on the levers, endless belts moving beneath the normal position of the levers and adapted to receive the galleys when the levers drop, means for moving the belts and means for returning the levers to their normal positions.
25. In an addressing machine, the combination with a frame having a bed provided with openings, and levers pivoted beneath the bed and within the openings, of galleys adanted to move along the bed of the machife and on to the levers, means for moving the galleys, anti-friction rollers on the levers, swinging arms supporting the free ends of the levers, means for returning the swinging arms to their normal positions, a shaft rigidly carrying the pivoted ends of the levers, arms secured to the hubs of the levers, springs attached to the latter arms and to the frame of the machine and adapted to return the levers o their normal positions, levers fulcrumed on the shaft links carried by the upper ends of the fulcrumed levers in the paths of the galleys, adjustable lateral projections carried by the links, links connecting the lower ends of the fulcrumed levers with the swinging arms, rollers carried by the shaft, endless belts passing around the rollers and in the path of the galley carrying levers and means a the front end of the machine for carrying and driving the endless belts.
26. In an addressing machine, the combination with a frame having a harizontal bed provided with openings, of galleys adapted to traverse the bed, pivoted levers arranged in the openings and adapted to receive the galleys, anti-friction rollers carried by the levers, means for retaining the levers in their normal position, means for releasing a lever after it has received its galley, endless bands travelling in the path of the released lever to receive the galleys, pulleys on the pivotal shaft of the levers and carrying the bands, pulleys at the front end of the frame, motive means for the latter pulleys, shelves at the front of the machine adjacent to the motive pulleys and brackets on the inner sides of the frame parallel with the upper parts of the bands to support same while carrying the galleys.
27. In an addressing machine the comb'nation with a frame with an upright structure, and means for supporting a roll
of paper carried by the same, of constant feeding means, intermittent re-winding means, means for addressing the paper between the feeding and the re-winding, means for taking up the slack paper between the feeding means and the addressing means, a friction disc driving the feed rolls, a rock bar and ratnhet wheel driving the re-winding rolls, a power shaft, means connecting he friction disc with the power shaft, and means interposed between the power shaft and the rack bar to reciprocate same.
28. In an addressing machine the combination wih a frame having an upright structure, and means for supporting a roll of paper carried by the said upright structure, of feeding rollers, a friction disc carried by the shaft of one of the rollers, a friction pulley adapted to drive the disc, a vertical shaft carrying the pulley at one end, a micre gear at the other end of the vertical shaft, a stud carrying a corresponding mitre ger, gearing with the first, nd a pinion, and a gear wheel meshing with the pinion, and a gear wheel on the power shaft meshing wih the gear wheel which drives the pinion, printing means for addressing the paper rewinding means and intermediate gearing meshing with the gear wheel on the power shaft, and means for taking up the slack between the feed rollers and the printing means.
29. In an addressing machine he combination with means for supporting a roll of paper, and means for feeding the paper continuously, of printing means for addressing the paper, means for taking up the slack interposed between the printing and continuous feeding means, an intermittent re-winding roller, a weighted re-winding shaft carrying the addressed paper, intemediate rollers between the intermittene roller and the re-winding shatt and its paper roll and supporting and rotating the latter, a ratchet wheel on the shaft of the re-winding roller, a pawl adapted to carry the ratchet wheel through a predetermined arc, a gear wheel connected with the pawl, a rack bar operating the gear wheel, and means for reciprocating the rack bar.
30. In an addressing machine the fombination with a paper roll supporting means and paper reeding means, of printing means, perforating means connected with the printing means a re-winding roller, a shaft for the re-wound roll, interposed supporting and rotating rollers, a reciprocating rack bar intenmittent means operated by the rack bar for actuating the re-winding roller, a driving shaft with a gear wheel, a gear pheel meshing with the wheel on the driving shaft, a crank arm on the shaft of this second gear wheel, and means for adjustably connecting the end of the rack bar with the crank arm.
31. In an addressing machine the combination with a bed, of galleys adapted to traverse the bed itermittently, alternately on one side and then on the other, means for alternately intermittentiy feeding the galleys, rollers, adapted to ink the type of the galleys, an ink supply roller, means for automatically removing the supply roller from the inking rollers when a galley enters a machine, means for supporting a web of paper, continuous feed means for the wed of paper, intermittent printing means, means for intermittently rewinding the web after the address has been printed and means carried by each galley for shifing the feed to the other galley when the last address of the first galley has been printed.
32. In an addressing machine the combination with a bed, of galleys with addresses in type adapted to traverse the same, printing means, intermittent feeding means adapted to feed one galley at a time, means carried by each galley at its lower end which as the galley carries the last address awiay from the printing means shifts the feeding means into engagement with a new galley, inking means, means for supporting a web of paper, continuous paper feeding means, means for taking up the slack paper between the paper feed and the printing means, punching meaus, and adjustfeede re-winding means to allow the printing of the addresses at predetermined distances apart on the paper.
33. In an addressing machine the combination with a bed, of galleys with type set addresses, a sliding bar adapted to limit the movement of the first galley along the bed, inking means, paper feeding means, printing means, intermitting and alternating feed means for the galleys, punching means for the paper, re-winding means, and means for simultaneously starting the machine and shifting the sliding bar.
34. In an addressing machine the combination with a bed, of galleys adapted to be fed one at a time along the bed, means for feeding the galley, means for shifting the feed of the galleys, a sliding bar in the path of the first galley, means for removing the sliding bar when the machine is started, a bar shlfting to obstruct the path of the galley remaining at rest, and means connected with the feed shifting means for shifting the second bar from the path of the galley which the feed means is about to operate upon.

No. 102,472. Rail Joint. Joint de rall.


Jacob L. Stoffer, Homeworth, Ohio, U.S.A., 11th December, 1906; 6 years. Filed 20th November, 1906. Receipt No. 141,357.
Claim.-In a device of the class set forth, a bolt provided with a slot, a locking member mounted upon said bolt and provided with a tang and a recess, and a wedge member positioned in said slot and a recess and provided with a looth to be engaged by said tang.

No. 102,473. Locomotive Tender.
Tender de locomotives.


Charles M. Taylor, Lapinta, Callfornia, U.S.A., 11th December, 1906; 6 years. Filed 16th October, 1906. Receipt No. 140,344.
Claim.-A locomotive tender having a coal pit, a vertically swinging follower for moving coal forwardly in the pit, said follower being hinged at its lower end to the tender, a vertically swinging cyllnder arranged on and pivoted to the top of the tender at one side of the longitudinal vertical center thereof, a vertically swinging cylinder arranged on and pivoted to the top of the tender at the opposite side of the longitudinal vertical center thereof, a pipe for supplying the rear portions of the cylinders with fluid pressure, and pistons movable in the cylinders under the action of fluid pressure and connected to the follower at points intermediate the vertical center and side edges thereof.

\section*{No. 102,474. Rotary Tumbler Washer.}

\section*{Apparell rotatoire d laver les verres.}

Fred William Will, Aurora, Oregon, U.S.A., 11th December, 1906; 6 years. Filed 13th November, 1906. Receipt No. 141,178.
Claim.-1. A tumbler washer, comprising a frame having a depending arm at its upper end, and a foot at its lower end of feed discs connected with the foot, said discs having aligned openlngs, hubs journalled in the openings and each provided with a gear, the gears meshing with each other, a shaft journalled at one end and in the frame and having its other end secured to one of the hubs, flexible shafts provided with brushes secured to the other hubs, and means for rotatingy the first-named shaft.
2. A tumbler washer, comprising a frame having a depending arm at its upper end and a foot at its lower end,

spaced discs connected with the foot, said discs having aligned openings, hubs journalled in the openings and each provided with a gear, the gears meshing with each other, a vertical shaft journalled at one end in the frame and having its other end secured to one of the hubs, flexible shaits provided with brushes secured to the other hubs, a horizontal shaft journalled on the frame and provided with a handle whereby to rotate the same, and a connection between the vertical and the horizontal shafts.
3. A tumbler washer, comprising a frame having a foot at its lower end, spaced discs secured to the foot, said discs having aligned openings. hubs journalled in the openings and each provided with a gear, said gears meshing with each other, a shaft journalled at one end in the frame and having its other end secured to one of the hubs, flexible shafts provided with brushes adjustably secured to the other hubs, and means for rotating the first-named shaft.

No. 102,475. Electric Motor. Moteur électrique.


James Burke, Erie. Pennsylvania, U.S.A., 11th December, 1906; 6 years. Filed 15th January, 1906. Receipt No. 131,877.
Claim.-1. The combination of a driven shaft, a plurality of armatures disposed around the axial line of sald shaft and geared thereto, a composite field winding for each of said armatures alternating therewith and adapted to maintain a magnetic circuit common to two or more of sald armatures. 2. The combination of a driven shaft, a plurallty of armatures disposed around the axial line of said shaft and geared thereto and a composite field winding for each of said armatures, alternated therewith and adapted to maintain a single magnetic circuit common to all of said armatures.
3. The combination of a driven shaft, a plurality of armatures disposed around the axial line of said shaft and geared thercto, and a composite field winding for each of said armatures, alternated therewith and adapted to maintain a common magnetic circuit, said windings having extended radiating surfaces on their outer sides.
4. The combination of a driven shaft, a plurality of armatures disposed around the axial line of said shaft and geared thereto, a single field core and composite fleld winding for each of said armatures, alternated therewith and maintaining a common magnetic circuit, the whole forming a cylindrical surface of alternate armatures and magnets.
5. The combination of a driven shaft, a plurality of arma-
tures disposed around the axial line of said shaft and geared thereto, a single field core and composite field winding for each of said armatures alternated therewith and adapted to maintain a common magnetic circuit and a cylindrical housing enclosing said parts and supporting said cores and windings.
6. The combination of a driven shaft, a plurality of armatures disposed around the axial line of said shaf and geared thereto, fleld magnets alternated with said armatures, and a cylindrical housing enclosing sa armatures and magnets and serving to support said magnets.
7. The combination of a driven shaft, a plurality of armatures disposed around the axial line of said shaft and geared thereto, fleld magnets alternated with said armatures forming a cylindrical outer surface of alternate armatures and magnets, and a cylindrical non-magnetic housing enclosing said armatures and magnets.
8. The combination of a driven shaft, a plurality of armatures disposed around the axial line of said shaft and geared thereto, field magnets alternated with said armatures forming a cyylindrical outer surface of alternate armatures and magnets.
9. The combination of a driven shaft, a plurality of armatures disposed around the axial line of said shaft and geared thereto, a single field core and composite field winding for each of said armatures alternated therewith and adapted to maintain a common magnetic circuit, and a housing enclosing said elements.
10. The combination of a driven shaft, a plurality of armatures disposed around the axial line of said shaft and geared thereto, field magnets alternated with said armatures forming a common magnetic circuit, and a housing enclosing said armatures and magnets and supporting said magnets.
11. The combination of a driven shaft, a plurality of armatures disposed around the axial line of said shaft and geared thereto, field magnets alternate with said armatures forming a common magnetic circuit, and a non-magnetic housing enclosing said armatures and mgnets and supporting said magnets.
12. The combination of a driven shaft, an electric motor geared thereto, comprising a plurality of armatures and field magnets and forming a substantially continuous annular ring about the axial line of said shaft, said magnets having a composite field winding for each armature and maintaining a common magnetic circuit.
13. The combination of a driven shaft, a plurality of armatures geared thereto, field magnets alternated with said armatures, and a composite field winding for each armature adapted to maintain a single magnetic circuit common to all of said field magnets and armatures.
14. The combination of a driven shaft, ap lurality of armatures disposed around the axial line of said shaft and geared thereto, a composite field winding for each armature adapted to maintain a single magnetic field circuit common to all of said armatures, said field winding being connected in series across the supply line for exciting said magnetic circuit.
15. In an electric motor, the combination of a plurality of armatures and field magnets alternately arranged to provide a single magnetic circuit common to all of said armatures and field magnets, said armatures being connected in series with each other, geries colls on sald magconnected in series, and shunt coils on sald magnets, said shunt coils being all in series with each other and in shunt nets alternated with said armatures and the whole being with all the armatures.
16. The combination of a driven shaft, a plurality of armatures disposed around the axial line of sald shaft and geared thereto, field cores alternated with sald armatures, and composite exciting coils on said cores, the several turns of said colls being wound in a direction substantially radial with reference to the shaft whereby the length of said coil circumferentially is contracted at its inner side and exapnded at its outer side, the whole structurehaving a substantially cylindrical outer surface.
17. The combination of a driven shaft, a plurality of armatures disposed around the axial lline of said shaft and geared thereto, field cores alternated with said armatures each of said cores having a comparatively shallow recess in its outer portion and a comparatively deep recess in its inner portion, and fleld coils wound in said recessed portions, the whole forming a compact and substantially cylindrical motor.
18. The combination of a driven shaft, a plurality of armatures disposed around the axial line of said shaft and geared thereto, fleld magnets alternated with said armatures, a housing encircling said armatures and magnets and for supporting said magnets, and end heads for supporting said armatures.
19. The combination of a driven shaft, a plurality of armatures disposed around the axial line of sald shaft and geared thereto, field magnets alternated with said armatures, a housing encircling said armatures and magnets
and for supporting said magnets, and heads for supporting said armatures, brushes for said armatures, and means for supporting all of said brushes from one of sald heads.
20. The combination of a driven shaft, a plurality of armatures disposed around the axial line of said shaft and geared thereto, fleld cores alternated with said armatures, each of said cores having a comparatively shallow recess in its outer portion and a comparatively deep recess in its inner portion, field coils wound in sald recessed portions, the whole forming a compact and cylindrical motor, a housing encircling said armatures and magnets and supporting said magnets, and heads for supporting said armatures, brushes for said armatures, and means for supporting all of said brushes from one of said heads.
21. The combination of a driven shaft, a plurality of armatures disposed around the axial line of said shaft and geared thereto, a composite field winding for each of said armatures, alternated therewith and adapted to maintain a magnetic circuit common to all of sald armatures, sald windings having extended radiating surfaces on their outer sides, a housing for said part, and a ventilating space between sald housing and the extended surfaces of said windings.
22. The combination of a driven shaft, a plurality of armatures disposed around the axial line of said shaft and geared thereto, a single field core and compoaite feld winding for each of said armatures, alternated therewith and adapted to maintain a magnetic circuit common to all of seld armatures, said windings having extended radiating surfaces on their outer sides, a housing surrounding said parts and supporting said field cores, and ventilating spaces between said housing and the extended surfaces of said windings.

No. 102,476. Gas Lamp. Lampe ì gaz.


Louis C. Fuller. Kansas City, U.S.A., 11th December, 1906; 6 years. Filed 1st August, 1906. Receipt No. 138.325.
Claim.-1. In an incandescent gas lamp having a Bunsen tube, an outer tube sleeved thereon and a chimney holder secured to said outer tube; the combination of a heat insulating bushing mounted upon said outer tube, and a tip holder mounted upon said bushing, whereby the heat communicated by the flame to the tip holder will be insulated from the chimney holder.
2. In a mantle gas lamp, a mantle holder formed of a single plece of wire and comprising a looped hook adapted to engage the upper edge of a chimney. a downwardly extending leg adapted to bear against the inner side of a chimney, and a depending hook adapted to support a mantle, qubstantially as described.
3. In a mantle gas lamp, the combination of a Bunsen tube provided with large longitudinal slots for the admission of air, an outer regulating tube revolubly mounted thereon and also provided with slots, a tubular screw formed of perforated metal mounted on the regulating tube to cover the slots therein and a chimney holder mounted on said Bunsen tube.
4. In a mantle gas lamp having a Bunsen tube and a chimney holder carried by said tube, the combination of a heat insulating bushing mounted on said tube, a tip holder mounted on sald bushing, a tip of woven wire carried by said holder and comprising a cylindrical portion and a top, and a perforaated disc secured to the inner side of said top.
5. In a mantle gas lamp, the combination of a Bunsen tube, a chimney holder and chimney supported thereby, a tip of woven wire mounted over the upper end of said tube and comprising a cylindrical portion and a top, and a perforated disc secured to the inner side of said top.

No. 102,477. Metal Piling. Pile métallique.


James J. Harold, New York City, New York, U.S.A., 11th December, 1906; 6 years. Filed 13th November, 1904 Receipt No. 300,201 .
Claim.-1. In metal sheet piling, a beam section consisting of a flat web plate and companion, locking angles rigidly mounted thereon, the respective edges of the web plate extending beyond the line of the free hook edges of the angles.
2. In metal sheet piling, a beam section consisting of a web plate and companion, locking angles rigidly mounted on and located adjacent to the respective edges thereof, the bent around hook edges of said angles being set at angle other than right angle.
3. In metal sheet piling, a channel beam section, and a piling section consisting of a web plate and companion angles rigidly mounted thereon and provided with hook edges adapted to conform to and interlock with the companion flanges on the channel beams in assembling the piling section in thelr alternate arrangement.

No. 102,478. Hull. Coquc.
Trax


Carcy Alan Manker, Pearl, Illinois, U.S.A., 11th December, 1906; 6 years. Filed 27th August, 1906. Recelpt No. 139.012.

Claim.-1. A vessel hull provided at its bow with means for horizontally dividing the waves through which it travels.
2. A vessel hull so constructed that as it travels through the water it splits the waves in horizonal planes and deflects them underneath the bottom of the hull.
3. A vessel hull provided at its bow with an approximately horizontally disposed wave cutting edge arranged above the surface of the water in which the vessel travels. 4. A vessel hull provided at its bow with a flat portion which extends upwardly and terminates in a wave cutting edge.
5. A vessel hull provided at its bow with a flat portion which inclines upwardly from the surface of the water and terminates in an inclined wave cutting edge extending in a horizontal plane below the top of the hull.
6. A vessel hull provided at its bow with laterally projectig wings arranged adjacent to the surface of the water and adapted to split the waves horizontally, the upper surfaces of said wings being concaved.
7. A vessel hull provided at its bow with means for horizontally dividing the waves through which it passes and having its sides inclined rearwardly and inwardly from a polnt adjacent the bow.
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8. A vessel hull provided at its bow with means for horizontally dividing the waves through which it passes and deflecting them underneath the hull and having the sides of its submerged portion inclined rearwardly and inwardly from a point adjacent to the bow, said hull being provided with a concaved bottom.
9. A vessel hull provided at its bow with means for horizontally dividing the waves through which it travels and having the sides of its submerged portion inclined rearwardly and inwardly from a point adjacent the bow, said submerged portion having a concaved bottom surface which is narrower at its rear end than at its front end.
10. A vessel hull provided at its bow with a flat upwardly projecting portion that terminates in a horizontally disposed wave cutting edge, said flat portion extending rearwardly and merging into a tapered portion having a concaved bottom.
11. A vessel hull having a flat portion at its bow which is inclined upwardly from the water and terminates in a horizontally disposed wave cutting edge arranged in a plane below the top of the hull, the submerged portion of the hull diminishing graduallv in width toward the stern of the hull and being provided with a bottom surface that is concaved longitudinally and transversely.
12. A vessel hull which is of greatest width adjacent thbow and is provided with a horizontally disnosed wave cuting edge, the sides of said hull being inclined rearwardland inwardly from said widest portion toward the stern of the hull. and stability guards arranged above the water line and projecting laterally from the sides of sald hull.
13. A vessel hull which is of greatect width adiacent the bow and is provided with a horimnitally dienosed wave cutting edge. the sides of sain hull boing inclined rearwardlo and inwardly from said widest portion toward the stern of the hull, and stability guards arranged above the wathr line and projecting laterally from the sidns of said hull. sald stability guards increasing gradually in width from a point approximately midships toward the stern of the hull.
14. A vessel hull which is aporoximately cigar-shaned above the water line and which. below the maior nortion of the water line. is annroximatoly woden-shaned. with the wide portion of the wendge at the how of the hull and profecting above the surface of the water.
15. A vessel hull which is annroximatoly cicar-shanod ahove the water line and whirh below the maine nortinn of the water line. is anoroximatoly weder-shaned. with the widn portion of the wedge at the bow of the hull and nroincting above the surface of the water. the bottom surface of said wedge-shaned nortinn being concaved.
16. A vessel hull in which the nortinn holow the water line is approximately wedge-shaned with tho wide nortion of the wedge at the point of first contact of the hull with thi water.
17. A vessel in which the nortion below the water line is annroximately wedge-shaded with the wide nortion of the wedes at the noint of first contact of the hull with the water. the sides of caid submerger nortion curving inwardly toward the longitudinal axis of the hull.
18. A vessel hull in which the submerged nortion of the hull is of greatest width at first water contart section of the bow and thence diminiahea in width towari the stern of the hull where it comes to a noint. sald submerged portion increasing gradually in denth from the bow to the stern.
19. A vessel hull in which the Inngitudinal water lines of the stern extend forwardly and outwardly in convexed curver to points of first contact of the hull with the particles of water closing in the wake of the hull.
20. A vessel's stern lines diverging outwardiy and forwardy in convex curves to points of first contact of the hull with the water closing in the wake of the vessel.
21. A vessel hull in which the longitudinal water lines of the stern extend forwardly and outwardly in curves to points of first contact of the hull with the particles of water closing in the wake of the hull.
22. A vessel's stern lines diverging outwardly and forwardly in curves to points of first contact of the hull with the water closing in the wake of the vessel.
23. A vessel hull in which the side surfaces of the submerged portion are denoted by horizontal curves which diverge forwardly to position of greatest beam in horizontal planes, respectively represented by said curves, said beams gradually increasing from aft to a position approximately at the bow.
24. A vessel hull in which the side surfaces of the submerged portion are denoted by convex rurves which diverge forwardly to position of greatest beam in horizontal planes, respectively represented by said curves, said beams gradually increasing from aft to a position approximately at the

No. 102,479. Lamp Globe. Globe de lampes.


Charles Oliver, Woolwich. Kent, England. 11th December, 1906; 6 years. Filed 5th September, 1905. Receipt No. 128,199.
Claim.-1. In an enclosing globe or lantern for electric arc lamps wherein the points of both carbons are directed downwards in the well known flame or arc lamps, the ronstruction and arrangement of the sides of said globe or lantern of such material and in suchwise tha the surfaces of the globe directed along the street or turned towards the longer axis of the space to be lighted are made broader than the surfaces of said globe facing across the street or the short axis of the space to be lighted and arranging such broader surfaces so that same inwardly taper downwards and forming same of a material (such as ground glass) which will break up or diffuse laterally the downwardly directed rays of light from the aforesaid source substantially in the manner and for the purposes hereinbefore described.
2. The arrangement and combination with an electric arc lamp wherein the points of both carbons are directed downwards, as in the well known flame are lamp, of an enclosing globe or lantern having two broad sides oppositely disposed and two narrow sides locaed between same and having the broad sides inclined inwardly downwards and formed of ground glass or opalescent glass or the like which will break up or diffuse laterally the downwardly directed rays of light from the aforesaid source, substantially as and for the purpose hereinbefore set forth.

No. 102,480. Concrete Constructing Machine.
Machine pour la construire en béton.


Albert A. Yauly, Youngstown, Ohio, U.S.A., 11th December, 1906; 6 years. Filed 13th October, 1906. Receipt No. 140,269.
Olaim.-1. In a machine the combination with a base plate, of a rectangular frame adjustably mounted upon said plate, standards carried by said frame, brace rods connecting said standards and said frame, revoluble shafts carried by said brace rods, a crosshead carried by sald standards, a bar supported by said crosshead, chains connected with said shaft and extending over said crosshead and said bar, retaining boards supported by said standards, retaining boards adjustably mounted upon posts, substantially as described.
2. In a machine the combination of a base plate, standards adjustably mounted upon said base plate, a crosshead carried by said standards, a bar supported by said crosshead, retaining boards suspended from said crosshead and said bar, other retaining boards mounted adjacent to said base plate, means to adjust said retaining boards, substantially as des: cribed.

No. 102,481. Machine for Making Recentacles of Compressed Pulp.
Machine à faire des réceptacles de pulpe compressée.


William E. Schneider, Washington, District of Columbia. U.S.A., 11th December, 1906; 6 years. Filed 22nd Au gust, 1906. Receipt No. 138,815.
Claim.-1. A machine of the character described having a contractible mould, a collapsible mandrel, means to insert said mandrel into sald mould, means to feed material tis said mould, and means to remove the completed receptacle
2. A machine of the character described having a mould, a mandrel, a pipe leading from a source of supply of material for making receptacles, a measuring cup pivotally mounted below the outlet of said pipe, said cup having a plate extending therefrom adapted to close the outlet of said pipe while the cup is feeding the material contained therein to the mould.
3. A machine of the character described having a mould, a mandrel adapted to be raised from said mould, means to collapse said mandrel when raised, to release the completed receptacle, a basket mountd on pivoted arms, and means to swing sald basket on saild arms to a position below the mandrel and out from below said mandrel, for the purposes described.
3. A machine of the character described having a mould. a mandrel adapted to be raised from said mould, means to collapse said mandrel when raised to release the completed receptacle, a swinging basket for carrying off the completed receptacle, a pivoted feeding cup, an arm sccured to said cup, a link connecting said arm and basket, and means to oscillate said arm whereby said cup and basket are both actuated.
5. A machine of the character described having a plunger rod. a mandrel comprising welge sections and intermediate sections. a cap fitting over the ends of said sections and secured to said rod. said cap having radial slots in its horizontal nortion and vertical slots in its vertical portion, headed bolts secured to the wedge sections and extending through sald radial slots, unheaded bolts secured to the intermediate sections and extending through said vertical slots, a ring around said cap and connected to the projecting portions of sald unheaded bolts, a spring within said mandrel normally holding it expanded and a fixture adapted to engage said ring and collapse the mandrel against the energy of said spring.
6. A machine of the character described having a plunger rod, a mandrel secured to said rod and comprising wedge sections and intermediate sections, a portion of said rod extending into the mandrel, a nuut on the end of said portion of said rod, a spring arranged around said rod and abutting at one end against said nut, means to retain the wedge sections of the mandrel always in the same relation with the plunger rod, means to move the werge sections vertically with relation to the intermediate sections to collapse the mandrel, a bottom piece arranged below the ends of the sections of the mandrel, and a tube secured to said hottom piece and extending over and forming a bearing for the other end of said spring.
7. A machine of the character described having a contractible mould comprising a plurality of interlocking jaw members, toggle joints. one arranged between each of said jaw members and a fixture, each toggle having one member provided with a laterally offset finger extending in a line with the longitudinal axis of said member, a mandrel adapted to be inserted into said mould, a vertically movable piece arranged in the bottom of the mould and normally arranged below the level thereof, levers supporting said plece, and vertically movable rods having pins adapted to engage the fingers of the toggles to operate the same, said rods also having collars to engage the levers to raise the piece in the bottom of the mould.
8. A machinc of the character described having a contractible mould comprising a plurality of jaw members, each jaw member having an extending tongue engaging a groove in the adjacent member and each member having a portion of its inner surface near the base of its tongue cut out to give shape to the receptacle to be formed in the mould.
9. A machine of the character described having a contractible mould comprising a plurality of jaw members, said members having chambers therein, one between each adjacent pair thereof, the inner walls of said members having perforations leading to said chambers, a plate arranged below said member and having countersunk openings therein connected by grooves. said openings being located below said chambers. pipes fitted in said openings, and means to create a vacuum in said chambers and draw off the water pressed from the material through said pipes.
10. A machine of the character described having a contractible mould comprising a plurality of jaw members, said members having chambers therein, sald members having perforations leading to said chambers, a plate arranged below said members and having openings therein arranged below said chambers. an air-tight box arranged below sald plate. pipes connecting said box with the openings in sald plate and a pump connected up with sald box for the purpose specified.
11. A machine of the character described having a contractible mould comprising four jaw members, each member having two extending tongues arranged parallel to each other, one on the inner surface of said mould and the other at the outer surface thereof, and a third tongue extending across betwen said parallel tongues at the top of said jaw members, said members having chambers arranged between said inner and outer parallel tongues and below sald third tongues, sald chambers communicating with the interior of said mould. and means to draw water from the mould through sald chambers.
12. In a machine of the character described, a vertically movable head plate mounted on suitable guides, a screw connected to sald head plate and secured against rotation. a horizontal bevelled gear interiorly screw-threaded and mounted upon sald screw, oppositely extending shafts. each carrying a bevelled pinion and a loose gear, said pinions meshing with said horizontal gear, clutches on sald shafts to engage said loose gears, a gear wheel having cams on the sides of its periphery. each cam having three surfaces which are arranged in inverse order on opposite sides of said gear, a longitudinally movable mod having projecting rollers engaging said cams, pivoted levers engaging sald clutches and adapted to be actuated by said longitudinally movable rod, and means to revolve sald cam carrying gear for the purpose specified.
13. In a machtne of the character described. a contractible mould comprising a plurality of jaw members, means to onen and close said jaw members including vertically movable rods and a head plate to which sald rods are secured. a hollow screw connected to sald plate and secured against rotation, a horizontal bevelled gear interiorly screw-threaded and mounted on sald screw. a plunger rod extending up through said hollow screw, a mandrel secured to the end of said plunger rod, means to periodically reciprocate said plunger rod, and means to revolve said horizontal gear first in one direction then in another, and to leave sald gear stationary at the times when said plunger rod is being reciprocated.
14. In a machine of the character described. a contractible mould. means to open and close sald mould neriodically, a plunger rod, a mandrel mounted on said rod. a crank shaft carrying a crank adapted to reciprocate said plunger rod. a cam on sain shaft. a cup for feeding material to the mould, means of connection betwren said cam and cup whereby the former will operate the latter. and means to revolve the crank shaft at intervals when the mould is open to operate the cam for actuating the feeding cup and to turn sald crank to lower and raise the mandrel.

No. 102,482. Concrete Mizer. Mélangcur de bítnn.
Charles Raymond Weaver, Baltimore, Maryland, U.S.A.. 11th December, 1906; 6 years. Filed 19th October. 1906. Recelpt No. 140,437.
Claim.-1. In a concrete mixing and handing apparatus, the combination of a plurality of hoppers having bottom openings and adapted to be nested one within the other. and means for connecting said hoppers in series to permit them to be successively raised from their nested position and cause the material to pass successively from one hopper to the other as they are ralsed.
2. In a concrete mixing and handling apparatus, the combination of a plurality of hoppers having bottom openings and adanted to be nested one within the other, a preliminary mixing device associated with one of said hoppers,
and means for connecting said hoppers in series to permit them to be successively.raised from their nested position

and cause the material to pass successively from one hopper to the other as they are raised.
3. In a concrete mixing and handling apparatus, the combination of a plurality of hoppers having bottom openings and adapted to be nested within each other, a preliminary mixing device disposed within the top hopper. and means connecting said hoppers in series to permit them to be raised successively from their nested position and cause the material to pass successively from one to the other hopper of the series as thew are raised.
4. In a concrete mixing and handling apparatus, the combination of a plurality of hoppers having bottom openings and adapted to be nested within each other, doors for closing said openings, means connecting said hoppers in series to permit them to be successively raised from their nested poaition, and devices associated with said hoppers for automatically opening the doors of the upper hoppers as they are successively raised from said nested position.
5. In a concrete mixing and handling apparatus, the combination of a plurality of hoppers having bottom openings and adapted to be nested within each other, doors for closing said openings, means for successively raising the hoppers from their nested position, and devices associated with said hoppers for opening the doors to permit the material to pass from one hopper to the other.
6. In a concrete mixed and handling apparatus, the combination of a plurality of hoppers having bottom openings and adapted to be nested within each other, doors for closing said openings, a preliminary mixing device disposed in the top hopper of the series, means for successively raising the hoppers from their nested position, and devices for opening the doors to permit the material to pass from one hopper to the other.
7. In a device of the character described, the combination of a plurality of hoppers having bottom openings and adapted to be nested within each other, a preliminary mixing device disposed in the top hopper, means for connecting said hoppers in series to permit them to be successively raised from their nested position, and means for raising the preliminary mixing device in the top hopper.
8. The combination of a hopper, a preliminary mixing device disposed within said hopper, and having guides for centering gald device in said hopper and means for raising the preliminary mixing device.
9. The combination of a hopper having a bottom opening, a door for closing said opening, means for opening said door, a preliminary mixing device disposed within said hopper, and having guides for centering said device in said hopper, and means for raising the preliminary mixing device.
10. A device of the character described comprising a plurality of hoppers having bottom openings, doors for closing said openings, means for connecting said hoppers in series, to permit them to be successively raised, and automatic devices connected to the doors of the upper hoppers for successively opening the doors of the upper hoppers as they are raised.
11. In a device of the character described, the combination of a plurality of hoppers having bottom openings, and adapted to be nested in each other, hoisting slings for lifting the top hopper, wire ropes connecting the other hoppers of the series with the top hopper and stops arranged on said ropes for raising the hoppers successively, said stops. being disposed a distance apart to permit an upper hopper to be raised from the one beneath it before the latter is raised.
12. In a device of the character described, the combination of a plurality of hoppers having bottom openings, and adapted to be nested in each other, doors for closing said bottom openings, a flexible connection between the doors of each of the upper hoppers and the next lower hopper, guides through which said connections pass, and means for successively raising the hoppers from their nested position to cause the doors of the upper hoppers to be successively opened and permit material to pass through the bottom openings of the upper hoppers.
13. In a device of the character described, the combination of a plurality of hoppers having bottom openings and adapted to be nested in each other, means for flexibly connecting said hoppers in series to permit them to be successively raised from their nested position and cause material to pass successively from one hopper to the other as they are raised, and supports for the bottom hopper to sustain the nested hoppers in position to receive a charge of miaterials to be mixed.
14. In a device of the character described, the combination of a plurality of hoppers having bottom openings and adapted to be nested in each other, doors for closing said bottom openings, automatically operating devices for opening sald doors, means for flexibly connecting said hoppers in series to permit them to be successively raised from their nested position, and cause material to pass successively from one hopper to the other as they are raised and supports for the bottom hopper to sustain the nested hoppers in position to recelve a charge of material to be mixed.

No. 102,483. Electric Cleaning and Colour Setting Process.
Procédé électrique à colorer et netroyer.


George Dexter Burton, Boston, Massachusetts, U.S.A., 11th December, 1906; 6 years. Filed 5th December, 1905. Receipt No. 130,721.
Claim.-1. The process of treating fibrous substances and fabrics, which consists in immersing said material in a bath containing a chlorine producing solution, and passing an electric current through said bath while said materials are immersed therein.
2. The process of treating fabrics and other similar materials, which consists in immersing said material in a bath. and producing in said bath, by electrolysis, chlorine gases during the immersion of said material therein.
3. The process of treating fabrics and other similar materials, which consists in immersing said materials in a bath containing a solution of chloride of sodium, and passing an electric current through said bath while said materials are immersed.
4. The process of treating fabrics and other similar materials, which consists in immersing said materials in a bath containing a solution of chloride of sodium, and passing an electric current through said bath while sald materials are immersed, and then adding to said bath a quantity of sodium carbonate.
5. The process of treating fabrics and other similar materials, which consists in immersing said material in a bath containing a chlorine producing solution, heating sald bath, and then passing through it a current of electwcity while said material is immersed therein.
6. The process of treating fabrics and other similar materials, which consists in immersing said material in a bath containing a solution of water, chloride of sodium and
sodium carbonate, heating said bath, and then passing therethrough a current of electricity while said material is immersed therein.
7. The process of treating fabrics and other similar matrrials, which consists in immersing said material in a bath of water containing sufficient chloride of sodium and sodium carbonate in the proportion of one part of the former to three of the latter to increase the density of the water to about 1.015 or \(1 \cdot 020\), raising the temperature of said solution to about eighty degrees fahrenheit, and then passing through said bath a current of electricity while said material is immersed therein.
8. The process of treating fabrics and other similar materials, which consists in immersing said material in a bath in which wool has been degreased and cleansed, mixing in said bath a solution of about one part chloride of sodium to about three parts sodium carbonate, heating the solution, and then passing through said bath a current of electricity while said material is immersed therein.
9. The process of treating textile, porous or flbrous substances, which consists in placing said material in a suitable receptacle containing a chlorine producing solution, passing a suitable electric current through said solution containing the substance to be treated during a whole or a part of the time the process is being carried on, substantially as shown and described.
10. The process of treating textile, porous or fibrous substances, which consists in placing said material in a suitable receptacle containing a chlorine producing solution, passing a suitable electric current through said solution containing the substances to be treated during a whole or a part of the time the process is being carried on, the passage of the current through the material and solution causing the generation and development of the required chlorine gases, for the purposes described.

\section*{No. 102,484. Briquette Making Machine.}

Machine à faire des briquettes.


William C. Renfrew, assignee of Edgar D. Misner, both of .St. Louis, Missouri, U.S.A., 11th December, 1906; 6 years. Filed 4th August, 1906. Receipt No. 138,421.
Claim.-1. A moulding machine comprising two die housings, a double series of dies located between the two die housings, means for reciprocating said dies, two end sets of dies movable each toward and away from one die housing, means for simultaneously operating all of the dies so that one set of end dies will always be co-operating with the first-mentioned dies, and means for supplying pulverulent material to said die housings.
2. A moulding machine comprising two spaced apart die housings, a series of double ended dies located between said die housings, means for constantly reciprocating said dies, two end sets of dies movable each toward and away from gne die housing, said end sets of dies being connected together, means for reciprocating said end sets of dies simultaneously with the shifting of the double-ended dies, and means for supplying pulverulent material to said die housings.
3. The combination with the two spaced apart die housings having die openings, of the die carrying body located between said housing, double-ended dies mounted in said body and projecting laterally therefrom and into said die openings, two end sets of dies. carrying bodles therefor. means connecting said latter bodies, a constantly operated shaft, means thereon for actuating the first-mentioned die rarrying body, a set of cams on said shaft, and rods connereted to one of said bodies of the end sets of dies having frames in engagement with said set of cams.
4. The combination with a die housing having a series of die openings, of a series of dies working in said openings, means for reciprocating the same, a second set of dies also working in said die openings, a rotary shaft, means actuated thereby connected to said firstmentinned series of dies, cams on said shaft, rods secured to sald set of dies having frames with openings to accommodate said cams. idlers mounted in sald frames for engaging said cams, and means for guiding the frames in their movements.
j. The combitation with a die housing having a series of die openings, of a series of dies working in said openings, means for reciprocating the same, a second set of dies also working in said die openings, a rotary shaft, means actuated thereby connected to said first-mentioned serles of dies, cams on said shaft, rods secured to said set of dies having frames with openings to arcommodate said cams. Idlers mounted in said frames for engaging said cams, said frames having end projections, and idlers mounted in adjustable bearings, said projections engaging said idlers.
6. The combination with the feed hopper, of the feeder movable beneath said hopper and having ovenings ur pockets, die housings having vertical supply openings and horizontal die openings into which said supply openings extend, a series of double-ended dies extended into the die openings of both housings, two end sets of dies movable toward and away from said die housings, and means for simultaneouslv actuating said feeder and all of the dies, as -set forth.
7. In a moulding machine, the combination with the two die housings, of the double set of dies working in both housings, the end sets of dies, each working in one die housing, means for reciprocating all the dies simultaneously, a reciprocating feeder for supplying pulverulent material to both die housings, a horizontally disposed hopper above said feeder, rotary agitators in said hopper, mixers above said hopper, and means for controlling the supply to the latter.
8. The combination with the die housings, the series of dies, the feeder, two sets of hoppers and rotary agitators in said hoppers, of the horizontally adjustable' bottoms for controlling the outlet from one set of hoppers to the other, and hot mixers for supplying the hogpers.
9. A moulding machine comprising a die housing, two series of co-operating dies, a feeder for supplying material to said die housing having a series of pockets, ejectors for forcing the material from sair pockets into said die housing, means for actuating said ejectors, and means for simultaneously operating the dies for compressing the material within the die housing.
10. A moulding machine comprising two die housings, dies located between the die housings, means for reciprorating said dies, two end sets of dies movable each toward and away from one die housing, means for simullaneously operating all of said dies so that one end set of dies will always be co-operating with the first-mentioned dies, means for supplying pulverulent material to said die housings, and means for ejecting the material from said last-mentioned means into said die housings.
11. A moulding machine comprising two die housings, dies located between the die housings, means for reciprocating said dies, two end sets of dies movable each toward and away from one die housing, means for simultaneously operating all of sald dies so that one end set of dies will always be co-operating with the first-mentioned dies, means for supplying pulverulent material to said die housings, and two serles of efectors, one for each die housing, for forcing the material from the last-mentioned means into the respective die housings.
12. The combination in a moulding machine, of two die housings, double series of dies located between the two die housings, means for reciprocating said dies, two end sets of dies movable each toward and away from one die housing, means for simultaneously operating all of the dies so that one set of end dies will always be co-operating with the first-mentioned dies, a reciprocating feeder having two series of pockets for supplying pulverulent material to said die housings, and two series of ejectors, designed to be alternately operated for forcing the material from said nockts into said die housings.
13. The combination in a moulding machine, of a die housing having vertical supply openings, two series of cooperating dies, means for actuating said dies, a feeder for
pulverulent material having a series of pockets designed to coincide with said supply openings, a series of vertically disposed ejectors designed to force the material from said pockets and through said supply openings into said die housing, a lever for actuating said ejectors, and means for intermittently actuating said lever.
14. The combination with the die housings, the series of dies, and the feeder, of the supply hopper having two shafts located therein and movable in opposite directions. and agitator arms carried by said shafts, the arms of each shaft being deflected from a plane at right angles to such shaft and designed to extend to within a short distance of the other shaft.
15. In a moulding machine comprising hot mixers, agltators therein, means for operating such agitators, a die housing, hoppers interposed between said said hot mixers and said die housing, said hoppers having agitators therein, means for operating said agitators, co-operating dies, and means for operating said dies, the respective operating means of said hot mixer agitators, said hopper agitators, and said dies being each capable of being independently cperated.
15 The cumbination with the die housing and the feed supply hopper, of the feeder interposed between the hopper and said die rousing, the rods connected to said feeder, tha levers to which said rods are secured, the movable frame el.gaging said levers, and means for actuating said frame.
17. Th., comination with the die carrying body having a series of horizcntal die openings, and a series of vertical openings beneath and opening into said die openings and projecting laterally from said body, and the springs mounted in said vertical openings and forming bearings for said dies.

No. 102,485. Process of Finishing Photographically Printed Sheots.
Procédé pour finir des feuilles photographiques imprimées.


Charles F. Pease, Chicago, Illinois, and Williams, Brown and Earle, Philadelphla, Pennsylvania, U.S.A., 11th December, 1906; 6 years. Filed 2nd June, 1906. Receipt No. 136,485 .
Claim.-1. A process of finishing photographically printed paper by a continuous operation which consists in first moving the said paper in a dry condition, upwardly and simultancously wetting the printed surface thereof and then aryiveg the raper by artificial means.
2 The process of finishing sheets of photographically printed paper ty a continuous operation, which consists n first noving the said sheets in a dry condition, upwardiy ard simultanrocs!y expesing the printed surface thereof t.) falling water and then drying the same by artificial means.
3. The rrecess of finishing sheets of photographically printed paper by a continuous operation, which consists
n first moving the dry sheets upwardly and simultaneously exposing the printed surface thereof to falling water, then removing the superfluous water from the sheets and finally drying the said sheets by artificial means.
4. The process of finishing sheets of photographically printed paper by a continuous operation, which consists in first moving the dry sheets upwardly and exposing only the printed surface thereof to falling water then removing the superfluous water from the sheets and finally drying said sheets by artiticial means.
5. The process of finishing dry sheets of photographically printed paper by a continuous operation, which consists in wetting only the printed surface of the same and drying the sheets by artificial means.
6. The process of finishing dry sheets of photographically printed paper by a continuous operation, which consists in wetting only the printed surface of the same, then remoring supertluous water from the sheets and finally drying the said sheets by artificial means.

\section*{No. 102.486. Thermic Mirture. Mélange thermique.}

Th. Goldschmidt, assignee of Hans Goldschmidt, both of Essen-on-the-Ruhr, Rhine, Germany, 11th December, 1906; 6 years. Filed 30th January, 1906. Receipt No. 132,403.
Claim.-1. A thermic mixture of calcium and silicon and of a metal compound suitable of being reduced to a metal, the substances being thoroughly mixed with each other and the proportions of the active reducing metals being such that silicon forms the smaller part in weight of the weigh: of the active metals.
2. A thermic mixture consisting of calcium and sillicon and of a metal compound containing only metal and axygen, the substances being thoroughly mixed with each other and the proportions of the active reducing metals being such that silicon forms the smaller part in weight of the active metals.
3. A thermic mixture consisting of calcium and silicon and of iron oxide ( \(\mathrm{Fe}^{y} \mathrm{O}^{3}\) ) or of iron oxide protoxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{4}\) ) or of both, the substances being thoroughly mixed with each other.
4. A thermic mixture consisting of an alloy of calcium and sllicon and of iron oxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{3}\) ) or of iron oxide protoxide ( \(\mathrm{Fe}^{\mathrm{s}} \mathrm{O}^{4}\) ) or of both, the substances being thoroughly mixed with each other.
5. A thermic mixture consisting of calcium and silicon and of iron oxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{3}\) ) or of iron oxide protoxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{\prime}\) ) or of both, the substances being thoroughly mixed with each other, and with an addition of metallic iron or of another inactive metal.
6. A thermic mixture consisting of an alloy of calcium and silicon and of iron oxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{2}\) ) or of iron oxide protoxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{4}\) ) of of both, the substances being thoroughly mixed with each other and with an addition of metallic iron or of another inactive metal.
7. A thermic mixture consisting of calcium and silicon and of iron oxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{2}\) ) or of iron oxide protoxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{4}\) ) or of both, the substances being thoroughly mixed with each other and with an addition of metallic iron or another inactive metal and with the addition of one or several active metals such as magnesium or aluminum.
8. A thermic mixture consisting of an alloy of calclum and silicon and of iron oxide \(\left(\mathrm{Fe}^{2} \mathrm{O}^{\mathbf{2}}\right.\) ) or of iron oxide protoxide ( \(\mathrm{Fe}^{3} \mathrm{O}^{4}\) ) or of both, the substances being thoroughly mixed with each other and with an addition of metallic iron or another inactive metal and with the addition of one or several active metals such as magnesium or aluminum.
9. A thermic mixture consisting of calcium and silicon and of iron oxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{3}\) ) or of iron oxide protoxide ( \(\mathrm{Fe}^{3}\) \(\mathrm{O}^{4}\) ) or of both, the substances being thoroughly mixed with each other, and with the addition of one or several active metals such as magnesium or aluminum.
10. A thermic mixture consisting of an alloy of calcium and sillicon and of iron oxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{2}\) ) or of iron oxide. protoxide ( \(\mathrm{Fe}^{-3} \mathrm{O}^{4}\) ) or of both, the substances being thoroughly mixed with each other and with the addition of one or several active metals such as magnesium or aluminum.
11. A thermic mixture consisting of calcium and silicon and of iron oxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{2}\) ) or of iron oxide protoxide ( \(\mathrm{Fe}^{3}\) \(0^{4}\) ) or of both, the substances being thoroughly mixed with each other and the proportions of the active reducing metals being such that silicon forms the smaller part in weight of the weight of the active metals.
12. A thermic mixture consisting of about 20 per cent of calcium, 10 per cent of silicon and 70 per cent of iron oxide \(\left(\mathrm{Fe}^{2} \mathrm{O}^{3}\right.\) ) or of iron oxide protoxide ( \(\mathrm{Fe}^{3} \mathrm{O}^{4}\) ) or of both.
13. A thermic mixture consisting in proportion of about 20 per cent of calcium, 10 per cent of silicon and 70 per cent of iron oxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{3}\) ) or of iron oxide protoxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{4}\) ) or of both. with an addition of metallic iron or of another Inactive metal as maganese or of both.
14. A thermic mixture consisting in proportion of about \({ }^{2}\) 'J per cent of calcium, 10 per cent of silicon and 70 per cent of iron oxide ( \(\mathrm{Fe}^{2} \mathrm{O}^{3}\) ) or of iron oxide protoxide ( \(\mathrm{Fe}^{3} \mathrm{O}^{4}\) ) or of both, with a partial substitution of another active meta: such as aluminum, magnesium or both.

No. 102,487. Mould for Concrete Pipe.
Moule pour tuyaux de béton.


The Miracle Pressed Stone Company, Minneapolis, assignee of Arthur Pomeroy Melton, Gary, both in Indiana, U.S.A., 11th December, 1906; 6 years. Filed 19th October, 1906. Receipt No. 140,410 .

Claim.-1. A mould for a bell mouthed concrete pipe comprising an inner member consisting of a bell mouth part at the bottom and a cylindrical body part stepped on the top of the bell mouth part and contractible while so stepped thereon and separable therefrom by direct lifting, and an outer member also consisting of a bell mouth part at the bottom and a cylindrical body part stepped on the top of the bell mouth part and expansible while so stepped and separable therefrom by direct lifting.
2. A mould for a bell mouthed concrete pipe comprising an inner member consisting of a bell mouth part at the bottom interiorly rabbeted at its upper end, a contractible cylindrical body part stepped in the rabbet at the top of the bell mouth part and adapted to be separated therefrom by direct lifting, and an outer member consisting of a bell mouth part at the bottom and an expansible cylindrical body part stepped on the bell mouth bottom. part and separable therefrom by direct lifting.

\section*{No. 102,488. Dynamo Electric Machine. \\ Machine dynamo électrique.}


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Ernst F. W. Alexanderson, Schenectady, New York, U.S.A., 11th December, 1906; 6 years. Filed 17th April, 1906. Receipt No. 134,95i.
Claim.-1. In an alternating current dynamo electric machine, a field magnet, field coils carried thereby, and a short circuited damping winding of high conductivity carried by the fleld magnet having an effective cross section per pole of more than one-fourth of the effective cross section of said fleld coils.
2. In a single phase dynamo-electric machine, a field magnet, firld ceils carried thereby, and a short circuited damping winding of high conductivity carried by the fleld magnet, said winding having an effective cross section sufficient to carry the current induced by armature reaction without undue heating.
3. In a single phase dynamo-electric machine, a field magnet, field coils carried thereby, and a short circuited damping winding of high conductivity carried by the field magnet, said winding having an effective cross section sufflcient to carry without undue heating current neutralizing the full load ampere turns of the armature.
4. In an alternating current dynamo-electric machine, a field magnet, field coils carried thereby, and a short circuited damping winding of high conductivity carried by the field magnet, said winding having an effective cross section sufficient to carry without undue heating a current neutralizing the cross magnetizing ampere turns of the armature under all conditions of load.
5. In an alternating current dynamo-electric machine, an armature winding, a fleld magnet, field coils carried thereby, and a short-circuited damping winding of high conductivity carried by the field magnet having an effective cross section not less than half the effective cross section of the armature copper.
6. In a dynamo-electric machine, a stationary armature, a rotary cylindrical field magnet, field colls embedded in said magnet, end plates of high conductivity carried by said magnet, and axially extending bars of high conductivity connecting said end plates.
7. In a dynamo-electric machine, a stationary armature, a rotary cylindrical field magnet, field colls embedded in said magnet, end plates of high conductivity carried by said magnet, and bars of high conductivity extending axially through said magnet near its periphery and electrically connecting said end plates.
8. In a dynamo-electric machine, a stationary armature, a rotary cylindrical fleld magnet composed of laminations arranged perpendicularly to the axis, field coils embedded in said magnet, end plates of high conductivity carried by said magnet, and bars of high conductivity extending axially through said magnet electrically connecting said end plates and serving to clamp the laminations together.
9. In a dynamo-electric machine, a stationary , armature, a rotary cylindrical field magnet composed of laminations arranged perpendicularly to the axis, field coils embedded in said magnet, heavy copper end plates carried by said magnet, and heavy copper bars electrically connecting said end plates and serving to clamp the laminations together.
10. In a dynamo-electric machine, a stationary armature, a rotary cylindrical field magnet composed of laminations arranged perpendicularly to the axis, field coils embedded in said magnet, heavy copper end plates carried by said magnet, and heavy copper bars extending axially through said magnet near its periphery electrically connecting said end plates and serving to clamp the laminations together.
11. In a dynamo-electric machine, a stationary armature, a rotary cylindrical field magnet, field coils embedded in said magnet, end plates of high conductivity carried by said magnet, and axially extending bars of high conductivity connecting said end plates, said bars having a cross section per pole not less than one-fourth the effective section per pole not less than
cross section of the field colls.
12. In a dynamo-electric machine, a stationary armature. a rotary cylindrical field magnet composed of laminations arranged perpendicularly to the axis, field coils embedded in said magnet, end plates of high, conductivity carried by said magnet, and bars of high conductivity extending axially through said magnet electrically connecting said end plates and serving to clamp the laminations together, said bars having a total effective cross section not less than half the effective cross section of the armature coils.

\section*{No. 102,489. Pounding-Up Machine.}

Machine pour attacher les eml.eignes aux semelles des chausames.
The United Shoe Machinery Company of Canada, Boston, assignee of Stephen Snow. Everett, Massachusetts, U.S.A., 11th December, 1906; 6 years. Filed 13th December, 1904. Receipt No. 120,719.
Claim.-1. In a pounding-up maohine, the combination with means for supporting a shoe, of means for forcing the upper material downwardly toward the inner sole and inwardly away from the edge of the innersole.
2. In a pounding-up machine, the combination with means for supporting a shoe, of means for pounding the upper material downwardly toward the inner sole and inwardly away from the edge of the inner sole, and means for determining the position of the shoe with relation to the pounding means.
3. In a pounding-up machine, the combination with means for supporting a shoe, of a pounding-up device, actuating
mechanism for said device, an adjustable rest for engaging the bottom of the shoe, and a rest for the edge of the shoe.

4. In a pounding-up machine, the combination with means for supporting a shoc, of a pounding-up device, and operating mechanism therefor including means for actuating said device inwardly over the shoe bottom as it approaches the shoe.
5. In a pounding-up machine, the combination with means for supporting a shoe, of a pounding-up device, means for actuating said pounding-up device toward and from the bottom of the last, and additional means for causing said device to strike the shoe obliquely for drawing the upper material over the edge of the inner sole.
6. In a pounding-up machine, the combination with means for supporting a shoe on a last. of a pounding-up device, and means for actuating said device downwardly and inwardly with relation to the last bottom for forcing the upper over the last.
7. In a pounding-up machine, the combination with means for rigidly supporting a shoe, of a pounding-up device, and means for yieldingly actuating said device for flattening the upper material down onto the inner sole and simultancously forcing it over the inner sole.
8. In a machine for pounding-up shoes, the combination with means for forcing the upper material downwardly toward the inner sole and inwardlyaway from the edge of the inner sole, of a support for the shoe, and means for actuating said support to move the shoe toward and from position to be operated upon.
9. In a machine for pounding-up shoes, the combination with means for forcing the upper material downwardly toward the inner sole and inwardly away from the edge of the inner sole, of a support for the shoe, means for actuating sald support to move the shoe toward and from position to be operated upon, and means for locking said support with the shoe in position to be operated upon.
10. In a machine for pounding-up shoes, the combination with means for pounding the upper material downwardly upon the inner sole and forcing it inwardly away from the edge of the inner sole, of a support for the shoe. means for actuating said shoe support toward and from the pounding means, and automatic means for locking and rigidly sustaining said shoe support.
11. In a machine for pounding-up shoes, the combination with means for forcing the upper material downwardly toward the inner sole and inwardly away from the edge of the inner sole, of a shoe support movable toward and from position for the shoe to be operated upon, automatic means for locking said shoe support in its said position, and manually controlled means for simultaneously unlocking and withdrawing said support.
12. In a machine for pounding-up shoes, the combination with means for forcing the upper material downwardly toward the inner sole and inwardly away from the edge of the inner sole, of a support for the shoe, means for lifting the shoe support to put the work into position to be operated upon, a device for locking the shoe support in elevated position, yielding means for advancing the locking device, and unyielding means for insuring the advance movement of the locking device.
13. In a machine for pounding-up shoes, the combination with means for forcing the upper material downwardly toward the inner sole and inwardly away from the edge Of the inner sole, of a support for the shoe, means for lifting the shoe support to put the work into position to be operated upon, a device for locking the shoe support in elevated position, ylelding means for advancing the locking device, and positive means for retracting said device.
14. In a machine for pounding-up shoes, the combination with means for forcing the upper material downwardly
oward the inner sole and inwardly away from the edge of the inner sole, of a support for the shoe, means for lift ing the shoe support to put the work into position to be operated upon, a device for locking the shoe support in elevated position, and means connected with said shoe sup port and adapted to advance and retract automatically the locking device as the shoe support is raised and lowered.
15. In a machine for pounding-up shoes, the combination with means for forcing the upper material downwardly toward the innersole and inwardly away from the edge of the inner sole, of a support for the shoe, actuating means for raising and lowering the shoe support, a slide bar having an inclined upper face adapted to engage a similarly shaped face on the shoe support, and means controlled by said actuating means for advancing and retracting the slide bar as the shoe support is raised and lowered.
16. In a machine for pounding-up shoes, the combination with means for forcing the upper material downwardly toward the inner sole and inwardly away from the edge of the inner sole, of a supeprt for the shoe, actuating means for raising and lowering the shoe support, a sllde bar having an inclined upper face adapted to engage a similarly shaped face on the shoe support, and mechanism controlled by said actuating means for advancing and retracting the slide bar as the shoe support is raised and lowered. said mechanism being arranged to maintain the inclined faces of said slide bar and shoe support in continuous engagement for locking the support against depression in any position thereof.
17. In a machine for pounding-up shoes, the combination with means for forcing the upper material at the margin of the shoe bottom downwardly toward the inner sole, of positioning means arranged to engage the inner sole' inside said upper material
18. In a machine for pounding-up shoes, the comblnation with means for pounding the upper material downwardly toward the inner sole and inwardly away from the edge of the inner sole, of means for supporting the shoe, and means for engaging the inner oole to position the shoe in predetermined relation to the path of the pounding means.
19. In a pounding-up machine, the combination with means for supporting a shoe, of means for pounding the upper material downwardly and inwardly, and means for holding the upper material against the last adjacent to the point where the pounding means operates.
20. In a pounding-up machine, the combination with a support for a lasted shoe, of means for acting upon the shoe bottom near its edge for forcing the upper material downwardly toward the inner sole and inwardly away from the edge of the inner sole, and means for holding the upper material against the side of the last.
21. In a pounding-up machine, the combination with a support for a lasted shoe, of means for acting on the shoe adjacent to its edge for holding the upper material against the side of the last, and means for pounding downwardly the upper material on the bottom of the last, said two means co-operating for shaping the edge of the shoe.
22. In a pounding-up machine, the combination with a support for a lasted shoe, of means for acting on the shoe. adjacent to its edge for holding the upper material against the side of the last, and means for drawing the upper material on the bottom of the last inwardly away from the edge of the last.
23. In a pounding-up machine, the combination with a shoe support arranged to permit the shoe to be turned to present different portions thereof in position to be operated upon, of a pounding-up device and means for reciprocating said device for pounding-up the shoe.
24. In a pounding-up machine, the combination with pounding-up means for acting on the upper material on a shoe bottom, of an abutment for determining the position of the shoe with relation to the pounding-up means, said abutment being adjustable to stop the shoe in different positions with relation to the stroke of the pounding-up means.
25. In a pounding-up machine, the combination with pounding-up means for acting on the upper material on the shoe bottom, of an abutment, a shoe support, means for automatically raising the support for presenting the shoe against the abutment in position to be acted upon by the pounding-up means, said abutment being adjustable to vary the position to which the shoe may be raised by the support, and thereby vary the length of the stroke of the pounding-up means.
26. In a machine of the class described, the combination with means for pounding-up a shoe, of means for holding the shoe in position to be operated upon comprising sustaining means for engaging the shoe on the side opposite to that on which the pounding means operates and positioning means for engaging the shoe on the same ilde af the pounding means

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the class described, a support for a 27. In machine of the class lewering said support, from hoe, means for raising and material inwardly away supmoans for forcing the upper the shoe carried b the edge of the innersole port.
port. In a machine of the class described, the combination
28. In ally controlled 28. In a machine of the a shoe, and manually controling a with means for supporting a sho the shoe for support of a means for raising and means for pounding-up of blows to the shoe.
No. 102,490. Bread Mizer. Malaxeur de pâtc.


Landers, Frary and Clark, assignee of Alonzo Abner Warner, all of New Britain, Connecticut, U.S.A., 11th Denem' 1906; 6 years. Filed 10th August, 1906 . Recelpt No. 138,556.
Claim.-1. In a mixing machine, the combination of a essel having a top rim with a holder having clamping devices to secure it to a proper support, holding arms devices to soce side of the vessel just under the rim, and arojecting holding lug for engaging the vessel at the tod inside of its rim.
2. In a mixing machine, the combination of a vessel having a top rim with a holder having clamping devices to secure it to a proper support, means for holding the vessel by its top rim and one side, and a post projecting upwardly from the said means, and a shaft bearing arm having a socket and set screw fitted to the said post.

No. 102,491. Compound for Piles, Hemorrhoids, Etc.
Composé pour les hémorroildes, etc.
The South African Remedy for Piles Syndicate, assignee of Albert William Fuller, both of Johannesburg. Transvaal, South Africa, 11th December, 1906; 6 years. Filed 23rd February, 1905. Receipt No. 122,762.
Claim.-1. An article of manufacture made by the mixture of the julcy extract from the root of the plant san: sevieria thyrsifiora with a preservative substance to prevent fermentation.
2. An article of manufacture composed of the juicy extract from the root of the plant sansevieria trysifiora and 20 per cent of glycerine.
3. An article of manufacture consisting of a soft extract formed by the concentration of the juice from the root of the plant sansevieria thrysiflora by evaporation under vacuum and a temperature not exceeding 180 degrees Fahren-- helt.
4. An article of manufacture consisting of a heat concentrated extract from the root of the plant sansevieria thyrsifiora and a vehicle or holding substance to form pills, tablets, lozenges, or the like, substantially as described.

\section*{No. 102,49\%. Regulation of Electric Currents. Régulation des courants électriques.}

Ladische Anilin and Soda Fabrik, assignee of Johannes Hessberger, all of Ludwig, Shafen-on-the-Rhine, Germany, 11th December, 1906; 6 years. Filed 23rd November, 1904. Receipt No. \(120,256\).
Olasm.-The process of supplying currents to a plurality of chrcuits containing arcs suitable for the production of compounds of nitrogen and oxygen with the minimum die-



The Sherwin-Williams Company, assignee of Albert D. Anderson, all of Cleveland, Ohio, U.S.A., 11th December 1906; 6 years. Filed 1st August, 1906. Receipt No. 138,334.
Claim.-1. In combination with a continuously operating expelling press, a tempering apparatus for the material to be treated, said apparatus discharging directly into the press.
2. The combination with a continuously operating expelling press, a tempering apparatus, and means contained within said tempering apparatus for agitating the material therein and feeding it to the press, substantially as described.
3. In combination with a continuously operating expelling press, a tempering trough discharging into the press, and a series of agitators or stirrers mounted in said trolugh and serving to agitate the material therein and to advance it along the trough toward the discharge end thereof.
4. In combination with a continuously operating expelling press, a tempering trough discharging into the press, means for heating said trough, a shaft extending through the trough, and a series of blades or stirrers carried by the shaft, said blades or stirrers serving to agitate the material and thereby bring it into intimate contact with the surface of the trough and also to advance the materlal along the trough toward the discharge end thereof.
5. In combination with an expelling press, a grinding mill, a tempering apparatus for the ground material, and means for effecting a feeding of the material from the mill, through the tempering apparatus and to the press.
6. In combination with an expelling press, a grinding mill, a tempering apparatus for the ground material, means for effecting a feeding of the ground material from the mill, through the tempering apparatus and to the press, and means for returning any over feed.
7. In combination with an expelling press, a grinding mill, a hopper to receive the ground material from the mill, a tempering trough discharging into the press, means for feeding the material from the hopper to the tempering trough, and a conveyer adapted to recelve any surplus material from the tempering trough and to transfer it to the hopper.
8. In combination with an expelling press, a grinding mill, a hopper to receive the ground material from the mill, a tempering trough, an endless conveyer serving to convey the material from the hopper to the tempering trough, a spout leading from the tempering trough to the press, a conveyer trough discharging at one end into the hopper, and a second spout leading from the tempering trough to said conveger trough.
9. In combination with an expelling press, a grinding mill, a tempering apparatus, means for effecting a leeding of the material from the mill, through the tempering apparatus and to the press, and means to separate the solid matter from the oll which passes from the press.
10. In combination with an expelling press, a grinding mill, a tempering apparatus. means for effecting a feeding of the material from the mill, through the tempering apparatus and to the press, means for effecting a separation of the solid matter from the oil as it passes from the press, and means for feeding such solid matter to the tempering apparatus.
11. In combination with an expelling press, a grinding mill, a tempering apparatus. means for effecting a feeding of the material from the mill. through the tempering apparatus and to the press, means for returning any overstock from the tempering apparatus to the mill. means for effecting a separation of the solid matter from the oll as it passes from the press. and means for feeding such solid matter to the tempering apparatus.

No. 102,494. Process of Obtaining Caoutchouc.
Procédé pour obtenir le caoutchouc.


Bernhard Grätz, assignee of Heinrich Scholz, both of Berlin, Germany, 11th December, 1906; 6 years. Filed 1st March, 1906. Receipt No. 133,425.
Claim.-The process of producing pure caoutchouc from substances containing caoutchouc, consisting in extracting from such substances the caoutchouc together with the resins by means of bisulphide of carbon, or benzine, or turpentine oil or ether and separating the rubber by means of methylic alcohol, or ethylic alcohol, or amyl alcohol in case of blsulphide of carbon serving as a solvent, methylic alcohol in cases of benzine serving as a solvent, methylic alcohol or ethylic alcohol, or acetone in case of turpentine oll serving as a solvent, amyl alcohol in case of ether being used as a solvent.

\section*{No. 102,495. Process of Preparing India Rubber} for Vulcanization.
Procédé pour préparer le caoutchouc pour la vulcanisation.
Bernhard Grätz, assignee of Heinrich Scholz, both of Berlin, Germany, 11th December, 1906; 6 years. Filed 1st March, 1906. Receipt No. 133,426.
Claim.-1. The process of preparing rubber for vulcanization, consisting in treating the rubber prior to its vulcanization with glacial acetic acid or amyl alcohol, to dissolve the resinous matter, and separating the thus treated rubber from the liquid.
2. The process of preparing rubber for vulcanization, consisting in treating the rubber prior to its vulcanization with amyl alcohol in the hot mixed with water for the purpose of keeping down the temperature.

\section*{No. 102,496. Valve. Soupape.}

Theodore Henry Haberkorn, Fort Wayne, Indiana, U.S.A., 11th December, 1906; 6 years. Filed 29th October, 1906. Receipt No. 140.737.
Claim.-1. In a valve gear for a double engine operated by fluld under pressure, the combination with the two valves and the two piston operated crossheads, of two parallel shafts provided respectively with a power receiving arm and two power transmitting arms, with the latter un-
equal in length, and with the power receiving arm of one of the shafts operatively connected with one of the cross-

heads, and with the power receiving arm of the other shaft operatively connected with the other crosshead, a link connection between the shorter power transmiting arm of each shaft and the longer power transmitting arm of the other shaft, which link connection comprises two links of unequal length, with the longer link pivoted at one end to one end of the shorter link and at its opposite end to the shorter shaft arm and with the shorter link pivoted at its opposite end to the longer shaft arm, means for transmitting motion from the longer link of one of the link connections to one of the valves, and means for transmitting motion from the longer link of the other link connection to the other valve, and the axes of the pivotal connections of the shorter link of each link connection being spaced correspondingly with the distance between the axes of the shafts.
2. In a valve gear for a double engine operated by fluid under pressure, the combination with the two valves and the two pistons relativeiy arranged substantially as indicated, of two parallel shafts provided respectively with a power recelving arm and two power transmitting arms, with the latter unequal in length and with the power receiving arm of one of the shafts operatively connected with one of the pistons and with the power receiving arm of the other shaft operatively connected with the other piston, a link connection between the shorter power transmitting arm of each shaft and the longer power transmitting arm of the other shaft, which link connection comprises two links. with one of the links pivoted at one end to one end of the other link and at its opposite end to the shorter shaft arm and with the last-menioned link pivoted at its opposite end to the longer shaft arm, means for transmittino motion from the first-mentioned link of one of the link connections to one of the valves, and means for transmitting motion from the first-mentioned link of the other link connection to the other valve, and the axes of the pivotal connections of the second-mentioned link of each ilink connection being spaced correspondingly with the distance between the axes of the shafts.
3. In a valve gear for a double engine operated by fluid under pressure, the combination with the two valves and the two pistons, of two parallel shafts provided respectively with a power receiving arm and two power transmitting arms, with the latter unequal in length and with the power recciving arm of one of the shafts operatively connected with one of the pistons and with the power receiving arm of the other shaft operatively connected with the other piston, a link connection between the shorter power transmitting arm of each shaft and the longer power transmittinc arm of the other shaft, which link connection comprises two links, with one of the links pivoted at one end to one end of the other link and at its opposite end to the shorter shaft arm and with he last-mentioned link pivoted at its opposite end to the longer shaft arm, means for transmitting motion from one of the link connections to one of the valves, and means for transmitting motion from the other link connection to the other valve, all relatively arranged substantially as described and for the purpose set forth.
4. In a valve gear for a double engine operated by fluid under pressure, the combination with the two valves and the two piston operated crossheads, of two parallel shafts operatively connected with the piston and provided respectively with two power transmitting arms unequal in length, an operative connection between the shafts and the crossheads, a link connection between the shorter arm of each shaft and the longer arm of the other shaft, which link connection comprises two links of unequal length, with the
longer link pivoted at one end to one end of the shorter link and at its opposite end to the shorter shaft arm and with the shorter link pivoted at its opposite end to the longer shaft arm, means for transmitting motion from the longer link of one of the link connections to one of the valves, and means for transmitting motion from the longer link of the other link connection to the other valve, and the axes of the pivotal connections of the shorter link of each link connection being spaced correspondingly with the distance between the axes of the shafts.
5. In a valve gear for a double engine operated by fluid under pressure, the combination with the two valves and the two pistons relatively arranged substantially as indicated, of two parallel shafts operatively connected with the shafts and provided respectively with two power transmitting arms, a link connection between the shorter power transmitting arm of each shaft and the longer power transmitting arm of the other shaft. which link connection comprises two links, with one of the links pivoted at one end to one end of the other link and at its opposite end to the shorter shaft arm and wilth the last-mentioned link pivoted at its opposite end to the longer shaft arm, means for transmitting motion from the first-mentioned link of one of the link connections to one of the valves, and means for transmitting motion from the first-mentioned link of the other link connection to the other valve, and the axes of the pivotal connections of the second-mentioned link of each link connection being spaced correspondingly with the distance between the axes of the shafts.
6. In a valve gear for a dnuble engine operated by fluid under pressure, the combination with the two valves and the two pistons, of two parallel shafts operatively connected with the piston and provided respectively with two power transmitting erms unequal in length, a link connection between the shorter power transmitting arm of each shaft and the longer power transmitting arm of the other shaft, which link connection comprises two links. with one of the links pivoted at one end to one end of the other link and at its opposite end to the shorter shaft arm and with the last-mentioned link pivoted at its opposite and to the longer shaft arm, means for transmitting motion from one of the link connections to one of the valves, and means for transmitting motion from the other link connection to the other valve, all relatively arranged substantially as and for the purpose set forth.
7. In a valve gear for a double reversible engine operated by fluid under pressure, the combination with the pistons, the valves, the reverse shaft having two arms spaced longitudinally of the shaft and projecting toward the valve rods, the blocks pivoted to the shaft arms, rods extending loosely through the said blocks and operatively connected with the valves, the pivotally supported link hangers, the links pivotally supported from the hangers, and the shiftablo link blocks pivoted to the rods and connected with the links, of the two parallel shafts operatively connected with the pistons and operatively provided respectively with two power transmitting arms unequal in length, two rods estals. lishing operative connection between the shorter power transmitting arm of the different parallel shafts respectively and the different, link hangers respectively, and a link connection between the longer power transmitting arm of each of the said parallel shafts and the shorter power transmitting arm of the other of the said shafts, which link connection comprises two links of unequal length. with the longer link pivoted at one end to one end of the shorter link and at its opposite end to the shorter shaft arm and with the shorter link pivoted at its opposite end to the longer shaft arm, two rods operatively connecting the longer link of the different last-mentioned link connections respectively and the link of the different link hangers respectively, all relatively arranged and operating substantially as and for the purpose set forth.
8. In a valve gear for a double reversible engine operated by flutd under pressure, the combination with the two pistons, the two valves, the reverse shaft, two rods operatively connected with the revarse shaft and with the different valves respectively, the two plvotally supported link hangers, two links pivotally supported from the different hangers respectively, ard the shiftable link blocks pivoted to the different rods respectively and connected with the different links respectively, of the two parallel shafts operatively connected with the piston and provided respectively with two power transmitting arms unequal in length, two rods establishing operative connection between the shorter power transmitting arm of the different parallel shafts respretively and the different link hangers respectively, and a link connection between the longer power transmitting arm of each of the said parallel shafts and the shorter arm of the other of the said shafts, which link connection comprises two links of unequal length, with the longer link pivoted at one end to one end of the shorter link and at its opposite end to the shorter shaft arm and with the shorter
link pivoted at its opposite end to the longer shaft arm, two rods operatively connecting the longer link of the different last-mentloned link connections respectively with the link of the different link hangers respectively, all relatively arranged and operating substantially as and for the purpose set forth.
9. In a valve gear for a double reversible engine operated by fluid under pressure, the combination, with the cylinders \(B\) and \(b\), the pistons \(C\) and \(c\), the suitably guided crossheads \(E\) and \(e\) operatively connected with the pistons \(C\) and \(c\) respectively, the valve chests \(K\) and \(k\), the valves \(M\) and. \(m\), the valve rods \(T\) and \(t\) operatively connected with the valves \(M\) and \(m\) respectively, the reverse shaft, the rods \(U\) and \(u\) operatively connected with the valve rods \(T\) and \(f\) respectively and with the reverse shaft, the pivotally supported link hangers \(S\) and 8 , the links \(F\) and \(p\) pivotally supported from the hangers \(S\) and \(s\) respectively, and the two shiftable link blocks pivoted to the rods \(U\) and \(u\) respectively and connected with the lirks \(P\) and \(p\) respectively, of the two parallel shafts \(x\) and \(y\) operatively provided respectively with a power receiving arm 35 and two power transmitting arms 36 and 37 , with the power receiving arms operatively connected with the crossheads and with the power transmitting arms unequal in length. the rods 38 and 48 establishing operative connection between the shorter power transmitting arms of the shafts \(x\) and \(y\) respectively and the link hangers S and 8 respectively, the links 40 and 42 , the rod 46 , the links 50 and 52 , and the rod 56 all relatively arranged and operating, substantially as and for the purpose set forth.
10. In a valve gear for a double reversible engine operated by fluid under pressure, the combination, with the cylinders \(B\) and \(b\), the pistons \(C\) and \(c\), the valve chests \(K\) and \(k\), the valves \(M\) and \(m\), the valve rods \(T\) and \(t\) operatively connected with the valves \(M\) and \(m\) respectively, the reverse shaft, the rods \(U\) and \(u\) operatively connected with the reverse shaft, the rocker shaft \(V\) having the arms 17 and 18 , the rocker shaft \(v\) having the arms 27 and 28 , the pivotally supported link hangers \(S\) and 8 , the links \(P\) and \(p\) pivotally supported from the hangers \(S\) and 8 respectively, and the two shiftable link blocks pivoted to the rods \(U\) and \(u\) ©espectively and connected with the links \(P\) and \(p\) respectively, of the two parallel shafts \(x\) and \(y\) operatively connected with the pistons and provided respectively with two power transmitting arms 36 and 37 unequal in length, the two rods 38 and 48 establishing operative connection between the shorter power transmitting arm of the shafts \(r\) and \(v\) respectively and the link hangers \(S\) and \(s\) respectively. the links 40 and 42 , the rod 46 , the links 50 and 52 and the rod 56 , all relatively arranged and operating substantially as and for the purpose set forth.

No. 102,49'7. Rotary Engine. Machinc rotatoire.


Hubert Irwin Call, Spokane, Washington, U.S.A., 11th December, 1906; 6 years. Filed 8th October, 1906. Receipt No. 140,138.
Claim.-1. In a rotary engine, a cylinder having a cross section of unequal diameter, a rotary piston concentric within said cylinder to provide oppositely disposed equal steam spaces between the piston and cylinder. peripheral steam admission and steam exhaust ports for said steam spaces, and slidable piston blades extending tbrough said rotary piston and adapted to be maintained in contact at their ends with the cylinder wall, substantially as described.
2. In a rotary engine, a cylinder having a cross section of unequal diameter, a rotary piston concentrically mounted within the same to provide two oppositely disposed, equal steam spaces between the piston and cyinder, said cylinder being provided with two oppositely disposed steam admission ports, one for each steam space, and two oppo
sitely disposed exhaust ports, one for each steam space, and slidable piston blades extending through said rotary piston and arranged to have their ends normally in contact. with the walls of the cylinder, substantially as described.
3. In a rotary engine, a cylinder having a cross section of unequal diameter, a rotary piston concentric within said cylinder to provide two oppositely disposed equal steam spaces between the piston cylinder, slidable piston blades extending through the rotary piston and adapted to have their ends in operative contact with the wall of the cylinder, said cylinder being provided with two sets of oppositely disposed steam admission ports, and two sets of oppositely disposed exhaust ports, the admission and exhaust ports of each set communicating with its respective steam space. and means for controlling the said ports to render one or the other of the set inactive, substantially as described.
4. In a rotary engine, a fixed cylinder having oppositely disposed steam spaces, a rotary piston mounted concentrically therein, movable piston blades, steam admission ports arranged in the periphery of the cylinder in two opposing sets, those of one set connect each with the end of the adjacent steam space, exhaust ports arranged in sets intermediate the steam admission ports, regulating valves disposed respectively in said steam admission and discharge ports, auxiliary exhaust connections between the said discharge ports and each of the steam admission openings, and means for simultaneously operating said valves whereby one of each set of said admission ports can be alternately placed in operative sequence with one of the discharge ports, and the dead admission ports of each set can be placed in operative connection with one of the active discharge openings, substantially as described.
5. In a rotary engine, a cylinder, a rotary piston therein adapted to provide two oppositely disposed steam spaces between the piston and cylinder, and piston blades adapted to contact with the wall of the cylinder, said cylinder being provided with two sets of admission and exhaust ports for each steam space, adapted for alternate operation, said exhaust ports of each steam space having a valve adapted to alternately open and close the same, and a secondary exhaust port for each primary exhaust port arranged in successive relation thereto and in communication therewith, substantially as described.
6. In a rotary engine, a cylinder having a cross section of unequal diameter, a rotary piston concentric within said cylinder to provide two oppositely disposed equal steam spaces between the piston and cylinder, slidable plston blades extending through said piston and adapted to have their ends in operative contact with the walls of the cylinder, said cylinder teing provided with steam admission and steam exhaust ports for said steam spaces, and. a secondary exhaust port for each steam space, adapted to remain open after the primary exhaust has been cut off by one of the piston blades, substantially as described.
7. In a rotary engine, a cylinder having a cross section of unequal diameter, a rotary piston concentric within sald sylinder to previde two oppositely disposed equal steam spaces between the piston and cylinder, slidable piston blades extending through said piston and adapted to be in operative contact at their ends with the cylinder wall, said cylinder being provided with two sets of admission and exhaust ports for each steam space, valves for controlling said port, and a secondary exhaust port communicating with each admission port and controlled by the valves thereof, substantially as described.
8. In a rotary engine, a cylinder having a cross section of unequal diameter, a rotary piston concentric within said cylinder to provide two oppositely disposed equal steam spaces between the piston and cylinder. slidable pistion blades extending through said piston and adapted to be in operative contact at their ends with the cylinder wall, said cylinder being provided with two sets of admission and exhaust ports for each steam space, a valve for each pair of steam ports connectint opposite steam spaces and adapted to alternately control the same. and means for controlling said valve to simultaneously throw one set of ports in and the other out of operation, substantially as described.

\section*{No. 102,498. Seltagene and Like Containers of Aerated Liquids. Gazogène.}

Robert Hunter Campbell, Angel Road, Middlesex, England, 11th December, 1906; 6 years. Filed 7th December, 1905. Receipt No. 130,780.
Claim.-1. In a seltzogene or the like the combination of a head therefor having a nipple piece, with means for holding a charging receptacle, means for securing such means to said nipple piece, means for discharging said charging receptacle through said nipple piece into the receptage to be charged, and means to prevent the escape of the charging substance on the removal of its container and means for
holding the latter after the said container has been discharged.

2. In seltzogenes and the like, the combination of a head therefor having a nipple piece, with means for holding a charging receptacle, means for securing such means to said nipple piece, means for opening said charging receptacle and securing its discharg e through lateral openings in said means into the receptacle to be charged, and means to prevent the escape of the charging substance on the removal of its container, and means for holding the latter after the said container has been discharged.

No. 102,499. Metallic Packing. Garniture métılliquc.


Edward J. Fuller, Elyria, Ohio, U.S.A., 11th December, 1906;
6 years. Filed 25th October, 1905. Recelpt No. 129,561.
Claim.-1. In a metallic packing, the combination with the cage, of a pair of rings within said cage, one having radial cuts and the other having tangential cuts extending from the inner periphery to the outer periphery thereof, the cuts of one ring being out of alignment with the cuts of the other.
2. In a metallic packing, the combination with the cage, of a pair of rings within said cage, one of said rings having four radial cuts and the other having four tangential cuts extending from the inner periphery to the outer periphery thereof, means for holding the parts of both rings together, and means for retaining the cuts of one ring out of alignment with the cuts of the other.
3. In a metallic packing, the combination with the cage. and cylinder head to which it is applied, of a pair of rings within said cage, one of said rings having radial cuts and being placed nearer to the cyllnder head than the other, said other ring having tangential cuts extending from the
inner to the outer periphery thereof and being placed between the first-mentioned ring and the cage, means for holding the parts of the two rings together. and means for retaining the cuts of one ring out of alignment with the cuts of the other.
4. In combination a cylinder head and piston rod, a packing cage secured to said cylinder head and having suitable grooves for the reception of the packing rings, a pair of rings in each of said grooves one of the rings in each pair being radially cut into four narts and being placed nearer to the cylinder head than the other, said other ring being tangentially cut into four parts and being placed between the first-mentioned ring and the eage, the cuts of said last-mentioned ring extending from the inner to the outer periphery theroof means for holding the several parts of both rings together around the rod, and means for retaining the cuts of one ring out of alignmant with the cuts of the other.

No. 102,500. Lubricator. Graissrur.

(:harles L. Grayber and Edward R. Kerrigan, co-inventors, both of Deer Lodge, Montana, U.S.A., 11th December, 1906; 6 years. Filed 11 th September, 1906. Receipt No. 139,435.
Claim.-1. A lubricator comprising an oll chamber having a steam jacket, means for admitting steam to said chamber and to said jacket, a pipe communicating with said chamber and said jacket, and discharging into the steam chest of an engine, and means for effecting communication between said jacket and the atmosphere.
2. A lubricator comprising an oil chamber having a steam jacket, a pipe having communication with said chamber and said jacket, means for shutting off sard communication, a pipe discharging into the steam chest of an engine and communcating with said chamber and said jacket, said pipe having means for shutting off communication with said chamber and said jacket, and a by-pass effecting communication between said jacket and the atmosphere.
3. A lubricator comprising an oil chamber having a steam jacket, means for simultaneously introducing steam into said chamber and into the said jacket, a pipe communicating with said chamber and discharging into a steam chest, said pipe having a sight oll feed, a second pipe communicating with said jacket and said first pipe, means for shutting off said communication between said first pipe and said jacket, and a by-pass communicating with said second pipe, and discharging into the atmosphere.
4. A lubricator comprising an oil chamber having a steam jacket, a live steam pipe communicating with said oil chamber, and having a branch communicating with said jacket, said branch having a throttle valve, and said pipe having a throttle valve between said branch and said chamber, an outlet pipe from said chamber discharging into the steam chest of an engine, and having a sight oil feed, a pipe having a throttle valve, and effecting communication between said jacket and said outlet pipe, and a by-pass having a throttle valve and effecting communication betwen said jacket and the atmosphere.
5. A lubricator having a cylinder and a second cylinder therewith constituting an oil chamber, said cylinders forming a steam jacket therebetween, means for introducing steam into said oil chamber and into said jacket, an outlet pipe from said chamber to the steam chest of an engine and having a sight feed and a throttle valve, a seconi pipe communicating with said first pipe and said jacket. and having a throttle valve, and a by-pass effecting communication between said second pipe and the atmosphere.
6. A lubricator comprising a cylinder, a second cylindotherewith constituting an oil chamber, said cylinders having a stearn jacket therebetween, a steam pipe communicating with said inner cylinder through said outer cylinder,
a branch pipe communicating with said jacket, means for shutting off the flow of steam through said steam pipe and said branch pipe, an outlet pipe leading from said inner cylinder, through said outer cylinder, to the steam chest of an engine, and having a sight feed and a throttle valve, a second outlet pipe leading from said jacket to said first outlet pipe. and having a throttle valve, and a by-pass effecting communication between said second outlet pipe and the atmosphere, and having a throttle valve.

No. 102,501. Gas Producer. Producteur de !ıız.


Ernest Digby Hopcroft, Bridgeport, Connecticut, U.S.A., 11th December, 1906; 6 years. Filed 3rd November, 1906. Receipt No. 140,880 .

Claim.-1. In a gas producer, the combination of a retort, means in communication therewith whereby gas generated therein is washed, scrubbed and dried, a distributing chamber in communication with the lower part of said retort, a vapour tank, means whereby said tank is placed in communication with said chamber, means whereby gases are introduced to said chamber in volume proportionate to the quantity of gas drawn from said retort, and an automatic regulator acuated through said last-mentioned gases Whereby the volume of steam admitted to said chamber is automatically controlled to preserve the proportions of said vapour and said gases in the mixture in said chamber.
2. In a gas producer, the combination of a retort, means in communication therewith whereby gas generated therein is washed, scrubbed and dried, a distributing chamber in communication with the lower part of sald retort, a vapour tank, means whereby said tank is placed in communication with said chamber. means whereby gases are introduced to said chamber in volume proportionate to the quantity of gas drawn from said retort including a blower casing, a wheel mounted therein having vanes whereby said gases will rotate said wheel, a centrifugal governor actuated by said wheel, a damper plate or valve, and connections between said governor and sald plate or valve whereby the volume of steam admitted to said chamber is automatically controlled to preserve the proportions of said vapour and said gases in the mixture in said chamber.
3. In a gas producer, the combination of a retort, means in communication therewith whereby gas generated therein is washed, scrubbed and dried, a distributing chamber in communication with the lower part of said retort, a vapour tank, a tank adapted to contain chemicals in communication with said vapour tank, means whereby said tank is placed in communication with sald chamber, means whereby gases are introduced to said chamber in volume proportionate to the quantity of gas drawn from said retort including a blower casing, a wheel mounted therein having vanes whereby said gases will rotate said wheel, a centrifugal governor actuated by said wheel, a damper plate or valve, and connections between said governor and said plate or valve whereby the volume of steam admitted to said chamber is automatically controlled to preserve the proportions of said vapour and said gases in the mixture in said chamber.
4. In a gas producer, the combination of a retort, means in communication therewith whereby gas generated therein is washed, scrubbed and dried, a distributing chamber in communication with the lower part of said retort, a vapour tank, means whereby gases are introduced to said chamber in volume proportionate to the quantity of gas drawn from said retort including a perforated drum, a pipe leading therefrom and opening into said chamber, a damper plate or valve in said pipe, a blower casing communicating with
said chamber, a wheel mounted therein having vanes whereby said gases will rotate said wheel, a centrifugal governor actuated by said wheel and connections between said governor and said damper plate or valve whereby the volume of steam admitted to said chamber is automatically controlled to preserve the proportions of sald vapour and said gases in the mixture in said chamber.
5. In a gas producer, the combination of a retort, means in communication therewith whereby gas generated therein is washed, scrubbed and dried, a pipe leading therefrom to the inlet port of an internal combustion engine, a distributing chamber in communication with the lower part of said retort, a vapour tank, means whereby gases are introduced to said chamber in volume proportionate to the quantity of gas drawn from said retort including a perforated drum in said vapour tank, a pipe leading therefrom and opening into said chamber, a damper plate or valve in said pipe, a blower casing communicating with said chamber and with the exhaust port of a gas engine, a wheel mounted therein having vanes whereby the exhaust gases from said engine will rotate said wheel, a centrifugal governor actuated by said wheel, and connections between said governor and said damper plate or valve whereby the volume of steam admitted to said chamber is automatically controlled to preserve the proportions of said vapour and said gases in the mixture in said chamber.

No. 102,502. Brake. Frein.


Aubrey James Reid, Mount Street, North Sydney, New South Wales, Australia, 11th December, 1906; 6 years. Filed 14th November, 1906. Receipt No. 141,214.
Claim.-1. Improved brake for rallway and other vehicles characterized by engaging members, of a clutch adapted to brake the axle or the hub of the wheel and the moving nember of said clutch adapted to operate gear to apply a brake block to the periphery or tread of the wheel, substantially as herein described and explained.
2. Improved brake for railway and other vehicles characterized by a clutch adapted to brake the axle or the hub of wheel whose members are normally held in disengagement and the moving member on engagement with the fast member is adapted by means of a tight band thereon to apply a brake block to the periphery of the wheel, substantially as herein described and explained.
3. In brakes as set forth in the preceding first and second claims, a braking clutch fork or lever for operating the moving member of the clutch connected to a thrust spring kept normally in compression and a controlling pull rod in tension for compressing said spring, substantially as herein described and explained and as illustrated in the drawings.
4. In brakes as set forth in the preceding first and second claims a tight band on the moving member of a braking clutch linked to the applying lever of peripheral brake blocks, substantially as herein described and explained and as illustrated in the drawings.
5. In brakes having the mechanisms set forth in the preceding third and fourth claims, a push rod reversely connecting the thrust spring to the applying lever of peripheral brake blocks, substantially as herein described and as, illustrated in the drawings.
6. In multiple brakes having the mechanisms set forth In the preceding third and fourth claims connecting the gears of each pair of wheels by levers and parallel rods to impart synchronous movement in braking all the axles and wheels, substantially as hercin described and explained and as illustrat?i in the drawings.
7. The comblation and arrangement together of all the mechanical parts forming a brake for railway and other vehicles for the purposes set forth substantially as herein described and explained and as illustrated in the figures 1 to 4 of the drawings.

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8. The combination and arrangement together of all the mechanical parts forming a brake for railway and other vehicles for the purpose set forth, substantially as herein described and explained and as illustrated in figure 5 of the drawings.
9. Improved brakes for rallway and other vehicles characterized by controlling pull rods jointed at one end to a revolving drum on the one vehicle and connected by a flexible or rope connection at the other end to a similar connected revolving drum on the coupled vehicle the shafts of said drums being adapted to move longitudinally relatively to the vehicle and revolvably as moved by either of two other drums controlled by connecting ropes to the coupled vehicle, substantially as herein described and explained.
10. The combination and arrangements together of all the mechanical parts forming compensating coupling for the controlling pull rods for brakes of railway and other vehicles for the purposes set forth, substantially as herein described and explained and as illustrated in figure 6 of the drawings.
11. Improved brakes for rallway and other vehicles characterized by the mechanism as set forth in the preceding ninth claim modified by the interposition of purchase pulleys controlled by a spring take-up, substantially as herein described and explained.
12. The combination and arrangements together of all the mechanical parts forming compensating coupling for controlling pull rods for brakes of rallway and other vehicles for the purposes set forth, substantially as herein described, and explained and as illustrated in figure 7 of the drawings.
13. Improved brakes for railway and other vehicles characterized by, controlling pull rods operated by a power cylinder having steam and exhaust ports and an air inlet port with valves operated by the one lever or actuating handle and an air exit port for the purposes set forth, substantially as herein described and explained.
14. The combination and arrangements together of all the mechanical parts forming podwer control apparatus for brakes of railway and other vehicles for the purposes set forth, substantially as herein described and explained and as illustrated in the figures 8 and 9 of the drawings.

No. 102,503. Coupling for Wire.
Accouplement pour îls.


Charles E. Atkinson, John M. Montz, and Alexander Gordon, each an assignee of a third interest, 11th December, 1906; 6 years. Filed 31st May, 1906. Receipt No. 136,435 .
Claim.-1. A coupling device consisting of two segmental and complimentary members divided longitudinally at an angle and dovetailed convergently together in their contacting faces, all substantlally as shown and described.
2. A coupling consisting of two segmental members which are compliments of each other and which are divided by contact faces, which faces are formed at an angle longitudinally, said faces being dovetailed together longitndinally by a tapering tongue and a tapering under-cut slot formed in the respective male and female members, substantially as described.
3. A coupling device formed of a male and a female member adapted to be coupled and uncoupled manually, the male member having a tapering tongue extending longitudinally above its contact face and the female member having a tapering slot formed longitudinally in its contact face to receive said tongue, and means for connectig the terminals of wires in each of said members, all substantially as set forth.
4. A coupling device consisting in combination of two oppositely disposed members each having a wire terminal secured therein and the members being separated by a common line disposed at an angle and an under-cut tapering slot formed in the face of one of the members and a
tapering tongue rising above the face of the other member and adapted to fit and interlock with said slot of the opposite member, substantially as shown and described and for the purposes set forth.
5. In a coupling dvice consisting of two members each integral in itself and each having secured in one end the terminal each of a separate wire, the members being joined on a line disposed at an angle longitudinally forming a contact face for each member, and means for detachably connecting said faces which means consists of an under-cut tapering slot formed longitudinally in the face of one member and a tapering tongue formed longitudinally in the face of the other member and adapted to fit sald slot when the members are connected.
6. A coupling consisting of a cylindrical body divided on an angle longitudinally into two separate members \(A\) and \(B\), the member A having an under-cut tapering slot extending from end to end centrally of its face, the member \(B\) having a diverging tapering tongue extending from end to end centrally of its face, said tongue being adapted to fit said slot when the members are coupled together.
7. A connector for wires composed of two terminal members having engaging longitudinal dovetailed parts, said parts being wedge-shaped or wider at one end than at the other.
8. A coupling for electric wires composed of two wedgeshaped members, each having at the larger end a wire socket, said members having engaging longitudinal dovetailed parts, which parts are wider at one end than at the other whereby increased strain on the wires increases the force of engagement between the parts.

No. 102,504. Mine Door. Porte pour mincs.


Newton K. Bowman, North Lawrence, Ohio, U.S.A., 11th December, 1906; 6 years. Filed 6th November, 1906. Recelpt No. 140,963 .
Claim.-1. In electric haulage lines or systems and in combination with the trolley line gate and gate actuating mechanism operated by means of the approaching car, a spanner or bridge located upon one side of the gate and in electrical connection with the trolley line and adapted to be tripped and swung across the path of the gate and make electrical connection with the trolley line upon the opposite side of said gate to safely carry the trolley wheel thereby without necessitating interruption of the electrical current.
2. In electric haulage lines or systems and in combination with the trolley line and gate, oppositely inclined approaches located upon opposite sides of the gate, clips at the outer ends of the approcahes embarcing opposite sides of the trolley line, fastenings connecting opposite side members of the clips and confining the trolley line therein, hangers at the inner ends of the approaches, and a bridge pivoted to one of the approaches and adapted to be tripped upon opening of the gate to close the gap or space between tho approaches for carrying the trolley wheel thereby and maintaining continuity of the electric current.
3. In electric haulage means or systems, and in combination with the trolley line and gate, oppositely inclined approaches spaced apart at their inner ends and secured at their outer ends to the trolley line, hangers connecting the inner ends of the approaches with the trolley line, one of said hangers having oppositely inclined guides at its lower end, a bridge pivoted to the other hanger and adapted to be tripped upon the approach of a car to safely carry the
trolley by the space formed between the inner ends of said approaches. and a wedge-shaped piece attached to the free end of the approaches for co-operation with the oppositely inclined guides of the first-mentioned hanger, substantially as set forth.
No. 102,505. Mine Gate. Barrirve pour mines.


Newton K. Bowman, North Lawrence, Ohlo, U.S.A., 11th December, 1906; 6 years. Filed 6th November, 1906. Receipt No. 140,964.
Claim.-1. In a gate structure, the combination of a gate, a frame therefor, a brace for strengthening the same, a bar mounted upon said brace, an arm attached to said bar and movable therewith and having connection with the gate to effect movement thereof, a counterbalanced arm attached to said bar and the arm for operating the gate, and actuating means adapted to be operated by a moving car to effect opening of the gate.
2. In combination, a gate, a supporting frame therefor, braces for strengthening said frame, bars mounted upon the braces midway of their ends, arms connected at one end to said bars and having their opposite ends curved and connected with the gate to effect opening thereof, counterbalanced arms connected with said bars and with the arms connected to the gate, gate actuating means adapted to be operated by a moving car, and adjustable connections between the gate actuating means and the aforesaid bars.
3. In combination, a gate, a supporting frame therefor, braces for strengthening said frame, a bar mounted upon each bracc, arn:s connected at one end to the respective bars and having their opposite ends connected with said gate, a counterbalanced arm for each bar, a rocking bar extending bencath the rails of the track, arme fast to each end of said rocking bar, and adjustable connections between said arms and the aforesaid bars.
4. In combination, a gate, a series of rocking bars mountedr at each side of the gate, connecting means between one of the said rocking bars and the gate, crank arms and bars connecting the series of rocking bars, a lever, links connecting opposite ends of the lever with the bars connecting each series of the aforesald rocking bars, and connecting means between the gate and the said series of rocking bars and their co-operating connecting means.
5. In combination, a gate, a rocking bar, connecting means between said gate and rocking bar, and a mounting for the rocking bar consisting of a bracket having rigid connection with the rocking bar and pivotally supported to permit said rocking bar to oscillate with the said bracket.

\section*{No. 102,506. Gate. Barrière.}

James F. S. Goble, New Albin, Iowa, U.S.A., 11th December, 1906; 6 years Filed 17th October, 1906. Receipt No. 140,383.
- Claim.-1. The combination with a sliding gate having a supporting roller at one of its lower corners, of a tilting track, a roller connected with the other end of the gate and working on said track, and operating levers for tilting said track, substantially as described.
4. The combination with a sliding gate having an extended rail, of a tilting track, a weighted carriage connected with the gate rail and having rollers movable along the track, a bifurcated lever arm forming an open center extension of the track through which the extended rall moves, a sliding yoke to which said lever arm is connected, and gate operating levers connected with said yoke and adapted to shift the yoke, causing said yoke to tilt the track, substantially as described.
3. The combination with a sliding gate, of a carriage connected to the gate, a tilting track upon which said carriage moves, a vertically movable yoke having the tilting track connected therewith, gate operating levers having their
adjacent ends connected with the yoke, and rollers on on said yoke between which the adjacent ends of the gate operating levers work, substantially as described.

4. The combination with a sliding gate provided with a supporting roller at one end of its lower corners, of a wheeled and weighted carriage projecting from the opposite end of the gate, a tilting track on which said carriage moves having upwardly deflected end portions forming checks for the carriage, a vertically movable yoke to which the tilting track is connected, and operating levers having their inner ends in sliding engagement with said yoke for shifting the latter, substantially as described.
5. The combination with a sliding gate. of a tilting track forming a reversely inclinable support for the gate, a sliding yoke, a lever arm on said tilting track connected with the yoke, gate operating levers connected with the yoke for shifting the latter, and a latch pivoted on the gate post and having interlocking engagement with a portion of the gate and arranged to be shifted by the movement of the yoke.
6. The combination with a sliding gate having an extended rail, of a tilting track embodying parallel ralls mounted on a common fulcrum post intermediate the ends of the rails, a weighted carriage connected with the gate rail and supported by rollers which move along the track rails, a lever arm connecting the track rails at one end and straddling the extended rail of the gate, and gate operating levers connected with said tilting track, substantially as described.
7. The combination with a sliding gate having an extended rail, of a weighted carriage connected to said rail and provided with supporting rollers, a tilting track on which said rollers move having an upwardly deflected end partion, means for tilting said track, and a post provided with a cap beneath which the upwardly deflected end portion of the rack moves, said cap acting as a stop for the carriage at one end of its throw, substantially as described.

No. 102,507. Fence. Clôture.
Robert Henry Guthrie, South Dumfries, Brant, Ontario, Canada, 11th December, 1906; 6 years. Filed 23rd October, 1906. Recelpt No. 140,553.
Claim.-1. In a fence, the combination with the posts and the stringers attached thereto, of anchors in the ground below the stringers and metallic stays connecting the anchors with the stringers, all substantially as described and for the purposes specified.
2. In a fence, the combination with the longitudinal stringers of posts to which the stringers attach, braces supporting said posts above the ground, anchors in he ground supporting the braces, metallic stays embedded in the anchors and secured to the braces, binding wires connecting the braces with the posts, said binding wires serving to hold the posts in an upright position, all subsantially as described and for the purposes specifled.
3. In a fence, the combination with the longitudinal stringers of a post having an enlarged base and being superimposed movably upon a solid foundation, a metallic anchor projecting from the ground, its upper end passing through said movable post and engaging a nut by the turning of which said post may be moved upon its foundation, all substantially as described and for the purposes specified.
4. In a fence, the combination with the longitudinal stringers of an end post having an enlarged base, and being superimposed movably upon a solid foundation, a metallic anchor supporting said post, a gate hanger upon the upper side of said anchor, said gate hanger being com-
portion being furnished with collars adapted to support the hinges of a gate, and said horizontal portion being

secured to said post, all substantially as described and for the purposes specified.
5. In a fence, the combination with the end posts and the longitudinal stringers attached thereto, of anchors in the ground below the stringers, metallic stays connecting the anchors and stringers, intermediate posts between the und posts, side braces supporting the intermediate posts, concrete foundations under the braces, metallic stays embedded in the foundations and connecting with the braces, and binding wires connecting the braces and posts, all substantially as described and for the purposes specifled.

No. 102,508. Hinge. Penture.


Harry Glen Kimple, Dicksonburg, Pennsylvania, U.S.A., 11th December, 1906; 6 years. Filed 11th October, 1906. Recelpt No. 140,207.
Claim.-1. In a hinge the combination with an apertured base having oppositely disposed grooved ears, of a strap. oppositely extending projections thereon engaging the ears, and means within the aperture for holding the projections within the ears.
2. In a hinge the combination with an apertured base having ears adjacent its aperture, of a strap projecting between the ears, oppositely extending projections thereon engaging the ears, and a detachable follower seated within the aperture and adapted to hold the projections against displacement.
3. In a hinge the combination with an apertured base having longitudinally grooved ears adjacent its aperture, of a strap, oppositely extending projections thereon rotatably mounted within the grooves, and a detachable follower
within the apertured grooves for holding the projections asainst displacement.
4. In a hinge the combination with a supporting structure, of an apertured base secured thercto and having ears adjacent its aperture, a strap extending between and rotatably mounted within the ears, and a follower withln the aperture and interposed between the strap and supportans structure.
5. In a hinge the combination with an apertured base adapted to be secured to a supporting structure, and longitudinally grooved ears adjacent the aperture, of a strap between the ears, oppositely extending projections upon the strap rotatably mounted within the grooves, and a follower detachably mounted within the aperture and grooves for holding he projections against displacement. satd follower adapted to be held against movement by the structure to which the hinge is secured.
6. A hinge comprising a member having an aperture therein and integral ears, another member between and engaging the ears, and means within the aperture for holding said last-mentioned member in engagement with the cars.

No. 102,509. Sliding Shoe for Furniture.
Plaque glissante pour meubles.


Orton C. Little, Menasha, Wisconsin, U.S.A., 11 th December, 1906: 6 years. Filed 11th September, 1906. Receipt No. 139,423.
Claim. - 1. A sliding shoe for furniture or for ot her articles having a flat lower surface and upwardly curevd outer edge, a support arranged concentrically within the shoo having a portion of its upper surface between its vertical sides and top, and provided with an outwardly curved surface, a socket fitted to oscillate upon said curved surface within prescribed limits and a pin arranged to pass through said socket and being adapted to be engaged by a bore in a suitable piece having a diameter corresponding with the diameter of said pin, and a depth equal to the length of the pin required to be used in said bore, and means for prevonting the enparation of said concentrically arranged support and socket, substantially as described.
2. A sllding shoe for furniture or other articles having a flat lower surface and upwardly curved outer edge, a support arranged concentrically within the shoe having a portion of its upper surface between its vertical sides and tor, provlded with an outwardly curved surface, a socket fitted to oscillate upon said curved surface within prescribed limits, and a split pin arranged to pass through said socket and being adapted to be engaged by a bore in a suitable piece having a diameter corresponding with the diameter of said pin when compressed to its smallest dimensions, and a depth equal to the length of the pin required to be used in said bore, and a housing connecting said concentrically arranged support and socket, and preventing their separation, substantially as set forth
3. A sliding shoe for furniture or other articles, formed of earthenware material having a flat lower surface and opwardly curved outer edge, means for securing a housing concentrically around and over a portion of lis upper surface, a socket formed centrally within the upper surface of the shoe, a supporting piece mounted concentrically withia said socket having a central aperture and a portion of lis upper surface between its vertical sides and sald aperture. curved outwardly, in combination with a pin having a head or enlargement upon its closed end and a socket secured to said pin, and being adapted to osclllate within prescribed limits upon he aforesald supporting piece, and means for preventing the separation of said last-named socket and the shoe by the application of a houaing, substantially as described.
4. A sliding shoe for furniture or other articles, formed of earthenware material having a flat lower surface and upwardly curved outer edge, means for securing a housing concentrically around and over a portion of its upper surface, a socket formed centrally within the upper surface of the shoe, a supporting piece mounted concentrically within said socket having a central aperture and a portion of its upper surface between its vertical sides and said aperture curved outwardly, in combination with a split pin having a head or enlargement upon its closed end and a socket secured to sald pin, it being adapted to osclllate within prescribed limits upon the aforesaid supporting piece said pin being adapted to enter a bore in a sultable plece having a diameter corresponding with the diameter of sadd pin when compressed to its smallest dimension and a depth equal to the length of pin required to be used in said bore. and means of preventing the separation of sald last-named socket and the shoe by the application of a housing. substantially as shown.

No. 102,510. Davenport. Sofa-lit.


Arthur Mayrick Padmore, Chliago, Illinois, I'S.A.. 11th Ihecember, 1906; 6 years. Flled ioth September, 196 . Receipt No. 139,368 .
Claim.-1. A comblned davenport or bed comprising a main frame provided with side pieces and rear standards. said frame being provided adjacent to sald side pi....s with guide grooves and the standard with guide groovi. having forwardly curved lower ends, a head piece exientina between and secured to the standards, scat and back s. - tions comprising upholstered frames hingedly coancci.d. the seat frame belng provided with runners movable in the guldeways in the seat frame and the back frame, rollers to traverse the guides in the standards whereby the seat and back portions may be adjusted in unison to extent the seat portion beyond the main frame and to bring the back portion to the masition normally occupied hy sald scat portion, and a strip upon the front edge of the reat porlion to conceal the joint between the same and the mala frame when the parts are in normal position
2. A combined davenport and bed comprising a mala frame composed of a bottom, side pieces, rear standaris. and a head piece extending between the standarda. the bottom portion of the frame being provided adjacent to the side pleces and standards with gulde grooves having channelled wear strips inserted therein, and tha standaris With vertical grooves having forwardiy profecting lower terminals, the top and bottom walls of said grooves forming stops, seat and back frames hingedy connected a: their meeting edges, the seat frame being provided at i:s ends with runners movable in the channelled gulde pleces and the back frame upon the normally upper porcions of
its ends with rollers to travel in the guide grooves in the standards and engage said stops, a strip secured to the front portion of the seat frame to cover the joint between the same and main frame when the parts are in normal position, and a leg pivoted to the forward portion of the main frame and adapted to fold behind said strip.
3. A sofa of the character described comprising a main frame provided at the front thereof with a receiving recess and horizontal and vertical guideway, hingedly connected seat and back portions provided with guide members to respectively travel in said horizontal and vertical guideways, the sald seat portions being extendible beyond the frame and the back portion adjustable to the position normally occupied by the seat portion, a hinged supporting leg upon the front rail of the seat portion adapted to be turned to an inactive position and to occupy said receiving recess when the seat and back portions are restored to their normal positions, said leg having a lug, a strip upon the front rall of the seat portion to conceal the joint between the same and the main frame and conceal the leg when the seat portion occupies its normal position. and a keeper pin unon the rear side of said strip adapted to be engaged by the lug to hold the leg in folded position.
4. A sofa comprising a main frame provided with horizontal guldeways and vertical guldeways having offset portions, a seat provided with gulde members adjustable in said horizontal guideways so as to be extended beyond the front portion of the frame, and a back provided with guide members to travel in said vertical guideways and adapt the same to be swung outward and downward to a horizontal position above the portion of the main frame usually occupled by the seat, said gulde members being also adapted to be moved into the offset portions of the vertical guldeways to support the back in an Inclined position.
5. A sofa comprising a main irame provided with horizontal guideways and vertical guideways, the vertical guldeways being provided with offset portions. a seat provided with guide members adjustable in said horizontal guldeways \(s 0\) as to be extended beyond the front portion of the frame, a back provided with gulde members to travel in said vertical guideways and adapt the same to be swung outward and downward to a horizontal position above the portion of the main irame usually occupied by sald seat, said guide members being also adapted to be moved into the offset portions of the vertical guideways to support the back in an inclined position, and springs mounted in the horizontal guideways to prevent the seat from moving.
6. A sofa comprising a main frame provided with horizoncal and vertical guideways, the horizontal guideways being provided with stop shoulders, a seat provided with guide members adjustable in said guideways so as to be extended beyond the front portion of the frame, said gulde members being recessed for engagement with the stop shoulders, and a back provided with guide members to travel in said vertical guideways and adapt the same to be swung outward and downward to a horizontal position above the portion of the main frame usually occupied by the seat.
7. A sofa comprising a main frame provided with horzontal guldeways formed with ston shoulders and with vertical guideways formed with offset portions, a seat provided with guide members adjustable in said horizontal guideways so as to be extended beyond the front portion of the frame, said guide members being recessed for engagement with said gtop shoulders, a back provided with guide members to travel in sald vertical guldeways and adapt the same to be swung outward and downward to a horizontal position above the portion of the main frame usually occunied by the seat, said guide members being also adapted to be monod into the offset portions to support the back in an inclined position, and springs mounted in the horizontal guideways to prevent the seat from moving.

No. 102,511. Couch. Canapé.
Virginnia Whittington, Valdosta, Georgia, U.S.A., 11th December, 1906; 6 years. Filed 4th September, 1906. Recelpt No. 139,231.
Claim.-1. In a bed, a head section, a foot sostion, a plurality of spaced supporting members secured to said sections, side rails engaging one of the members on each section and movable vertically into engagement with the adjacent member, a covering detachably secured to the side rails, and means for locking the side rails in engagement with the supporting members.
2. In a bed, a head section, a foot section, a plurality of spaced supporting members secured to saia sections and each provided with a clamping face, side rails having similar clamping faces adapted to engage one of the members on each of said sections and movable into engagement with adjacent members and a fastening means engaging the clamping faces of the members and side rails.
3. In a bed, a foot section and a head section connected by side rails, a covering engaging the side rails and an

overhanging bracket detachably secured to one of said sections and provided with spaced depressions for the reception of lifting straps
4. In a bed, a head section and foot section connected by side rails, an overhanging bracket secured to one of said sections and provided with a horizontally disposed bar having depressions formed therein for the reception of lifting straps, a covering engaging the side rails, a rubber sheet detachably secured to the covering, and a waste pipe supported by said covering.
5. In a bed, a head section and a foot section detachably connected by hinged side rails and provided with spaced recesses, a covering engaging the side rails, detachable supporting hooks seated in the recesses of the head and foot sections, and a lifting sheet adapted to engage sald hooks
6. In a bed, a head section and a foot section provided with corner posts having spaced recesses formed therein, side rails detachably secured to said posts and having their intermediate portions hinged, hooks detachably engaging the recesses in said posts, and a lifting head adapted to engage the supporting hooks.
7. In a bed, a head section and a foot section connected by side rails, a covering detachably secured to the side rails and formed with a circular opening, a waste pipe extending through said opening and provided with an inflatable rim adapted to engage the upper face of the covering and flexible strips secured to the waste plpe and detachably engaging the lower face of said covering.
8. In a bed, a head section and a foot section connected by detachable side rails, a covering engaging the side ralls and provided with a central opening, a rubber sheet detachably secured to the covering and provided with a central opening disposed in alignment with the opening in the supporting shect, a lifting sheet provided with a similar opening, and a waste pipe adapted to engage said opening and provided with an inflatable rim.
9. In a bed, a head section and a foot secrion connected by side ralls, a covering engaging the side ralls and provided with an opening, a rubber sheet detachably secured to the covering and having an Inflatable marginal rim, said sheet being provided with an opening disposed in alignment with the opening in the covering, and a waste pipe having an inflatable rim interposed between the rubber sheet and covering and engaging said openings.
10. In a bed, a head section, supporting members slidably mounted for vertical movement on said sections, side rails engaging one of the members on each section and movable verically into engagement with the adjagent member, a covering engaging the side rails, a sheet of impervious materlal detachably secured to the covering and having a marginal infiatable rim, means for locking the supporting members in adjusted position, and means for locking the side rails in engagement with the supporting members.

\section*{No. 102,512. Folding Bed. Lit pliant.}

Gaius C. Fuller, Cleveland, Ohio, U.S.A.. 11th December, 1906: 6 years. Filed 3rd October, 1906. Receipt No. 140,001.
Claim.-1. In a folding bed, the combination of a supporting member, a bed frame plvoted thereto, an arm pivoted to said frame for raising and lowering the same, and means connected with said arm intermediate of the pivot and the end remote therefrom to assist in operating the same, substantially as specified.
2. In a folding bed, the combination of a supporting member, a bed frame pivoted thereto, an arm pivoted to said frame and of sufficient length to engage the floor during a portion at least of the folding movement of said frame and having its free end provided with a roller or
similar anti-friction device, and means connected with said arm intermediate of the pivot and the end remote there-


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from for assisting to move the same toward the pivot of the frame to elevate the latter, substantially as described.
3. In a folding bed. the combination of a supporting member, a bed frame pivoted thereto, an arm pivoted at one end to said frame and at its other end to the end of the bed which is remote from said base member, and means connected to said arm intermediate of the ends thereof for assisting to move the same and the connceted end of the bed toward the pivot of the frame to elevate the latter, frame, substantially as specified.
4. In a folding bed, the combination of a supporting momber, a bed frame pivoted thereto, a transverse frame pivoled at one end to said bed frame and having rollers at its other end for engaging the fioor during a portion at least of the closing movement of the bed frame. and means connected with the transverse frame intermediate of the pivot and the end remote threfrom for assising to move it toward the pivot of the bed frame to elevate the latter fram? substantially as specified.
5. In a folding bed, the combination of a supporting member, a bed frame pivoted thereto, an arm pivoted to said frame and of sufficient length to engage the floor luring a portion at leeast of the folding movement of said frame, and mechanism connected with said arm intermediate of the pivot and the end remote therefrom to assist in moving the same toward the pivot of the frame to raise the said frame, substantially as specified.
6. In a folding bed, the combination of a supporting nember, a bed frame pivoted near one end to said member, a transverse frame pivotally connected at one end to said bed frame and provided at its other end with rollers, and means connected with said transverse frame intermediate of the pivot and the end remote therefrom to assist in moving the same toward the pivot of the bed frame to elevate the latter frame, substantially as specified.
7. In a folding bed, the combination of a supporting member, a bed frame having its side rails pivoted to said member, an arm pivotally connected to each of said rails and being of sufficient length to engage the fioor, and means connected to said arms intermediate of the pivots and the ends remote therefrom to assist in removing them toward the pivot of the frame to elevate the latter, substantially as specified.
8. In a folding bed, the combination of a supporting member, a bed frame pivotally connected to said member and comprising a longitudinal member, an arm pivotally connected to said frame, and mechanism carried by said longitudinal member and connected to said arm intermediate of the pivot and the end remote therefrom to assist in moving the same toward the pivotal connection of the bed frame to elevate the latter, substantially as specified.
9. In a folding bed, the combination of a supporting member, a bed frame pivotally connected thereto, an arm pivotally connected to said irame, and a spring connected to said arm intermediate of the pivot and the end remote therefrom and arranged to assist in moving the same in a direction to elevate the bed frame, substantially as specifled.
10. In a folding bed, the combination of a supporting member, a bed frame pivotally connected thereto and comprising a longitudinal member, an elevating arm pivotally connected to said frame, a spring carried by said longitudinal member, and an operative connection between said spring and said arm intermediate of the pivot and said spring and said arm, substantially as specifled.
11. In a folding bed, the combination of a supparting member, a bed frame pivotally connected thereto, said frame comprising a longitudinal member, an elevating arm pivotally connected to said frame, a spring carried by said longitudinal member and exerting its force in the direction of the pivot of the bed frame, and an operative connection between said spring and said arm intermediate of the pivot and the end remote therefrom, substantially as specified.
12. In a folding bed the combination of a supporting miember, a bed frame pivotally connected thereto and comprising a longitudinal member, an elevating arm pivotally conneced to sald frame, a spring carried by sald longitudinal member, a sliding block engaged by said spring and a link connecting said block and said arm, substantially as specified.
13. In a folding bed the combination of a supporting member, a bed frame pivoted to said member and comprising a hollow longitudinal member having a longitudinal slot therein, a spring mounted in said longitudinat member, a block slidably mounted in said longitudinal member in engagement with said spring and having a shank or extenslon projecting through said slot, an elevating arm pivotally connected to said bed frame and a link connecting said arm and the shank of said block, substantially as specified.
14. In a folding bed the combination of a supporting member, a bed frame pivoted thereto and comprising a hollow longitudinal member. said member having a slot therein, a rod supported within said longitudinal member, a collar loosely mounted on said rod, a block or plunger connected to said rod and having a shank extending through the slot in the longitudinal member, a spring on said rod between said collar and block, an elevating arm pivoted to said frame and a link connecting the shank of said block and said arm, substantially as specified.
15. In a folding bed the combination of a supporting member, a bed frame pivoted thereto, an elevating arm plvoted to said frame, a spring operatively connected to said arm intermediate of the pivot and the end remote therefrom, and means for adjusting the tension of said spring, substantially as specified.
16. In a folding bed the combination of a supporting member, a bed frame pivoted to said member, an elevating arm pivoted to each of the side rails of said frame, a spring carried within each o said side rails, and an operative connretion between each of said springs and each of said arms, and said arms, substantially as specified.
17 In a folding bed the combination of a supporting member a bed frame pivoted to said member, a transverse elevating frame comprising arms cach plvoted at one end to a side rail of the bed and at the other end to the end of the bed remote from the supporting member, springs carried by said rails and connections between said springs and said arms. subtantially a specifled.
18. In a folding bed the combination of a supporting member a bed frame formed with chambered side ralls each having a longitudinal slot in the lower portion thereof adjacent the supporting member, a block or plunger slidably fited in each of said rails having an extension projecting through the slot, and means for pivotally connecting sald extension and said supporting member, substantially as specified.
19. In a folding bed the combination of a supporting member, a bed frame formed with chambered side ralls each having a longitudinal slot in the lower portion thereof adjacent the supporting member, a block or plunger slidably fitted in each of said rails and having an extension projecting through thte slot, means for pivotally connecting said extension and said supporting member. and means connected with said frame for moving it longitudinally on said blocks or plungers during the folding and unfolding movements of the bed and for resisting the starting of such movements, substantially as specified.
20. In a folding bed the combination of a supporting member, a bed frame pivotally connected thereto, an elevating arm pivotally connected to said frame, and means comprising a collapsable link for assisting to move said arm in a direction to elevate said frame, substantially as specified.
21. In a folding bed the combination of a supporting member, a bed frame pivotally connected thereto, an elevating arm pivotally connected to said frame, a spring and a collapsable link connecting said spring and said arm to assist in moving the latter in a direcion to elevate the frame, substantially as specified.
22. In a folding bed the combination of a supporting member, a bed frame pivoted to said member and provided with a longitudinal hollow rail, an elevating arm pivoted to said frame, and a spring within said rall connected to said arm to move it in a direction to elevate the bed frame, substantially as specified.
23. In a folding bed the combination of a supporting membere, a bed frame pivoted to sald member and provided with a longitudinal rail, a spring carried by said rail and
exerting its force in the direction of the said rall, an elevating arm pivoted to said frame, and means for connecting said spring to said arm to move it in a direction to elevate said spring to said arm to move it in
said frame, substantlally as specified.
24. In a folding bed the combination of a supporting member, a bed frame pivated to said member and provided with a pair of hollow rails, springs mounted in said rails and exerting their force in the direction of the length thereof, elevating arms pivoted to said frame, and means for connecting said spring to said arms to move them in a direction to elevate said frame, substantially as specified.

No. 102,513. Spring and Mattress for Invalid Beds. Matclas.


Edith B. Preston, Mexico, Missouri, U.S.A., 11th December, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,819.
Claim.-1. In means of the class described the combintion of a spring frame, a mattress supported thereby, hinge connections between certain portions of the frame admitting of adjustment thereof with regard to the other portions of the frame, and means for effecting the adjustment of the portions of the frame above-mentioned.
2. In means of the class described, the combination of a spring frame, a mattress supported thereby, hinge connections between certain portions of the frame admitting of adjustment thereof with regard to the other portions of the frame, and elevating means for effecting the adjustment of the portions of the frame above-mentioned.
3. In means of the class described, the combination of a spring frame made in a number of adjustment sections, a mattress comprising a number of sections carried by the frame, a supplementary frame attached to the frame firstmentioned and movable relatively thereto to form an opening in the body of the spring frame, and a mattress section having connection with the suplementary frame abovementioned, and supported thereby.
4. In combination, a spring embodying a section movable to form an unobstructed opening, and a mattress for sald spring also embodying a section movable to admit of formation of an opening common with that of the spring.
5. In combination, a bed spring embodying a section movable to form an unobstructed opening, a mattress for said spring also embodying a section movable to admit of for ation of an opening common with that of the spring, and means for connecting the movable sections of the mattress and spring.
6. In combination, a bed spring, a mattress thereon, and a sliding section applied to the spring and movable to form an opening therein, the mattress embodying a sliding section attached to that of the spring.

No. 102,514. Bed Brace. Agrafe pour lit.
Baxter Shemwell, St. Louis, Missouri, U.S.A., 11th December, 1906; 6 years. Filed 10th September, 1906. Receipt No. 139,379.
Claim.-1. In a bed brace, a tension device including spaced supporting members each provided with oppositely disposed wire engaging hooks arranged at an angle to the longitudinal axis of said members, and means for adjusting the supporting members to vary the tension of the wires.
2. In a bed brace, a tension device including spaced supporting members each provided with oppositely disposed wire engaging hooks the bills of which are arranged at an angle to the longitudinal axis of said members and spaced from the adjacent face of the same, and means for adjusting the members longitudinally to vary the tension of the wires.
3. In a bed brace, a tension drvice including spaced supporting members provided with main and auxiliary wire

engaging hooks, and means for adjusting the supporting members to vary the the tension of the wires.
4. In a bed frame, a tension device including spaced supporting members provided with oppositely disposed main and auxiliary wire engaging hooks, and means for adjusting the supporting members in the direction of their length thereby to vary the tension of the wires.
5. In a bed brace, a tension device including spaced supporting members provided with main and auxiliary wire engaging hooks the bills of which are space apart and disposed in opposite directions, and means for adjusting the supporting members to vary the tension of the wires.
6. In a bed brace, a tension device including spaced supporting members provided with oppositely disposed main and auxiliary wire engaging hooks disposed at an angle to the lingitudinal axis of said members, and means for adjusting said members longitudinally to vary the tension of the wires.
7. In a bed brace, a tension device including supporting plates each having a threaded extension and provided with a wire engaging hook the bill of which is disposed at an angle to the longitudinal axis of the plate and spaced from the adjacent face of the latter, and a turn buckle engaging the threaded extensions of the plates for adjusting the latter longitudinally thereby to vary the tension of the wires.
8 . In a bed brace, a tension device including spaced supporting plates having threaded extensions and provided on its opposite faces with diagonally disposed main and auxiliary wire engaging hooks the bills of which are spaced apart and extended in opposite directions, and a nut engaging the threads on the extensions for adjusting said plates longitudinally to vary the tension of the wires
9 In a bed brace the combination with the corner posts and side rails, of a tension device provided with main and auxiliary wire engaging hooks, and stay members secured to the posts and side rails and engaging the main and auxiliary hooks.

No. 102,515. Oil Cup. Godet ithuile.


Edwin, Appleton Record, Boston, Massachusetts, U.S.A. 11th December. 1906; 6 years. Filed 15th October, 1906. Receipt No. 140,327.
Claim.-1. An oil cup having an outlet passage, a valve having a close sliding fit in said passage and movable longi-
tudinally therein, and a projection forming part of the valve having its under surface inclined outwardly and downwardly therefrom adapted to seat against a complemental surface beside the passage.
2. An oil cup having an outlet passage, a solid cylindrical valve having a close sliding fit in sald passage and movable longitudinally therein, and an outwardly and downwardly inclined seating portion surrounding a part of the valve adapted to co-operate with a complemental seat surrounding the passage.
3. An oil cup provided with an internal boss having a vertical passage therethrough, its upper surface surrounding the passage being formed with a convex spherical curvature, and a valve comprising a solid stem closely fitting on all sides the said passage and a flange formed on its under side with a concave spherical surface ground to nt the spherical surface of said boss.
4. An oil cup provided with an internal boss having a vertical passage therethrough, its upper surface surrounding the passage being inclined downwardly toward its periphery, and a valve comprising a stem fitting said passage closely with a sliding fit and a complementally inclined portion adapted to seat on the inclined surface of said boss.
5. An oil cup provided with an internal boss having a vertical longitudinal cylindrical bore, the upper end of which is slightly contracted, and a solid cylindrical valve pin slidably mounted in such bore and having its lower end upset to a diameter less than the internal diameter of the main portion of the bore but greater than that of the contracted upper end thereof..

No. 102,516. Lubricator. Graisseur.


Thomas J. Kehoe, Dayton, Ohio, U.S.A., 11th December, 1906; 6 years. Filed 19th April, 1906. Receipt No. 135,077.
Claim.-1. In mechanism of the class described, a fountain having a series of independent leads communicating therewith through its bottom, a series of plungers working in the leads respectively, openings for the passage of oil from the fountain into the uppermost part of each lead, an outlet valve in each of the leads, a rotating shaft arranged horizontally in the fountain and having mechanism in connection therewith to actuate the same, one or more eccentric cylinders mounted longitudinally and loosely upon the shaft, the shaft having means in connection therewith to engage and actuate the cylinders, a series of vertically movable yokes corresponding with said plungers and having connections aespectively therewith, and each yoke having a stem which extends up through the top of the fountain, and a series of springs, one in connection with each of said yokes, and acting upward against the top of the fountain and downward upon the yoke to hold the latter in lowermost position, the said cylinders being adapted to engage and lift said yokes.
2. In mechanism of the class described, a fountain having a series of leads communicating therewith through its bottom, a rotating shaft anranged in the fountain and having mechanism in connection therewith to actuate the same one or more eccentric cylinders mounted longitudinally and loosely upon the shaft, the shaft having means in connection therewith to engage and actuate the cylinders, a series of yokes, each having a plunger in connection therewith which operates in the corresponding lead, the said yokes being adapted to be lifted by said cylinders, and a series of springs, one in connection with each of said yokes tending to hold the latter in lowermost position.
3. In mechanism of the class described, a fountain having one or more leads communicating therewith, a rotatable shaft having means in connection therewith to actuate the same, one or eccentric cylinders mounted longitudinally and loosely upon the shaft, the shaft having means to engage the cylinders and actuate the same, and one or more yokes corresponding with the leads, each having a plunger which operates in the corresponding lead, and each yoke having relation with the corresponding cylinder to actuate the former.
4. In mechanism of the class described, a fountain having one or more leads communicating therewith, one or more yokes, each having a plunger in connection therewith which operates in the corresponding lead, automatic mechanism for actuating the yokes, and means to operate the plungers independent of the automatic mechanism.
5. In mechanism of the class.described, a fountain having one or more leads communicating therewith, a plunger in each of said leads, automatic mechanism having actuating relation with each of the plungers, and means to actuate each plunger independent of the automatic mechanism.
6. In mechanism of the class described, one or more leads having in connection therewith means for supplying the same with oll, a plunger operating in each lead, and automatic mechanism for actuating the plungers, each plunger being adapted to be operated independent of the automatic mechanism.
7. In a device of the class described, a fountain having one or more leads communicating therewith, a rotating shaft having thereon a ratchet wheel, means in connection with the shaft and each lead to force oil from said fountain through the respective leads, a swinging arm having two ratchets pivoted thereto adapted to engage the ratchet wheel, a spring acting between the forward end of one ratchet and the rear end of the other ratchet to hold said ratchets into engagement with said ratchet wheel, and means to actuate said swinging arm.
8. In a device of the class described, a lead having a source of oil supply, a plunger operating in the lead, a rotatable shaft, an eccentric loosely mounted upon the shaft, the shaft having a projection which is adapted to engage the eccentric and actuate the latter, and a yoke having connection with the plunger and engaging relation with the eccentric, the plunger being adapted to be operated independent of the eccentric.

No. 102,517. Lubricator. Graisseur.


William H. Decker, Regina, Saskatchewan, Canada, 11th December, 1906; 6 years Filed 8th March, 1906 Receipt No. 133,652.
Claim.-In a device of the class described, comprising a vehicle axle having a journal thereon, a hub rotatably mounted on the journal, a ferrule at the inner end of the hub, there being a lug on the inner face of said ferrule, a rotatable shaft supported by the axle, a spur wheel on the shaft in the path of the said lug, a worm-gear on the oher end of the shaft, a train of gear wheels supported on the axle and operated by the said worm gear, a stationary dise supported on the axle having a screw-threaded peri phery, an oil tube communicating with the interior of the hub and also with said stationary disc, an oil cup open al its bottom and closed at its top and having a screw-threaded interior to engage the screw threads on said disc and also having cog teeth on its exterior in mesh with one of the wheels of said train of gear wheels, substantially as and for the purposes stated.

No. 102,518. Lubricator. Graisseur.


Fred Anderson, Warren, Pennsylvania, U.S.A., 11th December, \(1906 ; 6\) years. Filed 8th May, 1906. Receipt No. 135,686.
Claim.-1. An attachment for lubricators adapted for connection to the lubricator and to the part to be lubricated, and having an oil passage therethrough, and a cup at the bottom of said passage and loosely connected to said attachment.
2. An attachment for lubricators adapted for connection to the lubricator and to the part to be lubricated and having an oil passage therethrough, there being a shoulder extending from the lower end of said attachment, a cut surrounding said shoulder and a rod connected to said cup and extending into said passage.
3. An attachment for lubricators adapted for connection to the lubricator and to the part to be lubricated and having an oil passage therethrough, there being a shoulder extending from the lower end of said attachment, a cup surrounding said shoulder and a rod connected to said cup and extending through said passage and having a hook at its upper end by which the rod is suspended in said passage.

4 In combination, a lubricator having a screw-threaded lower end, a coupling having its upper end internally screw-threaded for attachment to said screw-threaded lower end of the lubricator and having also an internally screw-threaded lower end, a sleeve with its upper mid screwing into said coupling and its lower end sicrewthreaded for attachment to a cylinder, said sleeve having a shoulder extending from the lower end thereof, a cup surrounding said shoulder, and a rod connected to said cup and extending through an oil passage in said sleeve and having a hook at its upper end by which the rod is loosely suspended in said passage.

No. 102,519. Lubricator. Graisseur.


Ole O. Kittleson, Lee, Illinois, U.S.A., 11th December, 1906; 6 years. Filod 8th August, 1906. Receipt No. 138,496.
Claim.-1. The combination with a holder, of a piston operating therein, a support, a stem connected to the piston and having a threaded engagement with the support, operating means including a device rotatable about the stem, a dog for holding said device and stem against relative movement and permitting the sliding movement of the stem through the device, and means for automatically operating the dog to disengage the stem and driving device to permit

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ihe rotation of the latter with respect to the former when said stem has reached a predetermined position.
2. The combination with a holder, of a piston operating a stationary support, a stem connected to the piston and having a threaded engagement with the support, an operating wheel roatable about the stem, a dog carried by the wheel for holding said wheel against relative rotation and permitting the sliding movement of the stetm through the wheel, and means carried 'by the stem and engaging dog when said stem has reached a predetermined position to unlock the wheel from the stem and permit the free rotation of said wheel.
3. The combination with a holder, of a piston slidable therein, a cup secured upon the upper end of the holder, a stem connected to the piston and having a threaded engagement with the cap, an operating wheel mounted on the cap and rotatable upon the stem, said stem also being slidable through the wheel and being provided with a longitudinally disposed keyway, a dog pivoted upon the wheel and normally engaged in the keyway to prohibit the relative rotation of the wheel and stem to permit the sliding movement of said stem, said stem having a shoulder located at the upper portion of the keyway and arranged to engage the inner end of the dog and move it out of said keyway when the stem moves downwardly to a predetermined position.
4. The combination with a holder, of a piston operating therein, a stationary support, a stem connected to he piston and having a threaded engagement with the support, said stem having a keyway, a wheel having a bore that slidably receives the stem, said wheel being rotatable about the stem, a worm engaging the wheel for operating he same, a dog movably mounted on the wheel and normally engaging in the keyway to prevent the rotation of said wheel about the stem, means located in the keyway for moving the dog out of the same when the stem reaches its predetermined position, said stem having a supporting shoulder located in the keyway above said means, said dog being arranged to rest upon the shoulder in the keyway and support the wheel out of engagement with the worm, and a handle carried by the wheel.
5. The combination with a holder, of a piston operating therein, means for moving the piston including a worm wheel, spaced journal bearings located at one side of the wheel, a shaft passing through the bearings, means connected to the shaft for rotating the same, a worm loosely journalled on the shaft between the bearings and meshing with the worm wheel, a clutch connection between one end of the worm and the shaft, a coiled spring bearing against the other end of the worm for yieldingly maintaining he clutch connection, said spring being mounted on the shaft and passing through the adjacent bearing, and means adjustably mounted on the shaft outside the bearing and engaging the spring to vary the tension thereof.
6. The combination with a holder, of a piston operating therein, means for moving the piston including a worm wheel spaced journal bearings located at one side of the wheel, a shaft passing through the bearings, a ratchet wheel secured to the shaft on the outer side of one of the bearings, a worm loosely journalled on the shaft between the bearings and meshing with the worm wheel, a clutch connection between the shafts and the end of the work that is adjacent to the ratchet wheel, and means for yieldingly maintaining said clutch connection, said means bearing against the other end of the worm and passing through the adjacent bearing.
7. The combination with a holder, of a rotatable actuating device having an axial bore, a plunger operating in the holder and having a stem longitudinally slidable in the bore, a key movably associated with the stem and actuating device to prevent their relative rotation and permit the said sliding movement of the stem, means normally engaging the actuating device for operating the same, said device being slidable upon the stem out of operative engagement with the operating means and thus constituting means for manually operating the stem, and means carried by the stem and engaged by the key for holding the actuating device out of engagement with the operating means to permit the said manual operation of the stem.
8. The combination with a holder, of a stationary element associated therewith, a rotatable actuating wheel having an axial bore, a plunger slidably mounted in the holder, a rotatable stem having a threaded engagement with the stationary element and having longitudinally sliding movement through the bore of the wheel, a key movably mounted on the wheel and having a slidable engagement wth the stem to hold said stem and wheel against relative rotation, operating means engaging the wheel for rotating the same, said wheel having a handle and being movable on the stem to a position out of engagement with the operating means and said stem having means by the key to maintain said wheel out of such engagement to permit the manual rotation thereof.

No. 102,520. Lubricator. Graisscur.


William S. Fatterson, Salt Lake City, Utah. U.S.A.. 11th December, 1906 ; 6 years. Filed 6th October. 1906. Receipt No. \(140,099\).
Claim.-1. A lubricator whose oil cap, neck base, adjuster housing and lugs on the lower side of said base are integral, an adjustable Tever journalled in said lugs, an intake for the oil and an adjustable cover therefor, as described.
2. A lubricator comprising an oil cup provided with an oil inlet in its top, an oil channel extending downward from said cup and opening into a chamber, a ball valve in said chamber to close said channel, and an adjustable lever to support and vertically move said ball for the purpose specified.
3. A lubricator comprising an oll cup provided with an oil inlet, ay oil channel extending downward from said cup and opening into a chamber, a ball valve in sald chamber to close said channel, a lever to support said ball valve, there being a finger on said lever, a spring engaged by said finger, an adjusting boit attached to said spring, there being a housing exterior to the oll cup (in which said bolt is longitudinally movable) provided with teeth on its upper surface and a nut on said bolt having notehes to engage said teeth, as described.

No. 102,521. Method of Cleaning Cotton.
Méthorle pour nettoyer le coton.


George Dexter Burton, Boston, Massachusetts, U.S.A., 11th December, 1906; 6 years. Filed 27 th November, 1905. Receipt No. 130,449.
Claim.-1. The process of treating cotton and other similar materials which consists in immersing said material in a bath in which wool has been degreased and cleansed, adding to said bath a quantity of sodium-carbonate, heating the solution and then passing through said bath a current of electricity while said material is immersed therein.
2. The process of treating cotton and other similar materfals which consists in immersing said material in a bath in which wool has been degreased and cleansed, adding to said bath a solution about one part chloride of sodium to about two parts of soda-carbonate, heating the solution and then passing through said bath a current of electricity while said material is immersed therein.
3. The process of treating cotton and other similar materials which consists in immersing said material in a bath in which wool has been degreased and cleansed adding to bath a quantity of sodium-carbonate and then passing
through said bath a current of electricity while said material is immersed therein.
4. The process of treating cotton and other similar materials which consists in immersing said material in a bath in which wool has been degreased and cleansed, adding to said bath a solution about one part clploride of sodium to about two parts soda-carbonate and then passing through said bath a current of electricity while said material is immersed therein.
5. The process of treating cotton and other simflar material which consists in immersing wool in a bath containing a quantity of sodium-carbonate, keating the solution, passing through said bath a current of electricity while said wool is immersed therein, drawing said solution into a vat and permitting it to settle, returning said solution into the original vat, immersing therein an equal amount of cotton, heating the solution and passing through said bath a current of electricity while said cotton is immersed therein.
6. The process of treating cotton and other similar material which consists in immersing wool in a bath contalning a quantity of sodium-carbonate, passing through said bath a current of electricity while said wool is immersed therein, drawing said solution into a vat and permitting it to settle, returning said solution into the original vat, immersing therein an equal amount of cotton and passing through said bath a current of electricity while said cotton is immersed therein.
7. The process of treating raw cotton which consists in immersing it in a bath containing animal grease from wool and adding thereto a quantity of sodium-carbonate and then passing through said bath a current of electricity while said cotton is immersed therein.
8. The process of treating raw cotton which consists in immersing it in a bath containing animal grease from wool and chemicals for strengthening its fibre and subjecting the cotton so immersed to the action of an electric current to cause said cotton to absorb the wool grease and thereby become softened, with its yarns of less diameter and of greater tensile strength.
9. The process of treating cotton which consists in placing said cotton in a suitable receptacle containing a solution composed of water, chemical salts and animal grease and passing through said solution and the cotton contained therein a current of electricity.
10. The process of treating cotton which consists in placing said cotton in a suitable receptacle containing a solution composed of water, chemical salts and animal grease, and passing through said solution and the cotton contained therein a current of electricity, said current of electricity being of sufficient pressure and volume to create in sald solution electrolytic gas or gases.
11. The process of treating cotton which consists in placing cotton in a suitable receptacle containing a solution composed of water, chemical salts, and animal grease and passing through said solution and the cotton contained therein a current of electricity, thereby causing the vegetable fibre of which the cotton is composed to absorb the animal grease or oil contalned in said solution.
12. The process of treating cotton which consists in placIng said cotton in a suitable receptacle containing a solution composed of water, chemical salts, and animal grease, and passing through said solution and the cotton contained therein a current of electricity to cause the animal grease to be transferred to said cotton and thereby cause it to perform the functions of wool.

No. 102,522. Typewriting Machine. Clarigraphr.
Arthur H. Martin and Charles E. B. Lamson, assignee of a half interest, both of Buffalo, New York, U.S.A., 11th December, 1906; 6 years. Filed 14th May, 1906. Receipt Nio. 135,873.
Claim.-1. The combination with a typewriter machine platen, and devices for pressing the record sheeis agzinst the platen, of a guide which is stationarily supported adjacent to the platen and has a portion extending to a position to allow two record sheets to be inserted between the platen and presser devices on opposite sides of the guide without moving the guide, an ink ribbon supported adjacent to the platen, said guide being constructed to allow the presser devices to press the record sheets against the platen and having parts which direct the record sheets to opposite sides of said ink ribbon, substantially as set forth.
2. The combination with a typewriting machine platen. and devices for pressing the record sheets against the platen, of a curved guide which partially surrounds the platen and separates two record sheets, said gulde providing open spaces which allow the presser devices to press the record sheets against the platen, an ink ribbon supported adjacent to the platen, and parts on said guide
arranged to direct the record sheets to opposite sides of said ink ribbon, substantially as set forth.

3. The combination with a typewriting machine platen, and devices for resessing the record sheets agalnst the platen, of a curved guide which partially surrounds the platen and separates two record sheets, sald guide providing open spades which allow the presser device to press the record shects against the platen, and an ink ribbon, said guide having means for supporting said ink ribbon adjacent the platen, and portions arranged to direct the record sheets to opposite sides of said ink ribbon, substantially as set forth.
4. The combination with a typewriting machine platen, and devices for pressing the record sheets against the platen, of a curved guide which partially surrounds the platen and separates two record sheets, said guide providing open spaces which allow the presser devices to press the record sheets against the platen, an ink ribbon, and a guard located between said ink ribbon and the outer record shect, said guide having portions arranged to direct the record sheets to opposite sides of said ink ribbon and guard, substantially as set forth.
5. In an attachment of the character described, a substantially trough-shaped gulde which partially encloses the typewriter platen and has guides at its ends for an ink ribbon, a ribbon slot between said guides, and open spaces at opposite sides of sald ribbon slot, substantially as set forth.
6. In an attachment of the character described, a substantially trough-shaped guide which partially encloses the typewriter platen and has guides at its ends for an ink ribbon, a ribbon slot between said guides, oval-shaped openings at one side of said ribbon slot, and triangular openings at the opposite sides of said ribbon slot, substantlally as set forth.
7. In an attachment of the character described, a guide which partially surrounds the typewriter platen and has a slot for an ink ribbon, and portions at one edge of said slot which overlap the adjacent edge of the ink ribbon to direct record sheets to opposite sides of the ribbon, and means overlapping the opposite edge of said ribbon slot to prevent the engagement of the latter with the record sheets, substantially as set forth.
8. In an attachment of the character described, a guide which partially surrounds the typewriter platen and has a slot for an ink ribbon, and portions at one edge of sald slot which enclose the adjacent edge of the ribbon, and a guard which is enclosed by said portions at one edge of the ribbon slot and overlaps the opposite edge of the ribbon slot, substantially as set forth.
9. In an attachment of the character described, a guide which partially surrounds the typewriter platen and has a slot for an ink ribbon, and portions at one edge of said slot which enclose the adjacent edge of the ribbon, a guard which is enclosed by said portions at one edge of the ribbon slot and overlaps the opposite edge of the ribbon slot, and a band which is secured to the opposite edge of said ribbon slot and extends in between said rlbbon and guard, substantially as set forth.
10. In an attachment for typewriting machines, the combination of a curved gulde adapted to partially surround the platen and separate two record sheets and provided with openings through which the presser devices press the record sheets against the platen, an ink ribbon retained in position by sald guide, sald guide having parts arranged to direct the record sheets to opposite sides of said ink ribbon, and means for supporting the guide in position to partially surround the platen, substantially as set forth.

No. 102,523. Steam Hammer. Martcau dapeur.


The John Bertram and Sons Company, Dundas, Ontario, Canada,, assignee of William Joseph Hagman, Philadelphia, U.S.A., 11th December, 1906; 6 years. Filed 15th November, 1906. Receipt. No. 141,232.
Claim.-In a steam hammer, the combination of a main frame having two outwardly presenting faces in line with each other, a guide seat structure secured to said faces of the main frame comprising two vertical portions having outwardly presenting faces, and having crossties connecting the vertical portions, and hammer guides secured to the guide seats having faces corresponding to the guide seat faces, and provided with hammer guide ways opposite each other and at right angles to the faces connecting the hammer seat structure and the hammer guides.

No. 102,524. Internal Combustion Engine.
Engin à combustion intorne.


John Croft, Benjamin James Broadway, William Lingham Broadway, assignees of three-fourths interest, Birmingham, England, 11th December, 1906; 6 years. Filed 5th October, 1906. Receipt No. 140,073.
Claim.-1. In internal combustion engines, the combination of a cylinder receiving its charge from a passage communicating with the crank chamber, means for returning fuel from the cylinder to the crank case when working at less than full power with means for drawing in the damp remains from the exhaust pipe for preventing back firing and giving enhanced power, and means comprising a special exhaust aperture for effecting a gradual and comparatively slow release of the gases.
2. In internal combustion engines, the combination of a cylinder recelving its charge from a passage communicating with the crank chamber, means comprising a return pipe with suitable control from the cylinder to the crank case for conserving fuel when working at less than full power, means comprising a connection from the exhaust pipe to the main passage from crank case to cylinder with sultable valve for the purpose of allowing damp remains from exhaust tube to be drawn into said side passage forming a medium for preventing back firing and for enhancing the power, and an exhaust aperture of special shape comprising a slit gradually widening and becoming suddenly pronounced and finishing in a regular opening for the purpose of giving a gradual and comparatively slow release of the gases, thus forming a comparatively silent exhaust.
3. In internal combustion engine, the combination of a cylinder recelving its charge from a side passage, means for returning fuel from said cylinder to the sald crank casc, comprising an external pipe and having suitable controlling means, means comprising a pipe with suitable valve for conveying damp remains to the main passage form said crank casc to said cylinder, means comprising a special exhaust outlet for effecting a gradual and quiet release of the gases and means comprising a compartment in the crank case, said compartment communicating with said passage to the cylinder, and a port in the piston for drawing in the charge and expelling it to the cylinder.
4. In internal combustion engines, the combination of a cylinder receiving its charge from a passage communicating with the crank case, a return pipe from the said cylinder to the said crank case, said return being controlled by a valve suitably operated for the purpose of returning fuel from the cylinder to the crank case whrn working at less than full power.
5. In internal combustion engines, the combination of a cylinder receiving its charge from a passage communicating with the crank case, a return pipe from said cylinder to said crank case, and means comprising a pipe communicating with the exhaust pipe and with the said passage, said pipe having a suitable valve for drawing in non-combustible matter from the said cxhaust pipe to the said passage.
6. In internal combustion engines, the combination of a cylinder receiving its charge from a passage communicating with the crank case, a return plpe from said cylinder to said crank case, a pipe from the exhaust pipe to the said passage, and means comprising a special exhaust aperture having a slit gradually widening and becoming suddenly more pronounced and finishing in a regular lower part for effecting a gradual and silent relcase of the gases.
7. In internal combustion engines, the combination of a cylinder receiving its charge form a passage communicating with the crank case, a return pipe from said cylinder to said crank case, a pipe from the cxhaust pipe to the said passage, a special exhaust aperture and means comprising a division of the crank case and a port on the piston for taking in the proper charge and expelling it to the cylinder.
8. In internal combustion engines, the combination of a cylinder receiving its charge from a passage communicating with the crank case, and means comprising a flexible compartment in the crank case communicating with the said passage, a port in the piston adapted to onen communication between the said passage and the induction pipe for taking a charge of proper quantity into the said flexible compartment and from thence to the cylinder.

\section*{No. 102,525. Transformer. Transformateur.}

The Canadian Westinghouse Company, Limited, Hamllton. Ontario, Canada, assignee of Frank Conrad, Edgewood Park, Pennsylvania, U.S.A., 11th December, 1906; 6 years. Flled 13 th May, 1905. Receipt No. 125,140.
Claim.-1. A trangformer core which provides two magnetic circuits, one of a large cross sectional area and interrupted by an air gap, and the other of a much smaller cross sectional area.
2. A transformer core having three legs, one of the outer legs having a smaller cross sectional area than the other two and the other outer leg being interrupted by an alr gap.
3. A transformer core which provides two magnetic circuits, one unsaturated and of high reluctance and the other saturated and of low reluctance
4. A transformer having primary and secondary windings and two magnetic circuits passing through the primary winding, one unsaturated and of high reluctance, the other saturated of low reluctance, and surrounded by the secondary winding.
5. A transformer comprising primary and secondary windlngs and an iron core having three legs, the primary coil being wound on the inner leg. the secondary on an outer leg having a smaller cross sectional area than the other two, and the other outer leg being interrupted by an alr gap.
6. A transformer having primary and secondary windings, a primary magnetic circuit of high reluctance and a prim-

ary magnetic circuit of relatively low reluctance which is also the magnetic circuit for the secondary winding.
7. A transformer having primary and secondary windings, and two magnetic circuits of different reluctance only one of which is common to both primary and secondary coils.
8. A transformer having a primary and secondary coils, and two magnetic circuits of respectively high and low reluctance, the latter being common to both primary and secondary windings.

No. 102,526. Protective Apparatus for Electrical Circuits.
Apparcil protectcur pour circuits électriques.


The Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada, assignee of Harry P. Davis, Pittsburg, and Frank Conrad, Edgewood Park, both in PenuSylvania, U.S.A., 11th December, 1906; 6 years. Filed 13th May, 1905. Receipt No. 125,142.
Claim.-1. The combination in an alternating current system of electrical distribution having parallel distributing lines and circuit breakers in one or both of the ends thereof, of means for selecting and energizing the tripping coil of the proper circuit breaker comprising a relay translormer having two primary windings which are respectively enegized by currents proportional to the currents in the disributing conductors and which normally induce in a magnetic circuit opposing fluxes in approximately equal amounts, and a secondary winding which is energized by the resultant of the primary fluxes, current windings in series with sald secondary windings, voltage windings receiving a voltage approximately proportional to the voltage between two of the distributing conductors, and a switch actuated by said current and voltage windings for closing an auxiliary circuit through either of the said circuit breaker tripping coils.
2. The combination in an alternating current system of electrical distribution having parallel distributing lines, with circuit breakers in either or both ends thereof, and means for selecting and energizing the tripping coil of the proper circuit breaker, of means for energizing current windings of said selecting apparatus comprising a transformer having two primary windings which normally induce in a magnetic circuit opposing flues in approximately equal amounts and a secondary winding which is energized by the resultant of the primary fiuxes.
3. The combipation in an alternating current system of electrical distfibution having parallel distributing lines, with circuit breakers in either or both ends thereof. and means for'selecting and energizing the tripping coil of the proper circuit breaker, of means for energizing the voltage windings of said selecting apparatus with an approximately constant voltage procortional to the voltage between two of the distributing conductors, comprising a etransformer having a magnetically saturated iron core and a leakage path for the flux.
4. A system of elcctrical distribution comprising a generating station, parallel distributing lines, circuit breakers in each line near the distributing ends thereof, tripping colls for sald breakers energized from an auxiliary circuit series transformers the primary windings of which are respectively in series with conductors of the distributing lines and the sceondary windings of which having the same phaso are connected to relay windings which normally induce in a magnetic circuit opposing fluxes in approximately equal amounts. and a secondary winding which is energized by the resultant of the primary fluxes.
5. In an alternating current system of electrical distribution having parallel distributing lines, circuit breakers in the respective lines, means for tripping each breaker when the current in a conductor of its line exceeds by not less than a predetermined amount that in the corresponding conductor of another line.
6. In an alternating current system of electrical distribution having parallel distributing lines, circuit breakers in the respective lines, means for tripping each braker when the current in any conductor of its line exceeds by not less than a predetermined amount the current in the corresponding conductor of another line and means for selecting the proper tripping coil in accordance with circult conditions.
7. In an alternating current system of electrical distribution having parallel distributing lines, circuit breakers in the respective lines having tripping coils, auxiliary circuits for sald coils, and selective means connected to the several lines and operating to close one of said auxiliary circuits when the current of a given phase in one line excceds by not less than a predetermined amount the current of the same phase in another parallel line.
8. The combination in an alternating current system of clectrical distribution having parallel distributing lines, with circuit breakers in one or both ends thereof and means for selecting and energizing the tripping coll of the proper circuit breaker, of means for energizing relay transformers each having two primary windings receiving energy respectively proportional to that flowing in corresponding conductors of parallel lines and secondary windings which are energized only when the current in one of said primary windings exceeds by not less than a predetormined amount that in the other of the same transformer and which are in series with said current windings.
9. The combination in an alternating current system of electrical distribution paving parallel distributing bines, with circuit breakers in one or both ends thereof and means for selecting and energizing the tripping coil of the proper circuit breaker, of means for energizing current windings of said selecting apparatus only when the current in a conductor of one line exceeds by not less than a predetermined amount that in the corresponding conductor of a parallel line.
10. A system of electrical distribution comprising parallel lines each of which has one or more circuit breakers, and means for trloping the e-eaker or breakers of either line when the current in that line exceeds by more than a predetermined amount, the current in the other line.
11. A system of electrical distribution comprising a plurality of parallel lines and means for opening either line when its current exceeds, by more than a predetermined amount that in the other lline.
12. A system of electrical distribution comprising two parallel lines and means for opening either line without distributing the other when its current exceeds by more than a predetermined amount that of the other.

\section*{No. 102,527. Electric Motor. Motcur électrique.}

The Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada, assignee of Benjamin G. Lamme, Pittsburg. Pennsplvania. U.S.A.. 11th December, 1906; 6 years. Filed 13th May, 1905. Receipt No. 125,144.
claim.-1. The combination with a source of alternating current energy, a source of direct current energy and a motor having series connected armature and fleld magnet windings, of means for causing the ampere turns in the fleld magnet winding to assume a higher value when the motor is operated by direct currents than when it is operated by alternating currents.
2. The enmbination with a source of alternating current energy and a motor having series connected armature and

field magnet windings, of means for automatically causing the ampere turns in the field magnet winding to assume a higher value when the motor is operated by direct currents than when it is operated by alternating currents.
3. The combination with a source of alternating current energy, a source of direct current energy and a motor having series connected armature and field magnet windings, of means for automatically causing the ampere turns in the field magnet winding to assume a higher value when tho motor is operated by direct currents than when it is operated by alternating currents, said means comprising an inductive winding having a lead connected to a point therein which is intermediate its terminals and having a terminal connected with a terminal of the field magnet winding, and a non-inductive resistance in series with the inductlve windings and having one terminal connected to the terminals of the field magnet and armature windings which are connected together.
4. Th? combination with a motor having series connected armature and field magnet windings. of an inductive winding and a non-inductive resistance which are connected in scries with each other and in parallel with the motor ficld magnet winding. and a terminal lead which is contiected to a point in the inductive winding which is intermediate its torminals.
5. The combination with a source of electrical energy and a motor raving series connected armature and fleld magnet windings. of an inductive winding and a non-induclive resistance which are connected in series with each other and in rarallel with the motor field magnet winding. one terminal of the non-inductive resistance being connected to the terminals of the armatures and field magnet windings which are connected together, and means for connerting a point in the inductive winding which is intermediate its terminals to the cource of electrical energy
6. The combination with a source of alternating current energy and a source of direct current energy, of a motor having series connected armature and field magnet windings, an inductive winding and a non-inductive winding connected in series with each other and in parallel with the field magnet winding, and means for connecting one terminal of the armature winding and a point intermediate the terminals of the inductive winding to the respective terminals of the one or the other of said sources of energy.
7. The combination with source of alternating current nnergy and a source of direct current energy, of a motor having serles connected armature and field magnet windings, an inductive winding and a ron-inductive resistance connected in series with each other and in parallel with the motor field magnet winding, one terminal of the noninductive resistance being connected to the terminals of the armature and field magnet windings which are connecad together, and the other terminal of the armature winding and a point in the inductive winding intermediate its triminals being connected to the respective terminals of the one or the other of said sources of energy.
\(\therefore\) The combination with a source of alternating current enorgy, a source of direct current energy and a motor having series connerted armature and field magnet windings, of means for automatically causing the ampere turns in the field magnet winding to assume a higher value when the motor is operated by direct currents than when it is operated by alternating currents, said means comprising a circuits in two portions one of which offers greater re-
3. The combination of a source of electrical energy. reistances having their middle points respectively connected

to said source, auto-transforming windings connected between the terminals of said resistances, leads connected to intermediate points in the said inductive windings, the first and second, fourth and fifth, etc.. of which are respectively connerted to corresponding points in the auto-transformer windings and the third, sixth, etc., of which are connected alternately and consecutively to the auto-transformor windings intermediate the other leads, a translating device or devices having one terminal connected to the middle point of one of said resistances and means for connecting the other terminal with any two of said leads.
4. The combination of a source of energy, resistances having their middle points respectively connected to said source, auto-transformer windings connected between the terminals of said resistances, stationary contact terminals the first and second, fourth and fifth. etc., of which are respectively connected to corresponding points in the autotransformer windings and the third, sixth, etc., of which are connected alternately and consecutively to the autotransformer windings intermediate the other leads, a translating device or devices having one terminal connected to the middle point of one of said resistances and means for conmecting the other terminal with any two of said leads.
5. The conbination of a source of electrical energy, subdivided auto-transformer windings having their terminals connected thereto, a translating device or devices having one terminal connected to one pair of terminals of the said auto-transformer windings, and means for connecting the other terminal to points of sub-division of said windings.
6. The combinat'on of a source of electrical energy, subdividd auto-transformer windings having their terminals connected thereto, the end poritons of said windings containing a definite amount of resistance, a translating device or devices having one terminal connected to one pair of terminals of the said auto-transformer windings and means for conuecting the other terminal to points of subdivision of said windings.
7. The combination of a source of electrical energy, resistances having points intermediate their cerminals respectively connected to said source, sub-divided auto-transformer windings connected between the terminals of said resistances, a translating device or devices connected between the middle of one of said resistances and points o! sub-division of the auto-transformer windings.
8. The combination of a source of electrical energy, noninductive resistance having points intermediate their terminals respectively connected to said source. sub-divided auto-transformer windings connected between the terminals of said resistances, a translating device or deviecs connected between an intermediate point in one of said resistances and points of sub-division of the said auto-transformer windings.
9. The combination wih two inductive windings and resistance m?mbers connecting corresponding terminals thereof, of an alternating current generator having its terminals respectively connected to intermediate points. said resistance members, a translating device having one terminal connected to an intermediate point in one of the resistance members, and means for making progresisve connection between the other translating device terminal and nection between the other translating dings.
difierent points in the inductive windings.
10. The combination of a source of elfctrlcal energy, subdivided auto-transformer windings having their terminals connected thereto, a translating device or devices having one terminal connected to one pair of terminals of the said auto-transformer windings, and means for connecting the other terminal successively to points of sub-division of said winding that are symmetrically and unsymmetrically located.

No. 102,529. Process of Cleaning and Renovating. Procédé pour nettoyer et renouveler.
Jules Doux. Utica, New York, U.S.A., and George Young Allene, Montreal, Quebec, Canada, assignee of a half interest, 11th December, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,004.
Claim-1. The process of cleaning and renovating stock, material and fabrics, which consists in subjecting it to a washing operation in a bath composed of benzine impregnated with anhydrous ammonia.
2. The process of cleaning and renovating stock, material and fabric which consists in subjecting it to a washing operation, in an alkaline bath, practically free from water and composed of benzine and anhydrous ammonla.
No. 102,530. Alarm and Signal. Arrissenf it si!mal.


The Zorge Safety Railway Equipment Company, assignee ui Ellsworth Ephraim Flora, Chicago, Illinois, C.S.A., 11th December, 1906; 6 years Filed 13th January, 1906. Receipt No. 136,876.
Claim.-1. The combination with a irack rail, of a torpedo carrier operating to place a torpedo immediately above the rail, a spring serving to operate said torpedo carrier, stops on the torpedo carrier, a vibrating stop, a spring serving to move said vibrating stop in one direction. and an electro-magnet serving normally to hold said vibrating stop against the action of its spring.
2. The combination with a railway track, of a device for the purpose set forth, comprising a rotary torpedo carrier, a spring tending to rotate said torpedo carrier, stops arranged on different radil and moving with the torpedo carrier, and a suitably conirolled vibratory stop adapted to co-act with said stops.
3. A device for the purpose set forth. comprising a casing having an upper chamber and a lower chamber, a torpedo carrier housed in the upper chamber, a shaft extending through the torpedo carrier and equipped at its lower end with an actuating spring, ratchet wheel and pawl connection between the upper end of the shaft and ... torpedo carrier, stops carricd by the torpedo carrier, a substantially vertical vibratory stop, a spring tending to move said vibratory stop in one direction, a magnet tending to move said vibratory stop in the other direction, and a circuit for said magnet controlled with relation to the condition of a railway track.
4. The combination with a railway track having a movable switch point, of a torpedo carrier, potential means for actuating said carrier, an electro-magnet controlling the movement of the torpedo carrier, and an electric circuit, or circuits, for said magnet having a make-and-break device controlled with relation to the movement of the switch point and having also a train conrolled electric switch, for the purpose set forth.
5. The combination with a railway track having a movable switch point, of a torpedo carrier, a magnet controlling said torpedo carrier, a branch circuit for said magnet connected with the switch point, and a second branch circuit for said magnet having a train actuated normally closed switch located on the opposite side of the detonating device to which the switch point of the railway track is located, for the purpose set forth.
6. The combination with a track rail, a signalling device, and an electric circuit controlling said signalling device, of a normally closed train actuated switch which is actuated to break the circuit when the train moves in one direction and which works idly to leave the circuit unbroken when the train moves in the other direction.
7. The combination with a track sail, a signalling device, and an electric circuit controlling said signalling device, of a normally closed train actuated switch arm movable about a vertical axis and a wheel actuated lever movable about a horizontal axis and serving to turn said switch arm and
break the circuit when the train movement is in one direction and to move idly without affecting the switch arm when the train movement is in the other direction.
8. A train actuated switch for the purpose set forth, comprising a switch arm, a vertical shaft on which said arm is secured, a spring tending to rotate said arm in one direction and close the circuit, a lever connected with said shaft by a horizontal pivot. said lever having a long arm with an oblique lateral surface, and a spring tending to hold the free end of said arm normally elevated.
9. The combination with a railway track, of a torpedo placing device, an electro-magnet controlling said device and having a circuit with an electric generator therein, a visual signal, an electro-magnet controlling said visual signal, said visual signal and said first-named circuit, and an electric circuit for said second-named electro-magnet electrically connected with said track.
10. The combination with a railway track of a torpedo placing device, an electro-magnet controlling said device and having a circuit equipped with an electric generator, a visual signal, an electro-magnet controlling said signal, a circuit for said second-named electro-magnet electrically connected with the track, and governing mechanism operated by said second-named electro-magnet and controlling the period of closure of said first-named circuit.
11. The combination with a railway track, of a torpedo placing device, an electro-magnet controlling the same and having a circuit equipped with an electric generator, a visual signal having a movable member connected with said electric circuit and equipped with a governing device controlling the closing of said circuit, an electro-magnet serving to actuate said movable member of the visual signal, and a circuit for said sceond-named magnet equipped with a generator and controlled by a movable rail of the track placed on one side of the torpedo placing devier and a train actuated electric switch !laced on the other side of the torpedo phacing device.

\section*{No. 102,531. Electrolytic Diaphragm.}

Jiaphon!me ćlrctiolytique.

\(15253 /\)

Isaih Lewis Roberts, New York City, New York, U.S.A., 11th December, 1:006; 6 years. Filed 28th September, 1906. Receipt No. 139,891.
Claim.-1. An electrolytic diaphragm comprising a rigid body of porous material, a layer of non-porous material thereon, and a fabric on the non-porous material to retain the same on the rigid body, as set forth.
2. An electrolytic diaphragm comprising a rigid body of porous material, a layer of non-porous material thereon, a fabric on the non-porous material to retain the same on the rigid body, and a reticulated support for the fabric, as set forth.

No. 102,532. Semaphore. Sémaphorc.
The Electric Signagraph and Semaphore Company, Chicago, Illinois, assignce of Jean F. Webb, Jr., Denver, Colorado, U.S.A., 11th December, 1906; 6 years. Flled 24th August, 190b. Receipt No. 138,958.
Claim.-1. In a sempahore of the class described, an oscillating signal shaft, a semaphore arm on sald signal shaft, a rotatable drive shaft, connections between the rotatable drive shaft and the oscillating signal shaft whereby the signal shaft may be operated by the rotatable shaft, an electrically operated means for uni-directlonally rotating said drive shaft, substantially as shown and described.
2. In a signalling apparatus, an oscillating emaphore, a rotatable drive shaft to co-operatively connected with said oscillating semaphore, electrically operated means for intermittently rotating the drive shaft always in the same direction to oscillate the semaphore to alternately display safety and danger signals. substantially as shown and described.
3. In an apparatus of the class described, an oscillating semaphore, a rotalable drive shaft, connection between

said drive shaft and said semaphore, whereby the rotary motion of the drive shaft is converted into oscillating molion at the semaphore, and electrically operated devices for rotating said drive shaft always in the same direction sub-- tantially as shown and described.
4. A s maphore comprising an oscillating signalling shaft, a rotatable drive shaft, connections between said drive and signal shafts, an electrically operative mechanism for intermittently rotating said drive shaft always in the same direction to oscillate the signal shaft to alternately display saffly and danger siguals, substantially as shown and described.
. . A scmaphore of the class described, comprising an oscillating signal carrying shaft, and a rotatable drive shaft co-i perativ.ly connected with the signal carrying shaft, means for locking said signal carrying shaft from rotation at times, electrically operated means for rotating said drive shatt in one direction only, to oscillate the signal shaft, substantially as shown and described.
6. In a signalling apparatus, an oscillating signal carrying shaft, a rotatable drive shaft co-operatively connected therewith, means for rotating the drise shaft always in one direction to oscillate the signal shaft to alternately display safety and danger signals, and return signalling circuits including circuits closers con-nperatively connected with the semaphore operating mechanism for operating return signals at each movement of the semaphore signals, subsiantially as shown and described.
T.An oscillating semaphore, rotatable electrically operated devices co-operatively connected with said semaphore to oscillate the same to alternately display safety and danger signals, and return signalling circuits including circuit closers co-operatively connected with the semaphore operating mechanism for operating return signals at each movement of the semaphore, substantially as shown and described.
8. An apparatus of the class described, comprising an uscillating semaphore signal carrying shaft and a rotatable drive shaft co-o eratively connected therewith to impart cscillatory motion to the signal shaft, electrically controlled mechanism for intermitiently rotating said drive shaft uni-directi-nally, return signalling circuits including circuit closers co-operatively connected with the semaphore operating mechanism for operating return signals at tath movement of the semaphore, substantially as shown and described.
!. An apparatus of the class described, comprising an oscillating semaphore signal carrying shaft and a rotatable drive shaft co-operatively connected therewith to impart oscillatory motion to the signal shaft, electrically controlled mechanism for intermittently rotating said drive shaft uni-directionally, return signalling circuits including circuit closers co-operatively connected with the semaphore operating mechanism for operating return signals at each movement of the semaphore, and means for automatically rendering said electrically controlled mechanism inoperative at times, substantially as shown and deseribed.
10. In an apparatus of the class described, an oscillating semaphore signal carrying shaft, a rotatable drive shaft, connections between said drive shaft and said signal shaft whoreby the motion of the former is imparted oscillatingly to the latter, electrically operating mechanism for rotating said drive shaft uni-directly, means for automatically cutting out said electrically operating mechanism at times, and means for simultaneously operating a return signal. subsantially as shown and described.
11. In an apparatus of the class described, an osclllating somaphore signal carrying shaft, a rotatable drive shaft, connertions between said drive shaft and sald signal shaft whereby the motion of th: former is imparted oscillatingly W) the latter electrically oprating mechanism for rotating said drive shaft uni-directionally, means for automatically rutting out said electrically operating mechanism at times. mians for simultanco:isly operating a return signal, and -Inctrically controlled mechanism for again cutting in said "luctrically oprating mechanism at times, substantially as shown and described.
13. In all apparatus of the class described, an oscillating signal shaft, a rotatable drive shaft, means for rotating said drive shaft uni-directionally, connection between said rotatable drive shaft and said oscillating signal shaft for co-operatively connecting the same, said connections including means for locking said signal shaft from oscillation by external operation. substantially as shown.
13. A semaphore of the class deseribed comprising an osrillatable signal earrying shaft, a uni-directionally rotalable shaft electric motor, connections between said motor and said signal carrying shaft for oscillating the same, substantially as shown and described.
14. In a semaphore of the class described, an oscillatable signal carrying shaft, a rotatable drive shaft, connections between the drive shaft and the signalling shaft whereby the latter may be operated by the former, an electric motor for rotating said drive shaft uni-directionally, substantially as shown and described.
15. In a stmaphore of the class described, an oscillatable signal carrying shaft, a rotatable drive shaft, connections betwenn the drive shaft and the signalling shaft whereby the latter may be operated by the former, an electric motor for rotating said drive shaft uni-directionally, and means for automatically opening the motor circuit at times, substantially as shown and described.
16. In a semaphore of he class described, an oscillatable signal carrying shaft, a rotatable drive shaft. connections between the drive shaft and the signalling shaft whereby the latter may be oderated by the former, an electric motor for rotating said drive shaft uni-directionally, means for automatically obening the motor circuit at times, and return signal circuits controlled by said drive shaft for operating a return signal as the motor circuit is opened, substantially as shown and described.
17. In a semaphore of the class described, an oscillatable signal carrying shaft, a rotatable drive shaft, connections between the drive shaft and the signalling shaft whereby the latter may be operated by the former, an electric motor for rotating said drive shaft uni-directionally, means for automatically onening the motor circuit at times and an electrically controlled means for again closing the motor circuit, substantially as shown and described.
18. In a semanhore of the class described, an oscllatable signal carrying shaft, a rotatable drive shaft, connections between the drive shaft and the signalling shaft whereby the latter may be operated by the former, an electric motor for rotating said drive shaft uni-directionally, means for automatically onening the motor at times, and return signals controlled by said drive shaft for operating a return signal as the motor circuit is opened, and electrically controlled means for again closing the motor circuit.
19. In a semaphore of the class described, an oscillatable signal carrying shaft. a rotatable drive shaft, connections between the drive shaft and the signalling shaft whereby the latter may be operated by he former, an electric motor; for rotating suid drive shaft uni-directionally, means ..r automatically opening the motor circuit at times and means for locking the oscillating shaft from oscillation by application of external means when the motor is at rest, substantially as shown and described.
20. In a semaphore of the class described, an oscillatable signal carrying shaft, ortatable drive shaft. connections between the drive shait and the signalling shaft whereby the latter may be operated by the former. an clectric notor for rotating said drive shaft uni-directionally, means for automatically opening the motor circuit at times, return signal circuits controlled by said drive shaft for operating a return signal as the motor circuit is opened and means for locking the nscillating shaft from oscillation by application of external means when the motor is at rest, substantially as shown aud described.
21. In a semaphore of the class described, an oscillatable signal carrying shaft, a roiatable drive shaft, connections between the drive shaft and the signalling shaft whereby the latter may be operated by the former, an electric motor for rotating said drive shaft uni-directionally, means for automatically opening the motor circuit at times, an electrically controlled means for again closing the motor circuit, and means for locking the oscillating shaft from oscillation by application of external means when the motor is at rest, substantially as shown and described.
22. In a semaphore of the class described, an oscillatable signal carrying shaft, a rotatable drive shaft, connections between the drive shaft and the signalling shaft whereby the latter may be operated by the former, an electric motor for rotating said drive shaft uni-directionally, and means for automatically opening the motor clrcuit at times, return signals controlled by said drive shaft for operating a return signal as the motor circuit is opened, electrically controll means for again closing the motor circuit, and means for locking the oscillating shaft from oscillation by application of external means when the motor is at rest, substantially as shown and described.
23. In an apparatus of the class described, a main support, a signal shaft mounted therein, a supplemental support secured to the main support, a drive shatt mounted in said supplemental support, a crank arm secured to said drive shaft, an arm secured to said signalling shaft, pin and slot connections betwee: said arms, electrically operating means for imparting uni-directionally rotary movement to said drive shaft to set the signals, substantially as shown and described.
24. In an aparatus of the class described, a main support, a signal shaft mounted therein, a supplemental support secured to the main support, a drive shaft mounted in said supplemental support, a crank secured to said drive shaft, an ar:n secured to said signalling shaft, pin and slot connections between said arms, electrically operating means for imparting uni-directionally rotary movement to said dirive shaft to set the signals, and electro-mechanically controlled devices for cutting in and cutting out the motor trom operation, substantially as shown and described.
25. In an apparatus of the class described, a main support, a signal shaft mounted therein, a supplemental support secured to the main support, a drive shaft mounted in said supplemental support, a crank arm secured to said drive shaft, an arm secured to said signalling shaft, pin and slot connections between said arms, electrically operating means for imparting uni-directional rotary movement to said shaft to set the signals, means for automatically opening the motor circuit at times, substantially as shown and described.
26. In an apparatus of the class described, a main support, a signal shaft mounted therein, a supplemental support secured to the main support, a drive shaft mounted in said supplemental support, a crank arm secured to said drive shaft, an arm secured to said signalling shaft, pin and slot connections between said arms, electrically operating means for imparting uni-directional rotary movement to sald drive shaft to set the signals, means controlled by the rotatable drive shaft for automatically opening the motor circuit at times, substantially as shown and described.
27. In an apparatus of the class described, a main support, a signal shaft mounted therein, a supplemental support secured to the main support, a drive shaft mounted in said supplemental support, a crank arm secured to said drive shaft, an arm secured to said signalling shaft, pin and slot cunections teneen sald arms, electrically operating means for imparting uni-directional rotary movement to said shaft to set the signals, means controlled by the rotatable drive shaft for automatically opening the motor circuit at times, and means controlled by the semaphore mechanism for operating return signals when the semaphore signals are set.
28. In an apparatus of the class deseribed, a main support. a signal shaft mounted therein, a supplemental support secured to the main support, a drive shaft mounted in said supplemental support, a crank arm secured to said drive shaft, an arm secured to said signalling shaft, pin and slot connections between said arms, electrically operating means for imparting uni-directional rotary movement to said shaft to set the signals. means controlled by the semaphore mechanism for operating return signals when the semaphore signals are set.
29. In an apparatus of the class described, a main support, a signal shaft mounted therein, a supplemental support secured to the main support, a drive shaft mounted in said supplemental support, a crank arm secured to sald drive shaft, an arm secured to said signalling shaft, pin and slot connections between said arms. electrically operating means for imparting uni-dircctional rotary movement to said shaft to set the signal, means for automati-
cally opening the motor circuit at times, and an electrically energized means for closing the motor circuit at times.
30. In an apparatus of the class described, a main support, a signal shaft mountid therein, a supplemental support secured to the main support, a drive shaft mounted in said supplemental support, a crank arm secured to said drive shaft, an arm secured to said signalling shaft, pin and slot connections between said arms, electrically operating means for imparting uni-directional rotary movement to said shaft to set the signals, means for automatically opening the motor circuit at times, and electrically energized means for closing the motor circuit at times, and means con trolled by the semaphore mechanism for operating return signals when the semaphore signals are set, substantially as shown and described
31. In an apparatus of the class described, a semaphore signal carrying shaft, electrically operated uni-directional rotatable means co-operatively connected with said signal shaft, for oscillating the same to alternately display danger and safety signals, substantially as shown and described.
32. In an apparatus of the class described, a semaphore signal carrying shaft, electrically operated uni-directiona rotatable means co-op ratively connected with said signal shaft, for oscillating the same to alternately display danger and safety signals, and electro-mechanical means for controlling said continuously rotatable means, substantially as shown and described.
33. In an apparatus of the class described, supporting standards having bearing portions, a signal carrying shaft mounted therein, a semaphore signal carrying arm secured to the shaft, a slotted operating arm secured to the shaft a rotatable drive shaft mounted in bearings in said support, a crank arm secured to said drive shaft, a wrist pin on said crank arm to enter the slot, in sald operating arm, and an electric motor geared to said drive shaft to rotate it to operate the signals, substantially as shown and described.
34. In an apparatus of the class described, upright supporting standards having bearing portions, a signal shaft mounted therein, a semaphore signal carrying arm secured to the shaft, a slotted operating arm secured to the shaft, a rotatable drive shaft mounted in bearings in said support, a crank arm connected to said drive shaft, a wrist pin on said orank arm to enter the slot in said operating arm, an electric motor geared to said drive shaft to rotate 1t, a motor circuit, a switch in said motor circuit and means controlled by the movement of the drive shaft for opening said switch at times.
35. In an apparatus of the class described, upright supporting standards having bearing portions, a signal shaft mounted therein, a semaphore signal carrying arm secured to the shaft, a slotted oporating arm secured to the shaft, a rotatable drive shaft mounted in bearings in said support. a crank arm connected to said drive shaft, a wrist pin on said crank arm to enter the slot in saidoperating arm an electric motor geared to said motor circuit, means controlled by the movement of the drive shaft for opening said switch at times, and electro-magnetic devices for closing said switch at times.
36. In an apparatus of the class described, upright supporting standards having bearing portions, a signal shaft mounted therein, a semaphore signal carrying arm secured to the shaft, a slotter operating arm secured to the shaft, a rotatable drive shaft mounted in bearings in said support, a crank arm connected to said drive shaft, a wrist pin on said crank arm to enter the slot in said operating arm, an electric motor geared to said drive shaft to rotate it, a motor circuit. a switch in said motor circuit, means controlled by the movement of the drive shaft for opening said switch at times. electro-magnetic devices for closing said switch at times, means for locking said switch to its closed position.
37. In an apparatus of the class described, upright supporting standards having bearing portions, a signal shaft mounted therein, a semaphore signal carrying arm secured to the shaft, a slotted operating arm secured to the shaft, a rotatable drive shaft mounted in bearings in said support, a crank arm connected to said drive shaft, a wrist pin on said crank arm to enter the slot in said operating arm. an electric motor geared to said drive shaft to rotate it, a motor circuit, a switch in said motor circuit, means controlled by the movement of the drive shaft for opening said switch at times, electro-magnetic devices for closing said switch at times, means for locking sald switch to its closed position, and return signals controlled by the movement of the drive shaft to indicate the position of the semaphore signals.
38. In an apparatus of the class described, supporting standards having bearing portions, a slgnal carrying shaft mounted therein. a semaphore carrying arm secured to the shaft, a slotted operating arm secured to the shaft, a rotatable drive shaft mounted in bearings in said support, a crank arm connected to said drive shaft, a wrist pin on
said crank arm to enter the slot in said operating arm, an electric motor geared to sald drive shaft to rotate it to operate the gignals, and return signals controlled by the movement of the drive shaft to indicate the position of the semaphore signals.
39. In an apparatus of the class described, upright supports having bearing portions, a signal shaft mounted therein, a semaphore signal carrying arm secured to the shaft, a slotted operating arm secured to the shaft, a pair of supplemental glass carrying arms secured to the shaft, a signal light secured between the supports to co-operate with the signal glasses, a rotatable drive shaft mounted in bearings in said support, a crank arm connected to said drive shaft, a wrist pin on said crank arm to enter the slot in said operating arm, an electric motor geared to said drive shaft to rotate it, substantially as shown and described.
40. In an apparatus of the class described, upright supports having bearing portions, a signal shaft mounted therein, a semaphore signal carrying arm secured to the shaft, a slotted operating arm secured to the shaft, a pair of supplemental glass carrying arms secured to the shaft. a signal light secured between the supports to co-operate with the signal glasses, a rotatable drive shaft mounted in bearings in sald support, a crank arm connected to said drive shaft, a wrist pin on said crank arm to enter the slot in said operating arm, an electric motor geared to said drive shaft to rotate it, and return signals controlled by the movement of the drive shaft to indicate the position of the semaphore and light signels, subsantially as shown and described.
41. In an apparatus of the class desoribed, supporting standards having bearing portions, a signal carrying shaft mounted therein, a semaphore signal carrying arm secured to the shaft, slotted operating arm secured to the shaft, a rotatable drive shaft mounted in bearings in said support, a crank arm connected to said drive shaft, a wrist pin on said crank arm to enter the slot in said operating arm, an electric motor geared to said drive shaft to rotate it to operate the signals, return signals controlled by the movement of the drive shaft to indicate the position of the semaphore signals, a motor circuit, a switch in said motor circuit and means controlled by the movement of the drive shaft for opening said switch at times, substantially as shown and described.
42. In an apparatus of the class described, supporting standards having bearing portions, a signal carrying shaft mounted therein, a semaphore signal carrying arm secured to the shaft, a slotted operating arm secured to the shaft, a rotatable drive shaft mounted in bearings in said support, a crank arm connected to said drive shaft, a wrist pin on sald crank arm to enter the slot in said operating arm, an electric motor geared to said drive shaft to rotate it to operate the signals, return signals controlled by the movement of the drive shaft to indicate the position of the semaphore signals, a motor circuit, a switch in said motor, means controlled by the movement of the drive shaft for opening said switch at times, and electro-magnet devices for closing said switch at times, substantially as shown and described.
43. In an apparatus of the class described, upright supports having bearing portions, a signal shaft mounted therein, a semaphore signal carrying arm secured to the shaft, a slotted operating arm secured to the shaft, a pair of supplemental glass carrying arms secured to the shaft, a signal light secured between said supports to co-operate with the signal glasses, a rotatable drive shaft mounted in bearings in said support, a crank arm connected to said drive shaft, a wrist pin on said crank to enter the slot in said operating arm, an electric motor geared to said drive shaft to rotate it, a motor circuit, a switch in said motor circuit, means for locking said switch to its closed position, and means controlled by the movement of the drive shaft for unlocking said switch at times, substantially as shown and described.
44. In an apparatus of the class described, upright supports having bearing portions, a signal shaft mounted therein, a semaphore signal carrying arm secured to the shaft, a slotted operating arm secured to the shaft, a pair of supplemental glass carrying arms secured to the shaft, a signal light secured between the supports to co-operate with the signal glasses, a rotatable drive shaft mounted in bearings in said support, a crank arm connected to said drive shaft, a wrist pin on said crank arm to enter the slot in said operating arm, an electric motor geared to said drive shaft to rotate it, a motor circuit, a 6 witch in said motor circuit, means for locking said switch to its closed position, means controlled by the movement of the drive shaft for unlocking said switch at times, and return electric signal circuits inoluding circuit closing terminals and circuit closers carried by the drive shaft for closing said signal circuits at times, substantially as shown and described.
45. In an apparatus of the class described, an oscillating signal shaft, a rotating drive shaft, connections between said drive shaft and sald signal shaft whereby the rotary motion of the former is converted into oscillating motion in the latter, a ratatable electric motor, gear connections between said electric motor and said drive shaft whereby the motor breaks the drive shaft, an electric motor circuit, a switch in said electric motor circuit, means for normally holding said switch closed, means controlled by the drive shaft movement for releasing said switch to open the motor circuit at times, a main line setting circuit. electro-magnetically operating means in sald main line setting circuit for closing the motor circuit at times, substantially as shown and described.
46. In an apparatus of the class described, an oscillatiag signal shaft, a rotating drive shaft, connections between said drive shaft and said signal shaft whereby the rotary motion of the former is converted into oscillating motion in the latter, a rotatable elcetric motor, gear connections beween said electric motor and caid drive shaft whereby the motor rotates the drive shaft, an electric motor circuit. a switch in said electrlc motor circuit, means for normally holding said switch closed, means controlled by the drive shaft movement for releasing sald switch to open the motor circuit at times, a main line setting circuit. electro-magnetically operating means in said main line setting circuit for closing the motor circuit at times, and a pair of return signalling circuits, said return circuits including circuit closers controlled by the movement of the drive shaft for closing and opening said return signal circuits, all being arranged substantially as shown and described.
47. In an apparatus of the class described, an osclllatable semaphore signal carrying shaft. a rotatable drive shaft an electric motor for rotating said drive shaft, connections between the drive shaft and the signal shaft whereby the rotary motion of the former is converted into nscillating motion in the latter, said connections between the drive and signal shafts being so arranged that when the signal shaft is at the ex'reme movement of its danger and safety positions the signal shaft will be locked from independent movement, substantially as shown and described.
48. In an apparatus of the class described, an oscillatable semaphore signal carrying shaft, a rotatable drive shaft, an electric moior for rotating sald drive, connections between the drive shaft and the signal shaft whereby the rotary motion of the former is converted into oscillating motion in the latter, said connections between the drive and signal shafts being so arranged that when the signal shaft is at the extreme movement of its danger and safety positions, the signal shaft will be locked from independent movement, and a housing for enclosing the operating mechanism, said signal shaft projecting through said housing, substantially as shown and described.
49. In an apparatus of class described, a supporting frame, a signal shaft carried by the supporting frame which controls the signal, a rotatable operating shait, connections between the operating and signal shafts whereby the rotatable motion of the former is converted into oscillating motion in the latter, an elsctric motor for rotating the operating shaft, electrically controlled means for starting the motor into operation, means for automatically cutting out the motor from operation at times, means for sending in return signals from the semaphore to the towner operator, a station to indicate the position of the signals, and means whereoy the signalling snaft can be locked from independent movement when in its extreme danger or safety positions, substantially as shown and described.

\section*{No. 102,533. Potato Digger. Arrachc-patatcs.}

George E. Chute, Princeton, Minnesota, U.S.A., 11th December, 1906; 6 years. Filed 28th November, 1906. Receipt No. 141,607.
Claim.-1. An attachment for potato diggers, comprising a plank adapted to drag on the ground and having a crosspiece secured to the upper face thereof at the forward end of the plank, an evener bar hitched centrally between its ends to said crosspiece, a pair of hitching rods attached to said evener bar, one near each end, and hitching rings connected to the other ends of said hitching rods.
2. An attachment for potato diggers, comprising a sled like member in the form of a plank adapted to drag on the ground, a guard fender supported thereby adjacent the rear end of the plank, an evener bar pivoted centrally of its
length to the forward end of the glank, a pair of hitching rods having their one end pivotally attached to the evener

bar, and means carried by the other end of said rods for attaching them to a vehicle.

No. 102,534. Production of Voltaic Strong Currents.
Production de courants forts voleaïqucs.


Salpetersaure-Industric-Gesellschaft, G.M. b. H., assignce of
Harry Pauling, both of Gelsenkirchen. Westphalia,
Prussia, 11th December, 1906; 6 years. Filed 19th April, 1906. Receipt No. 135,061.

Claim.-Tho process for the production of voltaic strong current arcs between electrodes of great mutual distance, consisting in blowing the discharges of an auxiliary spark gap into the space between such electrodes, substantially as and for the purposes set forth.

No. 102,535. Production of Voltaic Strong Current Arcs.
Production de courants forts d arcs voltaiques.


Harry Pauling, 84 Wilhelmstrasse, Gelsenkirchen IV., West phalia, Germany, 11th December, 1906; 6 years. Filed stin November, 1906. Receipt No. 141,037.
Claim.-1. The herein described process, consisting in supplying currents of a gas to be acted upon by electrical discharges to pairs of blast pipes having opposing discharge openings, each pair of such blast pipes being separated by the plane of the electrodes designed for effecting the said discharges, substantially as and for the purpose set forth.
2. The herein described process, consisting in supplying currents of a gas to be acted upon by electrical discharges to pairs of blast pipes having opposing discharge openings, each pair of such blast pipes being separated by the plane of the electrodes designed for effecting the said discharges, and in subjecting the voltaic arcs originated to the influence of magnetical means adapted to co-operate with the currents of gas issuing from the blast pipes, substantially as and for the purpose specified.

No. 102,536. Rng Holder. Attacinc-carpette.


Edward H. Bailey, New York City, New York, U.S.A., 11th December, 1906; 6 years. Filed 14th September, 1906. Reccipt No. 139,511.
Claim.-1. A rug holder made up of a single piece of rubber moulded into shape and having a body portion and a shank extending from said body portion, and an edging of fabric moulded with said body portion and projecting therefrom for attachment to the rug.
2. A rug holder made up of a single plece of rubber moulded into shape and having a body portion provided with corners and a shank extending from said body portion, one of said corners being formed with a bulbous enlargement in line with said shank.

No. 102,537. Briqueting Machine.
Machine à briquetle.


Richard C. Hills, Denver, Colorado, U.S.A., 11th December, . 1906 ; 6 years. Filed 16th June, 1906. Receipt No. 136,968.
Claim.-1. In a briqueting machine, the combination of a nould box composed of a movable member and a stationary co-operating member, a reciprocating ram entering the movable member, and a yleldingly supported relief plunger entering the stationary member and co-operating with the ram, substantíally as described.
2. The combination of a mould box comprising a movable member and a co-operating stationary member, a ram, entering the movable member, a relief plunger entering the stationary member, and means for imparting reciprocating motion to the ram and the movable mould box member.
3. In a machine of the class described, the combination with a suitable casc, of a mould box provided with a movable mould member arranged to slide in the case, a plunger arranged to enter the mould from the front, and means for operating the plunger and the movable mould box member, the arrangement being such that the movement of the mould box member is uniformly more rapid than that of the plunger.
4. In a machine of the class described, the combination with a suitable frame having a casc, a mould having a member movable in the case, a plunger arranged to enter the mould from the front, a shaft provided with an eccentric with which the plunger is connected in operative relalion, a frame connected with the movable mould box member and provided with front and rear tappets, cams mounted on the eccentric shaft and arranged to engage the front and rar tappets respectively, for imparting a relatively rapid reciprocating movement to the movable mould member, and a relief plunger entering the mould from the rear, substantially as described.
․ In a multiple mould briquet machine, the combination with a suitable frame, of a mould case extending transverscly across the machine, of moulds provided with movable mould members slidable in said case, driving plungers entering the mould from the front, a shaft provided with eccentrics with which the driving plungers are connected in operative relation, frames provided with front and rear tappets, said frames being connected with the movable mould box members, and cams mounted on the eccentric shaft and adapted to respectively engage the front and rear tappets for imparting a reciprocating movement to the movable mould box members.
6. The combination with a suitable frame having a mould case extending transversely thereacross, moulds having members slidable in said case. said moulds being open at the front and rear, resistance plungers entering said moulds from the rear and having a limited movement as described, driving plungers entering said moulds from the front, a shaft having eccentrics with which the driving plungers are connected, frames connected with the movable mould box members and provided with front and rear tappets, and two sets of cams mounted on the eccentric shaft, one set acting on the front tappets to impart movement to the movable mould box member in one direction, and the other set acting on the rear tappets to impart movement in the opposite direction.
7. The combination with a suitable frame, and a mould case extending transversely across the same intermediate its extremities, of moulds mounted in the mould case, each mould having a member slidable in said case, the said moulds being open at the front and rear, driving plungers arranged to enter the moulds from the front, resistance plungers entering the moulds from the rear, a hydraulic resistance cylinder. and a piston therein suitably connected with all of the resistance plungers, for the purpose set forth.
8. The combination with a suitable frame and a mould case extending transversely across the same intermediate lis extremities, of moulds mounted in the mould case, each mould having a member slidable in said case, the said moulds being open at the front and rear, driving plungers arranged to enter the moulds from the front, a shaft having eccentric with which the driving plungers are connected, resistance plungers entering the moulds from the rear, relicf heads with which the resistance plungers are connected, a hydraulic resistance cylinder, a piston therein, and an operative conection between the cylinder piston and the relief heads, whereby the latter act on the piston successively, and means operated from the eccentric shaft for actuating the movable mould box members, substantifor actuating as described.
9. In a briqueting machine, the combination with a suitable frame and a mould case mounted thereon, of moulds open at both ends and provided with movable mould members, driving plungers entering said moulds in front, resistance plungers entering said moulds from the rear, a shaft journalled in the frame, rellef heads mounted on said shaft, cach relief head being connected with the shaft to actuate the latter independently and without moving the other heads, the resistance plungers being connected with the relief heads, a hydraulic resistance cylinder, a piston therein, a rack mounted on the piston stem, and a cogged segment fast on the relief shaft and engaging the rack of the piston stem.
10. The combination with a suitable frame and a stationary mould case, of moulds located in said case, each mould having a movable member, driving plungers entering the
moulds from the front, a driving shaft, connections between said shaft and the driving plungers and movable mould members, whereby the said plungers and mould members are reciprocated, the movement of the mould members being more rapid than the movement of the plungers, resistance plungers entering the moulds from the rear, relief heads connected with said plungers, a relief shaft upon which said heads are mounted, a hydraulic cylinder, a piston therein. and a suitable connection between the piston and the relief head shaft.
11. The combination with a stationary mould case, of moulds located therein, each mould having a movable member, driving plungers entering the moulds from the front. a driving shaft, connections between said shaft and the driving plungers and movable mould members, whereby the said plungers and mould members are reciprocated, the movement of the mould members being uniformly more rap'd than the movement of the plungers.
12. The combination with a mould case, of moulds supported by said case each mould having one movable member, driving plungers entering the moulds from the front, a driving shaft. connections between said shafts and the driving plungers and movable mould members whereby the said plungers and mould members are reciprocated, resistance plungers entering the moulds from the rear, relief heads respectively connected with said plungers. a rilief shaft upon which said heads are mounted, a hydraulic cylinder, a piston therein, and a suitable operative conncetion between the"niston and the relief shaft.
13. The combination with a frame and a mould case, of mould boxes located in said case. each box having a member slidable in the case. driving plungors entering the mould boxes from the front, means for reciprocating the driving plungers and movable mould box members, relief plungers entering the mould boxes from the rear, relicf heads respectively engaging the relief plungers and relicf shaft upon which said heads are mounted, a hydraulic cylinder, a piston thercin. and a suitable onerative connection between the relief shaft and said piston, substantially as described.
14. In a briquet machine the combination with suitable frame, of a mould mounted on the frame open at the front and rear and having a movable member, a driving plunger arranged to enter the mould at one extremity. a resistance plunger arranged to fnter the mould at the opposite extremity, a briquet extractor mounted on the movable mould member the latter being provided with an opening through which the extractor projects downwardly, whereby as the movable mould member moves forwardly, the extractor is brought into contact with the briquet to release and eject the samic, substantially as described.
15. The combination with a suitable frame of a mould mounted on the frame and open at the front and rear, said mould having a movable member. a driving plunger arranged to enter the mould at one extremity. a resistance plunger arranged to enter the mould at the opposite extremitv, an extractor devier mounted on the rear extremity of the movable mould member, the latter having an opening throngh which the extractor projects downwardly to engagement with the briquet to be extracted as the movable mould member moves forwardly. the extractor device being provided with a roller, and a stationary actuating device mounted on the frame and adapted to engage the roller of the extractor device where the latter is moved downwardly at the point where the briquet is to be discharged.
16. In a briquet machine the combination with a suitable frame. of a mould mounted on the frame and onen nt the front and rear. said mould having a movable monld member. a driving pluncer arranged to enter the mould at one extremity. a resistance nlunger arranged to enter the mould at the opposite extromity. a snring sunported extractor device mounted on the rear extremity of the movable mould member. a stationary bar mounted on the frame. an antifrictional roller mounted on the extractor deviec and adantcid to engage said har which is nrovided with an inclinent face. whereby as the movable mould member movers forwardly. the roller of the extractor device enoages said inclined face which foren the evtractor deviec downwardly to ejpet the briquet. substantiallv as describet.
17. In a brialiet machine the combination with \(\mathfrak{q}\) mould rase. of a mould having a member slidable in said case. a driving nluneer enterine the mould from the front a honner mounted on the mould case and communicating with the fred snace with which the mavable mond momber is nrovided when the latter is nemnerly adinsted. and a stirring devien mounted on the slidable molid member. and antering the honner. the said stirring devies moving
slifahin mould member far the nurnose set forth.
18. The rambination with a ctatinnary mould case a mould hov located in en:d rase and havine a movabin moיitit member. a drivinc nlunger onfaging eald monld hnvenm the front. a en-onerating resistance nlunger engacing the
mould box from
ing a feed space communicating with the chamber of the mould box, a vertically movable feed plunger mounted on the frame, and suitable means for actuating the same whereby as the feed space of said movable member reaches the proper position, the said plunger descends and causes the briquet material to enter the mould box chanber in front of the plunger.
19. The combination with a suitable frame and mould case, of a mould box located in said case and having a movable mould member, means for reciprocating sald member, the movable mould member having a feed space, a hopper mounted on the mould case and arranged to discharge into the feed space of the movable mould member when the latter is in the proper position, a horizontally reclprocating driving plunger entering the mould box from the front, a relief plunger entering the mould box from the rear, a vertically movable feed plunger adapted to enter the feed space of the vertically movable mould member when the latter is in the proper position. said feed plunger being provided with an anti-frictional roller, suitable guides for the peed plunger, a cam mounted on the frame. and means for actuating the cam whereby the feed plunger engages the roller and raises the plunger at predetermined intervals, substantially as described.
20. In a briquet machine the combination with a suitable frame, of a movable mould box member provided with a feed space, a hopper for supplying material to said space, means for reciprocating the movable mould box member. and a vertically adjustable gange plate suitably mounted on the frame and projerting into the feed space of the movable mould box member, for the purpose set forth.

No. 102,538. Motor. Moteur.


Gabriel P. B. Hoyt, New York City, New York, U.S.A., 11th
December, 1906; 6 years. Filed 14th August, 1906. Receipt No. 138,700.
Cluim.-1. An explosion engine comprising a pair of aligned cylinders closed at both ends and each having a compression and an explosion chamber and an auxiliary chamber for sucking in, mixing and compressing the charge, the chambers being connected with each other by a by-pass, the entrance port of which into the explosion chamber is controlled by the cylinder piston, and the said explosion chamber having an exhaust port also controlled by the cylinder piston and partly uncovercd previous to the uncovering of the entrance port of the by-pass, pistons reclprocating in the said cylinders and rigidly connected with tach other, and converting means intermediate the cylinders and connected with the connected pistons for converting the reciprocating motion thereof into rotary motion.
2. An explosion engine comprising a pair of aligned cylinders closed at both ends and each having a compression and an explosion chamber and an auxiliary chamber for sucking in, mixing and compressing the charge, the chambrrs being connected with each other by a by-pass, the entrance port of which into the explosion chamber is controlled by the cylinder piston, and the said explosion cham.
ber having an exhaust port also controlled by the cyllnder piston and partly uncovered previous to the uncovering of the entrance port of the by-pass, pistons reciprocating in the said cylinders, a piston rod common to both pistons and provided with a guideway at a right angle to the piston rod, and a crank shaft having its arm engaging the sald guideway.
3. An explosion engine comprising a pair of aligned cylinders closed at both ends and each having a compression and an explosion chamber and an auxiliary chamber for sucking in, mixing and compressing the charge, the chambers being connerted with each other by a by-pass, the entrance port of which into the explosion chamber is controlled by the cylinder piston, and the said explosion chamber having an exhaust port also controlled by the cylinder piston and partly uncovered previous tothe uncovering of the entrance port of the by-pass, pistons reciprocating in the said cylinders, a piston rod common to both pistons to rigidly connect the same with each other, a guideway on the said piston rod intermediate the said cylinders. a bearing slidable on the said guideway, and a crank shaft having its crank pin engaging the said bearing.
4. An explosion engine comprising a pair of aligned cylinders closed at both ends and each having a compression and an explosion chamber and an auxillary chamber for sucking in, mixing and compressing the charge, the chambers being connectod with each other by a by-pass, the entrance port of which into the explosion chamber is controlled by the cylinder piston, and the said explosion chamber having an exhaust nort also controlled by the cylinder piston and partly uncovered previous to the uncovering of the entrance port of the by-pass, pistons reciprocating in the said cylinders, a piston rod common to both pistons for rigidly connccting the pistons with each other, a guideway on the said piston rod at a right angle thereto and intermediate the said cylinders. crank shafts having their crank pins engaging the said guideway, and gear wheels secured on the said crank shafts and in mesh with each other.
5. A two cycle explosion engine having a cylinder, and a piston reciprocating therein, the said cylinder having a compression and explosion member at one end and a suction, mixing and compression chamber at the other end, the said compression and explosion chamber having an exhaust port near its inner end and the said chambers being connected with each other by a by-pass leading from the outer end of the suction, mixing and compression chamber into the compression and explosion chamber at a point partly in the rear of the said exhaust port for the piston to first partly uncover the exhaust port and then the by-pass.
6. A two cycle explosion engine having a cylinder and a piston recinrocating therein, the said cylinder having a compression and explosion chamber at one end and a suction, mixing and compression chamber at the other end, the said compression and explosion chamber having an exhaust port near its inner end and the said chambers being connected with each other by a by-pass leading from the outer end of the suction, mixing and compression chamber into the compression and explosion chamber at a point partly in the rear of the said exhaust port for the piston to first partly uncover the exbaust port and then the by-pass, and an inlet valve op?ning into the said by-pass and connected with a gas supply.
7. A two-eycle explosion engine having a cylinder and a piste \(n\) reciprocating therein, the said cylinder having a compression and explosion chamber at one end and a suction, mixing and compression chamber at the other end, the sald compression and explosion chamber having an exhaust port near its inner end and the said chambers being connected With each other by a by-pass leading from the outer end of the suction, mixing and compession chamber into the compression and explosion chamber at a point partly in the rear of the said exhaust port for the piston to first partly uncover the exhaust port and then the by-pass, and a screen over the portion of the by-pass connecting with the compression and explosion chamber to prevent back firing.
8. An explosion engine comprising a pair of aligned cylinders closed at both ends and each having a compression and an explosion chamber and an auxiliary for sucking in, mixing and compressing the charge, the chambers being connected with each other by a by-pass, the entrance port of which into the explosion chamber is controlled by the cylinder piston, and the said explosion chamber having an exhaust port also controlled by the cylinder piston and partly uncovered previous to the uncovering of the entrance port of the by-pass, pistons reciprocating in the said cylinders, a piston rod common to both pistons and provided with a guideway at a right angle to the piston rod, a crank shaft having its arm engaging the said guideway, and stuffing boxes for he piston rod arranged in the inner or opposite heads of the cylinders.
9. An explosion engine comprising multiple sets of cylinders arranged one alongside the other and each set having
two aligned cylinders spaced apart, pistons reciprocating in the said cylinders, a piston rod for the pistons of a pair of aligned cylinders to connect the said pistons rigidly with each other, a guideway on each piston rod and at a right angle thereto, crank shafts transverse to the said cylinders and piston rods and having diametrically disposed crank pins engaging the said guideways, and gear wheels secured on the said shafts and in mesh with each other.
10. An explosion engine comprising multiple sets of cylinders arranged one alongside the other and each set having two aligned cylinders spaced apart, each cylinder being closed at its ends and having a compression and explosion chamber and a suction, mixing and compression chamber, and each cylinder having an exhaust port in the compression and explosion chamber and a by-pass connecting the sad chambers of the cylinder with each other, the entrance end of the by-pass into the said compression and explosion chamber being opposite and partly in the rear of said exhaust port, pistons reciprocating in the said cylinders, a piston rof for the pistons of a pair of aligned cylinders to connect the said pistons with each other, a guideway on each piston rod and at a right angle thereto, crank shafts transverse to the sa'd cylinders and piston rods and having diametrically disposed crank arms engaging the said guideways, and grar wheels secured on the sald ghafts and in mesh with rach other.
11. An explosion engine comprizing multiple sets of cylinders arranged onf alongside tre other and each set having two aligned cylinders spac d apart, each cylinder being closed at its end and having a compression and explosion chamber and a suction, mixing and compression chamber, and each cylinder having an exhaust port in the compression and explosion chamber and a by-pass connecting the said chambers of the cylinder with each other. the entrance end of the by-pass into the said compression and explosion chamber being opposite and partly in the rear of the said exhaust port, pistons reciprocating in the said cylinders, a piston rod for the pistons, of a pair of alig.ed cylinders to connert the said pistons with each other. a guideway on cach piston rod and at a right angle thereto, crank shafts transverse to the said cylinders and piston rods and having diametrically disposed crank arms engaging the said guldeways, gear wheels secured on the said shafts and in mesh with each other, and a suction check valve for each cylinder.
12. An explosion engine comprising multiple sets of cylinders arranged one alongside the other and each set having two aligned cylinders spaced apart, pistons reciprocating in the said cylinders, a piston rod for the pistons of a pair of aligned cylinders to connect the said pistons with each other, a guideway on each piston rod and at a right angle thereto, crank shafts transverse to the said cylinders and pistons and having diametrically disposed crank pins engaging the sald guideways, gear wheels secured on the said shafts and in mesh with each other, a fly wheel on one crank shaft and a power transmission wheel on the other crank shaft.
13. An explosion engine comprising multiple sets of cylinders arranged one alongside the other and each set having two aligned cylinders spaced apart, pistons reciprocating in the said cylinders, a piston rod for the pistons of a pair of aligned cylinders to connect the said pistons with each other, a guideway on each piston rod and at a right angle thereto, crank shafts transverse to the said cylinders and pistons and having diametrically disposed crank arms engaging the said guideways, gear wheels secured on the said shafts and in mesh with each other, a fly wheel on one crank shaft, and a power transmission wheel on the other crank shaft, the fly wheel and transmission wheel being located on opposite sides of the engine.
14. An explosion engine comprising a pair of aligned cylinders closed at both ends and each having a compression and an explosion chamber and an auxiliary chamber for sucking in, mixing, and compresing the charge, the chambers being connected with each other by a by-pass, the entrance port of which into the explosion chamber is controlled by the cylinder piston, and the said explosion chamber having an exhaust port also controlled by the cylinder piston and partly uncovered previous to the uncovering of ihe entrance port of the by-pass, pistons reciprocating in the said cylinders and rigidly connected with each other, each piston having a baffle plate at its outer face and extending opposite the said entrance port at the time the piston is uncovering the said entrance port.

\section*{No. 102,539. Method of Extracting Metals. \\ Méthode d'extraire les métaux.}

Alexander Lenart, Mikovitca, Budapest, Hungary, 11th December, 1906; 6 years. Filed 7th June, 1906. Receipt No. 136,649.
Claim.-1. An apparatus for extracting metals from ores and other metalliferous substances, consisting of an upper
chamber to receive the ore to be treated, a lower chamber, a permeable false bottom between the upper and lower

chamber, electrodes of both poles arranged in sald lower chamber, diaphragms surrounding the cathodes, means for connecting the cathodes and anodes to the poles of a source of electrical energy, and means to feed into and to discharge the cathode electrolyte from the diaphragms.
2. An apparatus for extracting metals from ores and other metalliferous substances, consisting of an upper chamber to receive the ore to be treated, a lower chamber, a permeable false bottom between the upper and lower chamber, electrodes of both poles arranged in said lower chamber, diaphragms surrounding the cathodes, means for connecting the cathodes and anodes to the poles of a source of electrical energy, means to feed into and to discharge the cathode electrolyte from the diaphragms, and means to feed the anode electrolyte into the lower chamber.
3. An apparatus for extracting metals from ores and other metalliferous substances, consisting of an upper chamber serving for receiving the ore to be treated, a lower hamber, a permeable false bottom between the upper and lower chamber, electrodes of both poles arranged in said lower chamber, diaphragms surrounding the cathodes. means for connecting said cathodes and anodes to the poles of an electric current source, means to feed into and to disharge the cathode electrolyte from said diaphragms, means to feed the anode electrolyte into the lower chamber and means to discharge the anodic electrolyte from the upper rhamber.
4. An apparatus for extracting metals from ores and other metalliferous substances, consisting of an upper chamber serving for receiving the ore to be treated, a lower chamber, a substantially horizontal permeable false bottom between the upper and lower chamber, anodes of insoluble material in the lower chamber, distributed uniformly under the permeable bottom, free spaces between the anodes, Inlets for the anode electrolyte under the anodes, cathodes in the lower chamber, distributed uniformly over the anodes and arranged in proximity thereof, diaphragms surrounding the cathodes, there being apertures between sald diaphragms cathodes, there being apertures between said diaphragas uniformly distributed over the anodes, means to feed the cathode electrolyte ino the diaphragms, means to discharge it from said diaphragms, and means to withdraw the electrolyte from the top of the upper chamber.
5. An apparatus for extracting metals from ores and other metallifer us substances, consisting of an upper chamber serving for receiving the ore to be treated, a lower chamber, a substantially horizontal permeable false bottom between the upper and lower chamber, anodes of insoluble material in the lower chamber distributed uniformly under the permeable bottom, there being apertures on said anode plates allowing a free passage to the anode electrolyte, inlets for this latter uniformly distributed under the anode plates, a plurality of tubular diaphragms in the lower chamber arranged in proximity of the anodes and forming a grate covering the whole area corresponding to the permeable bottom, cathodes extending through said tubular diaphragms, an alkall collecting vessel, means for connecting one end of said tubular diaphragms with the alkall collectng vessel, a cathode electrolyte conduit, and means for ccnnecting the other end of the diaphragm tubes with the cathode electrolyte conduit.
6. An apparatus for extracting metals from ores and other metalliferous substances, consisting of an upper chamber serviug for receiving the ore to be treated, a lower chamber, a substantially horizontal permeable false bottom between the upper and lower chamber, anodes of insoluble material in the lower chamber distributed uniformly under the permeable bottom provided with apertures allowing the free passage to the anode electrolyte, Inlets for this latter uni-
formly distributed under the anode plates, a plurality of tubular diaphragms in the lower chamber arranged in proximity of the anodes and forming an inclined grate covering the whole area corresponding to the permeable bottom and rising from the fecd end toward the discharge end, cathodes extending through said diaphragms, an alkali collecting vessel, means for connecting one end of sald diaphragm tubes with the alkali collecting vessel, a cathode electrolyte conduit, and means for connecting the other end of the diaphragm tubes with the cathode electrolyte conduit.
7. An apparatus for extracting metals from ores and other metalliferous substances, consisting of an upper chamber serving for recciving the ore to be treated, a lower chamber, a substantially horizontal permeable lalse bottom between the upper and lower chamber, anodes of insoluble material in the lower chamber distributed uniformly under the permeable bottom provided with apertures allowing the free passage of the anode electrolyte, inlets for this latter uniformly distributed under the anode-plates, a plurality of tubular diaphragms in the lower chamber arranged in the proximity of the anodes and forming an inclined grate covering the whole area corresponding to the permeable bottom and rising from the feed end toward the discharge end, the tubular diaphragms being inserted on the one end separately and connected on the other end in groups by means of fecding tubes, cathodes extending through said diaphragms, an alkali collecting vessel, means for connecting one end of said diaphragm tube with the alkali collecting vessel, a cathode electrolyte conduit, and means for connecting the other end of the diaphragm tubes with the cathode elpctrolyte conduit.
8. In an apparatus of the kind described embodying diaphragm tubes, a head-piece for the diaphragm tubes provided with a lateral tubular projection, a bolt tightly fitted to said tubular projection, a contact piece secured to the inner end of said bolt and projecting from the mouth of the head-piece, means for sccuring the cathode to the projecting end of the contact picce, an alkali collecting vessel, means for connecting the one end of the head-piece with a diaphragm tube, and the other end with a connection leading to the alkall collecting vessel.

No. 102,540. Trolley Car Clincher. Trolley.


Ernest Otto Marsh, Seattie, Washington, U.S.A., 11th December, 1906; 6 years. Filed 5th November, 1906. Receipt No. 140,948 .
Claim.-1. A device for clinching the margins of a trolley wire ear upon the wire consisting of a clincher having a surface adapted to turn the edges of said margins inward, and means for moving said clincher against the said edges and margins.
2. A device for clinching the margins of a trolley wire ear upon the wire consisting of a clincher, means for moving it against the said margins, and clamps for supporting the ear and wire against the thrust of the ear.
3. A trolley wire ear clincher consisting of a clincher proper having a concaved face, means for moving the.concave face of the clincher against the edges of the ear, and clamps for engaging and holding the ear and wire against the thrust of the clincher.
4. A trolley wire ear clincher consisting of a movable clincher proper, levers for moving it against the edges of the trolley wire ear, and means for engaging the ear on opposite sides thereof and holding it against the thrust of the clincher.
5. A trolley ear clincher consisting of a casing, a movable clincher nrocer supported and guided in the casing to be moved against the edges of the trolley ears, clamps to engage and hold the ear and wire against the thrust of the clincher, and levers for moving the clincher.

No. 102,541. Method of Making Battery Plates.
Mŕthode pour la fabrirntion drs plaques pour piles électriques.


George J. Miller, Toledo, Ohio, U.S.A., 11th December, 1906
6 years. Filed 1st October, 1906. Receipt No. 139,931.
Claim.-1. The improvement in the methods of making battery plates provided with transverse ribs, which consists in scoring the plate across the ribs.
2. The improvement in the methods of making battery plates provided with transverse ribs, which consists in scoring the plate across the ribs in an upward direction. 3. The improvement in the methods of making battery plates provided with transverse ribs, which consists) in scoring the plate at short distances apart to deflect the ridges of said ribs.
4. The improvements in the methods of making battery plates which consists in forming the plate with transverse ribs, and then drawing a tool across the face of the plate in contact with the ribs.
5. The inprovement in the methods of making battery plates which consists in primarily forming the plate with ribs disposed in planes transverse to the body of the plate, and then drawing a tool over the face of the plate to deflect the ribs out of their original planes.

No. 102,542. Dye Tub. Cure pour teindre


Francis I. Stone, Atlanta, Georgia, U.S.A., 11th December. 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,684. Claim.-1. The within described dyer's vat consisting of an outer casing closed at the bottom and with a ring at the top having an inward inclined flange, a smaller casing within the outer casing open at both ends and provided with a support for the contents, detachable to permit the contents to pass bodily out of the bottom of the casing, means for supporting the inner casing with its bottom above that of the outer casing, and a perforated steam pipe arranged to discharge steam upward between the two casings, substantially as set forth.
2. The combination in the receiving vessel, of a dyeing apparatus, of a loose bottom within said vessel, and laterally detachable supports for said bottom, substantially as set forth.
3. The combination in the receiving vessel of a dyeing apparatus, of a loose bottom within said vessel, and detachable crositars supporting said bottom and extending through the vessel so as to be withdrawn therefrom to relase the bottom, substantially as set forth.

No. 102,543. Photo Holder. Porte photographique.


Jodie Wallick, Sumpter, Oregon, U.S.A., 11th December, 1906; 6 years. Filed 17th November, 1906. Receipt No. 141,289.
Claim.-1. In a holder for photos or the like, the combination of a frame composed of sides, a plurality of strips connecting said sides, and members arranged for movement longitudinally of said strips and co-operating to support photos thereon.
2. In a holder for photos or the like, the combination of a frame, a plurality of strips connecting sides of the frame, and adjustable toward and from each other, and members arranged for movement longitudinally of said strips and co-operating to suppart photos thereon.
3. In a holder for photos or the like, the combination of a supporting frame embodying a plurality of sides, double supporting strips connecting sides of said irame and adjustable toward and from each other, said supporting strips having end portions thercof looped about sides of the frame for connection therewith and admitting of adjustment of the double strips toward and from each other and buttons arranged for movement longitudinally of the double strips and co-operating therewith to support a photo thereon.
4. In a holder for photos or the like, the combination of a frame comprising sides, a top and bottom, the sides having openings through which end portions of the top and hattom parts pass, knobs fastened to the top and bottom bottom narts pass, knobs fecuring the same to the sides, parts at the ends and securing having loops at the ends double photo supporting wires having loops at the ends thereof receiving the top and bottom parts of the frame for connection of the double wires toward and from each other, and ment of the dable longitudinally of the double wires to cobuttons slidable in in holding photos thereon.
No. 102,544. Means of Protecting Railway Trains.
Moyens pour protéger les trains de chemins de fer.
Eduard Unvericht. Altona, Germany, 11th December, 1906;
6 years. Filed 11th April, 1906. Receipt No. 134,852.
Claim.-1. Means for automatically protecting railway trains, consisting of the combination of a plurality of electric eircuits, each of which contains two open portions at a distance from one another along the line, means adapted to be actuated by a passing train for closing one of said open
portions, means adapted to be actuated by an object endangering said passing train for closing the other of said open

portions, a pfurality of section stops arranged in conjunction with each circuit, and means adapted to be actuated by the current in each circuit when closed for setting said section stops whereby when the current flows said section slops are so set as to apply tne brakes on the train.
2. Mcans for automatically proteteting railway trains, consisting of a plurailty of electric circuits, each of which contains two open portions at a distance from one another of three sections, said plurality of circuits being so arranged that each of a plurality of them overlaps the next for twothirds of its length, means in conjunction with each circuit adapted to be actuated by a passing train for closing one of the open portions of said circuit, means adapted to be actuated by a train endangering said passing train for closing the other of said open portions, two section stops arranged in conjunction with each circuit, one stop being at a distance of one section from the one open portion of the circuit, and the other stop being one section from the other open portio: of th circuit, and means adapted to be actuated by the current in cach circuit when closed for setting said section stops, whereby when the current flows said section stops are so set as to apply the breaks on the trains.
3. Means for automatically protecting rallway trains, consisting of the combination of a plurality of electric circuits, cach of which contains at a distance from one another along the line two tubes of insu!ating material partially filled with mercury, cach of said tubes being normally in a perpendicular position, whereby the circuit has normally an open portion between the top of the mercury and the top end of cach lube. means adanted to be actuated by a passing train for turning one of said tubes into a substantially horizontal posilion, and thereby closing the circuit in said tube, means adapted to be actuated by an object endangering said passing train for turning the other tube into a substantially horizontal position and thereby completely closing the circuit, a plurality of section stops arranged in conjunction with each circuit, and means adapted to be actuated by the current in each circuit when closed for setting said section stops whereby when the current flows said section stops are so set as to apply the brakes on the train.
4. Means for automatically protccting railway trains, consisting of a plurality of electric circuits, each of which contains at a distance from one another along the line of threc sections two tubes of insulating material partially filled with mercury, each of said tubes being normally in a perpendicular position, whereby the circuit has normally an open por'ion between the top of the mercury and the top end of each tube, said plurality of circuits being so arranged that each of a murality of them overlaps the next for two-thirds of its length, means in conjunction with each circuit adadted to be actuated by a passing train for turning one of the mercury tubes into a substantially horlzontal position and thereby closing the circuit in said tube, means adarted to be actuated by a train endangering said passing train for turning the other tube into a substantially norizontal position and thereby completely closing the cir cuit, two section stops arranged in conjunction with each circuit, one stop being at a distance of one section from the one mercury tube, and the other stop being one section from the other mercury tube, and means adapted to be actuated by the current in each circuit when closed for setting said section stops, whereby when the current flows said section stops are so set as to apply the brakes on the trains
5. Means for automatically protecting railway trains, hav ing underneath breakable compressed air brake pipe caps, consisting of a plurality of electric circuits, each of whe contains at a distance from one another along the line of three sections two tubes of insulating material partiaily
filled with mercury, each of said tubes being normally in
a perpendicular position, whereby the circuit has normally an open portion between the stop of the mercury and the top end of each tube, said plurality of circuits being so arranged that each of a plurality of them overlaps the next for two-thirds of its length, means in conjunction with each circuit adapted to be actuated by a passing train for turning one of the mercury tubes into a substantially horizontal position and thereby closing the circuit in said tube, means adapted to be actuated by a train endangering said passing train for turning the other tube into a substantially horizontal position and thereby completely closing the circult, two section stops arranged in conjunction with each circuit, one stop being at a distance of one section from the one mercury tube, and the other stop being one section trom the other mercury tube, and means adapted to be actuated by the current in each circuit when closed for setting sald section stops, whereby when the current flows said section stops are so set as to engage and break the compressed ar-brake pipe caps when the train passes over said stops.
6. Means for automatically protecting railway trains having underneath breakable compressed air brake pipe caps, consisting of the combination of a plurality of electric circuits, each of which contains two open portions at a distance from one another along the line, menas adapted to be actuated by a passing train for closing one of said open portions, means adapted to be actuated by an object endangering said passing train for closing the other of said open portions, a plurality of section stops 16 , having notches 18 , arranged in conjunction with each circuit, pivoted levers engaging the stops, counterweights 21 on the levers, spring pressed bolts 17 normally engaging in the notches 18 , electro-magnets 20,81 , adapted to be actuated by the currents in the sircuits when closed for disengaging the bolts 17 , springpressed bolts 22 for engaging in the notches 18 after the courterweights have raised the stops into the position in which they engage and break the compressed air brake pipe caps, and keys 23 for disengaging said bolts 22.
7. Means for automatically protecting railway trains having underneath breakable compressed air brake pipe caps, consisting of the combination of a plurality of electric circuits, each of which contains two open portions at a distance from one another along the line, means adapted to be actuated by a passing train for closing one of said open portions, means adapted to be actuated by an object endangering said passing train for closing the other of said open portions, a plurality of section stops 16, having notches 18 , arranged in conjunction with each circuit, pivoted levers engaying the stops, counterweights 21 , on the levers, spring-pressed bolts 17 normally engaging in the notches 18 , and electro-magnets 20,81 adapted to be actuated by the currents in the circuits when closed for disengaging the bolts 17 , to permit the counterweights to raise the stops into the position in which they engage and break the compressed air brake pipe caps.
8. Means for automatically protecting railway trains consisting of a plurality of electric cirucits, each of which contains two open portions at a distance from one another or three sections, said plurality of circuits being so arranged that each of a plurality of them overlaps the next for twothirds of its length, means in conjunction with each circuit adapted to be actuated by a passing train for elosing one of the open portions of said circuit, means adapted to be actuated by a train endangering said pasizing train for closing the other of said open portions, two section stops 16 arranged in conjunction with each circuit, one stop being at circuit and the other stop being one section from the other open portion of the circuit, said stops 16 having notches 18 , pivot'd levers engaging the stops, counterweights 21 on the levers, spring-pressed bolts 17 normally engaging in the notches 18 , electro-magnets 20 , 81 , two for each stop 16 , one electro-magnet being in one circuit and the other in one of the other overlapping circuits, said electro-magnets being adapted when energized to disengage the bolts 17 , to permit the counterweights to raise the stops into the position in which they engage and break the compressed air brake pipe caps.
9. Means for automatically protecting railway trains consisting of the combination of a plurality of electric circuits, each of which contains at a distance from one another along the line two tubes of insulating material partially flled with mercury, each of said tubes being normally in a perpendicular position, whereby the circuit has normally an open partion between the top of the mercury and the top end of each tub?, means adapted to be antuated by a passing irain for turning one of said tubes into a substantially horizontal position, and thereby closing the circuit in said tube, means locking said tube in said horizontal position, an rlectro-magnet adapted when energized to unlock sald locking means, a normally open circuit containing said electromagnet, means at a distance from the above-mentioned means for turning said tube into a horizontal position adapted to be subsequently actuated by the passing train to close

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the latter circuit to release said tube, means adapted to be actuated by an object endangering said passing train for turning the oter tube into a substantially horizontal position and thereby completely closing the circuit, means locking said tube in said horizontal position, an electro-magnet adapted when energized to unlock said locking means, a normally open circuit containing said electro-magnet, means at a distance from the above-mentioned means for turning said tube into a horizontal position adapted to be subsequently actuated by the object endangering the passing train to close the latter circuit to release said tube, a plurality of section stops arranged in conjunction with each circuit, and means adapted to be actuated by the current in each circuit when closed for setting said section stops whereby when the current flows said section stops are so set as to apply the brakes on the train.
10. Means for locking railway switches, consisting of the combination of an electric circuit comprising an electromagnet 24 , means adapted to be actuated by a passing train for closing said circuit, the armature 25 , the pivoted lever 26 , the spring-pressed pawl 27 , the rachet wheel 28 , the cam disc 29 and the spring-pressed bolt 30 having locklng pins 33, substantially as described.

No. 102,545. Railway Control Apparatus. Appareil pour contrôler les trains.


John Barberie, Brooklyn, New York, U.S.A., 11th December, 1906; 6 years. Filed 9th August, 1906. Receipt No. 138,537.
Claim.-1. The combination with a car, provided with a motor for propelling it, a control circuit to control the supply of motive power to the motor, a safety apparatus carried by the car and having an operative and inoperative condition, and means for moving the safety apparatus from one of its conditions to the other and at the same time control the application of the control circuit.
2. In combination with a car, a safety apparatus for electric cars, adapted to prevent the operation of the car past a danger signal if left in its operative condition, and means for moving the safety apparatus from its operative to its inoperative condition without cutting off the motive power from the car.
3. In a safety apparatus, having a control circuit, means to actuate the safety apparatus and apply the brakes, means for placing the safety apparatus into an inoperative condition, without at the same time interrupting the control circuit.
4. In a safety apparatus, means to actuate the safety apparatus and apply the brakes, means for placing the safetyoapparatus in an inoperative condition and means for insuring a limited interval of time between the movement of the safety apparatus into its inoperative condition before the application of the brakes.
5. In a safety apparatus, means to actuate the safety apparatus and apply the brakes, means for placing the safety apparatus into an inoperative condition and means for applying the brakes if the safety apparatus is left in its inoperative condition.
6. In a safety apparatus, a control circuit adapted to be interrupted upon the application of the brakes, means for applying the brakes and interrupting the control circuit when the safety apparatus is in its operative position and additional means for applying the brakes and interrupting the control circuit when the safety apparatus is in its inoperative position. said means adapted to actuate the brakes ouly after an appreciable interval of time after the
safety apparatus has been brought into its inoperative position.
7. In a safety apparatus, a movable part, a track device, means for moving the movable part out of position for engagement with the fixed trip, and means to apply the brakes adapted to operate after an appreciable interval of time if the movable part is not replaced in its operative position.
8. In combination with a safety apparatus, a numbered or otherwise deslgnated destructible nember for the purpose set forth.
9. In combination with a car, a safety apparatus for controlling the car, said apparatus having two conditions, an operative one to stop the car and an inoperative one to permit the car to pass a danger signal, a source of electric supply, a motor carried by the car to propel the same, suitable means to control the supply of electricity to the motor that propels the car, and other means to place the safety apparatus into its operative and inoperative conditiins, both of said means operating together to control the safety apparatus and the supply of electricity to the motor.
10. In a safety apparatus, including a control circuit, the control circuit and safety apparatus being mounted upon a car, a portion of the safety apparatus being adapted to co-act with a co-operating part upon the track, means for moving a portion of the safety apparatus into and out of its operative position, a valve in the train line pipe, means for operating the valve and interrupting the control circuit, means for delaying the opening of the valve in the train pipe, and delaying the interruption of the control circuit, and means including a cylinder, piston and bypass.
11. In a safety apparatus, a closure device in communication with the air brakes, a piston, a hollow piston rod, a cylinder, means mounted on the cylinder for closing the opening in the hollow piston rod when the closure device is in its inoperative position, an emergency stop in the train pipe, means for operating said emergency stop, after an appreciable interval of time after the closure device has been brought into its inoperative position.
12. In a safety apparatus, a track device, a closure device in direct connection with a train line pipe and means for moving said closure device into and out of relation with the track device without cutting out the motive power.

No. 102,546. Block Signalling Mechanism.
Splistìme de sigualix.


Charles P. Bass, Detroit, Michigan, U.S.A, 11th December, 1906; 6 years.
137,072.
Claim.-1. A signal mechanism of the character stated, omprising a semaphore automatically actuated means comprising a sesition, and
for elevating said semaphore, said means including a rotatable member having step-by-step movement, a locking de vice for holding it to each of its intermittent positions and an electro-magnetic controlling device adapted when energized to first release the locking device and then impart movement to the rotatable member, and a circuit closer for cnergizing the electro-magnet of the electro-magnetic controlling devices and arranged to be actuated by the passing car. for the pupposes specificd.
2. A signal mechanism of the character stated, comprising a semaphore automatically actuated to its safety position, a means for elevating the signal and maintaining it at a danger position, said means comprising an electro-mechanlcally operated rotatable member, co-operatively joined with the signal and adapted under predetermined conditions to elevate the signal. independent sets of electro-magnets. independent scts of rotator-actuating devices controlled by each set of electro-magnets, said independently actuating devices being arranged to automatically engage the ratchet member and impart reverse rotary motion thereto, said rotatable member being adapted under a portion of its rotary motion to raise and support the semaphore and under the remainder of its rotary motion to become disengaged from said semaphore to permit the signal to automatically return to its safety position and a trolley actuated means for controlling the circuit closer devices in we magnetic circuits, for the purpose specifled.
3. A signal mechanism of the character stated, comprising a semaphore automatically movable to its safety position, means for elevating sald semaphore, said means including a rotatable member having step-by-step movement, a signal light and bell, means co-operating with the rotatable member for bringing said signal light and bell into electrical circuit with the trolley wire, for the purpose specified.
4. A signal mechanism of the character stated, comprising an electro-mechanical signal operating means, a locking disc having a series of like notches, a lock device adapted to automatically engage with said notches, a second disc joined with said locking disc, a pivoted semaphore controlled by said second disc and adapted under a partial rotary movement of said second disc to be swung to a danger position thereby and under another movement of said second disc to be automatically disengaged therefrom and gravitate to a safety position, a pair of independently operating electro-magnets, means connected with said elec-tro-magnets for releasing the lock devices and imparting a rotary step-by-step movement to the said locking and second disc, for the purposes specified.
5. A signal mechanism of the character stated, comprising an electro-mechanical signal operating means, a locking disc having a series of lock notches, a locking device adapted to automatically engage with said notches, a second disc joined with said locking disc, a pivoted member controlled by said second disc and adapted under a vertical rotary movement of said second disc to be swung to a danger position, thereby and under another movement of said second disc to be automatically disengaged therefrom, and gravitate to a safety position, a pair of independently operating electro-magnets, means connected with said elec-tro-magnets for releasing the locking devices and imparting a rotary step-by-step movement to the said locking and second disc and an independently operating means for returning said locking and second discs to their normal position, for the purposes specifled.
6. In an electrically controlled signal actuating system of the character stated, a gravity dropped signal blade. a rotator having a member for engaging the signal blade and swinging it to its elevated position and maintaining it under such position for a predetermined time, an electromechanical means for alternately actuating the rotator in reverse directions, said means including a pair of independent electric circuits, circuit closing devices for each circuit controlled by the passing trolley, lock devices for holding the rotator to its various positions and a trip for releasing the locking devices and actuated by said Independent electric circuits when operative, as set forth.
7. In a signal mechanism of the character stated, a gravity return signal member, a rotator, means for imparting intermittent motion to the rotator in one direction, means for imparting intermittent motion to the rotator in a reverse direction, said rotator including a member adapted to engage the signal to bring it to a danger position and hold it at said position for a predetermined time, said rotator actuating means including independent sets of elec-tro-magnets, ratchet-and-pawl devices controlled thereby for imparting motion to the rotator an automatically actuated lock for holding the rotator in its different positions and devices under control of the electro-magnets for releasing the said lock devices, at predetermined intervals. 8. A signal mechanism of the character described, comprising pivotally mounted automatically dropped semaphore
or signal member, and electro-mechanical means adapted When energlzed to move the sigual member to a danger position, an electric circuit, closing devices in said circuit under control of the nassing trolley. said electro-circuit meang joined with the electro-mechanical signal actuating means, for operating the said means in one direction to raise the signal, a second electric circuit including the trolley or feed wire and joined with the signal actuating means. a closer device in said second circuit under control of the passing trolley, sald second circuit being arranged when energized to return the signal actuating means to its normal position to permit the semaphore dropping to its safety position. for the purposes specified.
9. In a signal mechanism of the character described, the combination with a signal, a signal actuating means, said means including electro-magnets and devices controlled by magnets when energized to set the signal, an electric circuit joining the magnet with the feeder or trolley wire, of a circuit closing device, said closing device including a swinging contact maker, an arm projecting in the path of the trolley, a means for automatically pulling back said contact maker to break the circuit and a trip device for disengaging the contact maker from the actuating arm, immediately after the clrcuit is closed.
10. In a signal mechanism of the character described, a circuit closing mechanism comprising a casing adapted to be sustained by and over the trolley wire. electric terminals including contact members, a pivotally mounted contact maker automatically movable to its normal or cut-out nosition, a swinging arm hung in the casing and adapted to be engaged by the passing trolley. a latch for connecting said arm and the pivoted contact maker, a trip device for releasing the latch after the current is closed whereby to permit the pivoted contact maker to return to its normal position, as set forth.
11. A signal mechanism comprising a semaphore movable to its safety position, an electro-mechanically actuated means for elevating the semaphore and indicating the number of cars in the block, said means including a rotatable member, having a step-by-step movement, a locking device to hold said rotatable member to each of its step-by-step positions and electro-magnetic controlling devices to release the locking devices and impart movement to the rotatable member, and means for energizing said electromagnetic devices at predetermined times, for the purposes specified.
12. A signal mechanism of the character stated, comprising an electro-mechanical signal operating means, a rotatable member indicating the locking disc and a semaphore controlling disc, a lock device for engaging with said locking disc, a pivoted semaphore controlled by said semaphore controlling disc and adapted under a partial rotary movement of said disc to be swung to a danger position thereby and under another movement of said disc to be disengaged therefrom and gravitate to a safety position, and independently operating electro-magnets for releasing the locking devices and imparting rotary movement to said rotatable member, substantially as shown and described.
13. A signal mechanism of the character stated, comprising signal operating means, a rotatable member, a lock device adapted to engage therewith, a pivoted semaphore controlled by said rotatable member and adapted under a partial rotary movement thereof to be swung to a danger position and under another movement thereof to be disengaged therefrom and gravitate to a safety position, a pair of independently operated electro-magnets, means connected with said electro-magnets for releasing the locking devices and imparting rotary movement to the rotatable member, for the purposes specified.
14. A signal mechanism of the character stated, comprising an electro-mechanical signal operating means, a rotatable member, a lock device adapted to engage therewith, a pivoted semaphore controlled by said rotatable member and adapted under a partial rotary movement thereof to be swung to a danger position, and under another movement thereof to be disengaged therefrom and gravitate to a safety position, a pair of independently operated elec-tro-magnets, means connected with said electro-magnets for releasing the locking device and imparting rotary movement to the rotary member, and an independently operating means for returning said rotatable member to its normal position.

\section*{No. 102,547. Electric Signal Systems for Railways.} Systìme de signaux ćlectriques pour chemins de fer.
Fred. Lacroix, San Antonio, Texas. U.S.A., 11th December, 1906 : 6 years. Filled 7th August, 1906. Receipt No. 138,473.
Claim.-1. In electric signal systems for railways, a normally open circuit extending along the road and adaptetd to be closed by an obstruction on the track, resistance
indicating mechanism, a scond incomplete circuit including sald resistance indicaling mechanism, means for connecting

the two circuits to form a complete circuit, and a source of electricity included in the completed circuit.
2. In clectric signal systems for railways, a normally open circuit extending along the road and adapted to be closed by an obstruction on the track, a shunt wound dynamo having the circuit through its field colls normally incomplete, resistance indicating mechanism in the circuit of the armature coils of said dynamo, and means for connecting the circuit of the field coils with the circuit extending along the road to form a complete oircuit.
3. In elcctric signal systems for railways, conductors extending along the track and forming a normally incomplete circuit. means actuated by an obstruction on the track to form an electric connection between said conductors, a normally incomplete circuit on a carrier movable on the track, means for electrically connecting the incomplete circult on the carrier with the conductors, a source of electricity interposed in the incomplete circuit on the carrier, and resistance indicating mechanism and signals interposed in the circuit of the carrier.
4. In electric signal systems for rallways, conductors extending along the track and divided into blocks of different electric resistances and forming an incomplete circuit, means actuated by an obstruction on the track to form an electric connection between the conductors in the adjacent blocks, a shunt-wound dynamo on the carrier movable on the track, means for electrically connecting the circuit of the field coils of the dynamo with said conductors, and resistance indicating mechanism and signals included in the circuit of the armature colis of said dynamo.
5. In electric signal systems for railways, a track divided into insulated blocks with each rail of each block electrically continuous, a source of electricity in each block, a circuit in each block including the rails and source of electricity and adaptetd to be broken by an obstruction on the rails of the block conductors extending along the track, means in each block actuated by the interruption of the rail circuit of the block for electrically connecting said conductors opposite the block a normally incomplete circuit on a carrier movable on the track, a resistance indicating mechanism included in said circuit on the oarrier, meang for connecting the circuit on the carrier with said conductors to form a complete circuit when said conductors are electrically connected through the interruption of the rail circuit, and a source of electricity included in the completed circuit through the conductors and the circuit on the carrier.
6. In electric signal systems for rallways, a track divided Int? Insulated tlocks with each rail of each block electrically continuous, a source of electricity in each block, a circult in each block including the rails and source of electricity and adapted to be interrupted by an obstruction on the rails
of the block, conductors extending along the track, means in each block actuated by the interruption of the rail circuit of the block for electrically connecting said conductors opposite the block, a shunt-wound dynamo mounted on a carrier movable on the track, means for elctrically connecting the fleld coils of the dynamo with the conductors, and resistance indicating mechanism and signals included in the circuit of the armature coils of said dynamo.
No. 102,548. Signal System for Electric Railways. Système de signaur pour chemins de fer ì traction ílectrique.


Milton H. Landon, Kansas City, Missouri, U.S.A., 11th December. 1906; 6 years. Filed 23rd June, 1906. Receipt No. 137,224.
Claim.-1. An electric rallway signalling system embodying a normally closed main circuit including a source of electrical energy, a rheostat and a solenoid-magnet operatively connected with the engineer's brake valve, and a normally open local circuit including a telephone and a Morse sounder, the two circuis being opened or closed by the tolephone hook.
2. An electr cal railway signalling system embodying a normally closed main circuit including a source of electrical energy, a rheostat, visual and audible signalling mechanism, and a solenoid-magnet operatively connected with the engineer's brake valve, and a normally open local circuit including a telephone and a morse sounder, and means actuated by the telephone receiver either to open or to close the two circuits.
3. In an electrical railway signalling system, a normally closed main circuit including a source of electrical energy, a rheostat, and an electrically actuated element operatively connected with the engineer's brake valve, and a normally open circuit including a Morse sounder and a telephone, the opening and closing of the two circuits being controlled by the telephone hook.
4. In an electrical rallway signalling system, a normally closed main circuit including visual and audible signalling mechanism and a solenoid-magnet combined with the engineer's brake valve and a normally open local circuit including a telephoze.
No. 102,549. Train Signal. Signanx pour trains.
Clav. H. Martin, Jackson, Michigan, U.S.A., 11th December, 1906; 6 years. Filed 5th September, 1906. Receipt No. 139,287.
Claim.-1. A train signal comprising an alarm in the way car, a flexible member extending forward along the cars of the train and attached at its forward end to one of said cars of the train, and means actuated by sald flexible member for sounding the alarm in the rear car and displaying said signal upon the separation of the train.
2. A train signal comprising an electric circuit containing an alarm bell and a slidable circuit closer, a cord attaclfed to said circuit closer and extending along the train, its forward end being attached to one of the cars of the train. whereby upon a separation of the train the circuitis closed to sound the alarm, aind a spring for actuating the circuit claser to open the circuit when the strain upon said cord is releaged.
3. A train signal comprising an alarm circuit, a movable circuit closer in said circuit, a cord connected to said circuit closer at its rear end, a luminous signal upon one of the forward cars of the train, means for displaying said signal, sald signal displaying means being connected with the forward end of said cord.
4. A train signal comprising an electrical alarm in the way car, a luminous signal on one of the cars forward from

the way car, means for displaying said luminous signal, and means actuated by the severing of the train for simultancously accusting the signal displaying means, and closing the alarm circuit.
5. A train signal comprising an audible alarm in the way car, a combustible torch upon one of the forward cars of the train, movable means for igniting said torch, movable means for sounding the audible alarm and a cord connecting the torch igniting means and the alarm sounding means, whereby said signals are set upon the severing of the train.
6. A train signal comprising an audible alarm in the way car adapted to be actuated by a movable part, a combustible signal torch upon one of the forward cars of the train covered by a protected movable housing, a friction surface in said housing adapted to ignite said torch as it. is drawn thereover, a cord connecting said movable hous ing with the movable part of the audible alarm and span ning the intervening cars of the train.

No. 102,550. Train Signal. Signaux pour trains.


William B. Severance, Manchester, New Hampshire, U.S.A., 11th December, 1906; 6 years. Fyled 19th September. 1906. Receipt No. 139,629.

Claim.-1. In a signal system of the character described, the combination with an electrically operated signalling device, normally open electric circuits, an electrically controlled time mechanism included in certain of said oircuits. and means whereby said circuits are successively closed through the wheels of a train passing across the same, sabstantially as described.
2. In a signal system of the character described, the combination with an electrically operated signalling device, normally open electric circuits, one rail of the said section being connected with each end of the circuit in which the same is arranged. said sections of rails being insulated apart whereby a train passes over said track said circuits will be successively closed through the wheels of the train, an electrically controlled time mechanism in certain of said circuits, and means whereby said circuits are successively closed through the wheels of a train passing across the same, substantially as described.
3. In a signal system of the character described, the combination with an electrically operated signalling device, normally open electric circuits, a short section of track rail arranged in each of said circuits, one rail of said section being connected with each end of the circuit in which the same is arranged, said sections of rails being insulated apart, whereby when a train passes over said circuits will be successively closed through the wheels of the train, a normally open signal controlling circuit, a time mechanism, and contact points arranged in said circuit in the path of movement of the hand of said time mechanism, whereby said circuits will be closed by said hand at the expiration of the time limit thus operating said signal, substantially as described.

\section*{No. 102,551. Internal Combustion Engine.}

Engin à cambustion interne.


Elmer Stellman Smith. Bound Brook, New Jersey, U.S.A., 11th Decomber, 1906; 6 years. Filed 19th November, 1906. Receipt No. 141,312.
(laim.-1. In an internal combustion engine, a series of cylinders connected in pairs by passages at their compression ends, and means for admitting air to one cylinder of a connected pair and the combustion motive fluid to the other thercof, substantially as and for the purposes set forth.
2. In an internal combustion engine, a series of cylinders connected in pairs by passages at their compression ends, and means for admitting air to one cylinder of a connected pair and the motive fluid to the other thereof, and for cutting off the air and admitting the combustion motive fluid to both cylinders, as occasion may require, substantially as set forth.
3. In an internal combustion engine, a series of cylinders connected in pairs by passages at their compression ends, inlet ports to all of said cylinders, a pipe communicating with all said ports, a valve casing in said pipe intermediate the cylinders of said pairs, a hollow valve in said casing having a port adapted to be placed in communication with said pipe at one side of said casing or to be closed by sald casing, means for setting said valve, and air and motive fluid connections leading respectively into said valve and said valve casing, substantially as and for the purposes set forth.
4. In an internal combustion engine, a series of cylinders connected in pairs by passages at their compression ends, pistons in said cylinders, a crank shaft, and rod connecting said pistons with the cranks of said shaft, said cranks being so disposed that the pistons of the respective pairs of cylinders move in unison and in the same direction, combined with means for admitting air to one cylinder of a connected pair and the combustion motive fluid to the other thereof, substantially as set forth.
5. In an internal combustion engine, a series of cylinders connected in pairs by passages at their compression ends, pistons in said cylinders, a crank shaft, and rods connecting said pistons with the cranks of said shaft, said cranks being
so disposed that the plstons of the respective pairs of cylinders move in unison and in the same direction, combined with means for admitting air to one cylinder of a connected pair and the combustion motive fluid to the other thereof, and for cutting off the air and admitting the combustion motive fluid to both cylinders as occasion may require, substantially as set forth.
6. In an internal combustion engine, a pair of cylinders connected by a passage at their compression ends, and means for admitting air to one of said cylinders and the combustion motive fluid to the other thereof, substantially as and for the purposes set forth.
7. In an internal combustion engine, a pair of cylinders connected by a passage at their compression ends, and means for admitting air to one of said cylinders and the combustion motive fluid to the other thereof and for cutting off the air and admitting the combustion motive fluid to both cylinders as occasion may require, substantially as set forth.
8. In an internal combustion engine, a paid of cylinders connected by a passage at their compression ends, inlet ports to sald cylinders, a pipe communicating with all said ports, a valve casing in said pipe intermediate said cylinders, a hollow valve in said casing having a port adapted to be placed in communication with said pipe at one side of said casing or to be closed by said casing, means for setting said valve, and air and motive fiuid connections leading respectively into said valve and said valve casing, substantially as and for the purposes set forth.

\section*{No. 102,552. Internal Combustion Engine.}

Engin à combustion interne.


Frederick Lamplough, London, England, 11th December, 1906;
6 years. Filed 11th September, 1906. Receipt No. 139,424.
Claim.-1. In an internal combustion engine of that type in which the cylinder has two different bores, and in which two pistons fitting such bores are employed, the smaller piston being prolonged in the form of a tube to its connection with the larger piston and in which the connecting rod is pin jointed at one end in the interior of the compound piston and passes out through the open end of the cylinder and is connected to the crank, the combination therewith of means whereby, whist pressure is exerted on the smaller piston on the firing stroke, a vacuum is caused to act on the larger piston on the return stroke and the exhaust from the firing cylinder is caused to pass into a partial vacuum thereby rendering the engine practically silent.
2. In an internal combustion engine of that type in which the cylinder has two different bores, and in wheh two pistons fitting such bores are employed, the combination therewith of a silencer connected to the exhaust port of the firing cylinder, a condenser connected with the silencer, a water chamber within the condenser, a connection from the upper part of the water chamber to the water jacket of the firing cylinder, means for circulating water through the water chamber and water jacket, a connection from the lower part of the condenser to the inlet valve of the larger cylinder, a valvo between the exhaust port of the firing cylinder and the inlet valve of the larger cylinder to regulate the amount of depression in this ejrcuit, and an outlet or discharge valve communicating with the larger cylinder.
3. In an internal combustion engine of that type in which the cylinder has two different bores, and in which two pistons fitting such bores are employed, the combination therewith a silencer connected to the exhaust port of the firing cylinder, a condenser connected with the silencer, a water chamber within the condenser, a connection from the upper part of the water chamber to the water jacket of the firing cylinder, means for circulating water through the water chamber and water jacket, a connection from the
lower part of the condenser to the inlet valve of the larger cylinder, a valve between the exhaust port of the firing cylinder and the inlet valve of the larger cylinder to regulate the amount of depression in this circuit, an outlet or late the amount of depression in this circuit, an outlet or
discharge valve communicating with the larger cylinder, means for pumping petrol to the petrol nozzle and for regulating the stroke of the pump such means consisting of a pump the suction chamber of which communicates with the petrol tank, a non-return valve in said suction chamber, a pump plunger pressed downwards by a spring and forced upwards by a quadrant, an \(L\)-shaped lever connected by its shorter arm to one end of the quadrant and by its longer arm to tho engine connecting rod, to move the quadrant to and fro under the petrol pump plunger, a lever mounted on a shaft and having a skew toothed segment formed thereon, a link connecting sald lever with one end of the quadrant and a sliding rod having skew teeth thereon gearing with the toothed segment.

No. 102,553. Evaporating Apparatus.
Appareil à étaporer.


The Milwaukee Evaporator Company, assignee of Joseph Atrahim, beth of Milwaukee, Wisconsin, U.S.A., 11th December, 1906; 6 years. Filed 23rd June, 1906. Receipt No. 137,211.
Claint.-1. In cvaporating apparatus, the combination of a closed vessel having a heating chamber between evaporating and settling chambers, tubes passing througi the heating chamber and onening at the ends into the evaporating and settling chambers, inlet and outlet connections with opposite sides of the heating chamber for the heating medium, and baffle plates extending transversely across said heating chamber betwen its inlet and outlet connections and between the rows of tubes therein and terminating alternately short of the partitions at opposite ends of said tubes, thereby forming a zlgzag passage for the heating medium back and forth lengthwise of the tubes, substantially as described.
2. In evaporating apparatus, the combination of a closed vessel divided by horizontal tube plates into evaporating, heating and settling chambers, inlet and outlet connections with opposite sides of said heating chamber for the heating medium, tubes passing vertically through said heating chamber and opening at the ends into the evaporating and settling chambers, baffle plates extending across the heating chamber between its inlet and outlet connections and betwen successive rows of tubes and terminating alternately short of the upper and lower tube plates, and a deflector projecting into the evaporating chamber over the upper ends of the tubes nearest the inlet connection, substantially as described.
3. In evaporating apparatus, the combination of a closed vessel having evaporating, heating and settling chambers, vessel having evaporating, heating and setting chambers,
connections with opposite sides of the heating chamber for
admission and discharge of the heating medium, tubes passing through said heating chamber and opening at the ends into the evaporating and settling chambers, baffle plates cxtending across the heating chamber between its inlet and outlet connections and between successive rows of tubes and terminating alternately short of the top and bottom walls of said chamber, and an exhaust connection leading out of said evaporating chamber. substantially as described. 4. In evaporating apparatus, the combination of a closed vessel divided by horizontal tube plates into evaporating, heating and settling chambers, tubes passing vertically through the heating chamber and opening at their upper ends into the evaporating chamber and at their lower ends into the settling chamber, an exhaust connection leading out of the upper part of the evaporating chamber, inlet and outlet connections for the heating medium on opposite sides of the heating chamber, valve controlled liquid supply and discharge connections leading into and out of said vessel, and vertical baffie plates extending acrose the heating chamber between its inlet and outlet connections and between successive rows of tubes and terminating alternately short of the upper and lower tube plates, thereby forming a zigzag passage for the heating medium up and down along said tubes, substantially as described.
5. In evaporating apparatus, the combination of a number of closed vessels each divided by horizontal tube plates into evaporating, heating and settling chambers, tubes passing vertically through the heating chambers and opening at their upper ends into the evaporating chambers and at their lower ends into the settling chambers, an exhaust connection leading out of the upper part of the last evaporating chamber, a connection leading from the upper part of the evaponating chamber of each preceding vessel into the heating chamber of the next succeeding versel, a connection with the heating chamber of the first vessel for supplying a heating medium thereto, valve controlled outlet connectrons with the heating chambers opposite their heat supply connections, a valve controlled connection leading from the settling chamber of each preceding vessel into the evaporating chamber of the next vessel, and vertical baffie plates extending across the heating chambers between their heat supply and outlet connections and between successive rows of tubes and terminating alternately at their upper and lower edges short of said tube plates, substantially as described.
6. In evaporating apparatus, the combination of a number of closed vessels each divided horizontally by plates into evaporating, heating and settling chambers, tubes passing vertically through the heating chambers and opening at their upper ends into the evaporating chambers and at their lower ends into the settling chambers, an exhaust connection comprising a condenser leading out of the upper part of the last evaporating chamber, a connection leading from the upper part of the evaporating chamber of each preceding vessel into the heating chamber of the next succeeding vessel, a valve controlled heat supply connection with the first heating chamber, valve controlled outlet connections for the several heating chambers, a valve controlled connection leading from the settling chamber of each preerding vessel into the evaporating chamber of the next succeeding vessel, valve controlled liquid supply and discharge conncctions with the settling chambers of the first and last vessels respectively, and a trap provided with a strainer and having a valve controlled connection above the strainer with the settling chamber and a valve controlled connection below the strainer with the evaporating chamber of the last vessel, substantially as described.

\section*{No. 102,554. Railway Signal.}

\section*{Sianal de chemins de fer.}

John Benjamin Lineback and Robert S. Morris, assignee of a half interest, both of Siloam Springs, Arkansas, U.S. A., 111h December 1906; 6 years. Filed 30th April, 1906. Receipt No. 135.410.
Claim.-1. An electric railway signal system, comprising in combination with a rallway track and stations located at intervals therealong, electric circuits extending from each of said stations in opposite directions toward the next adjacent stations and arranged upon opposite sides of sald track, electrically aciuated signalling devices in said circuits arranged at intervals along said track and at the next adjacent stations, electric generators at said stations for supplying electric current to said circuits, and manually operated switches at said stations for opening and closing sald circuits, each independently of the other.
2. An clectric railway signal system, comprising in combination with a rallway track and stations located at intervals therealong, double electric circuits extending from each of said stations in opposite directions toward the next adjacent stations and arranged upon opposite sides of said
rack, distinguishing electrically actuated signalling devices in the said respective circuits, arranged at intervals along

the track and at the next adjacent stations, electric generators at sald stations for supplying electric current to said circuits, and manually operated switches at said stations for opening and closing said circuits, each independently of the others.

No. 102,555. Apparatus for Extracting Sap. Appareil pour cxtraire la sève.


James White Wade, Mobilc, Alabama, assignee of Vincen P. McVoy, Pensacola, Florida, U.S.A., 11th December, 1906; 6 years. Filed 1st October, 1906. Receipt No. 139,916.
claim.-1. The extraction of sap from a tree under a vacuum created at one or more collective points, within spaces formed in the tree and from which the sap is free to flow, such spaces being of greater area than flow outlets for the sap.
2. The extraction of sap from a tree by forming a bore therein, sealing the outer end of such bore, and creating a vacuum therein, the sap being designed to flow from the lower portion of the sap bore.
3. A sap collector comprising a spout adapted for attachment to a tree, a receptacle at the outer end of such spout, and means through which air may be exhausted from the collector to form a vacuum therein.
4. A sap collector comprising a spout adapted for attachment to a tree, a receptacle detachably connected to the spout, and an outlet whereby air may be withdrawn from the collector to form a vacuum therein to facilitate the collection of sap.
5. A sap collector comprising a spout adapted for connection a one end with a tree, a cup, and means for forming an air tight connection between the cup and the spout.
6. A sap collector comprising a spout designed to be hermetically secured over a bore in a tree, and a cup detachably secured to the spout, such spout and cup being closed to the exterior atmosphere.
7. A sap collector comprising a spout adapted for connection at one end with a tree and having lugs at its outer end, and a cup also provided with lugs for interlocking with the lugs of the spout.
8 . A sap collector comprising a spout adapted for attachment to a tree, a receptacle at the outer end of such spout, and means through which air may be exhausted from the collector to form a vacuum therein.
9. A sap collector comprising a receptacle closed at all points except at its point of connection with the tree, and having a valve through which air may be exhausted to form a vacuum therein.
10. A sap collector comprising a spout, a cup, means for detachably connecting the cup to the spout, thus forming a collector closed to the exterior atmosphere and communirating solely with the bore in the tree to effect the extraction of the sap by a vacuum action, and means for heretically sealing the jolnt between the spout and cup.

No. 102,556. Machine for Making Chain Links.
Marhine portr faire les maillos de chaines.


Tho Hercules Chain Company, assignee of Isaac D. Weaver, both of Lebanon, Pennsyivania, U.S.A., 11th December, 1906; 6 years. Filed 14 th November, 1906. Receipt No. 141,198.
Claim.-1. In a device for welding chain, a fixed die having a welding groove, a movable die having a like groove and clamping blocks for engaging opposite sides of a link blank, one of which blocks is vertically movable.
2. In a device for welding chain, a fixed die having a welding groove, a movable die having a like groove, and a pair of laterally movable arms provided with clamping blocks, ono of which blocks is yieldingly attached to the arm.
3. In a device for welding chain, a fixed die having a welding groove, a movable die having a like groove, and a pair of laterally movable arms provided with clamping blocks to engage opposite sides of a link blank, one of which blocks is vertically movable on its arm, and means for automatically restoring said block to its normal position.
4. In a device for welding chain, a fixed die having a welding groove, a movable die having a like groove, a pair of laterally movable arms on opposite sides of the grooves in the dies and provided with clamping blocks, shafts supporting said arms,a sector-shaped gear on each of said shafts, and a rack for operating said gear.
b. In a device for welding chain, a fixed die having a welding groove to supoprt a link blank in horizontal position, a movable die having a like groove, a pair of laterally movable arms of different lengths on opposite sides of the grooves in the die and provided with clamping blocks, the block on the long arm being movable, a motor, and intermediate connections for operating said arms and clamping blocks.

\section*{No. 102,557. Signal for Railways.}

Signal de chemins de fer.
The Western Syndicate, Limited, London, asignee of C. M. Jacobs, Reading, R. J. Insell, Reading, F. Newton, Cardiff, and E. A. B. Bowen, Hanwell, all in England, 11th December, 1906; 6 years. Filed 10th April, 1906. Receipt No. 134,796.
Claim.-1. A signalling device for railways comprising means constituting a normally closed circuit, means constituting a normally open circuit, a single electrical device contained in both circuits, a danger signal controlled by said electrical device, a safety signal contained in the said normally open circuit, mechanical means for opening said closed circuit to give the danger signal when the train passes a signal point, and means for closing said normally open circuit to restrain the danger signal and at the same time give the safety signal.
2. Apparatus for signalling between fixed points on a railway line and a train passing along the line, comprising two signals on the train, restraining means for preventing normally one of the said signals being given, means at each fixed point for invariably removing the said restraining means, means at each fixed point for operating the other of the said signals when desired, and means whereby the first of the said signals is suppressed when the second of the said signals is operated.
3. Apparatus for signalling between fixed points on a railway line and a train passing along the line, comprising a signal on the train, electrically operated restraining means for preventing normally this signal being given, means at
cach fixed point for invariably rendering inoperative the said restraining means, and a device at cach fixed point for sup-

plying electric current to the said electrically operated means when desired.
4. Apparatus for signalling between fixed points on a railway line and a train passing along the line, comprising two signals on the train, a ramp at each fixed point, a lever carried by the train in such a position that it is operated by the said ramp. means connected with the said lever for operating one of the said signals, and means for completing an electric circuit through the said ramp, lever and second signal to operate the latter.
5. Apparatus for signalling from fixed points on a railway ine to a train passing along the line, comprising two signals on the train, an electro-magnetic device controlling one of the said signals, a source of electric current on the train, a switch on the train, a normally closed electric circuit on the train including the said electro-magnetic device, source of current and switch, a device at each point for moving the said switch to control the said circuit and a device at each fixed point to operate the other of the said signals when desired.
C. Apparatus for signalling from fixed points on a railway line to a train passing along the line, comprising two signals on the train, an electro-magnetic device controlling one of the said signals, a source of elcetric current on the train, a switch on the train, an electric circuit on the train including the said electro-magnetic device. source of current and switch, a lever on the train connected with the said switch, a ramp at each fixed point to operate the said lever, an insulated conductor on the said ramp, a source of electric current on the line, an electro-magnetic device on the train controlling the other of the said signals, a device for conveying electric current from the said insulated conductor to the said electro-magnetic device and means for connecting the said source of electric current on the line with the said insulated conductor when required.
7. Apparatus for signalling from fixed points on a railwas line to a train passing along the line, comprising two signals on the train, an electro-magnet controlling. one of the signals, two windings on the said electro-magnet, a source of electric current on the train, a switch on the train, an electric circuit on the train including one of the windings of the said electro-magnet, the said source of current and the said switch, an electrically insulated lever on the said train connected with the said switch, a ramp at each fixed point to operate the said lever, an insulated conductor on the said ramp wherewith the said lever makes contact when operated by the said ramp, a source of electric current on the line, an electro-magnetic device controlling the other of the said signals, an electric circuit including the said source of current, the said insulated conductor, the said insulated lever, the second winding of the said electro-magnet and the said electro-magnetic device, and means on the line for closing the last-named eleetric circuit when desired.
8. Apparatus for signalling from fixed points on a eailway line to a train passing along the line. comprising two signals on the train. an electro-magnetic device controlling one of the said signals, a source of electric current on the train, a switch on the train, an electric current on the train, including the said electro-magnetic device, source of current and switch, a steam boiler on the train, a device operated by the steam boiler when the pressure therein is above a predetermined value to close the said electric circuit, a device at each fixed point for moving the said switch to control the said circuit and a device at each fixed point to operate the other of the said signals when desired.
9. A signalling device for railways of he character referred to, comprising a normally closed circuit, a normally open circuit distinct from the said normally closed circuit. a lever carried by the train and adapted when actuated to open the normally closed circuit, and a fixed ramp for operating the lever, said lever and said fixed ramp constituting a part of the normally open circuit.

\section*{No. 102,558. Explosive. Explosif.}

William Herbert Evans and Robert Westover Withycomb, both of Montreal, Quebec, Canada, assignees of Frank Park Harris, New York City, New York, U.S.A., 11th December, 1906; 6 years. Filed 1st September, 1906. Receipt No. 139,145.
Claim.-1. An explosive combound made from tri-nitrololuol together with tri-nitro-phenol and nitrate of soda, as specified.
2. An explosive compound made from tri-nitro-toluol together with tri-nitro-phenol and nitrate of ammonium, as specifled.
3. An explosive compound comprising tri-nitro-toluol mixed with tri-nitrate-phenol and nitrate of soda and parafline, together with a sensitizing ingredient mixed with the aforesaid ingredients and subsequently granulated and powdered, as specified.
4. An explosive compound comprising tri-nitro-toluol mixed with tri-nitro-phenol, nitrate of soda and nitrate of ammonia, and paraffine together with tri-nitro-toluol and pioric acid mixed with the aforesaid ingredients, subsequently granulated and powdered, as specified.
5. An explosive compound comprising tri-nitro-toluol and tri-nitro-phenol and nitrate of ammonia and a parafine, trinitrotoluol, picric acid joined to the aforesaid ingredients and subsequently reduced to a powdered state, as specified.
6. An explosive compound made from tri-nitro-toluol together with tri-nitro-phenol and nitrate of soda and nitrate of ammonia, as specified.

No. 102,559. Pulverizing or Grinding Mill. pulvérisateur ou moulin à moudre.


James Wheeler Fuller, Jr., Catasaugua, Pennsylvania U.S.A., 11th December, 1906; 18 years. Filed 21st March 1906. Receipt No. 134,108 .

Claim.-1. In a pulverizing or grinding mill, a base having an annular depression, a flange carried by said base and partially covering the depression by extending over the same, and a shaft passing through sald base and having a driving wherel terminating with its toothed portion in the depression of said base and below the flange thereof, the depression of said base arranged to recelve a lubricating fluid, and said flange arranged when the wheel is rotated to confine the raised fluid to the depression and conduct \({ }^{3}\) certain portion thereof over the toothed portion of the wheel to thoroughly lubricate the same.
2. In a pulverizing or grinding mill, a base having an annular depression at the upper portion thereof and at the lower portion having projections, a yoke removably connecting the projections with each other, a flange carried by the base and partially covering the depression by extending over the same, a shaft passing through the base and terminating between the projections thereof and above the yoke, a driving wheel secured to said shaft and terminating with the toothed portion in the depression of said base and below said flange, the depression of said base arranged to receive a lubricating fluid, and sald flange arranged when said wheel is rotated, to conduct a certain portion of the fluid over the toothed portion of said wheel, and a bearing carried by sald yoke and adapted to receive the lower end of said shaft.
3. In a pulverizing or grinding mill, a base having an annular substantially \(V\)-shaped depression at the upper portion thereof and rib-like projections at the lower portion, a yoke removably cunnecting the projections with each other, a flange consisting of overlapping sections carried by said base and partially covering the depression thereof, by extending over the same, a shaft passing through said base and terminating between the projections and above said yoke, a driving wheel secured to said shaft and terminating with the toothed portion in the depression of said base and below said flange, the depression of said base arranged to receive a lubricating fluid, and said flange arranged when sald wheel is rotated to conduct a certain portion of the fluid over the toothed portion of said wheel, and bearings carried respectively, by the projections of said base and sald yoke adapted to independently surround said shaft and receive the lower end thereof.

No. 102,560. Mnititubular Boiler.
Chaudiere a tubes.


Charles Bourdon, Paris, France, 11th December, 1906; 6 years. Filed 3rd October, 1905. Receipt No. 128,923.
Claim.-1. In a fire tube boiler composed of easily removable elements, a plurality of elements formed each of a corrugated boller plate folded upon itself to form vertical walls with the internally projecting corrugations of each face in contact with the corresponding projecting corrugations of the other face so as to form a vertical series of superimposed and parallel flbre tubes 7, connecting pieces securing the said folded elements, and end plates into which the said elements are countersunk forming water tight and steam joints th \(\in\) rewith, substantially as described.
2. In a fire tube boller composed of easily removable elements, a plurality of elements formed each of a corrugated boller plate folded upon itself to form vertical walls, so that the inwardly projecting corrugations of the vertical sides of each element are opposite and adjacent to each other,
spacing sleeves and rivets forming a connection between the opposite internal projections, and end plates into which the said elements are countersunk to form water tight and steam tight joints therewith, the spaces 7 between each element forming a vertical series of superimposed and parallel fire tubes, substantially as described.

No. 102,561. Handle for Safoty Razor Blades. Poignée pour les lames de rasoirs de sßrete.


Rider Prenell Cafferty, Jr., Leonia, New Jersey, U.S.A., 11th December, 1906; 6 years. Filed 23rd November, 1906. Recolpt No. 141,459.
-laim.-A handle for razor blades, said handle being tubular in forin and larger at one end than at the other and composed of two parts which are concavo-convex in cross section, said parts being connected at one end and flattened at the other end to form parallel flat jaws, one of said jaws being provided at intervals with holes or apertures and the other with lugs adapted to pass through said holes or apertures, a spring placed between the handle members for forcing them apart and a sleeve mounted on said handle and adapted when moved in one direction to force the separate parts thereof and the said jaws together.

No. 102,562. Lacrosse Stick. Lacrosse.

Decaire Ceel, Caughnawaga, Quebec, Canada, 11th Decem-
ber, 1906; 6 years. Filed 5th July, 1906. Receipt No. 137,546.
Clatm.-1. A device of the class described, conslsting of a wooden frame integrally formed and comprising a handle,

a back, the lip, and the toe which is formed upward and inand a suitable guard laced in with laced in proper position, through said toe and secured to with said netting and laced that the upper guard member thereof will in such position the top edge of said back so as to positivelways rest upon thereby at this end which, together with the support given said upper guard member by said toe, the support given the said guard from sagging. 2. A device of the class de
frame integrally formed, and comprising an handle, wooden the lip, and the toe which is formed upward andle, a back, suitable netting suitably laced in proper and inward, a guard comprising the upper guard member, the intermediate guard member and the lower guard member, intermediate guard supports, comprising a strand of suitable material laced in with said netting and twisted around itself mo as to give supoprt to the intermediate and lower guard mombers which are sulably laced through said toe and through or around said back at or near where the handle proceeds therefrom, and provided with two upper loops which fit around the upper guard member, and a lower loop which passes between the twisted parts of said strand and underneath said upper guard member so that when the said strand is pulled into proper position during course of manufacture, the said loops will firmly grip around said upper guard member and prevent said intermediate guard supports from lateral displacement, the said upper guard member being laced through said toe and to said back in such position that it will always rest upon the top edge of said back so as to be positively supported thereby at this end which, together with the support given said upper guard member by said toe, effectually prevents the said guard from sagging.
3. A device of the class described, consisting of a wooden frame integrally formed comprising a handle, a back, the lip, and the toe which is formed upward and inward, the said lip being constructed thicker so as to give additional strength, at the points where the said toe proceeds therefrom and where it proceeeds from said back, and being made thinner intermediate said points, the said wooden frame being made stouter or thicker at the point where said back proceeds from said handle, a sultable netting suitably laced in proper position, and a guard comprising the upper guard member, the intermediate guard member and the lower guard member, intermediate guard supports comprising a strand of suitable material laced in with said netting and twisted around itself so as to give support to the intermediate and lower guard members which are suitably laced through said toe and to said back at or near where the handle proceeds therefrom, and provided with two upper loops which fit around the upper guard member, and a lower loop which passes between the twisted parts of said strand and underneath said upper guard member so that when the said strand is pulled into proper position during course of manufacture, the said loops will firmly grip around said upper guard member and prevent said intermediate guard supports from lateral displacement, the said upepr guard member being laced through said toe and through or around said back in such position that it will always rest upon the top edge of said back so as to be positively supported thereby at this end which, together with the support given said upper guard member by said toe, effectualy prevents the said guard from sagging.
4. The combination with a lacrosse stick frame, a netting suitably laced therein, and a guard, of intermediate guard supports comprising a strand of suitable material laced in with said netting and twisted around itself so as to give support to certain members of said guard, and provided with two upper loops which fit around the upper guard member, and a lower loop which passes between the twisted parts of said strand and underneath said upper guard member so that when the said strand is pulled into proper position during course of manufacture, the said loops will firmly grip around said upper guard member and prevent said intermediate guard supports from lateral displacement.
5. A lacrosse stick frame comprising the handle made stout or thick at a form which proceeds the back \(B\), the lip \(\mathbf{N}\) being thickened where it proceeds from the back \(\mathbf{B}\) by the elbow \(O\) and being thickened at the elbow \(M\) from which proceeds the portion \(L\) which terminates in the toe \(J\), the said lip between the elbows \(M\) and \(O\) being made shallower in cross section than said elbows, the elbow o being thicker in cross section than the elbow \(M\), substantially as set forth and for the purpose specifled.

\section*{No. 102,563. Copper Separation.}

\section*{Sénaration du cuivre.}

Alexander Elliott, Little Rock, California, U.S.A., 11th December, 1906; 6 years. Filed 28th June, 1906. Recelpt No. 137,373.
Claim.-1. In the process of leaching oxidized copper ores which consists in submitting the ore to the action of a non-
the solution of ferrous sulphate and passing air through the solution during the operation of leaching.

2. The process of leaching oxidized copper ores which consists in submitting the ore to the action of a hot non-acid solution of ferrous sulphate and passing air through the solution during the operation of leaching.
3. The process of separating copper from oxidized ores which consists in leaching the ore with a hot non-acid solution of ferrous sulphate and passing air through the solution during the operation of leaching, separating the solution from the residue, and precipitating the copper from the solution by means of iron, thereby regenerating the ferrous sulphate for a repetition of the process.
4. The process of separating copper from ores contalning basic gangue, which consistis in leachlng the ore with hot non-acid solution of ferrous sulphate, passing air through the solution during the operation of leaching, separating the solution from the residue, precipitating the copper from the solution by means of iron and utilizing the resulting solution of ferrous sulphate for a repetition of the process.

\section*{No. 102,564. Support for Anode.}

Supnort pour anode.
Frank Engelhard, Frederick H. Englehard, and William A. Englehard, co-inventors, all of Springfield, Massachusetts, U.S.A., 11th December, 1906; 6 years. Filed 9th August, 1906. Receipt No. \(138,548\).
Claim.-1. As a new article of manufacture, an anode support comprising a comparatively strong interior electrical conducting member, a weaker exterior electrical conducting member, the latter being impervious to the electrolyte and completely covering the lower portion of the in terior member.
2. As a new article of manufacture, an anode support comprising a comparatively strong rod, a tube secured by a wiped joint at the top to such rod, said tube being impervious to electrolytes and both the tube and rod being electrical conductors, and an impervious fllling in the base of the tube under the rod.
3. As a new article of manufacture, an anode support comprising a comparatively strong rod, an externally flanged tube secured to such rod, said tube being impervious to electrolytes and both the tube and rod being electrical conductors, and a filling impervious to an electrolyte in the base of the tube under the rod.
4. The combination in an anode support with a holder adapted to be fastened to a supporting bar and electrical conductor, of an electrical conducting tube closed at the base and adapted to carry anodes, such tube being impervious to electrolytes, and an electrical conducting rod which is comparatively strong inserted in said tube and secured thereto, said rod at its upper end projecting above the tube and being adapted to be engaged with and disengaged from sald holder.
5. The combination in an anode support with a holder adapted to be fastened to a supporting bar and electrical
conductor and having a longitudinal slot therein with a recess at the top, of an electrical conducting tube closed at

the base and adapted to carry anodes, such tube being impervious to electrolytes, an electrical conducting rod, which is comparatively strong, inserted in said tube and secured thereto, said rod at its upper end projecting above the tube and being adapted to enter and leave the slot in said holder, and a removable nut at the top of the rod, having a part receivable in the aforesaid recoss.

No. 102,565. Method of Removing Metallic Coating From Sheet Metal.
Wéthode dentecer la couche métallique des feuilles de métal.


Olin Stephen Fellows and Archibald Elmer Hopkins, Middletown, New York, U.S.A., 11th December, 1906; 6 years. Filed 7th July, 1906. Receipt No. 137,536.
Claim.-1. The method of removing superfluous metallic coating from sheet metal after the same has been coated and the coating positively set or hardened on the sheet metal, which consists in remelting the set or hardened excess of metallic coating in situ, and then positively removing the said remelted excess from the sheet metal.
2. The method of removing superfluous metallic coating from sheet metal after the same has been coated and the coating positively set or hardened on the sheet metal, which consists in remelting the set or hardened excess of metallic coating in situ, and then positively removing the said excess of metallic coating from the sheet metal by a fluid blast.
3. The method of removing superfluous metallic coating from sheet metal after the same has been coated and the coating positively set or hardened on the sheet metal, which consists in remelting the set or hardened excess of metallic coating in situ, and then positively removing the said remelted excess from the sheet metal by a plurality of fuld blasts.

\section*{No. 102,566. Method of Remoring Metallic Coating From Sheet Metal.}



Olin Stephen Fellows and Archibald Elmer Hopkins, coinventors, both of Middletown, New York, U.S.A., 11th December, 1906; 6 years. Filed 7th July, 1906. Receipt No. 137,597.
Claim.-1. The method of removing superfiuous metallic coating from sheet metal after the coating has been applied and positively set or hardened upon the surface of the sheet metal, which consists in remelting the set or hardened excess of metallic coating in situ, and then positively removing the remelted excess of coating by means in direct positive contact therewith.
2. The method of removing sunerfluous metallic coating from shcet metal after the same has been coated and the coating positively set or hardened upon the surface of the sheet metal, which consists in remelting the set or hardened cxcess of metallic coating in situ, and then positively removing the remelted excess of coating by brushing.

No. 102,567. Means of Removing Metallic Coating From Sheet Metal.



Olin Stephen Fellows and Archibald Elmer Hopkins, coinventors, both of Middletown, New York, U.S.A., 11th December. 1906; 6 years. Filed 7th July, 1906. Receipt No. 137,538.
Claim.-1. In apparatus for removing superfluous metallic coating from sheet metal after the same has been coated and the coating positively set or hardened on the latter, means for applying heat to such excess of metallic coating to remelt the same and liquate it in situ, and means for forcibly removing such liquated excess of metallic coating from the surface of the sheet metal.
2. In apparatus for removing superfluous metallic coating from sheet metal after the same has been coated and the coating positively set or hardened on the latter, means for applying heat to such excess of metallic coating to remelt the same and liquate it in situ. and means for directing a fluid blast against such liquated excess of metallic coating for the purpose of removing it from the surface of the sheet metal.
3. In apparatus for removing superfluous metallic coating from sheet metal after the same has been coated and the coating positively set or hardened on the latter, means for applying heat to such excess of metallic coating to remelt the same and liquate it in situ, and means for directing a plurality of fluid blasts against such liquated excess of metallic coating for the purpose of removing it from the surface of the sheet metal.

\section*{No. 102,568. Means of Removing Metallic Coating} From Sheet Metal.
Méthote d'enlever la couche métallique des ícuilles de métal.


Olin Stephen Fellows and Archibald Elmer Hopkins, coinventors, both of Middletown, New York, U.S.A., 11th December, 1906; 6 years. Filed 7th July, 1906. Receipt No. 137,599.
Claim.-1. In apparatus for removing superfluous metallic coating from sheet metal after the same has been coated and the coating positively set or hardened, the combination of means for applying heat to the set or hardened excess of metallic coating in such manner as to liquate the same in situ, and mechanical means for positively contacting with and removing said liquated excess of metallic coating from the sheet metal plate.
2. In apparatus for removing superfluous metallic coating from sheet metal after the same has been coated and the coating positively set or hardened, the combination of means for applying heat to the set or hardened excess of metallic coating in such manner as to liquate the same in situ, and a brush arranged to positively remove sald liquated excess of metallic coating from the sheet metal plate.
3. In apparatus for removing superfluous metallic coating from sheet metal after the same has been coated and the coating positively set or hardened, the combination of means for applying heat to he set or hardened excess of metallic coating in such manner as to liquate the same in situ, and a plurality of brushes arranged to positively remove said liquated excess of metallic coating from the sheet metal plate.
No. 102,569. Carbureter. Carburatcur.


Robert H. Gray, Columbla, Missouri, U.S.A., 11th December, 1906; 6 years. Filed 2nd November, 1906. Receipt No. 140.858.

Claim.-1. The combination of a burner, a source of fuel supply, a carbureter connected with the source and burner
for supplying imflammable gas to the latter, means in the carbureter comprising separate valves at the inlet and outlet ends thercof for retaining a supply of gas in the carbureter, means for controlling the supply of fuel from the tank to the carbureter, and a mechanism for simultaneously actuating both of the said means.
2. The combination of a burner, a source of fuel supply, a carbureter connected with the source and burner for supplying inflammable gas to the latter, separate valves at the inlet and outlet ends of the carbureter, means for opening and closing the valves simultaneously, a valve for controlling the supply of fuel to the carbureter, and a device connected with the valve and said means for opening or closing the fuel controlling valve and valves of the carbureter together.
3. The combination of a burner, a source of fuel supply, a carbureter connected with the source and burner for supplying infiammable gas to the latter, a valve hetween the source and carbureter, two valves in the carbureter for retaining a supply of gas therein, and mechanism exterior of the carbureter for actuating the three valves simultaneously.
4. The combination of a burner, a source of fuel supply. a carbureter connected with the source and burner for supplying inflammable gas to the latter, a reciprocating device in the carbureter for retaining and releasing a supply of gas in and from the same, a rotatable valve intermediate the carbureter and source of supply for controlling the flow of fuel, and a mechanism for actuating the said device and valve simultaneously.
5. The combination of a burner, a source of fuel supply, a carbureter connected with the source and burner for supplying inflammable gas to the latter, a reciprocating device in the carbureter for retaining and releasing a supply of gas in and from the same, a needle valve arranged exterior to the carbureter to control the supply of fuel from the source to the carbureter, a mechanism between the stem of the valve and the device arranged to cause the latter to release the supply of sas simultaneously with the opening of the needle valve and to retain a supply of gas when the necdle valve is closed, and means for actuating the needle valve.
6. The combination of a burner, a source of fuel supply, a carburcter connected with the source and burner for supplying inflammable gas to the latter, inlet and outlet ports in the carbureter, connected valves controlling the ports, a valve arranged intermediate the source and carbureter, and a lever arranged intermediate the Jatter valve and the valves of the carbureter whereby all of the valves are opened and closed simultaneously.
7. The combination of a burner, a source of fuel supply, a carbureter connected with the source and burner for supply. ing inflammable gas to the latter, inlet and outlet ports in the carbureter, connected valves controlling the ports, a valve arranged intermediate the source and carbureter, a lever, means on the stem of the last-mentioned valve for tilting the lever, and a link extending from the lever to a point within the carbureter and connected with the valves in the latter.
8. The combination of a burner, a source of fuel supply, a carbureter connected with the source and burner for supplying inflammable gas to the latter, inlet and nutlet ports in the carbureter, separate valves for the ports, a common valve stem, and a device extending from a point within to a point without the carbureter and connected with the stem for actuating the valves.
9. The combination of a burner, a source of fuel supply, a carbureter connected with the source and burner for supplying inflammable gas to the latter, inlet and outlet in the carbureter, separate valves for the ports, a common valve stem to which one valve is positively connected and the other loosely connected, and means for actuating the valves.
10. The combination of a carbureter having separate ports, a valve at one of the ports for controlling the supply of mixture therefrom, a valve at the other port co-operating with the first to hold a charge of gas in the carbureter. means for simultaneously opening and closing the valves, \& stem to which the valves are connected, and diaphragms in the carbureter which guide the movement of the said stem.
11. The combination of a carbureter, a valve for controlling the supply of mixture therefrom, a valve co-operating with the first to hold a charge of gas in the carbureter, a valve stem in the carbureter to which the valves are attached, means exterior of the carbureter for actuating the valve stem, and a plurality of perforated diaphragms in the carbureter which serve to guide the movement of the stem.
12. The combination of a carbureter, a valve for controlling the supply of mixture therefrom, a valve co-operating with thie first to hold a charge of gas in the carbureter to which one valve is positively connected, a lost motion connection between the other valve and the stem, and means for actuating the valve stem.
13. The combination of a carbureter chamber, ports at opposite ends thereof, a plurality of gauze diaphragms in the chamber which are provided with central perforations, a valve stem guided by the perforations of the diphragm. valves on the opposite ends of the stem arranged to close and open the ports simultaneously, and a device for imparting motion to the valve stem.
14. The combination of a carbureter chamber, a partition dividing the chamber into separate compartments, a port in the partition, separate inlets for air and fuel leading to one of the compartments. a plurality of diaphragms in the other compartment. an outlet port, a valve for the latter, a valve controlling the port in the partition, a stem connected with the valves to close and open them simultaneously, and means connected with the stem for actuating the same.

No. 102,570. Spring Bed. Lit d ressort.


John Henkel, Montreal, Quebec, Canada, 11th December, 1906; 6 years. Filed 26th May, 1906. Receipt No. 136,285.
Claim.-1. A spring bed comprising a bottom frame, a top frame, springs between such frame, and a pair of diagonal braces disposed in V-form with their converging ends pivotally connected to a common point upon one frame and their separated ends connected to the other frame for preventing lateral displacement of the top frame relatively to the bottom frame, substantially as described.
2. In a spring bed, an open top irame with longitudinal bars adjacent to the side bars thereof and transverse bars adjacent to the end bars thereof, an open bottom frame, a pair of diagonal braces in \(V\)-form at each end of the bed, means connecting such braces at their apices to the middle of the bottom frame adjacent to the ends of the said frame, means connecting the opposite ends of the said braces to the bars of the upper frame, and springs located between the top and bottom frames, substantially as described and for the purpose set forth.
3. In a spring bed the combination with bars extending at right angles to each other, of means of connection consisting of a notch \(f\) and a staple \(g\) straddling one of the bars and riveted into the other, substantially as described and for the purpose set forth.
4. In a spring bed the combination with a bar having its side edge uppermost, of an angular bracket riveted to the said bar with the inner side of its vertical flange in contact with one of the flat sides of such bar and its horizontal flange extending over and lying upon the said side edge of the latter, substantially as described and for the purpose of connecting a spring to the said bar.
5. In a spring bed the combination with a bar e, of a bracket \(p\), substantially as described.
6. In a spring bed the combination of bars \(b\), bars \(c\) bent at \(c^{1}\), bars \(d\) bent at \(d^{1}\) bars \(e\) notched at \(f\), staples \(g\), frame \(k\) with rounded corners \(k^{1}\), bars \(k^{2}\) bars \(k^{2}\), braces \(m\), brackets \(n\), colled springs \(n\) brackets \(p\), and stays 0 , substantially as described and for the purpose set forth.

No. 102,571. Railway Eignal.
Signal de chemine de for.


Albert J. Hitch, Ridgetown, Ontario, Canada, 11th December, 1906; 6 years. Filed 2nd December, 1905. Receipt No. 130,641.
Claim.-1. In a railway signalling apparatus, a casing provided with openings therein, fixed indicators adapted to be viewed through the openings, movable indicators adapted to cover the openings, resilient means adapted to normally maintain the movable indicators over the openings, and electrically operated means for moving the movable indicators.
2. In a rallway signalling apparatus, a casing provided with openings therein, fixed indicators within the casing, movable indicators disposed within the casing, links connected to the movable indicators, levers connected to the links, resilient means for maintaining the movable indicators in elevated position, and means operated by the passage of a train and adapted to actuate the movable indicators to a lower position.
3. In a rallway signalling apparatus, a casing, fixed indicators within the casing. movable indicators adapted to cover the fixed indicators, levers connected with the movable indicators, brackets within the casing adapted to pivotally support the levers, springs adapted to normally elevate the movable indicators, means for overcoming the tension of the springs operated by the passage of a traln, and means for limiting the movement of the levers.
4. In a railway signalling apparatus, a casing, fixed indicators disposed within the casing, movable indicators adapted to cover the fixed indicators, levers adapted to support the movable indicators, resillent means normally maintaining the movable indicators in one position, means operated by the passage of a train adapted to actuate the levers to another position, and brackets within the casing adapted to limit the movement of the levers.
5. In a rallway signalling apparatus, a casing, indicating members in the casing, resilient means for maintaining one of the indicators in one position, means for moving one of said indicators, electrical connections to said means, casings adapted to receive the ends of said electrical connections, means for resiliently supporting the ends of the casings, and means for maintaining the ends of said connections out of contact with each other.
6. In a rallway signalling apparatus, indicating members, clectrical means adanted to move some of said indicating members, wires forming a circuit to said electrical actuating means, a lower casing adapted to receive the end of one of sald wires, resillent means for supporting said casing, an upper casing disposed on the lower casing and adapted to receive the other of said wires, and springs disposed between said upper and lower casings adapted to normally maintain the ends of said wires apart.
7. In a rallway signalling apparatus, indicating members, electrical means adapted to move some of said Indicating members, wires forming a circuit to sald electrical actu-
ating means, a lower casing adapted to receive the end of one of said wires, an upper casing disposed on the lower casing and adapted to recelve the other of said wires, resilient means for supporting the lower casing, springs disposed between said upper and lower casing adapted to normally maintain the ends of said wires apart, and a resilient support for said lower casing.
8. In a railway signalling apparatus, indicating means, electrical means for operating said indicating means, which electrical means are disposed in electrical circuits normally open, and means for maintaining the ends of said circuits apart comprising a lower casing provided with binding posts, springs disposed on the ends of said lower casing, plates adapted to receive the thrust of said springs, bolts connecting said plates and said casing, an upper casing disposed on the lower casing, and provided with collars on its under surface, binding posts carried by the upper casing, screw-threaded rods carried by the lower casing, and helical springs disposed on said screw-threaded rods.
9. In a rallway signalling apparatus, the combination comprising a casing having the names of stations thereon, and having thereon the representation of the track on which the stations are situated, fixed indicating members adjacent the names of the stations, movable indicating members, and means adapted to be actuated by the passage of a train for moving the movable indicating members to cover the fixed indicating members and to indicate on the casing the position of a train on the tracks with relation to the station names.
10. In a rallway signalling apparatus, the combination comprising a casing having indicated thereon a railway track, and having indicated thereon the stations, switches, and sidings on the track, indicating members arranged to correspond to the stations, the sidings and the switches on the track, and means for operating the indicating members by the passage of a train to denote on the casing the corresponding position of a train on the tracks.
11. In a railway signalling apparatus, the combination comprising a casing having indicated thereon a railway track, and having indicated thereon the stations, switches, and sidings on the track, indicating members arranged to correspond to the stations, the sidings and the switches on the track, and means for operating the indicating members by the passage of a train to denote on the casing the corresponding position of a train on the tracks, and to denotn on the casing the condition of the switches and sidings.

\section*{No. 102,572. Copper Prodncing Process.}

Procédé pour l'extraction du cuivre des mincrais.
Lucien Juman, Paris, France, 11th December, 1906; 6 ycars. Filed 18th July, 1906. Rrecint No. 137,933.
Claim.-1. A process for obtaining simultaneously pure copper and sulphuric acid which consists in heating a solution of a salt of copper in a closed vessel under pressuro in presence of sulphurous acid.
2. A process for obtaining simultaneously pure copper and sulphuric acid which process consists in heating a solution of a salt of copoer in a closed vessel under pressure in prescnce of a sulphite.
3. \(\Lambda\) process for obtaining simultaneously pure copper and sulphuric acid which consists in subjecting a solution of a salt of copper to a preliminary purification to eliminate the precious metals which it contains, the said purification bring effected by treating the said solution with sulphurous acid at a raised temperature and under ordinary pressure, in scparating from the solution the precious metals thus precipitated, in treating the purified solution with sulphurous acid or with a sulphite in a closed vessel under pressure, and in transforming into pure massive copper the copper thus precipitaled by melting it or compressing it.
4. A process for obtaining simultaneously pure copper and sulphuric acid, which prccess consists in heating a solution of a salt of copper in a closed vessel under pressure in presence of sulphurous acid or a sulphite, in compressing the copper thus precipitated into the form of briquettes and in using these briquettes as anodes in ordinary clectrolytic refining vats to ellminate the precious metals which were contain d in the solution subjected to the process.

\section*{No. 102,573. Carbonizing Apparatus.}

\section*{Apparcil d̀ carboniser.}

Rolof Jüreensen. Prag-Uzkon, Austria, 11th December, 1906; 6 years. Filed 25th June, 1906. Receipt No. 137,266.
Claim.-1. A coking furnace consisting of a carbonizing chamber, a cooling chamber and a drying chamber, said carboniziog chamber being in interrupted communication with the chambers, and means for automatically discharging
the contents of the same, consisting of a bottom inclined towards the cooling chamber, in combination with a slide door arranged at the bottom thereof and at its outlet.

2. A coking furnace consisting of a carbonizing chamber, a cooling chamber and a drying chamber, said cooling chamber nrovided with a plurallty of radiation pipes through which the non-condensed and cooled products of distllation are nassed and which pipes are in communication with the furnace.
3. A coking furnace consisting of a carbonizing chamber, a cooling chamber and a drying chamber, said cooling chamber being provided with a plurality of radiation pipes through which the non-condensed and cooled products of distillation are passed and which are in communication with the furnace. the said drying chamber being further provided with a plurality of channels opening to the atmospheric air for further cooling the coke.
4. \(\Lambda\) coking furnace consisting of a carbonizing chamber, a cooling chamber and a drying chamber, said carbonizing chamber bring provided with a plurality of heating plpes extending horizintally or nearly horizontally through the lower part of the sald chamb \({ }^{\circ} \mathrm{r}\) and befng in communication elther with a suitab!e furnace and with the drying chamber.

No. 102,574. A Furnace for Redncing Metals.
Fournaise pour réduirc les métaux.


Fredrik Adolf Kjellin, Stockholm, Sweden, 11th December, 1906; 6 years Filed 12th September, 1906. Receipt No. 139.454.

Claim.-1. A method of reducing metals or metalloids from their combination by introducing the reducing agent and the substance to be reduced in separate compartments of a furnace, divided in several such communicating compartments in such a manner that the said agent and the said substance will come in contact only thereby, that the reducing agent in one compartment dissolves itself in the molten bath of the reduced substance in that compartment and in such a dissolved form reduces the metal or the metalloid from its comblnation in another compartment of the furnace.
2. A furnace for reducing metals or metallolds from their combinations consisting of a receptacle divided in several compartments by one or s?veral partitions, dipping into the molten composition which is to be reduced and which is floating upon the molten bath of the substance already reduced for the purpose of preventing the direct contact of the substances, fed to the different compartmens and intended to act upon one another.

\section*{No. 102,575. Electric Resistance Furnace.}

Fournaise ì rísistance électrique.


Fredrik Adolf Kjellin, Stockholm, Sweden, 11th December, 1906; 6 years. Filed 12th September, 1906. Receipt No. 139,460.
Claim.-1. An improved electric furnace containing heating channels with enlarged portions or communicating with separate receptacles for the material to be treated, characterized by the fact that the said material continually or with short intervals is forced through the said heating channels, for the purcose of carrying the heat from the heating channels to the other parts of the furnace.
2. An improved elcctric furnace containing heating channels with enlarged portions or communicating with separate receptacles for the material to be treated, in combination with means for giving the said furnace an oscillating or rocking movement, for the purpose of forcing the material through the heating channels.
3. An improved electric furnace containing heating channels with enlarg d portions or communicating with separate receptacles for the material to be treated, in combination with a refractory body, which is intermittently forced down into the molten material for the purpose of putting it through the channels.
4. An improved electric furnace containing heating channels with enlarged portions or communicating with separate receptacles for the material to be treated, in combination with a refractory body immersed in the molten material and having a movement along the channel or channels, the heating channel proper eventually being formed of the space between the sald body and the walls and bottom of the channel.
5. An improv d electric furnace containing heating channels with enlarged portions or communicating with separate receptacles for the material to be treated, characterized by the fact that the hottom of the channels is inclined, making the deepness of the channel or channels least in the places where the bottom is highest, and that the furnace is combined with means for imparting to it a rotating movement on an inclined axis, so that new portions of the material to be treated are continuously forced through the shallowest part of the chanuels

6 An lmproved electric furnace containing heating channels with enlarged portions or communicating with separate receptacles for the material to be treated, characterized by the fact, that between the heating channels and the enlarged portions or receptacles are arranged partitions of refractory material, immersing into the slag formed during the process, for the purpose of preventing the said slag from entering from the one receptacle to the other or to the heating channels.
7. A process of carrying out metallurgical operations in electric furnaces containing heating channels with enlarged portions or communicating with separate receptacles for the material to be treated, characterized by the fact that the said material is acted upon by different substances in the different receptacles or enlargements in such a manner that the said substances may act upon the material in the most advantageous manner and during the most favourable conditjons.
8. In electric furnaces containing heating channels with enlarged portions or communicating with separate recep-
tacles for the material to be treated, a process of forcing the material through the said channels consisting therein that the gases contained in the enlargements or receptacles above the treated material are intermittently subjected to a varying pressure.

No. 102,576. Feed Water Heater.
Chauffcur d'rau d'alimentation.


John McQuat Mackie, Montreal, Quebec, Canada, 11th December, 1906; 6 years. Filed 12th July, 1906. Receipt No. 137,742.
Claim.-1. A feed water heater comprising a casing or shell consisting of a cylindrical member \(b\) with flanged ends and means for effecting a communication with a steam supply, \(a_{n}\) end or header \(g\) having opening \(j\) and stuffing box \(k\), a base \(m\) with openings \(o, p\) and \(q\), stuffing boxes \(r\) and \(r^{2}\), brackets 8 , and drip pipe 20 , and a feed water receptacle within such casing or shell and consisting of a pair of members 2 and 7 , perforated plates 4 and 11 , and pipes 13, 15, 16 and 20 , substantially as described and for the purpose set forth.
2. A feed water heater comprising a casing or shell consisting of a cylindrical member \(b\) with flanged ends and means for effecting a communication with a steam supply, an end or header \(g\) having opening \(j\) and stuffing \(k\), a base \(m\) with openings \(0, p\) and \(q\), stuffing boxes \(r\) and \(r^{1}\), brackets s, and drip pipe 20 , and a feed water receptacle within such casing or shell and consisting of a pair of hemi-spherical members 2 and 7, perforated plates 4 and 11, and pipes 13, 15,16 and 20 , and deflector 10 , substantially as described and for the purpose set forth.
3. A feed water heater comprising a casing or shell consisting of a cylindrical member \(b\) with flanged ends and openings \(c\) and \(f\) for effecting a communication with a steam supply, an end or header \(g\) having opening \(j\) and stuffing box \(k\), of a base \(m\) with openings \(o, p\) and \(q\), stuffing boxes \(r\) and \(r^{1}\), brackets \(s\), and drip pipe 20 , and a feed water receptacle within such casing or shell and consisting of a pair of arciform members 2 and 7, perworated blades 4 and 11, pipes \(13,15,16\) and 20 , and deflector 10 , substantially as described and for the purpose set forth.
4. A feed water heater comprising a casing or shell consisting of a cylindrical member \(b\) with flanged ends and means for effecting a communication with a steam supply, anend or header \(g\) having openings \(j\), stuffingbox \(k\), and safety valve \(i\), a base \(m\) with openings \(o, p\) and \(q\), stuffing boxes \(r\) and \(r^{2}\) brackets 8 , and a drip pipe 20 , and leed water receptacle within such casing or shell and consisting of a pair of arciform members, 2 and 7 , perforated plates 4 and 11, pipes \(15,15,16\) and 20 , and deflector 10 , substantially as described and for the purpose set forth.
5. A feed water heater casing or shell consisting of a cylindrical member \(b\) with flanged ends and openings \(e\) and \(f\) for effecting a communication with a stenm supply, an end or header \(g\) having opening \(j\) and stuffing box \(k\), an end \(m\) with openings \(o, p\) and \(q\), stuffing boxes \(r\) and \(r^{1}\), brackets 8 , and drip pipe 20, substantially as described and for the purpose set forth.
6. A feel water receptacle for use within a rasing or shell and consisting of a pair of arciform members 2 and 7 , per forated plates 4 and 11, pipes \(13,15,16\) and 29 , and deflector 10. substantially as described and for the purpose set forth.
7. A feed water heater casing or shell consisting of a cylindrical member \(b\) with flanged ends and openings \(c\) and \(f\) for effecting a communication with a steam supply, an end or header \(g\) having opening \(j\) and stuffing box \(k\), an end \(m\) with openings \(o, p\) and \(q\), stuffing boxes \(r\) and \(r^{1}\), and a drip pipe 20, substantially as described and for the purpose set forth.
8. A feed water receptacle for use within a casing or shell and consisting of a pair of arciform members 2 and 7, perforated plates 4 and 11 , and pipes \(13,15,16\) and 20 , substantially as described and for the purpose set forth.
9. A feed water heater having an outer casing forming a steam chamber with steam connections and a feed water receptacle located within the steam chamber, and provided with inlet and outlet, said casing and receptacle being constructed independently of each other so that the complete feed water receptacle can be bodily removed without disturbing the steam connections, openings through the casing and connections with the inlet and outlet of the receptacle passing through such openings, substantially as described.
10. A feed water heater having an outer casing forming a steam chamber with inlet and outlet and a feed water receptacle located within the steam chamber and provided with inlet and outlet, openings through the casing and connections with the inlet and outlet of the receptacle passing through said openings, there being a complete clearance between said casing and receptacle except at said inlet and outlet connections, substantially as described.

No. 102,577. Method of Regulating Furnaces. Méthode de régulariser les fournaises.


Embury McLean, New York City, New York, U.S.A., 11th December, 1906; 6 years. Filed 29th August, 1906. Recelpt No. 139,088 .
Claim.-1. The method of regulating furnaces which consists in maintaining in the furnace chamber a substantially sists in main pressure under varying rates of combustion.
2. The method of regulating furnaces which consists in maintaining in the furnace chamber a pressure substantimally equal to atmospheric pressure under varying rates of combustion.
3. The method of regulating furnaces, which consists in supplying air to the furnace at different rates of delivery and simultaneously discharging gases from the furnace in quantities proportioned to said different rates of delivery, quaneby a substantially uniform pressure is maintained in Whereby a urnace under varying rates of combustion
4. The method of regulating furnaces, which consists in supplying air to the furnace at a pressure above that of the atmosphere and at different rates of delivery and simularmos the furnace in quantities taneously discharging gases irom the fortioned to said different rates of delivery, whereby a substantially uniform pressure is maintained in the furnace under varying rates of combustion.

\section*{No. 102,578. Apparatus for Cleaning and Dyeing Wool, Eitc.}

Appareil pour nettoyer ct teindre la laine, etc.
Maude Nicholas, London, England, 11th December, 1906; 6 years. Filed 30th June, 1906. Receipt No. 137,450.
Claim.-The improved construction of apparatus for cleaning, dyeing, or otherwise treating wool, textile fabrics and other like material, consisting of a cylinder capable of being sealed and containing two perforated plungers held at a distance apart by a rod or rods, and means for reciprocating such plungers, the goods to be treated being con-
tained between the plungers, so that the cleaning agent is caused to pass to and fro through and between the material

when the plungers are reciprocated, substantially as set forth.

No. 102,579. Disc Grinder. Disque d polir.


John M. Ross and John S. Riddle, co-inventors, both of Frobisher, Saskatchewan, Canada, 11th December, 1906; 6 years. Filed 18th May, 1906. Receipt No. 136,053.
Claim.-1. An improved disc grinder comprising a revolving grinding wheel, a disc supporting shaft, a disc thereon, gravity held in contact with the grinding wheel, means for adjusting the position of the shaft and means for holding the same in any adjusted position, as and for the purpose specified.
2. An improved disc grinder comprising a revolving grinding wheel, a disc supporting shaft disposed slightly to one side of the grinding wheel whereby rotation of the latter in contact with the disc on the shaft will rotate the disc, means for adjusting the position of the shaft, a disc thereon, gravity held in contact with the grinding wheel, and means for holding it in any adjusted position, as and for the i) urpose specified.
3. An improved disc grinder comprising a revolving grinding wheel, a disc supporting shaft, a disc tbereon, gravity held in contact with the grinding wheel, means for tilting the shaft, means for moving it nearer to or farther from the grinding wheel and means for holding it in any adjusted position, as and for the purpose specifled.
4. An improved disc grinder comprising a revolving gitno ing wheel, a disc supporting shaft, a disc at the top theref

gravity held in contact with the grinding wheel, means for adjusting the position of the same, means for holding the same in any adjusted position and a lever for raising said shaft, as and for the purpose specifled.
5. An improved disc grinder comprising a grinding wheel, means for rotating the same, a disc supporting shaft, a dise at the top thereof, gravity held in contact with the grinding wheel and a frame supporting the shaft with freedom of vertical movement, means for tiltably supporting the frame and means for holding the frame in any tilted position, as and for the purpose specified.
6. An improved disc grinder comprising a grinding wheel, means for rotating the same, a disc supporting shaft, a disc, gravity held in contact with che grinding wheel, a frame supporting the shaft with freedom of vertical movement. means for tiltably supporting the frame, means for holding the frame in any tilted position, means for moving the frame nearer to or farther from the grinding wheel and means for holding the frame in any adjusted position, as and for the purpose specifled.
7. An improved disc grinder comprising a grinding wheel, means for rotating the same, a tiltably supported frame, a shaft slidably supported therein, a disc at the top thereof, gravity held in contact with the grinding wheel and means for holding the shaft in any position to which•it has been adjusted relative to the rame, as and for the purpose specified.
8. An improved disc grinder comprising a grinding wheel, means for rotating the same, a disc supporting shaft, a frame supporting the same, a tenon on the frame, a plate, a plurality of radial grooves therein adapted to be engaged by said tenon, as and for the purpose specified.
9. An improved disc grinder comprising a grinding wheel, means for rotating the same, a disc supporting shaft, a frame supporting the same, a tenon on the frame, a plate, a plurality of radial grooves therein adapted to be engaged by said tenon, means for moving the plate nearer to or farther from the grinding wheel and means for holding it in any adjusted position, as and for the purpose specifled.
10. An improved disc grinder comprising a grinding wheel; means for rotating the same, a shaft slidably supported therein, means for pivotally supporting the frame, means for holding the frame in any position to which it has been adjusted, a lever pivoted to the frame having a slot therein through which the shaft extends, a collar adjustably secured in the shaft and means for holding the lever in a predetermined position, as and for the purpose specified.
11. An improved disc grinder comprising a grinding wheel, means for rotating the same, a frame, a shaft slidably supported thereln, means for pivotally supporting the frame, means for holding the frame in any position to which it has been adjusted, a lever pivoted to the frame having a slot therein through which the shaft extends, a collar adjustably secured in the shaft, a spring-held dog pivoted to the lever normally engaging the frame, and means operable from the end of the lever for removing the dog from ongagement with the frame, as and for the purpose specifled.
12. An improveci disc grinder comprising a suitable base, a shaft horizontally supported on the top thereof, a grinding wheel on the same, means for rotating the shaft, a bar laterally extending from one side of the base, a plate slidably secured thereon, means for holding the plate in any padjusted position, a plurality of radial grooves in said plate, a prame, a tenon thereon engaging the grooves in the plate, a shaft slidably supported in the frame and means for holding the shaft in any position relative to the frame, as and for the purpose specified.
13. An improved disc grinder comprising a suitable base, a shaft horizontally supported on tod thereof, a grinding wheel on said shaft, means for rotating the shaft, a bar laterally extending from one side of the base and having a longitudinal groove therein, a plate having a plurality of radial grooves therein, a \(\mathbf{U}\)-shaped frame, a tenon thereon adapted to engage the grooves in the plate, a bolt extending through said frame, plate and blot in the bar, a disc supporting shaft extending through the arms of the frame, an adjustable collar thereon, a lever pivoted to the shaft having a slot therein through which the shaft extends and a spring-held dog on said lever engaging the lower arm of the frame, as and for the purpose specified.

\section*{No. 102,580. Boat. Bateau.}

Karl Joseph Seck, Malnz-on-the-Rhine, Germany, 11th December, 1906: 6 years. Filed 12th December, 1905. Receipt No. 120,929.
Claim.-1. A boat composed of \(t\) win boats coupled together by bridge pleces, a plank in the center midaway between the boats, one or more paddle bars rotatably mounted on said plank, and adapted to be oscillated from one hand bar
located at the center of the boat, means connecting sald hand bar with the said paddle bars, and paddles at the ends

of the said paddle bars, substantially as and for the purposes set forth.
2. A bcat composcd of two koats coupled together by bridge pieces, a plank in the center midway between the twin boatst, one or more paddle bars rotatably mounted on said plank, a hand bar pivoted at the center of the boat to the said plank, means for connecting said hand bar with said paddle bars, paddles trunnioned to the ends of the paddle bars and back stops for said paddles, substantially as and for the purposes set forth.
3. A boat composed of two boats coupled together by bridge pleces, a plank in the center midway between the twin boats, one or more paddle bars rotatably mounted on said plank, a stud occured in the center of the sald plank, a sprocket whet for each paddle bar mounted on said stud, a hand bar also mounted on said stud and engaging the said notches of the disc, means for coupling the said sprocket wheels to said disc and means for transmitting motion from the hand bars to sald gaddle bars, substantially as and for the purpose set forth.
4. A boat composed of twin boats coupled together by bridge pleces, a plank in the center midway between the twin boats, one or more paddle bars rotatably mounted on sald plank, a stud provided at the center of the boat in the plank, a sprocket wheel for each paddle bar mcunted on said stud, a disc provided with a rim, and notches mounted on said stud, a hand bar fitting over said stud and adapted to eneage certain of said notches, a coupling pin between the sprocket wheels and the said disc, means to impart motion from the sprocket wheels to the said paddle bars, a paddle on each end of said paddle bars, a back stop for each paddle, and means for maintaining the paddles in effcient position while the paddle bars are oscillated, substantially as and for the purpose set forth.
5. In a boat having one or more paddle bars substantially as described, the combination with shafts mounted in journals at each end of the bars, of paddles trunnioned to the said shaft, a back stop formed on said shaft and paddle, and means for maintaining the paddles in effective position, substantially as and for the purposes set forth.
6. A boat composed of twin boats coupled together as described, in combination with steering mechanism, comprising a rudder adapted to be swung about a horizontal pivot, and means for op rating the said rudder as described.
7. A boat composed of twin boats coupled together as described, a pivotfd hand bar, paddle bars and paddles, means for cperating said paddle bars, in combination with an anchor, means for raising said anchor and connections between said hand bar and said means for raising said anchor, substantially as and for the purposes set forth.
8. In a boat, a pivoted hand bar, paddle bars and paddles, mears for operating said paddle bars, a steering mechanism, comprising a rudder adapted to be swung about a horizontal pivot, and means for operating the said rudder.

\section*{No. 102,581. Disintegrating, Washing and Screen-} ing Machine.
Machine pour désagréger, laver et sasser.
Charles Blades Coverdale Storey, Lancaster, England, 11th December, 1906; 6 years. Filed 5th July, 1906. Receipt No. 137,561.
Claim.-1. Apparatus for treating ores or the like so that a portion of the larger, solid particles are sucessively removed and the softer particles are successively ground or abraded by the harder particles of similar size, comprising means for agitating. the agitating means and screens being alternately arranged, means for removing the reject or each screen and means for conveying the material, passing through each screen, to the successive agitating means.
2. Apparatus for treating ores or the like comprising a number of cylinders, screens on said cylinders, means for
rotating said cylinders, means in said cylinders for agitating and conveying the ore, means for removing the reject of each screen and means for delivering to the successive cylinder the material which passes through each scereen.
d. Apparatus for treating ores or the like comprising a number of cylinders, screens on said cylinders, means for rotating the cylinders, means in the cylinders for agitating and conveying the ore, means for introducing liquids to the cylinders, means for removing the reject from each screen, and means for delivering the solid and liquid material, passing through each screen. to the successive cylinder.
4. Apparatus for treating, ores or the like comprising a number of cylinders, screens on said cylinders, means for rotating the cylinders, means in the cylinders for agitating and conveying the ore, means for introducing chemicals to tho cylinders, means for removing the reject from each screen, and means for delivering the material passing through each screen to the successive cylinder.
5. Apparatus for treating ores or the like comprising a number of cylinders, screens on the cylinders, means for rotating the cylinders, means in said cylinders for raising and dropping the material for the purpose of aerating the same, means for removing the reject of each screen, and means for conveying the material, passing through each screen, to the successive cylinder.
6. Apparatus for treating ores or the like comprising a number of nested cylinders, means for rotating said cylinders, screens on the alternate cylinders, means for removing the reject of each screen, and means in the cylinders for agitating the material, each screen being adapted to deliver into the succeeding cylinder the material passing through it.
4. Apparatus for treating ores or the like comprising a number of nested cylinders, screens on the alternate cylinders, baffles in all the cylinders, means for delivering the material successively from one cylinder to the next, means for rigidly connecting all the cylinders. rollers for supportfor rigidly connecting aller, a worm wheel on the latter and ing the outermost cylinder, a worm whe andially and for the pura worm meshing therewith.
poso hereinbefore set lieating ores or the like comprising a
8. Apparatus for treating orenical ends on the alternate series of nested cylinders, conical ends of said cylinders, cylinders, screens at the opposiers immediatcly below said conical ends on the othe cylinders, radial bolts and distance screens, baffles in all the cyling all the cylinders. means for sleeves for rigidly connecting ander and means for rotating sle the same.
No. 102,582. Steel Manufacture. Fabrication d'acier. John Watson Spencer, Newcastle-on-Tyne, England, 11th December, 1906; 6 years. Filed 3rd August, 190 . Recipt No. 117,153.
No. Naim. -The herein described process consin per centum to Claim. - The hereinmally containing from of the charge in a a charge of iron of carbon and maintaining molten mass modi\(\cdot 25\) per centum of and introducing into the produce a modicon to melted condition, a per centum of silicing steel and the like. per centum to two in making plar
No. 102,583. Brake. Frein. Morrison, assignee of a
Edward O. Flichinger, and Walter Morrison, U.S.A., 18 th \({ }_{\text {We- }}\) ward interest, both of Massillon, Onio. Filed 26 th November, 1906 .
half Inth a cember, \(1906 ; 6\) years.
ceipt No. 141,529 .

operating lever fulcrumed on one side of the bolster, and links connecting the convergently arranged ends of the op-

posite sets of levers to the operating lever above and below the pivotal connection of the latter.
2. In a brake mechanism, the combination of a car truck having a bolster, fulcrum blocks on opposite sides of the bolster, bell' crank brake levers fulcrumed to said blocks. each set of levers carrying brake shoes at their outer ends and having their inner ends convergently arranged and extending outwardly from the bolster, one set of levers having its converging ends extending upwardly at an angle above the plane of the bolster, an operating lever fulcrumed upon one side of the bolster, and links pivotally connecting the convergent ends of the brake levers to the operating lever above and below the pivotal connection of the latter, one set of links extending across the bolster.

\section*{No. 102,584. Axle for Grain Drills.}

L'ssiell pour semoir en ligne.

aseignee of mank Company, aseignee of Springield,
Sathe Oil American Seeding Machine Coorge Pates, all years. The Americanam, and Georger, 1906;
R. Packs. 18 th Decem No. 141,610. and with sup Ohio, U.S.A.j06. Receipt No. combination withependent November, 1906 . In in drill, the combineels of indepenardly Claim.-1. In a grain and carry wheels inclined gafingporting frame, seed box carrying whaft between shatiate for said portingle axles for an intermediannections arsale axicy and downwardly, and universal of said \(r\) and do axles, and univen of voluble termediate shaft a
tially as specife
 vices, a common for
vices, a axles for
pendent axsidy.
and downwar
axles. a countershaft arranged at right angles to said inclined shaft, a pinion on said countershaft engaging said gear disc, and driving connections between said countershaft and the common shaft of said fecding devices, substantially as specified.
3. In a grain drill, the combination with a supporting frame, seed box, seed feeding devices and carrying wheels, of an arched revoluble axle comprising an intermediate horizontal portion, and portions inclined downwardly and forwardly, and universal couplings between said intermediate portions and end portions, substantially as specified.

No. 102,585. Car Azle. Essicu pour chars.


Oscar Williams, William Mills, John Gray and William
Crozier, assignee of one-eighth of the interest, all of Charleston. Pennsylvania, U.S.A.. 18th December, 1906; 6
years. Filed 28th November, 1906. Receipt No.141,613.
Claim.-An axle comprising two axially aligned sections, each section being formed with spaced apart shoulders, the portions of each section intermediate the shoulders being tapered, the contiguous ends of the sections being formed with beads and the abutting ends of the beads being bevelled to form an oil channel, said contiguous beads being grooves to form oil passages in communication with said oil channel, and a sectional coupling clamped about the axle, the inner faces of each coupling section being formed with opposite tapering portions each embracing the tapering portion of each shaft section and confined between the spaced apart shoulders thereof, said coupling member being formed with an intermediate socket for the reception of the beaded contiguous ends of the shaft sections and being further formed with oil chambers in communication with the tapering portions for lubricating the engaging faces of the axle and coupling.

No. 102,586. Plough. Charrue.


Andrew W. Harpstrite, Moweaqua Illinois, U.S.A., 18th December, 1906; 6 years. Filed 22nd November, 1906. Recelpt No. 141,427.
Claim.-1. In a power propelled plough the combination with a frame and soil turning devices carried thereby, of an engine supported on said frame, means connecting said engine with a loose pulley, a shaft on which said loose pulley is mounted, a clutch mechanism for connecting said loose pulley and shaft, a pinion on said shaft, a gear with which said pinion is in mesh, a shaft driven by said gear, sprockets on said gear driven shaft, a traction wheel, a shaft on which said wheel is mounted, sprockets on said last-named shaft, and drive chains connecting said lastnamed sprockets with the sprockets on said gear driven shaft.
2. In a power propelled plough the combination with a frame, soll turning devices carried thereby, an engine and propelling devices driven by said engine, of a pair of axles mounted in the front part of said frame and hinged free to swing in a horizontal plane, wheels mounted on said axles, and steering mechanism for swinging said axles, said mechanism being made up of a bar unon each of sald axles, means for connecting the front ends of sald bars, a steering rod provided with a hub, and a chain wound around sald hub and having its ends connected to the rear ends of said bars.
3. In a nower propelled plough, the combination with a frame, soil turning devices carried thereby, an engine and propelling devices driven by said engine, of a pair of axles mounted in said frame, and means for ralsing and lowering said axles to level the plough.
4. The combination in a plough of a frame, axle members upon which said frame is supported, blocks in which said axle members are mounted, and screws for raising and lowering said blocks to level said frame.
5. Mechanism for raising and lowering the plough share comprising the combination of an operating lever, a shaft upon which said lever is mounted, a gear upon said shaft, a rack an mesh with which is said gear, and a ploughshare mounted on said rack.
6. Mechanism for raising and lowering a coulter comprising the combination of an operating lever, a shaft upon which said lever is mounted, a bell crank, a coulter carrying shaft in engagement with said bell crank, and means connecting said shaft with said bell crank.
7. Mechanism for raising and lowering the ploughshare and coulter comprising the combination of a shaft, means for turning said shaft, a gear on said shaft, a rack in mesh with said gear and secured to the ploughshare, a bell crank, a coulter carrying shaft attached to said bell crank, and means for connecting said shaft and coulter.
8. In a power propelled plough the combination with a frame, a ploughshare carried thereby and an engine mounted on said frame, of a traction wheel driven by said engine and mounted directly in rear of said ploughshare, whereby said wheel follows in the furrow last turned by said ploughshare 9. In a plough the combination of a frame, soil turnin~ devices carried thereby, a pair of axles for supporting said frame and mounted therein free to swing in a horizontal plane, and mechanism for raising and lowering said axles to level said frame.

No. 102,587. Plough. Charruc.


Robert Alven Armstrong, Avonmore. Ontario, Canada, 18th
December, 1906; 6 years. Filed 29th November, 1906. Receipt No. 141,656.
Clam.-1. In a plough the combination of the plough beam and plough downwardly extending from the rear end of same, of means for tiltably supporting the heam from the ground at substantially its center, as and for the purpose specified.
2. In a plough the combination with the plough beam and plough downwardly extending from the rear end of the same, of a transversely extending axle bar, wheels thereon, and means for tlltably connecting the beam to the axle bar at substantially the center of the beam, as and for the purpose specifled.
3. In a plough the combination with the plough beam and downwardly extending from the rear end of the same, of a transversely extending axle bar, wheels thereon, and means for tiltably connecting the beam to the axle at substantially the center of the beam, and means for raising and lowering the beam as a whole relatively to the axle bar, as and for the purpose specifled.
4. In a plough the combination with the plough beam and plough downwardly extending from the rear end of the same, of a transversely extending axle bar, wheels thereon, means for tiltably connecting the beam to the axle bar at substan-
tially the center of the beam, and means operable from the end of the plough beam for raising and lowering the beam as a whole relatively to the axle bar, as and for the purpose specified.
5. In a plough the combination with the plough beam and the plough downwardly extending with the rear end of the same, the axle bar, wheels on the same, of a ring pivoted to the bottom contacting with the axle bar, means for tilt ing the ring, and means for connecting the beam to the axle bar with freedom of vertical movement, as and for the purpose specifled.
6. In a plough the combination with the plough beam and plough downwardly extending from the rear end of the same, the axle bar and wheels thereon of a ring pivoted to the beam and contacting with the axle bar, means for tilting the ring, vertical extending standards secured to the axle bar and extending through a hole in the beam, as and for the purpose specified.
7. In a plough the combination with the plough beam and plough. the axle bar and the wheels thereon, of a vertivally extending standard secured to the axle bar and extending through a hole in the plough beam, and means for raising and lowering the plough beam relatively to the axle bar, as and for the purpose specified.
8. In a plough the combination with the plough beam and plough downwardly extending from the rear end of the same. a transversely extrnding axle bar. whecls thereon, means for tiltably connecting the beam thereto at substantially the center of the beam, and means for adjusting the wheels in position at each end of the axle bar, as and for the purpose specified.
9. In a plough the combination with the plough beam and plough downwardly extending from the rear end of the same, a transversely extending axle bar, wheels thereon, means for tiltably connecting the beam thereto at substantially the center of the beam, and means at the end of the axle bar for adjusting one wheel horizontally and the other wheel vertically, as and for the purpose specified.
10. In a plaugh the combination with the plough beam and plough downwardly extending from the rear end of the same, of a transversely extending axle bo… means for tiltably connecting the beam to the axle bar at substantially the center of the beam, levers journalling the end of the axle, stub shafts secured on said levers and which support the wheels, and means for holding the levers in any adjusted position, as and for the purpose specified.
11. In a plough the combination with the plough beam and plough downwardly extending from the rear end of thr same, the axle bar and the whecls, of means for tiltably connecting the beam to the axle bar at substantially the center of the beam, a lever pivoted intermediate of its length to one end of the axle, a stub shaft at the extremity of the lever supporting the whecl, means for holding the lever in any adjusted position, a sccond lever pivoted at its extremity to the opposite end of the axle bar, an arm integral therewith at substantially right angles thereto, a stub shaft secured to the end of the arm on which the wheel is supported, and means for holding said lever in any adjusted position, as and for the purpose specifled.
12. In a plough the combination with the plough beam and the plough downwardly extending from the rear end of the same, of means for tiltably supporting the beam from the ground at substantially its center, the point of the plough lying immediately below the pivoting point, as and for the purpose specified.
13. In a plough the combination with the plough beam and plough downwardly extending from the rear end of the same, of a transversely extending axle bar, wheels thereon, means for tiltably connecting the plough beam to the axle bar at substantially the center of the plough beam, the plough being so located that its point will lle substantially on the line joining the two wheels and immediately below the pivoting point of the beam, as and for the purpose specifled.

\section*{No. 102,588. Oven Door and Lamp Receptacle Therefor.}

\section*{Porte dc fourneau et reccptable pour lampe.}

Richard Horsley Castle, Toronto, Ontario, Canada, 18th December, 1906; 6 years. Filed 28th November, 1906. Receipt No. 141,600.
Claim.-1. The combination with the oven casing and door thereof located towards one end of the casing, of a recess located at the opposite end of the casing in the back plate and a lamp receptacle at the inner side of the recess provided with a transparent inner window, as and for the purpose specified.
2. The combination with the oven casing and door thereof located towards one end of the casing, of a recess located at the opposite end of the casing in the back plate and a lamp receptacle at the inner side of the recess provided

With a transparent inner window and a cover hinged to the casing, an arc-shaped arm pivotally connected to the cover

and extending through a slot in the casing and provided with means for holding the cover in the raised position, as and for the purpose specified.
3. The combination with the oven casing and door thereof located towards one end of the casing, of a recess located at the opposite end of the casing in the back plate and a lamp receptacle at the inner side of the recess provided with a transparent inner window and a cover hinged to the casing and means for raising and lowering the cover, as and for the purpose specifled.

No. 102,589. Switch Signal. Signal à aiguille.


Prosper Clouticr, Three Rivers, Quebec, Canada, 18th December, 1906 ; 6 years. Filed 27th November, 1906. Receipt No. 141,590.
Olaim.-1. In a safety system for rallway switches the combination with the switch and operating mechanism therefor and the signalling device indicating the condition of the switch, of a locking device controlling with the switch and the signal and preventing independent action thereot.
2. In a safety signalling system for railway switches the combination with the switch and operating mechanism therefor, and the signal indicating the condition of the switch and the operating mechanism therefor, of locking means for the switch releasable by the operation of the signal operating mechanism, as and for the purpose specified.
3. In a safety signalling system for railway switches the combination with the switch and the operating mechanism therefor, the signal indicating the condition of the switch and the operating mechanism therefor, of means automatically thrown into operation when the switch is open for preventing the operation of the signal operating means, as and for the purpose specified.
4. In a safety signalling system for railway switches the combination with the switch, operating mechanism therefor. a signal and operating mechanism therefor, of a detent normally restraining the said operating mechanism, and means operated by the operating means of the signal for moving said detent out of engagement with the operating mechanism of the switch, as and for the purpose specified.
5. In a safety signalling system for railway switches the combination with the switch, operating means therefor, a signal for indicating the condition thereof, the operating means for the signal, a rope or chain extending between the signal and the operating means therefor, of a locking device normally restraining the operation of the switch, and a rope or chain controlling said operating device connected to the rope or chain extending between the signal and the operating means, as and for the purpose specfied.
0. An improved safety rallway switch having a stop on a movable part of the switch operating mechanism, a detent adapted to engage said stop, and means operated by the operating means for the signal indicating the condition of the switch for moving said detent out of engagement with said stop, as and for the purpose specifled.
7. An improved safety switch having a stop secured to a reciprocating member of the switch operating mechanism, a shaft, a detent secured thereto and upwardly extending therefrom, the end thereof being adapted to engage the stop and prevent the reciprocative movement of the member and the side of the detent being adapted to another position to be engaged by a stop whereby rotation of the detent and shaft will be prevented and signalling means operated by the rotation of the shaft supporting the detent for locking said signal in a danger position, as and for the purpose specilied.
8. An improved safety switch having a stop secured to a reciprocating member of the switch operating mechanism, a shaft, a detent secured thereto and upwardly extending therefrom, the end thereof being adapted to engage the stop and prevent the reciprocative movement of the member, the side of the detent being adapted in another position to be engaged by the ston whereby rotation of the detent and shaft will be prevented, a disc having a grooved periphery secured to the shaft. adsignal and operating mechanism therefor and a rope or chain connected to the disc end and in the operating mechanism of the signal whereby when the dise is rotated into \(a\) predetermined position the operation of the signal will he prevented, as and for the purpose specifled.
9. An improved safcty switch having a stop secured to a reciprocating member of the switch operating mechanism, a shaft. a detent secured thereto and upwardly extending therefrom, the end thereof being adapted to engage the stop and prevent the reciprocating movement of the member, the side of the detent being adapted in another position to be engaged by the stop whereby rotation of thr detent and shaft will be prevented. a disc having a grooved periphery secured to the shaft, a signal, an operating mechanism therefor and a rope or chain connected to the disc and to the operating mechanism of the signal whereby when tho disc is rotated into a predetermined position the operation of the signal will be prevented, a lug secured to the dise and upwardly extending therefrom. and a spring normally depressing the lug tending to move the disc into position which will prevent the operating of the signal, as and for the purpose specified.
10. An improved safety switch comprising a switch, operating mechanism therefor having a reciprocating member, a stop secured to the sald reciprocating member, a shaft, a detent secured thereto and outwardly extending therefrom, the end thereof being adapted to engage the stop and prevent the reciprocative movement of the member, the side of the detent being adapted in another position to be engaged by the stop whereby the rotation of the detent and shaft will be prevented, a disc provided with a grooved periphery secured to the shaft. a signal. invity operated means for normally holding it with the danger signal displayed, an operating mechanism for the signal, a rope or chain connected to the disc and to the operating mechanism of the signal whereby when the said mechanism is operated the disc and shaft will be rotated, a lug integral with the disc, and outwardly extending therefrom, a spring normally depressing the lug to rotate the shaft into a position such that the rope or chain connected thereto will prevent operation of the switch operating mechanism, substantially as described.

\section*{No. 102,590. Snow Melting Apparatus.}

\section*{Apparcil pour fondre la neige.}

Felix Dansereau, Montreal, Quebec, Canada, 18th December, 1906; 6 years. Filed 23rd November, 1906. Receipt No. 141,436.
Claim.-1. A snow melting apparatus consisting of a heater presenting a heat radiating snow supporting member, substantially as described and for the purpose set forth.
2. A snow melting apparatus consisting of a snow supporting member, and means for directing a heated blast upon the snow, substantially as described and for the purpose set forth.
3. A snow melting apparatus consisting of a heat radiating snow supporting member, and means directing a heated blast upon the snow, substantially as described and for the purpose set forth.
4. A snow melting apparatus comprising a furnace with a heat radiating top, a housing enclosing the furnace and having apertures through which the snow can be thrown upon the said top, substantially as described and for the purpose set forth.
5. A snow melting apparatus comprising a furnace with a heat radiating top and a plurality of vertical plpes com-

municating with the interior of the furnace and with their mouths turned downwardly, a housing enclosing the furnace and having apertures through which the snow can be thrown upon the said top, substantially as described and for the purpose set forth.
6. A snow melting apparatus comprising a furnace with a heat radiating top and a plurality of vertical pipes communicating with the interior of the furnace and with their mouths turned downwardly and exerting hot blasts in different directions, a housing enclosing the furnace and having apertures through which the snow can be thrown upon the said top, substantially as described and for the purpose set forth.
7. A portable snow melting apparatus consisting of a heat radiating snow supporting member, means directing a heated blast upon the snow, and a vehicle upion which the said apparatus is carried, substantially as described and 'or the purpose set forth.
8. A portable snow melting apparatus comprising a furnace with an undulating heat radiating top having a plurality of vertical pipes with downwardly curved mouths, a housing enclosing the gald furnace and presenting water tanks one at each side thercof, the said housing having a pair of apertures, and a vehicle carrying the sald apparatus, substantially as described and for the purpose set forth.
9. A portable snow melting apparatus comprising a sheet iron furnace with an undulating heat radiating top having a plurality of vertical pipes with downwardly curved mouths, the ends of such furnace having a fire brick lining, a housing enclosing the said furnace and presenting water tanks at each side thereof, the said housing having a pair of apertures, and a vehicle carrying the said apparatus, substantially as described and for the purpose set forth.
10. A portable snow melting apparatus comprising a sheet iron furnace with an undulating heat radiating top having a plurality of vertical pipes with downwardly curved mouths, the ends of such furnace having a fire brick lining, i housing enclosing the said furnace and presenting water lanks at each side thereof, the roof of the housing having n pair of apertures extending longitudinally thereof, a pair nf chutes, a pair of hanging doors, and a vehicle carrying the said apparatus, substantially as described and for the purpose set forth.
11. A portable snow melting apparatus comprising a furnace with an undulating heat radiating top having a plurality of smoke conductors directing blasts upon the said top, a housing enclosing the said furnace and presenting water tanks one at each side thereof, the said housing having a pair of apertures, and a vehicle carrying the said apertures, substantially as described and for the purpose set forth.
12. A portable snow melting apparatus comprising a furnace with an undulating heat radiating top having a plurality of vertical pipes some with downwardly curved mouths and others straight and having cowl plates on their tops, a housing enclosing the sald furnace and presenting water
tanks one at each side thereof, the said housing having a pair of apertures, and a vehicle carrying the said apparatus, substantially as described and for the purpose set forth.
13. A portable snow melting apparatus comprising a sheet iron furnace with an undulating heat radiating top having a plurality of vertical pipes some with downwardly curved mouths and others straight and having cowl plates on their tons, the ends of such furnace having a fire brick lining, a housing enclosing the said furnace and presenting water tanks one at each side thereof, the said housing having a pair of apertures extending longitudinally thereof, a pair of chutes, a pair of hanging doors, and a vehicle carrying the said apparatus, substantially as described and for the purpose set forth.
14. A snow melting apparatus comprising a furnace with a heat radiating top, a housing enclosing the furnace and having apertures through which the snow can be thrown upon the said top and means creating a forced draught in the said furnace, substantially as described and for the purpose set forth.
15. A portable snow melting apparatus comprising a sheet iron furnace with an undulating heat radiating top having a plurality of vertical pipes with downwardly curved mouths, the ends of such furnace having a fire brick lining, and means creating a forced draught in the said furnace, a housing enclosing the said furnace and presenting water tanks at each side thereof, the said housing having a pair of apertures, and a vehicle carrying the said apparatus substantially as described and for the purpose set forth.
No. 102,591. Locomotive. Locomotive.


Gilbert G. Davis, Muckiltoe, Washington, U.S.A., 18th December, 1906: 6 years. Filed 28th November, 1906. Receipt No. 141,605.
Claim.-1. In a locomotive, the combination of a traction wheel, a member provided with a bearing engaging the axle of said wheel, a main frame yieldingly supported on said member, and a rotatable driving element mounted on said member and operatively connected with said wheel.
2. In a locomotive, the combination of a traction wheel, a member provided with a journal engaging the axle of said wheel, a main irame yieldingly supported on said member, a rotatable driving element mounted on said member and operatively related to said wheel, and driving means supported on said frame and connecting with said elements.
3. In a locomotive, the combination of a traction wheel, gear rotatable therewith, a member provided with a journal engaging the axle of said wheel, a main frame yieldingly supported on said member, and a toothed member rotatably mounted on said journal member and engaging said gear.
4. In a locomotive, the combination of a traction wheel, a spur gear rotatable therewith, a member provided with a journal engaging the axle of said wheel, a main frame yieldingly supported on said member, a crank rotatably mounted on said member, and a spur pinion rotatable with said crank and engaging said gear.
5. In a locomotive, the combination of a traction wheel, a spur gear rotatable therewith, a member provided with a journal engaging the axle of said wheel, a main frame yieldingly supported on said member, a crank rotatably mounted on said member, a spur pinion rotatable with said crank and engaging said gear, and driving means supported on said frame and connected with said crank.

No. 102,592. Hay Press. Presse à foin.


Dempsey S. Edenfield, Savannah, Georgia, U.S.A., 18th December, 1906; 6 years. Filed 24th November, 1906. Receipt No. 141,464.
Claim.-1. In a baling press, the combination with a plunger head and its actuating mechanism, of a press box frame provided with flexible resilient metallic strips upon its respective sides, tail frame side pieces carried by the projecting ends of said strips in the rear of the box, and means for drawing the frame side pieces toward each other.
2. In a baling press, the combination with a plungen head and its actuating mechanism, of a press box frame provided with a pair of resilient metallic strips upon its respective sides, tail frame side pieces carried by the projecting ends of said strips in the rear of the box, and means for drawing the pieces toward each other against the resistance of the resiliency of the strips.
3. In a baling press, the combination with a plunger head, its actuating mechanism, and a press box frame provided with side pieces and a plurality of pairs of oppositely disposed uprights, of flexible resilient metallic strips upon opposite sides of the press box frame and secured respectively to the formed uprights and projecting beyond the rearward uprights, tail frame side pieces carried by the projecting ends of said strips respectively in the rear of the box. and means for drawing the tail frame side pieces toward each other.

No. 102,593. Glove. Gant.


Richard Evans, Johnstown, New York, U.S.A., 18th December, 1906; 6 years. Filed 23rd November, 1906. Receipt No. 141,437.
Claim.-1. A gauntlet glove having the hand portion of normal size and shape down to the wrist portion and having the gauntlet extending laterally beyond the wrist portion, and substantially perpendicularly thereto to accommodate the cuff of the wearer without materially increasing the diameter of the wrist portion of the glove, substantially as described.
2. A gauntlet glove having the hand portion of normal size and shape down to the wrist portion and provided with a gauntlet of greater diameter than the wrist portion, and projecting laterally beyond the wrist portion and having its upper ledge substantially perpendicular thereto, and a separate tip connected to the upper edge of the projecting portion of the gauntlet, and having converging edges united to the wrist portion of the glove whereby the laterally projecting portion of the gauntlet will accommodate a cuff of the wearer without materially increasing the diameter of the wrist portion of the glove, substantially as described.
3. A gauntlet glove having the hand portion of normal size and shape down to the wrist portion, and provided
with a gauntlet forming an extension of the hand portion, said gauntlet having a separate gore extending laterally from the wrist portion and having its upper edge substantially perpendicular thereto, and a separate tip united to the upper edge of the gore and having converging edges connected to the wrist portion of the glove, substantially as described.
4. A glove having a gauntlet provided on the outer side with a gore extending from the wrist portion to the end of the gauntlet, and a tip having a curved portion united to the top edge of the gore and converging edges united to the wrist portions of the glove proper, substantially as described.

No. 102,594. Bridle Bit. Bride.


Charles H. Falls, Clarksville, Iowa, U.S.A., 18th December,
1906; 6 years. Filed 21st Nevember, 1906. Receipt No. 141,395 .
Claim.-1. A bit having integral snaffles terminating in eyes, split plugs engaging the hollow ends of the bit, oscillating rein loops conuected to eye in said plugs having a saddle with a seat to be engaged by said rein loops, as set forth.
2. A bit having integral snaffles with eyes in the ends thereot, split plugs having eyes and integral saddles adapted to seat respectively in holiow ends of said bit. and rein loops engaging said eyes formed in said plugs and adapted to seat in said saddles, as set forth.
3. A bit having integral snaffles with eyes in the ends thereof. split plugs having their outer faces tapering and adapted to frictionally engage the inclined walls in the ends of said bit, an integral saddle upon each plug, each saddle having a concaved part forming a scat, the edge of said saddle adapted to engage in a recess formed at right angles in the bit to the length therpof, rein loops engaging elongated eycs formed in said plugs and a jaw strap connecting said loops, as set forth.
4. A bit having Integral snaffles with eyes in the ends thereof, split plugs having their outer faces tapering and adapted to frictionally engage the inclined walls in the ends of said bit, an integral saddle upon each plug, each sadule having a concaved part forming a seat, the inner edge of each saddle having its opposite inclined and designed to engage the tapering walls of recesses in the ends of the bit and rein loops engaging the eyes formed in said plugs, as set forth.
5. A bit having integral snaffies and having eyes at the ends thereof, split plugs engaging in the ends of the bit and provided each with a saddle held in a recess formed at right angles to the length of the bit, rein loops engaging eyes in said plugs and having crossbars to which a jaw strap is adapted to be fastened, as set forth.

\section*{No. 102,595. Butter Separator.}

Appareil pour síparer le beurre de la crème.
John Miller Fleming, Ottawa, Ontario, Canada, 18th December, 1906; 6 years. Filed 29th November, 1906. Receipt No. 141,655.
Claim.-1. In a butter separator the combination with the aerating dasher, of means for supplying the same with air from a point laterally removed from the center of the dasher, as and for the purpose specified.
2. In a butter separator the combination with the aerating dasher, of means extending beyond the side of the liquid containing vessel for supplying the dasher with air, as and for the purpose specifled.
3. In a butter separator the combination with the aerating dasher, of a casing enclosing the same above the surface of the liquid, and an air supply pipe connected to said casing and leading over the side of the separating vessel, as and for the purpose specified.
4. In a butter separator the combination with the frame and separating vessel thereon, a central shaft and the

dasher thercon, of a casing enclosing the dasher and extending into the liquid, means for supporting the casing in the frame, and an air supply pipe connected to the casing and leading over the side of the separator vessel, as and for the purpose specifled.
5. In a butter separator the combination with the central shaft and means for driving the same, of an aerating dasher on the shaft, a casing enclosing the same, a tube secured at the top of the dasher and extending through the casing, means for holding the tube in any adjusted position on the shaft, and an air supply pipe secured to the casing and extending laterally therefrom, as and for the purpose specifled.
6. In a butter separator an improved acrating dasher comprising a tubular portion, having two frustro-conical corrugated discs at the bottom thereof, and means for permitting the passage of alr down the tubular portion and between the discs, as and for the purpose specified.
7. In a butter separator an improved dasher comprising a tubular portion and a corrugated frustro-conical disc secured to the bottom thereor, and a second like disc secured to the tube a short distance above the first, and perforations between the two discs, as and for the purpose specified.
8. In a butter separator the combination with the frame, a stardard upwardly extending therefrom, horizontal arms inwardly extending from the top of the standard, a vertically extending driving shaft journalled in the end of the arm, a pulley thereon, a stub shaft on the standard, a driving wheel thereon, diagonally disposed pulleys on each side of the standard, brackets supporting the same, and a continuous belt extending around the main driving wheel, around the diagonal pulleys and the pulley on the central shaft, as and for the purpose specifled.
No. 102,596. Churn. Barattc.


Harland Garbutt, Londesborough Iron Works, Seamer. York, England, 18th December, 1906; 6 years. Filed 27th November, 1906. Receipt No. 141,575.
Claim.-1. In a churn, a barrel, a shaft passing through the barrel and made in three parts, the outer parts being capable of sliding in their bearings and releasing fe central part, and dashers carried by the shaft.
2. In a churn, a barrel, a revolving shaft carrying dashers passing through the barrel, the dashers at the ends of the shaft propelling the cream towards the center of the barrel, and the central dasher propelling it outwards.

No. 102,597. Car Coupler. Attrlage ale chars.


Jordan Monroe Howell, Dallas, Texas, U.S.A., 18th December, 1906; 6 years. Filed 20th November, 1906. Recelpt No. 141,359.
Cluim.-In a car coupler, a bar having a hollow head, a coupling knuckle pivoted therein and provided with a rearwardly extending arm, a pivoted operating member designed for engagement with said arm when the knuckle is in coupling position, said member having a rearwardly projecting arm and the head being provided with a recess to receive said arm, a movable key adapted for engagement with the arm of the operating member to fix the latter and knuckle against movement and means for moving the key to releasing position, sain kny and knuckle arm having cam faces adapted to co-operate through frictional engagement for holding the key in releasing position.

No. 102,598. Stump Extractor. Arruche-sourhe.


Thomas W. Huckle, Standish, Michigan, U.S.A., 18th December, 1906; 6 years. Flled sth August, 1906. Receipt No. 138,487 .
Claim.-1. A draft apparatus comprising the combination of the body, a holding device along which the body is arranged to roll and a flexible connecting device attached to the body.
2. A draft apparatus comprising a body, a holding device along which the body is arranged to roll. a connector and means for adjustably mounting the connector on the body.
3. A draft apparat 18 comprising a body, a holding device along which the body is arranged to roll, a flexible connector and means fur adjustably mounting the connector on the body.
4. A draft apparatus comp.ising a body, a holding device along which the body is arranged to roll, a flexible conductor and means for adjustably mounting the connector on the body, said means effecting an engagement between the connector and the body at two different points on the body.
5. A draft apparatus comprising the combination of a body, a holding device along which the body is arranged to roll, a connecting device attached to the body, and an arm attached to the body and projecting outward therefrom, said arm serving to have the power applied thereto.
0. A draft apparatus comprising a body, a holding device along which the body is arranged to roll, a jointed connector attached to the body, and pins adjustably held in the body and adapted to be engaged by the connector.
7. A draft apparatus comprising a body in the form of a sheave, a holding device along which the body is arranged to roll and a connector at tached to the body.
8. A draft apparatus comprising a body in the form of a sheave, a holding device along which the said sheave is arranged to roll, a jointed connector and means for mounting the connector on the sheave, sald means engaging the connector at two points.
9. A draft apparatus comprising a body in the form of a sheave, a holding device along which the sheave is arranged to roll, a jointed connector attached at one end to the body, and pins adjustably mounted on the body and adapted to be engaged by said connector.
10. A draft apparatus comprising a body in the form of a sheave, a holding cable attached. to the periphery thereof and a connector mounted on the body.
11. A draft apparatus comprising a body in the form of a sheave, a holding cable attached to the periphery there\(o_{i}\), a jointed connector attached at one end to the sheave, and pins adjustably mounted on the sheave and adapted to be engaged by the connector.
12. A draft apparatus comprising a body in the form of a sheave, a holding device along which the sheave is arranged to climb, a flexible connector attached at one ead to the body, and means located on the body and adapted to be engaged by the connector.
13. A draft apparatus comprising a body in the form of a sheave, a holding device along which the sheave is arranged to roll, a flexible connector attached at one end to the sheave, said sheave having a plurality of orifices therein and a pin capable of fitting a plurality of said orifices.
14. A draft appliance comprising a body, a holding device along which the body is arranged to roll, a connector attached to the body, and means for varying the effective length of the connector.

No. 102,599. Cultivator. Cultiratcur.


William Hull, Souris, Manitoba, Canada, 18th December, 1906: 6 years. Filed 28th November, 1906. Receipt No. 141,601.
Claim.-1. In a device of the class described, the combination with the tongue and the neck yoke, of means movably supporting the tongue from the neck yoke, as and for the purpose specified.
2. In a device of the class described, the combination with the tongue and the neck yoke, of vertical means supporting the tongue slidably from the neck yoke, as and for the purpose specified.
3. In a device of the class described, the combination with the tongue and the neck yoke, of means supporting the tongue slidably from the neck yoke, and means for retaining the tongue relatively to the neck yoke in a predetermined position, as and for the purpose specified.
4. In a device of the class described, the combination with the tongue and the neck yoke, of means for supporting the tongue slidably from the neck yoke, and adjustable means for limiting the upward position of the tongue, as and for the purpose specified.
5. In a device of the class described, the combination with the tongue and the neck yoke, of a rod extending vertically from the center of the neck yoke, and adapted to pass through an opening in the forward end of the tongue, brace rods extending from the free end of the aforesald rod to the extending end of the neck yoke, and means attached to the neck yoke for controlling the relative position of the rod to the tongue, as and for the purpse specified.
6. In a device of the class described, the combination with the tongue and the neek yoke, the tongue having an opening passing vertically through its forward end, of a rod having a threaded end adapted to screw into a female thread centrally in the neck yoke and to pass through the opening in the tongue, brace rods passing from the free end of the threaded rod to the extending ends of the neck yoke, a loose
pulley forwardly on the tongue, a toothed quadrant, a lever, a hand latch, and a detent at the rear end of the tongue, and a cable connecting the lever through the pulley to the neck yoke, as and for the purpose specified.
7. In a device of the class described, the combination with the rear portion of the frame and the main shafts, of arms secured to the main shafts and tension springs extending between the rear portion of the frame and the arms, as and for the purpose specified.
8. In a device of the class described, the combination with the rear portion of the frame and the main shafts, of arms rigidly secured to the shafts, tension springs secured to the arms and means for adjustably securing the outer ends of the springs to the rear portion of the frame, as and for the purpose specifled.
9. In a device of the class described, the combination with the main shafts and the rear portion of the frame, of arms secured rigidly to the main shafts, a tension spring extending rearwardly from the arms, a nut secured to the outer end of the respective rings, and a threaded crank rod extending from the rear portion of the frame and adapted to screw into the nut to adjust the tension of the springs, as and for the purpose specified.
No. 102,600. Loader. Apparil à charger.


Le Grand Kniffen, Chicago, Illinois, U.S.A., 18th December, 1906; 6 years. Filed 29th November, 1906. Receipt No. 141,647.
Claim.-1. The combination with a wheeled axle, of two upwardly extending angular frames mounted thereon and spaced apart, connections transversely uniting said frames, a chute connected at its rear portion to the rear parts of sald frames and bodily movably located between the frames, and means on the frames and chute to elevate the latter.
2. The combination with a wheeled axle, of two upwardly and rearwardly extending angular frames mounted in parallelism thereon and spaced apart, connections transversely uniting said frames, a chute pivotally connected at its rear portion to the rear parts of the frames and bodily movably located between the frames, a shaft transversely journalled on the chute, and a connection secured at one of its ends above the chute and at the other end to said shaft.
3. The combination with a wheeled axle, of two upwardly extending angular frames mounted thereon and spaced apart, connections transversely uniting said frames, a chute connected at its rear portion to the rear parts of said frames and bodily movably located between the frames. a downwardly depending bracket longitudinally mounted on the upper portion of the chute at each of its sides, and means on the frames and chute to elevate the latter.
4. The combination with a wheeled axle, of two upwardly extending angular frames mounted thereon and spaced apart, connections transversely uniting said frames, a chute connected at its rear portion to the rear parts of sald frames and bodily movably located between the frames, a downwardly depending and angular-in-outlines bracket longitudinally mounted on the upper portion of the chute at each of its sides, and means on the frames and chute to elevate the latter.
5. The combination with a wheeled axle, of a chute mounted thereon above the wheels and having near its upper end an opening between its sides, a lever mounted on each side of said opening and extending above the sides of the chute, and means to elevate the latter from the axle. 6. The combination with a wheeled axle, of a chute mounted thereon above the wheels and having an opening near its upper end between its sides, a lever mounted on
each side of the opening of the chute, mesns to elevate the same from the axle, a carrier adapted to travel thereon and having laterally projecting pivots on its sides to engage said levers whereby the carrler will be partially rotated or tilted to discharge its load through said opening and its further forward movement prevented.
7. The combination with a wheeled axle, of a chúte mounted thereon ahove the wheels and having an opening near its upper eau between ifs sides, a lever mounted on and extending above each side of the chute, means to elevate the same from the axle, a carrier adapted to travel thereon and having laterally projecting pivots on its sides to engage said levers whereby the carrier will be partially rotated or tllted to discharge its load through said opening and its further forward movement prevented.
8. The combination with a wheeled axle, of a chute mounted thereon above the wheels and having an opening near its upper end between its sides, a spring actuated lever mounted on each side of the opening of the chute, means to elevae the same from the axle, a carrier adapted to travel thereon and having laterally projecting pivots on its sides to engage said levers whereby the carrler will be partially rotated or tilted to discharge its load through said opening and its further forward movement prevented and whereby after the load of the carrier is discharged said carrier will be moved rearwardly by the spring actuated levers.
9. The combination with a wheeled axle, of a chute mounted thereon above the wheels and having an opening near its upper end between its sides, a spring actuated and recessed lever mounted on each side of the opening of the chute, means to elevate the same from the axle, a carrier adapted to travel thereon and having laterally projecting pivots on its sides to engage the reoesses in said levers whereby the carrier will be partially rotated or tilted to discharge its load through sald opening and its further forward movement prevented and whereby after the load of the carrier has been discharged the carrier will be moved rearwardly on an arc of a circle by the spring actuated levers to the end that it will be started dowr the inclined chute and its lines freed or cleaned of thi" material carried thereby.
10. The combination with a wheeled axle, of a chute mounted thereon above the wheels and having an opening near its upper end between its sides, a downwardly depending bracket longitudinally mounted on the upper portion of the chute at each of its sides, means to elevate the same from the axle, a lever fulcrumed at its lower portion on cach of said brackets and extending above the sides of the opening in the chute, a carrier adapted to travel on the chute and having laterally projecting pivots on its sides to engage said levers whereby the carrier will be partially rotated or tilted to discharge its load through said opening and its further forward movement prevented.
11. The combination with a wheeled axle, of a chute mounted thereon above the wheels and having an opening near its upper end between its sides, a downwardly depending bracket longitudinally mounted on the upper portion of the chute at each of its sides, means to elevate the same from the axle, a spring actuated lever fulcrumed at its lower portion on each of said brackets and extending above the sides of theh opening in the chute, a carrier adapted to travel on the chute and having laterally profecting pivots on its sides to engage said levers whereby the carrier will be partially rotated or tilted to discharge its load through said opening and its further forward movement prevented and whereby after the load of the carrier has been discharged the carrier will be moved rearwardly by the spring actuated levers.
12. The combination with a wheeled axle, of a chute mounted thereon above the wheels and having an opening near its upper end between its sides, a downwardly depending bracket longitudinally mounted on the upper portion of the chute at each of its sides, means to elevate the same from the axle, a spring actuated and recessed lever fulcrumed at its lower portion on each of said brackets and extending above the sides of the opening in the chute, a carrier adapted to travel on the chute and having laterally projecting pivots on its sides to engage the recesses of said levers whereby the carrier will be partially rotated or tilted to discharge its load through said opening and its further forward movement prevented and whereby after the load of the carrier has ben discharged the spring actuated levers will move the carrier rearwardly on an arc of a circle and start it down the inclined chute so as to cause the upper end of the chute to remove material from the carrier.
13. The combination with a chute adapted to be placed in an inclined position, of a downwardly depending and angular-in-out-lines bracket longitudinally mounted on the the upper portion of the chute at each of its sides.
14. The combination with a shute adapted to be placed in an inclined position and having an opening in its upper end between its sides, of a downwardly depending bracket longitudinally mounted on the upper portion of the chute at each of its sides, a lever fulcrumed at its lower portion on each of said brackets and extending above the sides of the opening in the chute, means on the sides of the chute to restrict the movement of said levers, a carrier adapted to travel on the chute and having laterally projecting pivots on its sides to engage sald levers. whereby the carrier will be partlally rotated or tilted to discharge its load through said opening and its further forward movement prevented. 15. The combination with a chute adapted to be placed in an inclined position and having an opening in its upper end between its sides, of a downwardly depending bracket longitudinally mounted on the upper portion of the chute at each of its sides, a spring actuated lever fulcrumed at its lower portion on each of said brackets and rxtending above the sides of the opening of the chutc. a carrier adapted to travel on the chute and having laterally projecting pivots on its sides to engage said levers whereby the carrier will be retarded in its movement and partially rotated or tilted to discharge its load through said opening and its further forward movement prevented and whereby after the load of the carrier has been discharged the spring actuated levers will move the carrier rearwardly and start it down the inclined chute so as to cause the upper end of the chute to remove material from the carrier.
16. The combination with a chute adapted to be placed In an inclined position and having an opening near its upper end between its sides, of a downwardly depending bracket longitudinally mounted on the upper portion of the chute at each of its sides, a spring actuated and recessed lever fulcrumed at its lower portion on each of said brackets and extending above the sides of the opening in the chute, a carrier adapted to travel on the chute and having laterally projecting pivots on its sides to engage the recesses of the said levers whereby the carrier will be retarded and then stopped and partially rotated or tilted to discharge its load through said opening and whereby after the load of the carrier shall have been discharged the spring actuated levers will move the carrier rearwardly on an arc of a circle and start it down the inclined chute so as to cause the upper end of the chute to remove material from the carrier.
17. The combination with a wheeled axle, of a chute mounted thereon above the wheels and having an opening near its upper end between its sides, a downwardly depending bracket longitudinally mounted on the upper portion of the chute near each of its sides, means to elevate the chute from the axle, a spring actuated lever fulcrumed at its lower portion on each of said brackets and extending above the sides of the opening in the chute, a carrier adapted to travel on the chute and having laterally projecting and movable pivots on its sides to engage sald levers, a bail pivotally mounted on the sides of the carrier at points above and to the rear of the said pivots and having on each of its sides \(a\) lateral projection, and a spring actuated and recessed lever on each of the sides of the carrier adapted to engage said projections on the ball whereby the bail will be rigidly held in its lowered position and released when the pivots of the carrier strike the levers on the upper end of the chute.
18. The combination with a wheeled axle, of a chute mounted thereon above the wheels and having an opening near its upper end between its sides, a downwardly depending bracket longitudinally mounted on the upper portion of the chute near each of its sides, means to elevate the chute from the axle, a spring actuated lever fulcrumed at its lower portion on each of said brackets and extending above the sides of the opening in the chute, a carrier adapted to travel on the chute and having laterally projecting and movable pivots on its sides to engage said levers, a bail pivotally mounted on the sides of the carrier at points above and to the rear of the said pivots and having on each of its sides a lateral projection, a spring actuated and recessed lever on each of the sides of the earrier adapted to engage said projections on the bail, and a wheel journalled on the lower portion of the carrier.
19. A carrier consisting of two upright side pieces each having a channel to receive a handle, a crossbar uniting the side pieces at their lower portions, means on the crossbar to carry the material to be loaded, a transverse rod uniting the side pieces at their upper portions, a bail pivotally secured on said crossbar and having on each of its sides a lateral projection, a pivot on each of the sides of the carrier to strike stops on the upper portion of an inclined chute for the purpose of tilting the carrier, a spring actuated and recessed lever fulcrumed on each of the sides and adapted to engage the projections on the ball.
20. A carrier consisting of two upright side pieces each having a channel to receive a handle, a crossbar uniting the side pieces at their lower portion, means on the crossbar to carry the material to be loaded, a transverse rod uniting the side pieces at their upper portions, a bail pivotally secured on said crossbar and having on each of its sides a lateral projection a pivot on each of the sides of the carrier to strike stops on the upper portion of an inclined chute for the purpose of tiltng the carrier, a spring actuated and recessed lever fulcrumed on each of the sides and adapted to engage the projections on the bail, and a wheel journalled on the crossbar at the lower portion of the carrier.
21. The combination with a chute adapted to be placed in an inclined position and having an opening in its upper end between its sides, of a stop on each side of said opening, a carrier having on each of its sides a long laterally projecting pivot adapted to project over the sides of the chute at its upper end and to strike said stops.
22. The combination with a chute adapted to be placed in an inclined position and having an opening in its upper end between its sides, of a stop located on the chute on each side of the opening therein. a carrier having on each of its sides a long laterally projecting pivot, said pivots being located above and to the rear of the material supporting or carrying part of the carrier and adapted to extend over the sides of the chute at its upper end and to strike said stops, and a bail pivoted to the carrier above said pivots.

No. 102,601. Brake Mechanism. Mécanisme de frin.


James Albert Lightbody, Waterville, Maine, U.S.A., 18th December, 1906; 6 years. Filed 29th November, 1906. Receipt No. 141,648.
Claim.-A brake lever support comprising an inverted yoke piece attached to the brake bar truss and constructed to support the brake lever, substantially as and for the purpose set forth.

No. 102,602. Guard Rail. Garle-rail.


William H. Moore, Waveland, Indiana, U.S.A., 18th December, 1906; 6 years. Filed 26th November, 1906. Receipt No. 141,533.
Claim.-1. A guard rail provided with central and terminal projections to space it from the main rail. 2. A guard rail having inturned ends, a central spacing projection, a terminal spacing projection formed upon the inturned ends, said projections being adapted to engage the main rail and space the guard rail therefrom.
3. A guard rail provided with inturned ends having bevelled outer faces, and terminal projections extending from the outer face thereof to bear upon the maln rail, said projections forming continuations of the bevelled surafces of the inturned ends.
4. The combination with a main rail, of a guard rail having spacing projections bearing upon the main rail, and bolts connecting said rails intermediate said projections.

No. 102,603. Nrit Lock. Arrête-écrou.


William E. Louden, Lisbon, Ohio, U.S.A., 18th December, 1906; 6 years. Filed 26th November, 1906. Receipt No. 141,497.
Claim.-1. In a nut lock, the combination with a rail and fish plate, of a plurality of bolts passing through the rail and fish plate, nuts threaded on the bolts, said nuts comprising outer heads and inner angular necks of less cross sectional area than the heads, a single piece locking plate that fits against the fish plate and has a series of longitudinally disposed key hole openings therein, the larger portions of the openings permitting the passage of the nut heads, the smaller portions snugly recoiving said necks to prevent the turning of the nuts and being of. less area than the heads, and spaced outstanding lugs carried by the lower portions of the ends of the locking plate, and each having a holding spike receiving opening, the lower edge of the locking plate between the lugs being disposed over the base flange of the rail.
2. In a nut lock, the combination with a rail comprising a head flange, a base flange, and a connecting web, of a fish plate bearing against the web and having an outstanding lower portion that rests on the base flange, said fish plate terminating short of the head flange, bolts passing through the rail and fish plates, nuts threaded on the bolts, said nuts comprising outer heads and inner angular necks of less cross sectional area than the heads. a locking plate that engages against the fish plate and has its upper margin fitted over said fish plate and against the rail web between the unper edge of the fish plate and the head flange of the rail. said locking plate furthermore having a series of longitudinally disposed key hole openings therein, the large portions of the openings permitting the passage of the nut heads. the smaller portions snugly receiving the nut necks to prevent their turning and being of less area than the heads, said locking plate having spaced outstanding lugs that extend over and project beyond the outstanding portion of the fish plate. and means passing through the projecting portions of the lugs for securing the plate against longitudinal movemont with rispect to the nuts.

\section*{No. 102,604. Nut Lock. Arrête-écrou}

James William McDonald, Winnipeg, Manitoba, Canada, 18th December, 1906; 6 years. Filed 26th November 1906. Receipt No. 141,499.

Claim.-1. In a nut lock for raflroad rails the combination with a fish plate and the main bolt nuts, of a plate having its ends shaped to fit the sides of the nut and means for securing the latter plate to the fish plate, as and for the purpose specified.
2. In a nut lock for rallroad rails the combination with the main bolt nuts and the overlapping plate between two adjoining rails, of a lock plate having its ends bifurcated and adapted to grasp the nuts, and means for securing the lock plate to the former plate, as and for the purpose specified.
3. In a nut lock for railroad rails, the combination with tre fish plate, and the bolts and nuts, retaining the fish plate to the web of the rails, of a locking bar having bifur-
cated ends adapted to grasp the nuts, a pin extending from between the fish plate and the web outwardly through the

locking bar. and a lock pin adapted to hold the lock bar flush with the fish plate, as and for the purpose specified.
4. In a nut lock for railroad rails, the combination with the fish plate, the bolts and nuts securing the fish plate to the web, and the bifurcated locking bar adapted to grasp the nuts, of pins extending outwardly through the plates from behind the fish plate, and a spring locking pin passing through the frec end of the aforesald pins, as and for the purpose specified.
5. In a nut lock for railroad rails, the combination with the fish plate having a longltudinal groove in the side next the web, the bolts and nuts securing the fish plate to the web and the bifurcated locking bar, of a pin extending from behind the fish plate outwardly through openings in the plate and the locking bar, and having its head resting in the groove, and spring locking pins passing through the ends of the aforesaid pins, as and for the purpose specified.

No. 102,605. Hose. Bas.


George B. McWilliams, Waterloo, Iowa, U.S.A., 18th December, 1906; 6 years. Filed 26th November, 1906. Recelpt No. 141,546.
Claim.-1. Hose composed of the combination with a loosely textured body, of heel and toe portions attached theroto constructed of a more closely textured material.
2. Hose composed of the combination with a loosely textured body, of heel and toe portions attached thereto of more closely textured material provided with means for ventilation therethrough.
3. Hose composed of the combinaion with a knitted body, of soft leather heel and toe portlons attached thereto.
4. Hose composed of the combination with a knitted body, of soft leather heel and toe portions attached thereto provided with a plurality of ventilating perforations.

No. 102,606. Petticoat or Skirt. Jupe.


Edward J. Segrell, Newark, New Jersey, U.S.A., 18th December, \(1906 ; 6\) years. Filed 28th November, 1906 Recelpt No. 141,606.
Claim.-1. In a garment of the character stated, a body provided with a placket, fastening members respectively connected with the ends of the waist portion of said body, for adjustably holding the latter on the wearer, and a lapel connected with the rear of the body, adapted to cover the opening between the members of said placket, and to conceal said members, and means for securing said lapel in operative position.
2. In a garment of the character stated, a body provided with a placket, and a strap and a fastening respectively connected with the ends of the waist portion of said body, for adjustably holding the latter on the wearer.
3. In a garment of the character stated, a body provided with a placket, means for connecting the ends of the waist portion of said body for holding the latter on the wearer, a device on said body adapted to cover the opening between the members of said placket, and means for retaining said device in operative position.
4. In a garment of the character stated, a body having a placket and a piece on said body adapted to cover the opening between the members of said placket.
5. In a garment of the character stated, a body having a placket, flaps extending inwardly from the members of sald placket, a device on sald body adapted to overlap said flaps and cover the opening between the same, and means on said device and body for adjustably retaining the former in operative position.
6. A garment of the character stated composed of a body, a placket, and a lapel extending upwardly from the body, adapted to cover the opening between the members of said placket.
7. A garment of the character stated, having a body and a placket therefor, a lapel extending upwardly from the rear of said body at or about the base of sald placket and adapted to cover the opening between the members of the latter.
8. In a garment of the character stated, the combination with the body threeof which is provided with a placket, of flaps extending from the members of said placket.
9. A garment of the character stated, having a body and a placket therefor, a lapel extending upwardly from the rear of said body at or about the base of said placket, and adapted to cover the opening between the members of the latter, and means on said body adapted to overlap said flaps, and cover the opening between the same.
10. In a garment of the character stated, a body provided with a placket, a lapel adapted to extend from the rear of the body upwardly over the opening between the members of said placket, and means for retaining said lapel in operative position.
11. In a garment of the character stated, a body provided with a placket, a lapel extending upwardly from the rear of said body at or about the base of the placket, adapted to cover the opening between the members of the latter, and fastening on said lapel and the waist portion of the body, for retaining the lapel in operative position.

\section*{No. 102,607. Ewitch. Aiguille.}

John M. Smith, Waite Park, Minnesota, U.S.A., 18th December, 1906; 6 years. Filed 24th November, 1906. Receipt No. 141,468 .
Claim.-1. In combination with a railroad switch, tubular rods, one of said rods connected with a switch operating device, clamps slidably mounted on said rods and secured to the switch points, and springs secured to saif rods and the clamps, substantially as shown and described.
2. In combination with a rallroad switch, slotted tubular rods, one of said rods connected with a switch operating device, clamps slidably mounted on said rods and secured through the slots therein, said clamps being secured to the
switch points, and springs secured in said tubular rods and to said clamps, substantially as shown and described.

3. In combination with a railroad switch, slotted tubular rods, one of said rods being connected with a switch operating means, clamps secured to the switch point and having tubular portions fitting on said tubular rods, bolts securing said tubular portions through the slots in the rods, and springs secured to said bolts and inside of said tubular rods, substantially as shown and described.
4. In combination with a railroad switch, slotted tubular rods, one of said rods being connected with the switch operating device, clamps secured to the switch point and having tubular portions fitting on said tubular rods, bolts secured to said tubular portions and through the slots in the rod, a rod slidably mounted in each tubular rod and having one end secured to the bolt secured to one of the clamps, a spring secured to the same bolt and inside of the tubular rod, and a spring secured to the other end of said rod and inside of the tubular rod, the bolt secured to the other clamp being secured to the last-named spring intermediate of its length, substantially as shown and described.

\section*{No. 102,608. Hot Water Firnace.}

Fournaise à eau chaude.


Simon Tache, Cleveland. Ohio, U.S.A., 18th December, 1906;
6 years. Filed 29th November, 1906. Receipt No. 141,645.
Claim.-A hot water furnace consisting of a series of sections having vertical and horizontal circulating portions \(V\)-shape in cross section and open to each other and hollow fluid circulating grate bars V-shape in cross section and connecting the legs thereof, said several sections having fluid passages transversely through their top and their lower corners, and tie rods passing through said openings and located outside agalnst the sides of the furnace, whereby a uniformly tight union of said sections is effected through all varying temperatures.

No. 102,609. Apparatus for Transporting Ioads. Apparcil pour transporter les charges.
John Ridley Temperley, Joseph Temperley and William Alexander, co-inventors, all of London, England, 18th December, 1906; 6 years. Filed 21st November, 1906. Recelpt No. 141,380.
Claim.-1. In combination in a transporter, a carriage having wheels, supoprting means for the carriage, a frame hinged to the carriage immediately below sald supporting means, in order that the central longitudinal plane of the frame shall not swing outside the intersection of the plane of the wheels with the supporting means, and automatic controlling mechanism.
2. In combination in a transporter, a carriage having
wheels, supporting means for the carriage, a frame hinged

to the carriage immediately below said supporting means in order that the central longitudinal plane of the frame shall not swing outside the intersection of the plane of the whecls with the supporting means, and automatic locking, unlocking and load sustaining devices.
3. In combination in a transporter, a carriage having wheels, a supporting track for the carriage, a frame hinged to the carriage immediately below said supporting track, in order that the central longitudinal plane of the frame shall not swing outside the intersection of the plane of the wheels with the supporting track, locking, unlocking and load sustaining devices carried by the frame, and means on the supporting track acting to control the locking and load sustaining devices.
4. In combination in a transporter, a carriage, supporting means for the carriage, a frame hinged to the carriage im mediately below said supporting means, a fall block guide and locking, unlocking and load sustaining devices carried by the frame.
5. In combination in a transporter, a carriage, supporting means for the carriage, a bell or fall block guide hinged to the carriage so that it may swing longitudinally, load sustaining means, locking mechanism, links slidable relatively to said bell or fall biock guide and pivotally conrected to said load sustaining means and to said locking mechanism, whereby the links and load sustaining means may swing with the bell and at the same time be free to move relatively thereto when the locking mechanism is actuated.
6. In combination in a transporter, a carriage comprising a frame, wheels and wheel carrying members to which the frame is hinged close under the trackway on which the carriage moves, so that it may swing transversely to the trackway, a fall block guide pivoted directly to the fram, locking, unlocking and load sustaining means, said means including a hook and a link slidable relatively to the fall block gulde.
7. In combination in a transporter, a wheeled carriage comprising a frame, wheels and wheel carrying members to which the frame is hinged close under the trackway on which the carriage moves, so that it may swing transversely to the trackway, a bell or fall block guide hinged to the frame so that it may swing longitudinally, locking and unlocking mechanism carried by the frame, links plvotally connected to said locking mechanism and slidable relatively to and guided by the fall block guide, load sustaining hooks pivotally connected to said links and guided by said fall block guide, means whereby the movement of the links in one direction brings the hooks into position for engaging the fall block to support the load and in another direction brings the hooks clear of the fall block guide, and means external to the carriage for controlling the locking and unlocking means.
8. In combination in a transporter, a carriage, a fall block guide, locking, unlocking and load sustaining devices, sald devices including a controlling member, movable relatively to and extending into the fall block guide at a place accessible to the fall block but inaccessible to the rope or other moving part.
9. In combination in a transporter, a carriage, a fall block guide, locking, unlocking and load sustaining devices, said devices including a controlling member movable relatively to and extending into the fall block guide at a place accessible to the fall block but inaccessible to the rope or other moving part and a hook depending from said member, means on the bell and hook for guiding the latter on the movement of said member whereby the hook is moved into or out of engagement with the fall block.
10. In combination in a transporter, a carriage comprising a frame, wheels and wheel carrying members to which the frame is hinged immediately below the trackway on which the carriage runs, a fall block guide, locking, unlocking and load sustaining devices, said devices including a controlling member movable relatively to and extending into the fall block guide at a place accessible to the fall block but inaccessible to the rope or other moving part and a hook depending from said member, means on the bell and hook for guiding the latter on the movement of said member whereby the hook is moved into or out of engagement with the fall block.
11. In combination with a transporter, a carriage comprising a frame, wheels and wheel carrying members, said frame being hinged to the wheel carrying members closely below the trackway on which the carriage travels, a fall block guide pivoted to the frame, locking, unlocking and load sustaining devices including hooks adapted to engage with the fall block on the cable of the transporter, closing and opening means for said hooks, sliding links pivotally connected to said hooks and projecting into the fall block guide at a point accessible to the fall block but inaccessible to the rope and other movable parts, a horned lever, toggle lever mechanism connected to said links and to said horned lever, and means on the trackway co-acting with the horned lever to tilt the same.
12. In combination in a transporter, a carriage comprising a frame, wheels and wheel carrying members to which the frame is hinged closely under the trackway, a fall block guide, locking, unlocking and load sustaining means, including a horned lever, sliding links guided in the fall block guide and accessible to the fall block but not to other moving parts in the bell, load sustaining hooks suspended from the links and toggle means pivotally connected to the horned lever and sliding links.
13. In combination in a transporter, a carriage, locking, unlocking and load sustaining means including a pivoted horned lever, a cam slot in the horned lever, guides in the carriage, a pin passing through the cam slot and guides in the carriage, load sustaining hooks carried from said pin, the slot in the cam being so formed and disposed in relation to the carriage guides that in one position a part of the cam slot lies across the carriage guides whereby the in is locked against movement along the slot and in another position another part of the cam slot colncides with the carriage guides whereby the pin, while movable along the slot and guides locks the horned lever.
14. In combination in a transporter, a carriage, a fall block, a pivoted sustaining hook, a cam-like part, hook disposed in the path of the fall block whereby the latter engaging with the cam-like part moves said hook into engagement with the fall block, a locking member, a direct connection between said locking member and the hook whereby a positive lock is produced in the alternative positions of the mechanism.

\section*{No. 102,610. Mixer. Apparcil à mélanger.}

Felix Notz, assignee of James McBriar, both of Chicago, Illinois, U.S.A., 18th December, 1906; 6 years. Filed 18th August, 1906 . Receipt No. 138,781.
Claim.-1. A mixing machine comprising a mixing chamber, and a plurality of revoluble mixing blades arranged within said chamber at different distances from their axis of revolution and means for imparting different speeds of revolution in the same direction to said blades whereby the stirring and pulling of the batch within the chamber is effected, substantially as described.
2. A mixing machine comprising a mixing chamber, a plurality of mixing blades arranged within said chamber, one of said blades having arms extending lengthwise thereof and arranged to travel in elose proximity to the wall of the mixing chamber and another of said blades having arms extending lengthwise thereof and arranged to revolve within the arms of said first-mentioned bladie and means for imparting different speeds of revolution in the same direction to said blades, substantially as described.
3. A mixing machine comprising a mixing chamber having a curzed body, inner and outer concentrically revoluble mixing blades arranged within sald body, the outer one of sald blades having longitudinal arms shaped substantially as shown and adanted to travel in proximity to the wall of the mixing chamber and the inner of said blades having arms arranged to travel within the path of the outer mixing blade, tubular sleeves connected to the outer mixing blales, shaft sections passing through said tubular sleeves connected to the inner mixing blade and gearing from imparting different speeds of revolution to gaid mixing blades, substantially as described.
4. A mixing machine comprising a mixing chamber having tubular bearings at its ends, supports whereon said


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bearings are revolubly mounted, gear mechanism whereby said mixing chamber may be turned to discharge its contents, bearing sleeves extending through the tubular bearings at the ends of said mixing chamber, a gear wheel connected to the outer end of one of said bearing sleeves. a mixing blade connected to the inner end of said lastmentioned bearing sleeve, a shaft section extending through one of said bearing sleeves, a gear wheel connected to said shaft section at its outer end, a mixing blado connected to the inner end of said shaft section and a drive shaft provided with pinions engaging sald gearing wheel, substantially as described.

No. 102,611. Levelling Device. Nivcau.


Oscar L. Bonney and William I. Mead, assignee of a half interest, both of Denver, Colorado, U.S.A., 18th December, 1906; 6 years. Filed 18th August, 1906. Receipt No. 138,784.
Claim.-1. The combination with the base of a clock or similar instrument, of a nut embedded in the base in a manner to prevent rotation, a screw-threaded in the nut and protruding both above and below the base, and a key having an unthreaded opening, applied to the upper threaded extermity of the screw and slidable freely on the threaded portion thereof, but connected therewith to cause the two parts to rotate in unison, the threaded portion of the screw extending above the clock base and the key being located at all times entirely above the sajd base.
a. The combination with the base of a clock or similar instrument, of a nut embedded in each corner of the base in a manner to prevent rotation, a screw-threaded in the nut and protruding both above and below the base, and a milled key having an unthreaded opening, applied to thi upper threaded extremity of the screw and slidable freely on the threaded portion thereof, but connected therewith to cause the two parts ito rotate in unison, the key of each Bcrew being located at all times entirely above the clock base.

No. 102,612. Scraper Ior Disc Ploughs. Grattoir pour charrue d disque.


Frank L. Armstrong, Moosejaw, Saskatchewan, Canada, 18th December, 1906; 6 years. Filed 5th April, 1904. Receipt No. 114,100.
Claim.-1. In a disc plough the combination with the lug of the trunnion bearing, of a vertically adjustable bracket having an upper curved end, a pending extension bracket having a curved end, adjustably connected with the former, staple or clip bolts in the shank of the extension bracket, a transverse bearing held by its round sectioned shank in said clip bolts and a disc with trunnion secured to it and journalled in said shanked bearing and having the lower part of its periphery held in contact with the concave face of the main disc and at an acute angle thereto, substantially as set forth.
2. In a disc plough or harrow the combination with the main dise of a smaller disc set at an acute angle thereto and the lower part of the main disc at the rear or rising side thereof, a trunnion secured to sald smaller disc, a bearing in which sald trunnion is fournalled integral with a rod, a bracket having a clip bolt in whirh said rod is held and means of connecting said bracket adjustably with the frame bar which carries the main disc. substantially as set forth.

No. 102,613. Signal Light for Railways.
Signal de chemins de fer.


David Burnfield, Denver, Colorado, U.S.A., 18th December, 1906; 6 years. Filed 13th August, 1906. Receipt No. 138,632.
Claim.-In a locomotive head and signal light the combination with the main casing, its lens, the reflector and illuminating device, of auxiliary casings located on opposite sides of and projecting laterally beyond the main casing and communicating with the latter, the auxiliary casings being curved and having lenses located to receive rays from the illuminating device, the main reflector having openings to allow the light to pass from the illuminating device to the lenses of the auxiliary casings, reflect ing tubes entirely concealed by the main and auxiliary casings. the said tubes surrounding the said openings in tho main reflector and being located in line with and be tween the illuminating device and the auxiliary lenses. and curved slides located in the auxiliary casings and adapted to move to positions in front of the lenses of the auxiliary casings. the said slides having openings provised with coloured transparent material adapted to repity with the lenses of the auxiliary casinge.

Mo. 102,614. Mower. Faucheuse.


Joseph Dain, Ottumwa, Iowa, U.S.A., 18 th December, 1906; 6 years. Filed 20th June, 1906. Receipt No. 137,084.
Claim.-1. In a mower the combination of a frame, a finger bar adapted to rock about its longitudinal axis, and a plurality of bearings between the inner end portion of said finger bar and said frame.
2. In a mower the combination of a frame, a finger bar projecting la terally at one side of said frame, means connecting said finger bar with said frame, and a plurality of bearings between said connecting means and said frame, said connecting means being adapted to swing upon said bearings to rock the finger bar about its longitudinal axis.
3. In a mower the combination of a frame, a finger bar projecting laterally at one side of said frame, means connecting said finger bar with said frame, and a pivot bearing and a sliding bearing between sald connecting means and said frame, said connecting means being adapted to swing upon said bearings to rock the finger bar about its longitudinal axis.
4. In a mower the combination of a frame, a finger bar projecting laterally at one side of said frame, means connecting sald finger bar with said frame, and a pivot bearing and sliding bearing between said connecting means and said frame, said sliding bearing being back of said pivot bearing, said connecting means being adapted to swing upon said bearings to rock the finger bar about its longitudinal axis.
5. In a mower the combination of a frame, a shoe, a pivot connecting said shoe with said frame and arranged to permit said shoe to swing in the longitudinal plane of the machine, a second bearing between said shoe and said frame, and a finger bar connected with said shoe and extending laterally from said frame.
0. In a mower the combination of a frame, a finger bar adapted to rock about its longitudinal axis, a plurality of bearings between the inner end portion of said finger bar and said frame, and mechanism for raising the finger bar out of operative position.
7. In a mower the combination of a frame, a finger bar projecting laterally at one side of said frame, means connecting said finger bar with said frame, a plurality of bearings between said connecting means and sald frame, sald connecting means being adapted to swing upon said bearings to rock the finger bar about its longitudinal axis. and mechanism for raising the finger bar out of operative position.
8. In a mower the combination of a frame, a finger bar projecting laterally at one side of said frame, means connecting said finger bar with said irame, a pivot bearing and a sllding bearing between said connecting means and said frame, said connecting means being adapted to swing upon said bearings to rock the finger bar about its longitudinal axis, and mechanism for ralsing the finger bar out of operative position.
9. In a mower the combination of a trame, a finger bar projecting laterally at one side of said frame, means connecting said finger bar with said frame, a pivot bearing and a sliding bearing between said connecting means and said frame, said sliding bearing being back of said pivot bearing, said connecting means being adapted to swing upon said bearings to rock the finger bar about its longitudinal axis, and mechanism for raising the finger bar out of operative position.
10. In a mower the combination of a frame, a shoe, a pivot connecting said shoe with said frame and arranged to permit said shoe to swing in the longitudinal plane of the machine, a second bearing between said shoe and said frame, a finger bar connected with said shoe and extending laterally from said frame, and mechanism for raising the finger bar out of operative position.
11. In a mower the combination of a frame, a finger bar adapted to rock about its longitudinal axis, a plurality of bearings between the inner end portion of said finger bar and said frame, mechanism for raising the finger bar out of operative position, and mechanism for swinging said finger bar upon sald bearings.
12. In a mower the combination of a frame, a finger bar projecting laterally at one side of said frame, means connecting said finger bar with said frame, a plurality of bearings between said connecting means and said frame. said connecting means being adapted to swing upon said bearings to rock the finger bar about its longitudinal axis, mechanism for raising the finger bar out of operative position, and mechanism for swinging said finger bar upon said bearings.
18. In a mower the combination of a prame, a finger bar projecting laterally at one side of said frame, means connecting said finger bar with said frame, a pivot bearing and a sliding bearing between said connecting means and said frame, said connecting means being adapted to swing upon said bearings to rock the finger bar about its longitudinal axis, mechanism for raising the finger bar out of operative position, and mechanism for swinging said finger bar about said bearings.
14. In a mower the combination of a frame, a finger bar adapted to rock about its longitudinal axis, and a plurality of bearings \({ }^{*}\) between the inner end portion of said finger bar and said frame, one of said bearings being forward of the finger bar.
15. In a mower the combination of a frame, a finger bar projecting laterally at one side of said frame, means connecting said finger bar with said frame, and a pivot bearing and a sliding bearing between said connecting means and said frame, said pivot bearing being formed of said flnger bar, said connecting means being adapted to swing upon said bearings to rock the finger bar about its longitudinal axis.
14. In a mower the combination of a frame, a pitman extending transversely across the front portion thereof, a laterally extending finger bar, and means for angularly adjusting said finger bar relatively to the pitman.
17. In a mower the combination of a frame, a pitman extending transversely across the front portion thereof, a finger bar extending laterally from the forward portion of said frame, and a plurality of bearings between the inner end portion of said finger bar and said irame, one of said bearings being adjustable to vary the angular relation of sald finger bar to said pitmen.
18. In a mower the combination of a frame, a pitmen extending transversely across the front fortion thereof, a finger bar extending laterally from the forward portion of said frame, and a pivot bearing and a sliding bearing between the inner end portion of said finger bar and said frame, said pivot bearing being adjustable to vary the angular relation of said finger bar to said pitman.
19. In a mower the combination of a frame, a shoe bracket, a shoe pivotally connected with said bracket and adapted to swing laterally, a finger bar connected with said shoe, and means pivotally connecting said shoe bracket in advance of the finger bar with said frame, said shoe bracket having a bearing on said frame back of said pivotal connection.
20. In a mower the combination of a frame having a transversely extending drag bar and a thrust bar connected therewith, a shoe bracket pivotally connected with said frame in alignment with said drag bar, a shoe connected with said shoe bracket, a finger bar connected with said shoe, and a bearing between said shoe bracket and said frame back of said drag bar.
21. In a mower the combination of a frame having a transversely extending drag bar and a thrust bar connected therewith, a shoe bracket pivotally connected with said frame in alignment with said drag bar and adjustable longitudinally thereof, a shoe connected with said shoe bracket, and finger bar connected with said shoe.
22. In a mower the combination of a transversely disposed drag bar, a slecve connected therewith, a shoe bracket having a pivot fitted in said sleeve, a shoe connected with said shoe bracket, a finger bar, and a thrust bas.
23. In a mower the combination of a transversely disposed drag bar, a sleeve connected therewith, a shoe bracket having a pivot fitted in said sleeve, a shoe connected with said shoe bracket, a finger bar, a thrust bar, and a bearing for said shoe bracket back of said pivot.
24. In a mower the combination of a frame having a
ransversely arranged drag bar a thrust bar transversely arranged drag bar. a thrust bar connected therewith, a shoe bracket pivotally connected with sald frame, means for angularly adjusting said shoe bracket relatively to the drag bar, a shoe connected with said shop bracket, and a finger bar.
25. In a mower the combination of a machine frame, a sleeve extending forward at one side thereof, a drive shaft mounted in said sleeve, a crank carried by said drive shaft near its forward end, a pitman connected with said crank and extending transversely of the machine, a drag bar pivotally connected with said sleeve and extending transversely of the machine in advance of said pitman. a shoe bracket pivotally mounted in alignment with said drag bar, a shoe pivotally connected with said shoe bracket, a finger bar connected with said shoe, a cutter bar connected with said pitman, a thrust bar, and a bearing between said thrust bar and said shoe bracket.
20. In a mower the combination of a machine frame, a vertically movable front frame, a finger bar pivotally connected with said front frame so that it may be tilted, and lifting mechanism mounted on said machine frame and acting first to lift said front frame and finger bar and afterwards to tilt said finger bar.
27. In a mower the combination of a machine frame, a vertically movable front frame, a finger bar pivotally connected with said front frame so that it may be tilted, and hand and foot levers for lifting said front frame and finger bar, said hand lever being arranged to be actuated independently of said foot lever to tilt said finger bar after said foot lever has reached the limit of its movement.
28. In a mower the combination of a machine frame, a finger bar, and hand and foot levers for lifting said finger bar, said hand levtr being movable independently of said foot lever to tilt the finger bar after said foot lever has reached limit of its movement.
29. In a mower the combination of a machine frane, a finger bar, a cutter bar carried thereby, means operated by the forward movement of the machine for driving said cutter bar, means for lifting said finger bar to inoperative position, means for automatically throwing said driving mechanism out of operation when said finger bar is raised to inoperative position, and means independent of sald automatic mechanism for disconnecting said driving mechanism.
30. In a mower the combination of a machine frame, a lifting lever, a rocking lever connected with said lifting lever, a swinging fulcrum for said rocking lever, a finger bar, and means connecting said rocking lever with said finger bar.
31. In a mower the combination of a machine frame, a lifting lever, a rocking lever connected with said lifting lever, a swinging fulcrum for said rocking lever, a finger bar, means connecting said rocking lever with said finger bar, and means for limiting the movement of said swinging fulcrum.
32. In a mower the combination of a machine irame, a lifting lever, a rocking lever connected with said lifting lever, a pivotally mounted gag lever on one arm of which said rocking lever is fulcrumed, a finger bar, means connecting said rocking lever with said finger bar, and means for limiting the movement of said gag lever.
33. In a mower the combination of a machine rame, a finger bar, a lifting lever, a rocking lever, a flexible connection between said-lifting lever and one of the arms of said rocking lever, a swinging support on which said rocking lever is fulcrumed, and a connection between said rocking lever and said finger bar.
34. In a mower the combination of a machine frame, a finger bar, a lifting lever, a rocking lever, a flexible connection between said lifting lever and one of the arms of said rocking lever, a gag lever pivotally mounted between its ends, said rocking lever being fulcrumed upon one of the arms thereof, and means for limiting the movement of said gag lever.
35. In a mower the combination of a machine frame, a finger bar, a cutter bar, a drive shaft, means connected with said shaft for reciprocating said cutter bar, a bevelled pinion mounted on sald shaft, a bevelled gear meshing with said pinion, a spur gear, an internal gear meshing with said spur gear, and means for driving said internal gear by the forward motion of the machine.
36. In a mower the combination of a machine frame, a front frame, a shoe connected with said front frame, a finger bar connected with said shoe, draft devices, and means for varying the line of direction of the draft as applied to said front frame.
37. In a mower the combination of a machine irame, a front frame; a shoe connected with said front frame, a finger bar connected with said shoe, draft devices, means connecting the draft devices with the front frame adjacent to the shoe, means connecting the draft devices with the front frame near the center of the machine, and adjustable means for varying the direction of he line of draft as applled to said front frame.
38. In a mower the combination of a machine frame, a front frame, a shoe connected with said front frame, a
finger bar connected with said shoe, draft devices, means connecting the draft devices with the front frame adjacent to the shoe, meas connecting the draft devices with the front frame near the center of the machine, and an aproximately 8 -shaped link for varying the line of direction of the draft as aplied to said front frame.
39. The combination of a rod, a split sleeve fitted thereon and a bolt fitted in the split portions of said sleeve, sald bolt having a V-shaped groove adapted to engage said rod.
40. In a mower the combination of a machine frame, a cutter bar, an axle mounted in said frame, wheels mounted on said axle, for rotating the same by the forward motion of the machine, driving mechanism adapted to be connected with said cutter bar for driving the same, a clutch member for connecting said driving mechanism with sald axle, and means for connecting said clutch member with axle, said connecting means having a tendency to hold said clutch member in operative position.

41 In a mower the combination of a machine frame, a cutter bar, an axle mounted in said frame, wheels mounted on said axle for rotating the same by the forward motion of the machine, driving mechanisin adapted to be connected with said cufter bar for driving the same, and a clutch member for connecting said driving mechanism with said axle, said clutch member having an inclined groove adapted to receive an inclined feather carried by the axle, said parts being so arranged so that the rotation of the axle tends to force said clutch into operative engagement with said driving mchanism.
42. In a mower the combination of a box, a hinged cover thercfor, a latch pivotally mounted on the free edge of the cover and having an arm adapted to extend around under the lower edge of the box and a spring for holding sald arm in engagement with said box.
43. The combination of a box having a hinged cover, a latch pivoted between its ends upon the free edge of the cover, one end of said latch being adapted to project under the lower front edge of the box, and a spring mounted on the cover and engaging the other end of said latch for holding the lower end of the latch in engagement with the box.
44. The combination with a coiled spring, of a bolt having a nut fitted in said spring, said nut having spiral grooves adapted to receive the colls of the spring.
45. In a mower the combination of a machine frame, having a forwardly extending driving shaft, a pitman actuated by said drive shaft and extending transversely of the machine, a cutter bar connected with said pitman, a anger bar, a drag bar connected with the main frame adjacent to the forward end of said drive shaft and extending transversely of the machine forward of the pitman, and a thrust bar connected with said drag bar.
46. In a mower the combination of a machine frame, a sleeve extending forward at one side thereof, a drive shaft mounted in said sleeve, a crank carried by said drive shaft near its forward end, a pitman connected with sald crank and extending transversely of the machine, a drag bar connected with said sleeve and extending transversely of the machine in advance of said pitman, a finger bar and a cutter bar connected with said pitman.
47. In a mower the combination of a machine frame, a sleeve extending forward at one side thereof, a drive shaft mounted in said sleeve, a crank carried by sald drive shaft near its forward end, a pitman connected with said crank and extending transversely of the machine, a one-piece rigid drag bar connected with said sleeve and extending transversely of the machine in advance of said pitman, a finger bar, and a cutter bar connected with said pitman.
48. In a mower the combination of a frame, a finger bar, a gag lever, a bell crank lever fulcrumed on the gag lever, means connecting said bell crank lever with the finger bar, and means for actuating said bell crank lever.

\section*{No. 102,615. Method of Obtaining Ammonia from Gas.}

\section*{Méthode d'obtenir l'ammoniaque du gas.}

August Fillunger, Mährish Ostrau, Austria, 18th December, 1906; 6 years. Filed 15th August, 1906. Receipt No. 138,710.
Claim.-1. A method of obtaining ammonia from gas containing ammonia, consisting in leading said gas through a washer, in passing water through said washer in order to absorb ammonia from the gas, in distilling ammonia from said water, in leading said water after the ammonia has been distilled off back to the washer and in repeating the above continuous cycle of operations.
2. A method of obtaining ammonia from gas contalning ammonia, consisting in leading said gas through a washer. in passing water through said washer in order to absorb ammonia from the gas, in distilling ammonia from said
water, in cooling said water after the ammonia has been distilled off, in leading said cooled water back to the washer and in repeating the above continuous cycle of operations.
3. A method of obtaining ammonia from gas containing ammonia, consisting in leading said gas through a washer, in passing water through said washer in order to absorb ammonia from the gas, in distilling ammonia from sald water by heating the same by superheated steam, in cooling said water after the ammonia has been distilled off, in leading said cooled water back to the washer and in repeating the above continuous cycle of operations.
4. A method of obtaining ammonia from gas containing ammonia, consisting in leading said gas through a washer, in passing water through said washer in order to absorb ammonia from the gas, in distilling ammonia from said water by directly heating the same by superehating steam, in cooling said water after the ammonia has been distilled off, in leading said cooled water back to the washer and in repeating the above continuous cycle of operations.
5. A method of obtaining ammonia from gas containing ammonia, consisting in leading said gas through a washer, in passing water through said washer in order to absorb ammonia from the gas, in distilling ammonia from sald water by heating the same by superheating steam in column distilling apparatus, in cooling said water after the ammonia has been distilled off, in leading said cooled water back to the washer and in repeating the above continuous cycle of operations.
6. A method of obtaining ammonia from gas containing ammonia, consisting in leading said gas through a washer, in rassing water through said washer in order to absorb ammonia from the gas, in distilling ammonia from said water without adding lime, in leading sald water after the ammonia has been distilled off back to the washer and in repeating the above continuous cycle of operations.
i. A method of obtaining ammonia from gas containing ammonia, consisting in leading said gas through a washer, in passing water through said washer in order to absorb ammonia from the gas, in distilling ammonia from said water without adding lime, in cooling said water after the ammonia has been distilled off, in leading said cooled water back to the washer and in repeating the above continuous cycle of operations.

\section*{No. 102,616. Artificial slate. Ardoise artificielle.}

Johann Wetlef Hennings, Neuenfeld Kreis Jork, Germany, 18th December, 1906; 6 years. Filed 16th November, 1906. Receipt No. 141,256 .

Claim.-The process for the manufacture of artificial slate, which consists of intimately mixing and finely triturating cement with an addition of \(20-25\) per cent of brownstone in dry condition, then admixing water to the pulverized material and forming a thin magma and introducing same into glass mowlds in which it is left to solidify in a slow and gradual manner, as set forth

\section*{No. 102,617. Method of Making Aluminates Hydrochloric Acid, and Soda, from Aluminous Materials.}

Méthode d'obtenir l'acide hydrochlorique et le soda de matériaux alumineux.

Paul Klein, Riga, Russia, 18th December, 1906; 6 years. Filed 16th August, 1906. Receipt No. 138,751.
Claim.-A process of manufacturing aluminates, hydrochloric acid and soda from aluminous materials, consisting in introducing the aluminous materials in a finely pulverized state into molten sodium chloric, blowing superheated water vapour through the fused mass when employing anhydrous raw materials, condensing the hydrochloric acid developed, separating the sodium aluminate contained in the molten residue by lixiviation and filtration from any insoluble substance mixed therewith, conducting carbonic acid into the clear solution of sodium aluminate, and finally filtering off the solution of soda thus obtained from the separated aluminium hydrate.

\section*{No. 102,618. Hydro-carbon Burner.}

\section*{Braleur à hydrocarbon.}

Louis Keller Leahy, Los Angeles, California, U.S.A., 18th December, 1906; 6 years. Flled 14th August, 1906. Recelpt No. 138,688.
Claim.-1. A burner comprising a casing having a cylindrical chamber provided with a slot in its side wall, said chamber open at one end, a plug adapted to be inserted into said chamber and being of such size as to fit tightly herein, said plug provided wih a diametric passage and hav-
ing a portion of its peripheral surface cut away to form an oil discharge, leading to the mouth of said slot from

one end of said passage between such cut away portion and the wall of said chamber, said casing having an opening or oil inlet registering with and opening into the other end of said passage, a steam way formed at the lower end of said plug and within said casing and discharging through said slot, and oil and steam pipes connected with said oll inlet and steam way respectively.
2. A burner tip comprising a casing having a cylindrical chamber with a peripheral outlet from said chamber, a cylindrical plug inserted in said chamber and forming between its outer surface and the inner surface of said casing a downwardly extending oll way, terminating at said peripheral outlet, and below said plug, a steam chamber communicating to said peripheral outlet, said plug having a diametric oll passage opening into said oil way in combination with an oil supply pipe connected with said diametric oll passage and a steam supply pipe connected with said steam chamber.
3. A burner tip comprising a hollow casing having a lateral slot and a plug inserted therein being of such size as to fit tightly in said casing and having a portion of its surface cut away to form an oil way or passage between said surface and the wall of sald casing, sald oll way terminating at said slot, said plug having passage transversely through it registering with said oil passage, and a steam way formed below sald oll way and opening to said slot.
4. A burner tip comprising a hollow casing having a lateral discharge slot, the upper wall of the slot lying beyond the plane of the lower wall thereof, and a plug removably held in the chamber of said casing, said plug having transverse oil passage and a portion of the outer surface of its wall cut away to form an oll way between such cut-away portion and the wall of said casing, said oll way leading from said traverse passage and terminating at said slot and a steam way formed below said oll way and communicating with the discharge slot in combination with means for supplying oil to sald oil way and means for supplying steam to said steam way.
5. A burner tip comprising a casing having a cylindrical chamber open at one end and having an oil inlet at one side, a steam inlet near the bottom and a peripheral discharge slot, and a cylindrical plug adapted to be slipped into said chamber through the open end thereof and removably held therein, and fitting tightly within said chamber, said plug having a transverse oil way registering with said oil inlet and having a portion of the outer surface of its front wall cut away and forming between its wall and the inner wall of the casing an oil duct leading from said oil way to said discharge slot, and said casing and plug forming a steam way leading from sald steam inlet to said discharge slot, and means for holding said plug in place.
6. A burner tip comprising a casing having a cylindrical chamber open at one end and having an oll inlet at one side and a peripheral discharge slot, and a cylindrical plug adapted to be slipped into said chamber through the open end thereof and movably held therein, said plug havign a transverse oll way registering with said oil inlet and having the lower portion of the outer surface of its front wall cut away and forming between its wall and the inner wall of the casing an oll duct leading from said oil way to said discharge slot, said plug fitting tightly within said casing and a steam way formed through said casing and plug to said discharge slot.
7. A burner tip comprising a casing having a cylindrical chamber open at one end and having a periheral discharge slot and an opening in its opposite slde above the plane of such slot, a cylindrical plug adapted to insertion into
and snug fit within said chamber and removably held therein, said plug having a closed end forming a closure for the open end of said chamber and a transverse opening registering with said opening in said casing forming an oll way leading through said plug, said plug forming an oil duct between the surface of the lower portion of its front wall and the wall of said casing leading from said transverse opening right angularly to said discharge slot, a steam duct leading to said discharge slot, and means for supplying steam and oll to said respective steam and oil ducts.
8. A burner tip comprising a casing having a chamber open at one end and having an oil inlet at one side and a peripheral discharge slot at the other side, and a plug removably mounted in said chamber and closing the same, said plug having a transverse oll way or chamber registering with said oil inlet and forming a duct between the lower portion of its surface and the wall of the casing, said duct being in communication with sald transverse oil way or chamber and leading downwardly to the mouth of said discharge duct, and a steam way discharge through said discharge slot traverse the plane of said duct.
9. A hydro-carbon burning apparatus comprising a burner tip having oil and steam ducts and a discharge opening, of a steam pipe, an oil plpe therein, a coupling whereinto said oil pipe screws, said coupling having an oil way registering with said pipe and a steam way, the end of said steam pipe inserted in the steam way about said oil pipe, a collar or sleeve engaging said stcam pipe and abutting against the end wall of said steam way, and lock collar engaging an external thread on the wall of said steam way and having a portion erubracing said colla: or sleeve.
10. A hydro-carbon burning apparatus comprising a burner tip having oil and steam ways and a discharge opening, a steam pipe connected with the steam way, an oil pipe inside the steam pipe connected with oil way, a coupling having a coupling flange with external thread, the end of said steam pipe extending within said flange, a threaded sleeve or collar engaging said pipe and bearing against the end of said flange, and a coupling collar embracing said flange and engaging said external thread and bearing against said sleeve or collar.
11. A burner tip comprising a casing having a cylindrical chamber open at one end and having an oil inlet at one sido and a peripheral discharge slot, and a cylindrical plug removably mounted in said chamber and fitting snugly within and closing the same, said plug having a transverse oil way registering with said oil inlet and forming between the surface of the lower portion of its front wall and the inner wall of the casing, an oil duct leading from said oil way to said discharge slot, a steam way formed through said casing and plug to said discharge slot and an abutment in said steam way forming a steam cushion at the mouth of the stiamway.
12. A burner tip comprising a hollow casing having a lateral discharge slot, the upper wall of the slot lying beyond the plane of the lower wall thereof and a plig removably held in the chamber of the casing and fitting snugly therein, said plug having a portion of the lower and front portion of its wall cut away to form an oil way between such cut-away portions and the wall of said casing, said oil way terminating at said slot. said casing provided with a steam inlet, said plug and casing forming a steam way or chamber below said plug, and said plug having a channel forming a cushioning abutment at the mouth of said steamway.
13. A burner tip comprising a casing having a cylindrical chamber open at its top and having a lateral oil inlet and a peripheral discharge slot, and a cylindrical plug mounted in said chamber and closing the toy thereof, said plug provided with an oil way registering with said oil inlet and extending diametrically through said plug, a portion of the surface of the plug cut away opposite said oil inlet and forming with the wall of said casing, an oil duct leading downwardly to said discharge slot, said plug fitting snugly within said chamber, a steam chamber formed between the bottom of said plug and casing, said steam chamber opening to said discharge slot, in combination with means for supplying oil to said oil-way and steam to said steam chamber.
14. A burner tip comprising a casing having a cylindrical chamber and having a lateral oil inlet and a peripheral discharge slot, and a steam inlet and a plug removably mounted in said chamber and provided with a transverse oil-way registering with said oil inlet and having the lower portion of its front surface cut away to form with the wall of the casing, a downwardly extending oil-way leading to the mouth of said discharge slot, a steam chamber or way formed between the bottom of the plug and casing and opening to said discharge slot, and said discharge slot being somewhat wider than the downward oilway so as to discharge a wider sheet of steam than oil.

\section*{No. 102,619. Holder for Cards, Pictures, Etc. Porte-cartes, images, etc.}


Gaylord Logan, Albany, New York, U.S.A., 18th December, \(1906 ; 6\) years. Filed 8th November, 1906. Receipt No. 141,035.
Claim.-1. A card, film and picture holder having an elongated hand divided into sections by means of creased transverse lines, and provided on its edges with retaining strips foldred freely over on to the face of the band and secured thereto at the ends of strips, substantially as shown and deseribed.
2. A card, film and picture holder having an elongated band provided with transverse folding creases and with retaining strips folded freely on to the face of the band with the end of the band folded over and secured to the end wection, substantially as shown and described.
3. A card, film and picture holder having an elongated band provided on its edges with retaining strips folded over against the face of the band and with transverse folding lines dividing said baud and retaining strips into sectlons, said strips being folded freely against the face of said band and bound to the face of the end section to form a fap, substantially as shown and described.
4. A c,rd, film and picture holder having an elongated band of transparent material divided into sections by means of crased transverse lines and provided with retaining sirips folded over on to the face of the band and secured thereto at their ends, substantlally as shown and described. 5. A card. film and picture holder having an elongated band divided into sections by means of creased transverse lines and provided with retaining strips folded over onto the \(f: . c e\) of the band and with openings formed in said sections and a back formed of transparent material, substantlally as shown and described.
6. A card, film and picture holder having an elongated band divided into sections by means of creased transverse lines, and provided with retaining strips folded over onto the face of said band, with a transparent back and a separating leaf arranged between two opposite sections, substantially as shown and described.
7. A card, film and picture holder having the combination of an elongated band provided with retaining strips folded over onto the face of said band, and divided into sections by means of creased transverse lines, a back of transparent material, and a separating leaf of parafine paper arranged between two sections, substantially as shown and described.
8. A card, film and picture holder having an elongated band divided into sections by menas of creased transverse lines and provided with retaining strips folded freely over onto the face of the band and with openings formed in onto the face of the band and with openings
said sections, substantially as shown and described.
9. A card, film and picture holder having an elongated band divided into sections by means of creased transverse lines and provided on its face with retaining strips folded over onto the face of the band and made of material contrasting in colour with film.

\section*{No. 102,620. Sugar Wafer Machine.}

Machine pour la fabrication de losanges.
Frank Max Peters, Chicago, Illinios, U.S.A., 18th December, 1906: 6 years. Filed 16th Angust, 1906. Receipt No. 138,753.
Claim.-1. In a machine of the character described the comblnation with a sunport for wafer sheets, of a paste receptacle having an outlet therein, means for effecting the discharge of the paste in proper quantities trom said receptacle, and means for transferring the discharged paste in a cohesive mass to the wafer sheets, substantially as specified.
2. In a machine of the character described, the combination with a support for wafer sheets, of a paste receptacle having an outlet therein, means for conducting the paste from said outlet, and means for transferring the paste in
a cohesive mass from said conducting means to the wafer sheets, substantially as specified.

3. In a machine of the character described, the combination with a sur port for wafer shets, of a paste receptacle having an outlet therein, means for effecting the discharge of the paste in proper quantities from said receptacles, and mans for transferring the discharged paste in a cohesive mass from said discharging means to the wafer sheets, substantially as specified.
4. In a machine of the character described, the combination with a support for wafer sheets, of a paste receptacle having an outlet therein, a conducting device arranged therein for conveying the parts from said receptacle, and means for removing the paste from said conducting device in a cohesive mass and transferring the same to the wafer sheets, şubstantially as specified.
5. In a machine of the character described the combination with a support for wafer sheets, of a paste receptacle having an outlet therein, a device arranged therein for conveying the paste from said receptacle, means for controling the quantity of paste delivered to said device, and means for removing the paste from said device in a cohesive mass and transferring and spreading the same upon the wafer sheets upon said support, substantially as specified.
6. In a machine of the character described the combination with a support for wafer sheets, of a paste receptacle having an outlet therein, a roller arranged in said outlet, means for controlling the supply of paste conveyed by said roller, and means for removing the paste in a cohesive mass from said roller, substantially as specified.
7. In a machine of the character described, the combination with a support for wafer sheets, of a paste receptacle having an outlet therein, a roller arranged in said outle.t, means for controlling the supply of paste conveyed by said roller, and means for removing the same in a cohesive mass from said roller to the wafer sheets, and spreading the same, substantially as specified.
8. In a machine of the character described, a paste receptacle, a roller for conducting the paste therefrom in the form of a sheet coating the roller, a support for the wafer sheets below said roller, and means for stripping the coating in a cohesive mass from said roller directly over said wafer sheets, substantially as specified.
9. In a machine of the character described, a paste receptacle, a roller for conducting the paste therefrom in the form of a sheet coating the roller, a support for the wafer sheets below said roller, means for stripping the coating in a cohesive mass from said roller directly over said wafer sheets, and means for spreading the material stripped from the roller upon said wafer sheets, substantially as specified.
10. In a machine of the character described, a paste receptacle, a roller for conducting the paste therefrom in the form of a sheet coating the roller, a support for the wafer sheets below said roller and a blade serving at one edge to strip the coating from said roller directly over the wafer sheets and at its other edge to spread the stripped material upon said wafer sheets, substantially as specified.
11. In a machine of the character described the combination with a support for wafer sheets, of a paste receptacle having an opening in the base thereof, a roller arranged in said opening, means arranged at one side of said roller for controlling the supply of paste delivered thereto, and means arranged at the opposite side of said roller for removing the paste from said roller in a cohesive mass to the wafer sheets and spreading the same thereon, substantially as specified.
12. In a machine of the character described the combination with a support for wafer sheets, of a paste receptacle having an opening in the base thereof, a roller arranged partly within and partly without said paste receptacle, means arranged adjacent to the projecting portion of said roller at one side thereof for controlling the delivery of paste to said rollen and means arranged at the opposite side of the projecting portion of said roller for removing the paste therefrom in a cohesive mass and transferring the same to the wafer sheets, substantially as specified.
13. In a machine of the character described the combination with a support for wafer sheets, of a paste receptacle having an opening in the base thereof, a roller arranged partly within and parly without said paste receptacle, means arranged adjacent to the projecting portion of said roller at one side thereof for controlling the delivery of paste to said roller, and means arranged at the opposite side of the projecting portion of said roller for removing the paste therefrom in a cohesive mass and transferring and spreading the same upon the wafer sheets, substantially as specified.
14. In a machine of the character described the combination with a support for wafer sheets, means for actuating said support, a paste receptacle supported above said support having an opening in the base thereof, a roller arranged partly within and partly without said receptacle for conducting the paste from said receptacle, means for actuating said roller, a blade supported adjacent to one side of said roller, means for adjusting said blade, a blade supported adjacent the opposite side of said roller for removing the paste from said roller in a cohesive mass, and means for vertically and horizontally adjusting said blade, substantially as specified.
15. In a machine of the character described the combination with a travelling support for wafer sheets and means for actuating said support, of a paste receptacle supported above said travelling support, an opening in said receptacle arranged transversely of said travelling support, a roller supported below said plate receptacle and extending into the opening in the base thereof, means for rotating said roller, means for controlling the delivery of paste to said roller, and means for removing the paste therefrom in a cohesive mass and spreading the same upon the wafer sheets, substantially as specified.
10. In a machine of the character described the combination with a travelling support for wafer sheets, and means for actuating said support, of a paste receptacle mounted above said travelling support, an opening in the base of said receptacle arranged transversely of said travelling support, a roller supported below said paste receptacle and extending into and conforming partly to the opening therein, a controlling device arranged upon the underside of said paste receptacle at one side of the roller, means for adjusting said device towards and from said roller, a device arranged below said paste receptacle and adapted for contact at one edge with the side of the roller opposite to the controlling device and at its other edge with the wafer sheet and the paste thereon whereby to spread the paste upon said wafer sheets, and means for actuating said device to regulate the thickness of the paste spread upon the wafer sheets, substantially as specified.
17. In a machine of the character described the combination with an endless band for wafer sheets, means for actuating said endless band, brackets arranged at each side of said endless band, a paste receptacle mounted in said brackets having an opening in its base arranged transversely of said endless band, a roller mounted in said brackets below said paste receptacle conforming to and extending into the opening in the base thereof, a blade movably secured to the underside of raid paste receptacle at one side of the roller, means for adjusting said blade towards and from said roller, a blade adjustably arranged at the opposite side of said roller having its inner edge in contact with said roller and its outer edge adapted for vertical adjustment and means for adjusting said blade, substantialiy as specified.
18. In a machine of the character described the combination with an endless band for wafer sheets, means for actuating said endless band, brackets arranged at each side of said endless band, a paste receptacle mounted in said brackets having an opening in its base arranged transversely of said endless band, a roller mounted in said brackets below said paste receptacle conforming to and extending into the opening in the base thereof, a hlade arranged upon the underside of said paste receptacie at one side of the roller, adjusting screws provided upon said receptacle in engagement with said blade whereby to move said blade towards and from said roller, a frame arranged at the opposite side of said roller, adjusting screws thereon for adjusting said frame, a blade
mounted in said frame having its inner edge in contact with said roller, and its outer edges adapted to spread the paste upon the wafer sheets, and an adjusting screw arranged in said frame adapted for adjusting the outer edge of said blade, substantially as specified.

\section*{No. 102,621. Wall Coating Composition.}

Composition pour murs.
The Liquid Wall Paper Company, assignen of Franklin Dana Hagar, both of Boston, Massachusetts, U.S.A, 18th December, 1906; 6 years. Filed 16th March, 1906. Recelpt No. 133,947.
Clain.-1. The herein described composition of matter, containing gum tragacanth, chrome and flock, substantially as described and for the purpose of making a wall covering.
2. The herein describel composition of matter. containIng water, gum tragacanth, chromic oxide and flock, substantially as described and for the purposes specifled.
3. The herein described composition of matter containing water, gum tragacanth, chromate of lead and flock, substantially as described and for the purpose sperified.
4. The herein described compositon of matter containing sum tragacanth, chromic oxide and sawdust, substiatially as described and for the purnose of producing a stippling background.
5. The herein described composition of matter containing gum tragacanth, chromate of lead and sawdust, substantially as described and for the purpose of producing a stippling background
6. The herein described composition of matter containing water, gum tragacanth, chrome nad sawdust, substantially as described and for the purpose specifled.
7. The herein described composition of matter containing gum, tragacanth, chromic oxide, meal and sawdust, substantially as described and for the purpose specified.
8. The herein described composition of matter containing gum tragacanth, chromate of lead. meal and sawdust, substantially as described and for the purpose specifled.
9. The herein described composition of matter containing gum, tragacanth, chrome, water, moal and sawdust, substantially as described and for the purposes specified.
10. The herein described composition of matter containing gum tragacanth. chromic oxide and sraw, substantially as described and for the purpise specifled.
1. The herein described composition of matter cantaining gum tragacanth, chromate of lead and straw, substantially as described and for the purposes specified.
12. The herin descibed composition of matter containing water, straw, chrome and gum tragacanth, substantially as described and for the purposes specificd.
13. The herein described composition of matter containing gum tragacanth, chromic oxide and bronze powder, subtially described and for the purpose of producing an artistic wall covering
14. The herein described composition of matter containing gum tragancanth, chromate of lead and bronze powder substantially as described and for the purpose of producing an artistic wall covering.
15. The herein described composition of matter containing water, gum tragacanth. chrome and bronze powder substantially as described and for the purposes specified.
16. The herein doscribed composition of matter containing gum tragacanth, flock and bronze powder, substantially as descuribed and fot the purpose of obtaining a wall coating composition with a transparent effect.
17. The herein described composition of matter containing water, gum tragacanth. flock and bronze powder, substantially as described and for the purpose of obtaining a wall coating composition with a transparent effect.
18. The herein described composition of matter containing gum tragacanth, flock. meal and bronze powder, substantially as described and for the purposes specified.
19. The herein described composition of matter containing gum, tragacanth, flock, bran and bronze powder, substantially as described and for the purposes specified.
20. The herein described composition of matter containing gum, tragacanth, flock, sawdust and bronze powder, substantially as described and or the purposes specified.
21. The herein describod composition of matter containing gum tragacanth, fiock. straw and bronze nowder, substantially as described and for the purposes specified.
22. The herein described composition of matter containing gum tragacanth, flock, crome and bronze powder, substantally as described aud for the purposes specified. 23. The heren described composition of matter containing water, flock, chrome and bronze powder, substantially as described and for the purposes specified.
24. The herein described composition of matter containing gum tragacanth, flock, water, chrome and bronze pow
der, substantially as described and for the purposes specified.
25. The herein described composition of matter containing gum tragacanth, flock. meal. bran. sawdust, straw and bronze powder. substantially as described anl for the purpozes specified.
26. The herein described composition of matter containing water, gum tragacanth, bronze powder, flock, meal and sawdust. substantially as described and or the purposes specified.
\(\because\). The herein described composition of matter containing gum tragacanth, chromic oxide, flock and whiting, substantially as described and for the purpose syecified.
28. The herein described composition of matter containing water, gum tragaranth, chrome, flock and whiting, substantially as described and for the purposes specified.
29. The herein described composition of matter containing water. rosin, flock, and chrome, substantially as described and for the purpos s specified.
30. The herein described composition of matter containing water, resin. chromic oxide and meal, substantially as describnd and for the purpose specified.
31. The herein described composition of matter containing water, rosin. chromate of lead and meal, substantially as described and for the purpose speciffed.
32. The hereln described composition of matter containing glue, rosin, and flock, substantially as described and for the purposes specified.
33. The herein describod composition of matter containing rosin, water. flock and whitine, substantlally as described and for the purpos? specifled.
34. The herein described composition of matter containing gum tragacanth. flock and mica, substantially as described and for the purpose specified
35. The herein described composition of matter contalning water, glue, flock and mica, substantially as described and for the purpose specifled.
36. The herein described composition of matter, containing gum tragacanth, mica, chrome and bran, substantially as described and for the purposes specified.
37. The herein described composition of matter, containing gum tragacanth, chrome, mica, meal, bran, sawdust and straw, substantially as described and for the purposes specified.
38. The heroin described composition of matter, containing gum tragaranth, bronze powder, and mica, substantially as described and for the purposes specified.
39. The herein described composition of matter, containing gum tragacanth, bronze powder, mica and meal, substantially as described and for the purposes specifled.
40. The herein described composition of matter, containing gum tragacanth, mica and ground silk, substantially as described and or the purposes specifled.
41. The herein described composition of matter, containing gum tragicanth, chrome, flock and ground silk, substantially as described and for the purposes specifled.
42. The herein described composition of matter, containing gum traqacanth, varnish and flock, substantially as described and for tho nurposes specifled.
43. The herein described comoosition of matter, contalning gum tragacanth, varnish and flock, substantially as described and for the purnos:s specified.
44. The herein described composition of matter, containing varnish, chrome and meal, substantially as described and for the purposes specified.
45. The hrrein deceribed comnosition of matter. containing varnish. chrome and sawdust. substantially as described and for the purnoses specified.
46. The herein dnceribed composition of matter, containing gum trag?canth, varnish, chrome. ground silk, and pulvrized cork. substantially as described and for tha purposos specified
47. The herein described csmposition of matter, containing gum tragacanth, chrome, meal, rosin, glue, brown sugar and sawduct, substantially as described and for the purposes specifled.
48. The herein described composition of matter. containing oum tragananth. rhrome. meal and formaldehyde, substantinlly as drscribed and inr the purposos specified.
49. The herein described rompositnn of matter, containing gum tragacanth, flock, and formaldehyde, substantially as deseribed and for the purposes specified.
50. The herein described composition of matter, contalning gum tragacanth, chrome, sawdust and formaldehyde. substantially as described and for the purposes specificd.
51. The herein described composition of matter. containing gum tragacanth, chrome, mica and formaldchyde, suhstantially as described and for the purposes specified.
52. The herein described composition of matter, containing gum tragacanth, chrome. straw and formaldehyde, substantially as described and for the purposes specifed.
63. The herein described composition of matter, contaln ing water, chrome, meal, sawdust and formaldehyde, substantially as described and for the purposes specifled.
54. The hereln described composition of matter, containing gum tragacanth, chrome, flock, bronze powder, rosin, varnish and brown sugar, substantially as described and for the purposes specified.
55. The herein described composition of matter, containing gum tragacanth, chrome, meal. bran. sawdust. straw rosin. mica, ground silk, varnish, pulverized cork, glue and brown sugar. substantially as described and for the purposes snerlfied.
56. The hereln described composition of matter, containing gum tragacanth, chromic oxide, chromate of lead, flock, meal, bran, sawdust, straw, bronze powder, whiting, rosin, mica, pulp. ground silk, varnish, pulverized cork and glue, substantially as described and for the purposes specifed.
57. The herein describnd compos tion of matter, containIng gum tragacanth, chrome, pulp, and formaldehyde, substantially as described and for tho purposes specified.
58. The herein described composition of matter, containin varnish, pulp. chrome, and formaldehyde, substantially as described and for the purposes snecifled.
59. The herein described composition of matter, containing rosin. gum tragacanth, pulp and chrome, substantially as described and for the purposes specifled.
60 . The hereln described composition of matter for mixing with flock in forming a liquid wall paper, conslsting substantially of the following ingredients, gum tragacanth six gills, chromic oxide nine ounces, chromate of lead nine ounces, meal nine ounces, bran three ounces, sawdust three ounces, straw three ounces, bronze powder two ounces, whiting one pound. rosin six gills, mica three pounds, pulp two pounds, ground silk one pound, varnish three tablespoonfuls, pulverized cork three ounces, glue two tablespoonfuls, brown sugar six ounces, formaldehyde three drops.

No. 102,622. Fige Plug. Poire d fusće.


August Weber, Sr., and August Weber, Jr., both of Schenectady, New York, U.S.A., 18th December, 1906; 6 years. Filed 23rd February, 1906. Receipt No. 133,264.
Claim.-1. In a fuse plug and in combination, a screw shell adapted to form one of the exterior contact members, a base of insulating material having its inner end inclosed and secured within said screw shell and provided with a cavity extending from its outer end approximately to its inner end and having a partition erected from its inner end extending across the exterior of its screw shell inclosed portion, a contact member mounted upon the exterior of the inner end of the base, and a fuse extending over said partition and connected with said contact members through apertures in said base, portions of said fuse occupying on opposite sides of said partition chambers respectively inclosed between sald partition and outer screw shell inclosed portions of the wall of the base.
2. In a fuse plug and in combination, a base of insulating material, and a screw shell inclosing and secured upon the inner end of said base adapted to form one of the exterior contact members, said base being provided with a cavity extending approximately to its inner end and with a pair of apertures in its inner end and having a partition erected from its inner end extending between said apertures across the interior of its screw shell inclosed portion, and said screw shell having a connecting member extending through one of sald end apertures into said cavity on one side of said partition, an exterior contact member mounted upon
the exterior of the inner end of the base having a connecting member extending through the other of said end apertures into said cavity on the other side of said partition, and a fuse extending over said partition connected at its opposite ends to said connecting members respectively.
3. In a fuse plug and in comblgation, a hollow base of insulating material provided with a pair of fuse connection apertures and with an enlargement of its cavity at the outer end thereof and a ventilating aperture remote from said fuse connection apertures extending from said cavity enlargement longitudinally through and inclosed on all sides by the wall of the base and opening exteriorly at the side thereof, exterior contact members, a fuse within the base cavity connected with sald contact members through the fuse connection apertures respectively, and a closure for the open end of the base
4. In a fuse plug and in combination, a hollow base of insulating materlal provided with a pair of fuse connection apertures in its inner end wall and with an enlargement of its cavity at the outer end thereof, and a ventlating aperture remote from said fuse connection apertures extending from said cavity enlargement longitudinally through the wall of the base and opening exteriorly at the side thereof, a screw shell inclosing said base adapted to form an ex terior contact member and having an integtal tongue formed by a displaced portion of its end wall projecting through one of sald fuse connection apertures in the end wall of the base, an exterior contact member mounted upon the inner end of the base having a connection member projecting through the other of said fuse connection apertures, a fuse within the base cavity connecting said tongue and connection member, and a closure for the outer end of the base.
5. In a fuse plue and in combination, a hollow base of insulating material provided with a pair of fuse connection apertures in its inner end wall and with an enlargement of its cavity at th outer ed thereof, and a ventilating aperture remote from sald fuse connection apertures extending from said cavity enlargement longitudinally through the wall of the base and opening exteriorly at the side thereof, and having a partlion erected from its inner end wall extending transversely of the base cavity between said fuse connection apertures. a screw shell inclosing said base adabted to forin an exterior contact member and having an integral toneue formed by a displaced portion of its end wall projecting through one of said fuse connection apertures in the end wall of the base, an exterior contact member mounted upon the inner end of the base having a connertion member projecting through the other of said fuse connection apertures, a fuse within the base cavity connecting sald tongue and connection member, ad a closure for the outer end of the base.
6. In a fuse plug and in combination, a hollow base of insulating material provided on its outer side with oppositely located depressions and having a partition erected from its inner end wall extending transversely of the base cavity approximately in line with said depression, a screw shell inclosing the base having side portions introverted into sald side depressions therein. and a fuse extending over said partition and connected with exterior contact members.
7. In a fuse plug and in combination, a hollow base of insulating material having a plain cylindrical portion and an aperture in its inner end, of a screw shell inclosing the plain cylindrical portion of the base and having an integral displaced portion of its end wall projecting through said aperture in the inner end of the base whereby rotative movement of the screw shell on the base is prevented. and means for securing said screw shell against longltudinal movement on the base
8. In a fuse plug and in combination of insulating material and a screw shell adopted to form one of the exterior contacts secured upon and inclosing the inner end of the base, said base being provided with a cavity extending approximately to its inner end and with a pair of apertures in its inner end and having a partition erected from its inner end extending between said apertures across the interior of its screw shell inclosed portion, and said screw shell having an integral displaced portion of its end wall projecting through one of the end apertures in the base, an exterlor contact insulated from said screw shell having a connection member projecting through the other end aperture in the base, and a fuse extending over said partition connecting said connection member and displaced portion of the screw shell.
8. In a fuse plug and in combination a base of insulating material and a screw shell adapted to form one of the exopposite sides of said partition, of a contact member exteriorly mounted upon the inner end of the base having a post projecting through one of said apertures within the base, a screw shell inclosing the base adapted to form the other contact member, and having an integral
tongue formed by an introverted portion of its end wall extending through the other of said apertures within the base, and a fuse extending over said partition connected at its opposite ends to said tongue and post respectively. 10. In a fuse plug the combination with a hollow base of insulating material having an angular exterior inner end and side depressions, of a screw shell inclosing said base provided in its end with an angular opening adapted to fit the angular portion of the base and having side portions introverted to occupy said side depressions.
11. In a device of the class described the combination with a base of insulating material of general cylindrical form having an exterior cam-shaped suiface, a depressed seat adjacent to the higher point of said cam and a flange overhanging said seat on the outer side thereof, of a cap adapted to receive the flanged end of said base and having a spring member adapted to ride upon said cam by a rotative movement of the cap upon the base and adapted to occupy said depressed seat.
12. In a device of the class described the combination with a base of insulating material of general cylindrical form having near one end an exterior cam surface, a depressed seat adjacent to the higher portion of said cam. and a flange overhanging said depressed seat and cam surface on the outer side thereof, and provided with a lateral recess extending from the lower portion of said ram surface through the adiarent end surface of said base, of a cap adapted to receive sald end of the base. said cap having a spring member adapted to be inserted through said recess by a telescoping movement and to ride upon said cam and occupy said depressed seat by a rotativo movement of the cap.
13. In a device of the class described the combination with a base of insulating material of general cylindrical form having near one end an exterior cam surface. a depressed seat adjacent to the higher portion of said cam, and a flange overhanging said depressed seat and cam surface on the outer side thereof, and provided with a lateral recess extending fron the lower portion of said cam surface through the adjacent end surface of said base, of a sheet metal cap adapted to receive said end of the base. said cap being provided with a slit in its side wall and having an edge portion of said side wall adjacent to said slit indonted to form a spring member adapted to be inserted through said recess by a telescoping movement. and to ride upon said cam and occupy said depressed seat by a rotative movement.
14. In a device of the class described the combination with a sheet metal cap having its side walls slitted and portions thereof adjacent to said slits introverted on the side opposite the end wall of the cap. of a disc of insulating material secured within said can between the end wall thereof and the cut edges of said introverted portions.
15. In a device of the class described the combination with a base of insulating material of general cylindrical form having on diametrically opposite sldes thercof near one end an exterlor cam surface, a depressed seat adjacent to the bigher portion of said cam, and a flange overhanging said depressed seat and cam surface on the outer side thereof. and provided with lateral recesess extending from the lower portions of the respective cams through the adjacent end surface of said base, of a sheet metal cap adapted to receive said end of the base, "said cap being provided with an aperture in its end wall, and on diametrically opposite sides with a pair of slits in its side wall. and having edge portions of said wall adjacent to said slits indented to form spring mombers adapted to be inserted through said resnective recesses by a telescopine movement, and to ride upon said respective cams and occuny sald respective denressed seats by a rotative movement. and a transparent disc interposed between the end wall of the cap and the cut edges of said introverted side portions thercof.
10. In a fuse plug and in combination. a hollow base of insulating material provided on its outer side with a depresslon and having a partition erected from its inner find extending transversely of the base cavity in line with said depression, and a screw shell inclosing the base having a side portion introverted into said side depression theroin.

No. 102,623. Sewing Machine. Machine à coudre.
The Arbetter Felling Machine Company, Boston, assignee of Wolf Arbetter, Chelsea, both in Massachusetts, U.S.A., 18th December, 1906; 6 years. Filed 31st October, 1906. Receipt No. 140,799.
Claim.-1. In a machine of the class described, a spring sustained work support having a feed opening, a work feeding device carried by said work support, a presser foot, means to actuate said work feeding device to feed the ma-
terial over the work support under the presser foot, combined with stitch forming means located above the material,

and comprehending a curved thread carrying needle and revoluble second thread carrier to pass its thread through a loop of needle thread, means to reciprocate said needle to enter and emerge from the same side of the material, and means for moving said needle to ensure its entering at one thrust the material passing the work support and presser foot, and at another thrust to enter a portion of a superimposed ply of material moving between the work support and presser foot.
2. In a machine of the class described, an unyielding presser foot, a work support having a feed opening, a lever independent of said work support and pivotally connected therewith, a spring acting on said lever to force the work support toward the presser foot, combined with stitch-forming means located above the material, and comprehending a reciprocable curved thread carrying needie and a revoluble second thread carrier to pass its thread through a loop of needle thread and form in the material a series of blind stitches.
3. In a machinc of the class described, a stationary presser fool, a carriage, guideways to receive said carriage. a work support sustained at the rupper end of sald carriage, a lever, a devirce connecting said lever and said carriage, a spring connected with said lever and acting normally to move the work support toward sald presser foot, stitchforming mechanism located wholly above the presser foot and comprising a curved eye-polnted thread carrying needle and a revoluble looper, means to reciprocate said necdle to enrter and emerge from the same side of the material, and means for moving said needle to ensure its entering at one thrust the material passing between the work sunport and presser foot, and at another thrust to enter a ply of material lying on the material that is clamped betwern the work supnort and presser foot. means to feed the material. and a device acting on said lever to depress the work support for the removal of or insertion of work.
4. In a machinc of the class described, a loop taker, means to move it, a rock shaft having a bearing, a needle carrying shaft in said bearing, said shaft having a two-part arm, one part adjustable on the other part, a curved needle carried by the adjustable part on said arm, and means to turn said rock shaft between one and the next thrust of the needle, the adjustment of the movable part of sald arm carrying said needle. providing for positioning the needle correctly with relation to the path of movement of the under side of the co-acting loop taker.
5. In a machine of the class described, a rock shaft having a bearing, a crossbar carried by said rock shaft, a needlo carrying shaft sustained by the bearing in said rock shaft, a needie in sald needle carrying shaft, means to turn sajd rock shaft between one and the next switch and an adjustable device to insure the elevation of said rock shaft and the needle carrying shaft at alternate thrusts of the needle in the material.
6. In a machine of the class described, a rock shaft having a bearing, a needle carrying shaft sustained in the bearing of said rock shaft, a needle in said needle carrying shaft, a cam. and an arm connected with the upper end of said rock shaft, a spring surrounding said rock shaft and acting normally to keep said arm in contact with said cam, said cam meeting said arm and turning said rock shaft to place the needle in position to enter the material for its diagonal thrust.
7. In a machine of the class described, stitch-forming mechanism for making blind stitches, a spring sustained work support, a bender, and means for moving the same
that its acting end may rise above the work support whatever the position of the work support due to variations in thickness of work.
8. In a machine of the class described, a loop taker, a rock shaft having a bearing, a needle carrying shaft mounted in said bearing and provided with a needle, a rotating shaft having a disc provided with an adjustable plate having a stud, a link embracing said stud. and means connecting said link with the needle shaft, the adjustment of said plate so timing the movement of the needle that its point will terminate at exactly the proper position with relation to the loop taker.
9. In a machine of the class described, a rock shaft having a bearing at one end, an arm connected with said rock shaft near its other end, a roller carried by said arm, a needle carrying shaft mounted in the bearing of said rock shaft and provided with a needle, and a needle swinging cam to act on the roller of said arm to turn the rock shaft and needle carrying shaft, and means acting normally to maintain said roller in contact with said cam.
10. In a machine of the class described, a rock shaft, having a bearing at one end, an arm connected with sald rock shaft near its other end, a roller carried by said arm, a needle carrying shaft mounted in the bearing of said rock shaft and provided with a needle, a needle swinging cam to act on the roller of said arm to turn the rock shaft and needle carrying shaft, means acting normally to maintain said roller in contact with said cam, a bar connected with said rock shaft, and an adjusting device to limit the extent of movement of said arm toward said cam.
11. In a machine of the class described, a rock shaft havIng a bearing and a crossbar having a bevelled toe, and a needle carrying shaft located in said bearing and provided with a needle, a device with which said toe contacts, and a cam to turn said rock shaft that said toe resting on said device may raise the rock shaft and needle carrying shaft at alternate stitches when the needle is to enter only the liaing.
12. In a machine of the class described, stitch forming mechanism comprising an eye pointed needle and complemental under thread carrier both located at one side of the material, means to actuate said stitch forming mechanism, a spring sustained work support to sustain the material, a bender, actuating means therefor to cause said bender to bend the material at one stitch, and means to hold said bender in its inoperative position at a succeeding stitch.
13. In a machine of the class described, stitch forming mechanism comprising a curved eye pointed needle and a complemental under thread carrier, means to actuate said needle that it may penetrate the material for alternate stitches in planes at different angles, a bender, and means to cause said bender to bend the material only when the needle is to enter the body of the material.
14. In a machine of the class described, a spring sustained work support having a bender passage, a presser foot having a space, a bender, and means to raise the bender through the bender passage of the work support to force part of the work into the space of the presser foot, combined with a stitch forming mechanism comprising a needie, a complemental rotatable loop taker curying a second thread, and means to reciprocate said needle in the general direction of movement of the work over the work support, the point of the needle entering the work sustained by the bender.
1). In a machine of the class desor'bed, stitch forming mechanism to form a succession of blind stitches in the material, a slotted work support having a bender passage between its slots, said support presenting a surface occupying a position in a horizontal plane at right angles to said slots to support in the same plane at opposite sides of said slots the material to be stitched, a presser foot provided with a space above the bender passage of the work support, said foot also presenting a guiding edge for guiding a ply of material boing blind stitched to material on which it is laid, work feeding mechanism sustained below said work support, mechanism to actuate the work feeding mechanism that it may rise through the slots in the work support above he upper side of said support, a bender located below the work support, and means to move the bender to act upon the work and force a part thereof into the space of the presser foot to be entered by the needle.
16. In a machine of the class described, means located wholly at one side of the material for forming a series of blind stitches, said means comprising an eye pointed thread caryring needle. and a revoluble loop taker to control a second thread and carry the same through a loop of needle thread a work support. a carriage on which said work support is mounted, a guideway for said carriage means to move said carriage in said guideway, a yoke mounted on sald carriage and provided with feed points, and means to
move sald yoke on said carriage and cause sald feed points to engage and move said material.
17. In a machine of the class described, a work support a spring acting normally to keep said work support in its elevated position, a carriage, means to move said carriage vertically in said work support, a yoke provided with feed points, a compound shaft one part of which is sustained in the frame carrying the work support and has a fed actuating cam, a bearing for the opposite end of said comprund shaft, and means to rotate the xame, said compcund shaft acting to rotate the feed cam in any position of the work support due to difference in thickness of material.
18. In a machine of the class described, stitch forming mechanism located wholly above the material and adapted to make a series of blind stitches as described, combined with a presser foot to bear on the material, and means to vary the throat space in the presser foot to accommodate differences in the thickness of the goods.
19. In a machine of the class described, stitch forming mechanism located wholly above the material, a work support to sustain the material, means to cause the needle of said stitch forming mechanism to penetrate the body of material in a line substantially parallel with the infolded edge of a lining to be attached thereto, means to cause said needle at its next movement to penetrate the infolded lining, and means to draw off thread during the formation of the stitch in the body of the material and give up the slack so formed to the stitch made in the infolded edge of the lining.
20. In a machine of the class described, a work support, a curved eye pointed needle, a needle carrying shaft, means to sustain said shaft, means to turn said needle carrying shaft tcat the needle may penetrate the goods, a presser foot having a throat widened toward the rear end of said foot that the needle may have ample play in said throat both when mesting the material at its straisht and diagonal thrust.
21. In a machine of the class described, a work support, a curved eye pointed needle, a needle carrying shaft, means \(t 0\) shstain said shaft, means to turn said needle carrying shaft that the needle may \(p\) netrate the goods, a presser loot having a wido throat and a curved guide located at the irunt (nd of the foot.
22. In a machine of the class described, a work support, a curved eye pointed needle, a needle carrying shaft, means to sustain said shaft, means to turn said needle carrying shaft that the needle may penetrate the goods, a presser foot having a throat and a guiding edge and a lip extending beyond said edge and adapted to be interposed between the two pieces or material to be stitched together, said lip lifting the edge of the upper layer of material that the point of the curvid needse may readily enter under said edge.
23. In a machine of the class described, a loop taker, having a bobbin case and bobbln, means to sustain said loop taker that it may be turned in a diagonal direction, a vertical shaft having a bearing at its lower end, a needle carrier in said bearing, and a screw to detachably connect said bearing to said shaft, the removal of the screw enabling the removal of the bearing to thus uncover the chamber of the loop taker and enable access to be had thereto to effect the change of bobbin case and bobbin.
24. In a machine for blind stitching, a needle and complementary device for making blind stitches, a work support, a feeding device sustained by said work support, a stationary presser foot, a lever connected with said work support and an adjustable spring connected with said lever to sustain the work support in a yielding manner, and a device co-acting with said lever to lower and hold the work support locked in its lower position.
25. In a machine of the class described, a work support, stitch forming mechanism, a presser foot having a guiding edge combined with means to vary the throat space in the presser foot to accommodate differences in the thickness of goods, said means presenting a lip extended from the inner guiding edge of the presser foot to separate, in advance of the stitching, the materials about to stitched.
26. In a machine of the class described, a work support, a rock shaft, a needle carrier pivotally mounted on sald shaft and provided with a needle, means to vibrate said needle carrier on said rock shaft, an arm connected with said rock shaft, a cam, means to move the same that said cam may act on said arm and turn said rock shaft, a device acting normally to retain said arm in the path of movement of said cam, a crossbar connected with said rock shaft, a spring acting normally to depress said rock shaft, and a controlling device co-acting with said crossbar to raise the rock shaft in its bearing.
27. In a machine of the class described, a work support, a rock shaft, a needle carrier pivotally mounted on said shaft and provided with a needle, means to vibrate said needle carrier on said rock shaft, an arm connected with said rock shaft, a cam, means to move the same that said cam may not on said arm and turn said rock shaft, a device acting normally to retain said arm in the path of movement of said cam, a crossbar connected with said rock shaft, a spring acting normally to depress said rock shaft, and an adjustable controlling device co-acting with said crossbar to enable said rock shaft to be rotated to a greater or less extent.
28. In a machine of the class described, a work support, a rock shaft, a needle carrier pivotally mounted on said shaft and provided with a needle, means to vibrate said needle carrier on said rock shaft, an arm conhected with said rock shaft, a cam, means to move the same that said cam ma ynot on said arm and turn said rock shaft, a device acting normally to retain said arm in the path of movement of said cam, a crossbar connected with said rock shaft. a stud, a co-acting adjusting device to control the axial position of said rock shaft when the needle is enter. ing the material diagonally with relation to the line of feed.
29. In a machine of the class described, a presser foot, a work support, a rod having at one end a bearing, means to turn said rod about its longitudinal axis, rock shaft sustained in said bearing, a needle carrying arm secured to one end of said rock shaft, a second arm loosely pivoted to the opposite end of said rock shaft and provided with a ballshaped end, a rotatable shaft having a crank, a link connected at one end with said crank and having provision at its opposite end to embrace the ball of said second arm.
30. In a machine of the class described, a block or bearing curved at its under side, a loop taker containing a second thread, the shaft of said loop taker being sustained in said block, means to drive sald loop taker, a shaft having a bearing at one end, a needle carrying rock shaft located in said bearing and provided with an eye-pointed needle carrying a thread and co-acting with sald loop taker, combined with a carriage, means to move said carriage vertically, a work support mounted at the upper end of said carriage, a work feeding device mounted on said carriage, and means to actuate said feeding device that the feed dogs at the upper end thereof may engage the under side of the material and move the upper side thereof over the under side of said block.
31. In a machine of the class described, a spring sustained slotted work support to sustain the material to be stitched, a block located above said work support and bearing at its under side on the material, a loop taker sustained in said block, means to actuate said loop taker, an eye-pointed thread carrying needle, means to move the same to present a loop for the entrance of the loop taker, a presser foot located in front of said block, a feeding device located below said work support, and means to actuate the feeding device to engage the material and move the same over the underside of said presser foot and block.
32. In a machine of the class described, stitch forming mechanism comprising a thread carrying needle and rotatable loop taker carrying a second thread, a work support having a bender passage, a bender located below said work support, means to move said bender up through said bender passage, a presser foot having a space above the bender passage in said work support and having a guiding edge to guide the edge of the material being blind stitched onto the material underlying the same and sustained on the work support, said guiding edge occupying a position which, if prolonged, would cross the upper edge of the bender between its ends.
33. In a machine of the class described, stitch-forming means located above the material and comprising a needle and complemental loop taker carrying a second thread and adapted to make a series of blind stitches, a work support presenting a flat surface at right angles to the direction in which the work is fed over the work support to thus sustain the wgrk at both sides of the line of stitching, said work support having in its flat surface slots for the passage of the toothed end of a feeding device, and having a bender passage between said slots, combined with a presser foot having an opening in line with the bender passage in the work support, a feeding device and means to actuate the same to engage the material intermittingly and move the same over the work support, and a bender, and means to move the same from a position below the work support up through said work support, bending the work upwardly into the space of the presser foot to be entered by the needle in making a blind stitch therein.

No. 102,624. Haxvester. Moissonneuse.


William Maloney and The Frost and Wood Company, assignee of a half interest, both of Smith's Falls, Ontario, Canada, 18th December, 1906; 6 years. Filed 10th May, 1905. Receipt No. 125,034.

Claim.-1. In a combined harvesting and threshing machine the combination comprising a reciprocatory cutting knife, supporting means therefor, threshing means relstively in the rear of said knife, and a reciprocatory plate.
2. In a combined harvesting and threshing machine the combination comprising a reciprocatory cutting knife, supporting means therefor, threshing means relatively in the rear of said knife, and a reciprocatory plate connected with said knife.
3. In a combined harvesting and threshing machine, the combination comprising a reciprocatory cutting knife, supporting means therefor, threshing means relativels in the rear of said knife, and a reciprocatory plate between said knife and said threshing means.
4. In a combined harvesting and threshing machine the combination comprising a reciprocatory cutting knife, supporting means therefor, threshing means relatively in the rear of said knife, and a reciprocatory plate carried at an angle to said knife.
5. In a combined harvesting and threshing machine the combination comprising a reciprocatory cutting knife, supporting means therefor, threshing means relatively in the rear of said knife, and a reciprocatory plate connected with said knife and extending rearwardly and downwardly therefrom.
6. In a combined harvesting and threshing machine the combination comprising a reciprocatory cutting knife, supporting means therefor, threshing means relatively in the rear of said knife, and a reciprocatory distributing means actuated upon movement of said knife.
7. In a combined harvesting and threshing machine the combination comprising a reciprocatory cutting knife, supporting means therefor, threshing means relatively in the rear of said knife, and a reciprocatory distributing means extending longitudinally of said knife between said knife and said threshing means.
8. In a combined harvesting and threshing machine the combination comprising a reciprocatory cutting knife, supporting means therefor, threshing means relatively in the rear of said knfe and extending substancially parallel therewith, and a reciprocatory plate.
9. In a combined harvesting and threshing machine the combination compri:ing a reciprocatory cutting knife, supporting means therefor, threshing means relatively in the rear of said knife and extending substantially parallel therewith, and a reciprocatory plate connected with sald knife.
10. In a combined harvesting and threshing machine the comblnation comprising a reciprocatory cutting knife, supporting means therefor, threshing means relatively in the rear of said knife and extending substantially parallel therewith, and a reciprocatory plate between said knife and said threshing means.
11. In a combined harvesting and threshing machine the combination comprising a reciprocatory cutting knife, supporting means therefor, threshing means relatively in the rear of said knife and extending substantially parallel therewith, and a reciprocatory plate carried at an angle to said knife.
12. In a combined harvesting and threshing machine the combination comprising a reciprocatory cutting knife, supporting means therefor, threshing means relatively in the rear of said knife and extending substantlally parallel therewith, and a reciprocatory plate connected with said knife and extending rearwardly and downwardly therefrom.

No. 102,625. Harvester. Moissoneuse.


William Maloney and The Frost and Wood Company, assignee of a half interest, both of Smith's Falls, Ontario, Canada, 18th December, 1906; 6 years. Filed 10th May, 1905. Receipt No. 125,036 .

Claim.-1. In a device of the character described, a frame, a guide brack t comprising approximately parallel ways with channels therein, an extension on one of said ways, a yoke connected with said extension, a vertically elongated axle bearing slidable in said ways, a screw-threaded lug on said bearing, and an rdjusting screw passing through said lug in engagement with said yoke.
2. In a device of the character described the combination with a guide bracket adapted to be bolted to an implement frame, a yoke pivotally connected with sald bracket, a vert cally elongated axle bearing slidable in said bracket, a screw-threaded lug on said bearing, and an adjusting screw passing through said lug in engagement with said yoke.
3. In a device of the character described, a guide bracket comprising approximately parallel ways with channels therein, and means for connecting said ways, an integral extension on one of said ways, a slidable axle bearing adapted to travel in said ways, a screw-threaded lug on said bearing, and an adjusting screw passing through said lug and connected with one of said ways.
4. In an agricultural implement, a frame, a guide bracket bolted thereto, said bracket comprising approximatetly parallel ways with channels therein, an extension on one of said ways, a yoke pivotally connected with said extension, an elongated and vertically slidable axle bearing held in said ways, a screw-threaded lug on said bearing, and an adjusting screw passing through said lug in engagement with said yoke.
5. In a device of the character described, a slotted casting adapted to be bolt \(d\) do an implement irame, integral lugs projecting into the slot of said casting, a slidable axle bearing adapted to be guided by sald lugs, a screw-threaded lug on an extension of said axle bearing, a screw-threaded rod passing through said threaded lug, and a yoke connecting said threaded rod and said casting.
6. In a device of the character described, a slotted casting adapted to be bolted to an implement frame, integral lugs projecting into the slot of said casting, a slidable axle bearing adapted to be guided by said lugs, a screw-threaded lug on an extension of said axle bearing, a screw-threaded rod passing through said threaded lug, and a pivoted yoke connecting said threaded rod and said casting.
7. In a device of the character described, a vertically slotted casting having integral lubs projecting into the slot thereof, and a laterally projecting lug at substantially right angles to one of said first-mentioned lugs, vertically extending perforated lugs integral with the second-mentioned lug, a yoke pivotally connected with said vertically extending lugs and slidable axle bearing, a slotted vertical extension integral with said axle bearing, a perforated screwthreaded lug projecting laterally from said extension, and a screw-threaded rod passing through said screw-threaded lug in engagement with said yoke.

\section*{No. 102,626. Threshing Harvester.}

\section*{Motssonneuse d battre.}

William Maloney, Sherbrooke, Quebec, Canada, 18th December, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,855.
Claim.-1. In a harvesting thresher, a concave, a threshing cylinder co-operating therewith, a conveyer frame pivotally mounted forwardly of said concave, brackets in proximity to said frame and springs connecting said brackets with said frame.
2. In a harvesting thresher, a concave, a threshing cylinder co-operating therewith, a conveyer irame pivotally

mounted forwardly of said concave, a reciprocatory cutter bar carried by sajd frame, brackets in proximity to said frame, and means, supported by said brackets, adapted to raise and lower the forward portion of said frame.
3. In a harvesting thresher, a concave, a threshing cylinder co-operating therewith, a conveyer frame pivotally mounted forwardly of said concave, springs connected with said frame, supports for said springs and rockable means for raising and lowering said frame.
4. In a combined harvesting and threshing machine, a rigid concave, a threshing cylinder, a conveyer in the rear of and below said concave, a bracket supported by said concave and a pivoted conveyer frame supported by sald bracket.
5. In a harvesting thresher, a rigid concave, a threshing cylinder, a bracket connected with said concave, a conveyer frame pivotally mounted on said bracket, a reciprocatory cutter bar carried by said frame, a reel bracket and a reel carried in said frame above said cutter bar.
6. In a havesting thresher, a rigid concave, a conveyer frame pivotally mounted in advance of said concave, a cutter bar mounted on the forward portion of said frame, and a reciprocatory distributing plate between said frame and said concave.
7. In a harvesting thresher, a rigid concave, a threshing cylinder, a supporting frame, a conveyer frame supported in advance of said concave, a reel fixed on said conveyer frame, a conveyer carried by said frame, a lever mounted on said supporting frame and means connected therewith for raising the forward portion of said conveyer frame.
8. In a harvesting thresher, a concave, a threshing cylinder, a conveyer adapted to travel in a plane lower than said concave, a conveyer frame pivotally conected with said concave, a cutter bar carried by sald frame, a distributing plate between said conveyer frame and said concave and means for adjusting the vertical elevation of the forward portion of said conveyer frame and cutter bar.
9. In a harvesting thresher, a rigid concave, a threshing cylinder, a supporting means, a pivotally supported conveyer frame carried by said means in advance of said concave. a rock shaft extending parallel with the axis of said cylinder, means for rocking said shaft. segments on said shaft and means for lifting the forward portion of said frame in combination with a cutter bar on the forward end of the frame, distributing means rearwardly of said frame and actuating means for said cutter bar carried by said conveyer frame.
10. In a harvesting thresher, a supporting frame, threshing means carried thereby, a convejer to the rear of and in a lower plane than said threshing means, said conveyer travelling transverse to the line of draft, a conveyer frame pivotally supported forwardly of sald threshing means, a cutter bar carried at the forward portion of said conveyer frame. a conveyer between said cutter bar and said threshing means, means for raising said conveyer frame and a reel held in fixed relation to said cutter bar.
11. In a threshing harvester, a supporting frame, a rigid concave, a threshing cylinder, a conveyer in a lower plane than said concave and adapted to travel transversely of the line of draft, a vertically adjustable conveyer pivotally mounted forwardly of said concave, a reciprocatory cutter bar forwardly of said conveyer, a reciprocatory plate between said conveyer and sald concave and a rockable member supported at one side of said conveyor and adapted to connect the cutter bar and sald plate.
12. In a threshing harvester, threshing means, a conveyer frame mounted forwardly thereof, a conveyer in said frame adapted to travel in line with the draft of the machine and a compression roller above said conveyer.
13. In a threshing harvester, a supporting frame, a conveyer frame pivotally carried thereby, a reciprocatory cutler bar at the forward end of said conveyer frame, threshing means and a compression roller mounted above said conveyer frame.
14. In a threshing harvester, a supporting frame, an approximately U-shaped conveyer frame carried thereby, a reciprocatory cutter bar and a reel supported on the forward portion of said frame, a reciprocatory plate mounted rearwardly of said conveyer frame, a threshing concave lower than said plate, and a compression roller between said concave and said cutter bar.
15. In a harvesting thresher, a concave, a threshing cylinder co-operating therewith, a cenveyer frame pivotally mounted forwardly of said concave, brackets in proximity to said frame and springs connecting said brackets with said frame, in combination with a cutter bar and means for adjusting the angle of said cutter bar with relation to said conveyer frame.
16. In a harvesting thresher, a concave, a threshing cylinder co-operating therewith, a conveyer frame pivotally mounted forwardly of said concave, a reciprocatory cutter bar carried by said frame, brackets in proximity to said frame and means, supported by said brackets, adapted to raise and lower the forward portion of said frame, in combination with a cutter bar and means for adjusting the angle of said cutter bar with relation to said conveyer frame.
17. In a harvesting thresher, a concave, a threshing cylinder co-operating therewith, a conveyer frame pivotally mounted forwardly of said concave, springs connected with said frame, supports for said springs and rockable means for raising and lowering said frame, in combination with a cutter bar and means for adjusting the angle of said cutter bar with relation to said conveyer frame.
18. In a combined harvesting and threshing machine, a rigid concave, a threshing cylinder, a conveyer in the rear of and below said concave, a bracket supported by said concave and a pivoted conveyer frame supported by said bracket, in combination with a cutter bar and means for adjusting the angle of said cutter bar with relation to said conveyer frame.
19. In a harvesting thresher. a rigid concave. a threshing cylinder, a bracket connected with said concave. a conveyer frame pivotally mounted on saíd bracket. a reciprocatory cutter bar carried by said frame, a reel bracket and a reel carried by said frame above said cutter bar, in combination with means for adjusting the angle of said cutter bar with relation to said conveyer frame.
20. In a harvesting thresher, a rigid concave, a conveyer frame pivotally mounted in advance of said concave, a cutter bar mounted on the forward portion of said frame, and a reciprocatory distributing plate between said frame and said concave, in combination with a cutter bar and means for adjusting the angle of said cutter bar with relation to said conveyer frame.
21. In a harvesting thresher, a rigid concave, a threshing cylinder, a supporting frame, a conveyer frame supported in advance of said concave, a reel fixed on said conveyer frame. a conveyer carried by said frame, a lever mounted on said supporting frame and means cpnnected therewith for raising the forward portion of said conveyer frame, in combination with a cutter bar and means for adjusting the angle of said cutter bar with relation to said conveyer frame.
22. In a harvesting thresher, a concave, a threshing cylinder, a conveyer adapted to travel in a plane lower than said concave, a conveyer frame nivotally connected with said concave, a cutter bar carried by said frame, a distributing plate between said conveyer frame and said concave and means for adjusting the vertical elevation of the forward portion of said conveyer frame and cutter bar. in combination with means for adjusting the angle of said cutter bar witr relation to said conveyer frame.

\section*{No. 102,627. Method of Circulation.}

\section*{Méthode de circulation.}

Frederic Perkins Dewey, Washington, District of Columbia, U.S.A., 18th December, 1906; 6 years. Filed ,20th February, 1906. Receipt No. 133,084.
Claim.-1. The process of treating comminuted material suspended in a liquid which consists in introducing numerous bubbles of re-active gas at various points within a portion of the liquid, permitting the gas to re-act with the liquid, allowing the residual gas to escape from the liquid and causing the liquid and the comminuted solid suspended therein to move in a circulatory path by this alternate addition and escape of gas, substantially as described.
2. The process of treating ores which consists in crushing the ore, mixing the comminuted ore with a liquid and

introducing numerous bubbles of re-active gas at various points within a portion of the liquid, permitting the gas to re-act with the liquid, allowisg the residual gas to escape from the liquid and causing the liquid and the comminuted ore suspended therein to move in a circulatory path by this alternate addition and escape of gas, substantially as described.
3. The process of treating copper ores which consists in crushing the ore, mixing the comminuted ore with a liquid, introducing numerous bubbles of a mixture of air and sulphurous acid at various points within a portion of the liquid, permitting the gas to re-act with the liquid, allowing the residual gas to escape from the liquid and causing the liquid and the comminuted ore suspended therein to move in a circulatory path by this alternate addition and escape of gas, substantially as described.
4. The process of treating copper ores which consists in crushing the ore, mixing the comminuted ore with a liquid, introducing numerous bubbles of a mixture of air and sulphurous acid at various points within a portion of the liquid, permitting the gas to re-act with the liquid, allowing the residual gas to escape from the liquid causing the liquid and the comminuted ore suspended therein to move in a circulatory path by this alternate addition and escape of gas. separating the solution of sulphate of copper thereby produced from the residual ore and recovering the copper from the solution, substantially as described.
5. The double process of carrying on chemical re-actions and causing the circulation of a liquid which consists in maintaining two columns of liquid to direct contact at their lower ends, introducing numerous bubbles of re-active gas at various points within one column of the liquid, permitting the gas to re-act freely with the liquid, allowing the residual gas to escape from the liquid and causing the liquid to move in a circulatory path by this alternate addition and escape of gas, substantially as described.
6. The process of treating coarsely crushed material which consists in maintaining two columns of liquid in direct contact at their lower ends supporting a mass of the crushed material within one column of the liquid, introducing numerous bubbles of re-active gas at various points within the other column of liquid, permitting the gas to re-act with the liquid, allowing the residual gas to escape from the liquid and causing the liquid to move in a circulatory path through the crushed material by this alternate addition and escape of gas, substantially as described.
7. The process of treating coarsely crushed copper ore which consists in maintaining two columns of liquid in direct contact at their lower ends, supporting a mass of the crushed copper ore within one column of the liquid, introducing numerous bubbles of a mixture of air and sulphurous acid at various points within the other column of liquid permitting the gas to re-act with the liquid, allowing the residual gas to escape from the liquid causing the liquid to move in a circulatory path through the crushed copper ore by this alternate addition and escape of gas, separating the solution of sulphate of copper thereby produced from the residual ore and recovering the copper from the solution, substantially as described.

No. 102,628. Belt Fastener. Attache-courroics.
John Joseph Flanagan, Cincinnati, Ohio, U.S.A., 18th December, 1906 ; 6 years. Filed 8th November, 1906. Receipt No. 141,028.
Claim.-1. As an improved article of manufacture, a member of a hinged belt fastener having a flat base with a series of prongs projecting therefrom and a series of apertures in the base in line with the prongs, the prongs being bent to form pintle loops and their extremities again bent towards the base, substantially as described.
2. The combination of belt ends with a hinged fastener composed of members having flat bases with a series of

apertures therein, a series of prongs extending from the adjacent edges of the bases and bent to form pintle loops with their extremities again bent and passed through the belt ends and the apertures in the bases and secured against withdrawal, and a coupling pin lying in alternating pintle loops of the opposed fastener members, substantially as described.
3. The combination of belt ends with a hinged fastener composed of members having belt bases with a series of apertures therein, a series of prongs extending from the adjacent edges of the bases and bunt to form pintle loops, their extremities being again bent to pass through the belt ends and the apertures in the bases where they are secured against withdrawal, the inner faces of the belts being channeled to receive the returning ends of loops flush with the belt surfaces, a coupling pin lying in the alternating pintle loops of the opposed fastener members. substantially as described.

\section*{No. 102,629. Dough Shaping Machine.}

Machine de moulcr la pate.


Herman Hueg. New York City, New York, U.S.A., 18th December, 1906; 6 years. Filed 21st July, 1906. Receipt No. 138,040 .
Claim.-1. A dough shaping machine comprising in combinatioa with a pair of concaved feed rollers, a concaved drum, a co-operating apron for the drum, and means for conveying the dough from the feed rollers to the drum together with means for operating the feed rollers and the drum, substantially as shown and described.
2. A dough shaping machine including a pair of concaved feed rollers and a drum co-operating therewith. means for
oprating the feed rollers and the drum, and an adjustable coiling plate interposed between the feed rollers and the drum. substantially as shown and described.
3. A dough shaping machine including a pair of concaved feed rollers and a drum co-operating therewith, means for operating the feed rollers and the drum, an adjustable coiling plato interposed between the foed rollers and the drum. and a guard plate co-operating with the colling plate, substantially as shown and described.
4. A dough shaping machine including a pair of concaved food rollers and a drum co-operating therewith, means for operating the feed rollers and the drum, an adjustable collinge plate interposed between the feed rollers and the drum, a guard plate co-operating with the coiling plate, said coiling plate having side flanges, substantially as shown and described.
5. A dough shaping machine including a palr of concaved feed rollers and a drum and apron operating therewith, together with an adjustable scraper that engages one of said iced rollers and a relatively fixed scraper that engages the other feed roller together with an intervening colling plate betwern the feed rollers and the drum, substantially as shown and described.
6. In a dough shaping machine the combination with a pair of concaved feed rollers and a drum, a colling plate interposed between the feed rollers and the drum, said coiling plato having transverse ribs, a scraper for one of said feed rollers, arranged adjacent said colling platc. sald coiling plate having a pocket portion between said scraper and the adjacent rib of the colling plate, an apron for said drum and means for rotating the feed rollers and the drum, substantially as shown and described.
7. In a dough shaping machine the combination with a pair of concaved feed rollers and a drum, a colling plate interposed between the feed rollers and the drum, said coiling plate having transverse ribs, a scraper for one of said feed rollers arranged adjacent said coiling plate, said colling plate having a pocket portion between said scraper and the adjacent rib of the coiling plate, an apron for said drum, means for rotating the feed rollers and the drum and an adjustable guard plate co-operating with the colling plate,

No. 102,630. Rnfilers for Sewing Machines.
Machinc a coudrc.


William Jam' . Tamaqua, Pennsylvania, U.S.A., 18th December, 1906 : , years. Filed 19th November, 1906. Receipt No. 141,341 .
Claim.-In a domestic sewing machine the combination with a machine standard and a ruffler standard located at the left hand side thereof, of an arm and head carried by the machine standard, a presser bar pendant from the head, a foot extended between the standards from the presser bar and supporting the ruffler standard, a ruffing plate located between the standards and guided by the ruffer standard, an operating lever carried by the ruffler standard and co- operatively related to the ruffling plate, a needle bar reciprocating in the head and located between the operating lever and the machine standard, a lever operating projection extended from the needle bar at that side thereof which is farthest from the machine standard, means permitting the adjustment of said projection longitudinally of the bar and also laterally thereof toward and from the fulcrum of the operating lever to regulate the throw of the latter, and a separator plate secured to the ruffer standard and extended under the same and into co-operative relation with the ruffler plate located between the standards.

No. 102,631. Partition for 8took Cars. Cloison pour wagons d bestiaux.


John H. Phillips, Jr., Jackson, Michigan, U.S.A., 18th December, 1906; 6 years. Filed 15th November, 1906. Recelpt No. 141,225.
Claim.-The combination with a car having notched tracks extending along the side thereof, of hangers slidably mounted on the tracks, a partition hinged to the hangers, and a catch on the hangers and engageable with the notches in the tracks to hold the partition in adjusted position.

No. 102,632. Machinery Por Making Pnoumatic Tires.
Machine pour la fabrication des tubes pneumntiques.


Thomas Sloper and Robert Sloper, co-inventors, both of 14 The Brittox Devizes, Wiltshire, England, 18th December, 1906; 6 years. Filed 10th November, 1906. Receipt No. 141,077.
Claim.-1. In a machine for making pneumatic tires, the combination of a former having a working face of curved cross section, and means for laying a cord upon the working face in such a manner that a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
2. In a machine for making pneumatic tires, the combinallon of a former having a working face of curved cross section, and means for making loops of cord and laying them at the required angle across the former whereby a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
8. In a machine for making pneumatic tires the combiaation of a former having a working the of curved rene, section, means for maintalning the cord under teas: 5 . and means for selecting predetermined lengths of the coid whilst under tension and laying them upon the work:ng face of the former in such manner that a fabric is bis : up corresponding in shape to the finished tire and baver loons in the edges on both sides, substantially as eet fir.h
4. In a machine for making pneumatic tires the comb in. tion of a former having a working face of curved rrioss .... tion, means for maintaining the cord under ansion an! means for folding the cord into loops of predniorm \(-\cdots\), length whilst under tension and laying such loops uann \(p\). working face of the former in such manner that af.e: is built up corresponding in shape to the finished tyr: ar.t having loops in the edges on both sides, substanilally as set forth.
5. In a machine for making pneumatic tires the combita tion of a former having a working face of curved cross scr. tion, means for malntaining the cord under tension. and means for folding the cord Into double loops of prefcier. mined length whilst it is under tension and laying it upon the working face of the former in such manner tha: a fabric is built up corresponding in shape to the Inisbrid tire and having loops in the edges on both sides. substan. tially as set forth.
6. In a machine for making pneumatic tires the con blnation of a former having a working face of curred rens section, means for making loops of the cord of prait.:mined length and laying them on the former, means fir: maintaining tension on the cord whilst the loop is br:s made and laid on the former, and means for temporar': holding a part of each loop in position on the former wh's. the remainder of the loop is being laid thereon. Wheretir a fabric is built up corresponding in shape to the finlah.it tire and having loops in the edges on both sides. eubstantially as set forth.
7. In a machinc for making pneumatic tires the combination of a former having a working face of curvef cross section and a scries of pins on opposite sides thereof. and means for making loops of cord of predetermined \(10 n \mathrm{n}\) :h and delivering them on to the pins in such manace that a fabric is built up corresponding in shape to the finlsbef tire and having loops in the edges on both sides, substantlally as set forth.
8. In a machine for making pneumatic tires the combinafin of a former having a working face of curved cross seetion. means for making loops of cord. and means for tran.forring the loons from the loop forming device and lay:ng them on the former, wheeeby a fabric is bullt up corresponding in shape to tho finlshed tire and having loops it. the edges on both sides. substantially as set forth.
9. In a machine for making noeumatic tires the combination of a former having a working face of curved crose section and a series of pins on opposite sides thereof, means for making loons of cord of predetermined leagth. anit means for transferring the loops from the loop formine device and dellvering tham to the pins of the former whereby a fabre is ruilt up corresponding in shape to it. finished tire and having loops in the edges on both slites. substanilally as set forth.
10. In a mach'ne for making pneumatic tires the combination of a former having a working face of curved cross section, means for supplying cord under tension to the former. a guide \(\mathrm{J}^{1}\) from which the cord passes to the former so that a portion of such cord is normally extended between \(: b\) former and guide, two folding pins \(A^{6} A^{30}\), means for supporting these pins and maintaining them at a distance apart equal to the predetermined length of the folded loops of cord to be applied to the former, means for adjusting threlative positions of the pins and cord so that one pin is brought to one side of the extended portion of the cord an: the other to the opposite side of the same and then movite one relatively to the other in such manner that a double fold or loop of the cord is obtained, and means for delin... ing the loops so folded to the former, whereby a fabric is built up corresponding in shape to the finished tiro an! having loops in the edges on both sides. substantially 11 set forth.
11. In a machine for making pneumatic tires the combina tion of a former having a working face of curved croas biction, means for supplying cord under tonsion to the form. f . a guide \(J^{1}\) from which the cord passes to the former sin that a portion of such cord is normally extended betwe a the former and gulde, two folding pins \(A^{3} A^{10}\). micans for moving one pin \(A^{20}\) back and forth in n clrcular path abou: the other \(A^{0}\) for the purpose of folding the cord in:o lo. \(:\) the contral pin beling situated on that slite of the exteace! portion of the cord which faces in the direction of mornment of the second pin \(\mathbf{A}^{10}\) which lies on the opposife s'de of the cord backwardly and forwardly, moving tranefer: ac
devices to receiva the folded loops from the pins \(A^{8} A^{20}\) one of such devices being situated when at the limit of its movement in one direction in proximity to the pin \(A^{\prime}\), a movable guide for the extended cord portion \(J\), means for moving this guide to deflect the extended portion of cord so that it lies clear of the path of the transferring device allotted to the central pin \(A^{B}\) as the transferring device approaches the pin, means for returning the guide to such position that the cord can pass the transferring device after this has returned, means for moving the pins so that they may not foul the cord whilst the pins and cord are being brought into proper relative position, and means for replacing them to engage the cord preparatory to form ing a loop. whereby a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sldes, substantially as set forth.
12. In a machine for making pneumatic tires the combination of a former having a working face of curved cross sec tion, means for supplying cord under tension to the former, a gulde \(J^{2}\) from which the cord passes to the former so that a portion of such cord is normalls extended between the former and guide in a plane approximately at right ang'es to that occupied by the former, a folding pin \(A^{\text {a }}\) vertical to such plane and situated between the extended cord and the former so that the cord may fold round it ns it is advanced to the former, a second folding pin \(A^{10}\) parallel to the first, means for maintaining this second pio at a distance from the sther equal to the predetarmined length of the folded loops of cord and for moving it to and from the former in a path having the first pin for Its center, the limit of its travel, in a direction away from the former, being such that the pin can be brought to that side of th, extended cord remote from the former and not occupled by the first pin, means for moving both pins ver tically out of the plane of the cord as the second pin travels from the former and for returning them to the same plane to engage the cord as it reaches the limit of its movement in this direction, and means for delivering the loops formed on the nins to the former, whereby a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
18. In a machine for making pneumatic tires the combination of a former having a working face of curved cross section, means for supplying cord under tension to the former, a guide \(J^{1}\) from which the cord passes to the former so that a portion of such cord is normally extended between the former and gulde in a plane approximately at right angles to that occupied by the former, a folding arm extending in a plane parallel to that occupled by the extended cord, vertical pins \(A^{6} A^{10}\) carried by the folding arm and set at a distance apart equal to the predetermined length of the folded loops of cord, means for swinging the arm towards and away from the former about a center co-axial with one of the pins so that the pins at the limit of its movement in one direction lie each on opposite sides of the extended cord and at the limit of its movement in the other direction lie on opposite sides of the former, means for moving the folding arm vertically out of the plane of the cord as it moves from the former so that the pins and cord can oross each other until the arm reaches the limit of its backward movement when it is again moved into the plane and the pins engage the extended cord on opposite sides, and transferring devices to receive the loops from the pins and deliver them on to the former in such manner that a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
14. In a machine for making pneumatic tires the combination with a former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making loops of cord of predetermined length, pins \(A^{5} A^{10}\) to support such loops so that they are presented to the former at the required angle, transferring devices situated one on each side of the former and having a finger adapted to enter the loops and a lug adapted to push the loops off the supporting ribs, means for moving the transferring devices backwards and forwards between the loop pins and the former pins so that as they move in one direction they carry the ends of the loops with them and deliver them to the former pins, whereby a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
15. In a machine for making pneumatic tires the combination with a former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making loops of cord of predetermined length, pins \(A^{s} A^{10}\) to support such loops so that they are presented to the former at the required angle, trans-
ferring devices situated one on each side of the former and each having a finger adapted to enter the loops and a lug adapted to push the loops off the supporting pins, means for moving the transferring devices backwards and forwards between the loop pins and the former pins so that as they move in one direction they carry the ends of the loops with them and present them to the former pins, and means for withdrawing the transferring fingers from the loops as the latter are delivered on to the pins of the former, whereby a fabric is bullt up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth
16. In a machine for making pneumatic tires the combination with a former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making loops of cord of predetermined length, pins \(A^{8} A^{10}\) to support such loops so that they are presented to the former at the required angle, transferring devices situated one at each side of the former and having a pivoted finger adapted to enter the loops and a lug adapted to push the loops off the supporting pins, the pivoted finger normally extending below the lug to receive the loop, means for moving the transferring devices backwards and forwards between the loop pins and the former pins, so that as they move in one direction they carry the ends of the loops with them and present them to the former pins. and means for tripping the pivoted fingers of the transferring devices as the ends of the loops arrive opposite the former pins whereby the fingers are withdrawn behind the lugs as the loops are pushed on to the former pins so that a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
17. In a machine for making pneumatic tires the combination with a former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making loops of cord of predetermined length, pins \(A^{s} A^{10}\) to support such loops so that they are presented to the former at the required angle, transferring devices for the loops situated one on each side of the former and having a finger adapted to enter the loops and a lug adapted to push the loops off the supporting pins, means for moving the transferring devices backwards and forwards in paths coincident with those described by the ends of the loops as they are laid on the working face of the former so that as the transferring devices move in one direction they carry the ends of the loops with them and maintain them under approximately uniform tension whilst delivering them to the former pins, whereby a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
18. In a machine for making pnematic tires the combination with a former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making loops of cord of predetermined length, pins \(A^{5} A^{10}\) to support such loops so that they are presented to the former at the required angle, transferring devices situated one on each side of the former and having a pivoted and sliding finger adapted to enter the loops and a lug adapted to push the loops off the supporting pins, the pivoted finger normally extending below the lug to receive the loop, a spring controlling each finger and tending always to slide it in a direction away from the former, means for moving the transferring devices backwards and forwards in paths coincident with those described by the ends of the loops as they are laid on the working face of the former so that with the aid of the springs the loops are maintained under approximately uniform tension whilst being delivered to the former pins, whereby a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
19. In a machine for making pneumatic tires the combination of a former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making loops of cord of predetermined length and laying them on the former, means for maintaining tension on the cord whilst the loop is being made and laid on the former, and means for temporarily holding the central portion of each loop in position on the former whilst the ends are being delivered on to the pins of the former, whereby a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
20. In a machine for making pneumatic tires the combination of a former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making loops of cord of predetermined length and layfing them on the former, means for maintaining tension on
the cord whilst the loop is being made and laid on the former, and a presser foot \(C\) for temporarily holding the central portion of each loop in position on the former whilst the ends are being delivered on to the pins of the former, whereby a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
21. In a machine for making pneumatic tires the combination of a former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making lo ps of cord of predetermined length and laying them on the former, means for maintaining tension on the cord whilst the loop is being made and laid on the former, a presser foot \(C\) for temporarily holding the central portion of each loop in position on the former whilst the ends are being delivered on to the pins of the former, and means operatively connecting the presser foot with the mechanism for bringing the loops into position on the former so that as each loop is brought into position the presser foot is moved to grip it whereby a fabric is built up corresponding in shape to the finished tire and having loops in the edges of both sides, substantially as set forth.
22. In a machine for making pneumatic tires of flattened cord the combination with a former having a working face of curved cross section, of means for making loops of the cord and laying them on the working face of the former in such manner that the flattened cord constituting the end portions of each loop lies approximately edgewise relatively to the working face of the former whilst that constituting the central portion of each loop lies with the flattened face approximately parallel with the working face of the former whereby a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
23. In a machine for making pneumatic tires of flattened cord the combination of a former, two folding pins \(A^{5} A^{10}\), means for supporting these pins at a given distance apart, means for folding the flattened cord in loops upon the folding pins so that the flattened face of the cord lies against the pins, both pins being in the same plane, means for presenting the pins to the former in such manner that the loop thereon is presented at the required angle across the former and with the cord edgewise relatively to the working face thereof, a guide above the former whereby the central porlion of the loop is turned as it is presented so that the flat face of the cord at this part lies towards the working face of the former, and means for transferring the ends of the loops from the pins and securing them to the sides of the former without turning them from their edgewise position, whereby a fabric is built up corresponding in shape to the finish dire and having loops in the edges on both sides, substantially as set forth.
24. In a machine for making pneumatic tires of flattened cord the combination of a former, two folding pins \(A^{5} A^{10}\), means for supporting these pins at a given distance apart, means for folding the flattened cord in loops upon the folding pins so that the flattened face of the cord lies against the pins, both pins being in the same plane, means for presenting the pins to the former in such manner that the loop thereon is presented at the required angle across the former and with the cord edgewise relatively to the working face thereof, a guide above the former whereby the central portion of the loop is turned as it is presented so that the flat face of the cord at this part lies towards the working face of the former, means for securing this central portion of the loop to the former whilst in this position and means for transferring the ends of the loops from the pins and securing them to the sides of the former without turning them from their edgewise position, whereby a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
25. In a machine for making pneumatic tires of flattened cord the combination of a former having a working face of curved cross section and a series of pins on opposite sides thereof, two folding pins \(\mathrm{A}^{5} \mathrm{~A}^{10}\), means for supporting these pins at a given distance apart, means for folding the flattened cord in loops upon the folding pins so that the flattened face of the cord lies against the pins, both pins being in the same plane, means for presenting the pins to the former in such manner that the loop thereon is presented at the required angle across the former and with the cord edgewise relatively to the working face thereof a guide above the former whereby the central portion of the loop is turned as it is presented so that the flat face of the cord at this part lies toward the working face of the former, and means for transferring the ends of the loops from the folding pins on to the pins on the sides of the former, whereby they are secured to the former and maintained in their edgewise position, substantially as set forth.
bination of a former having a working face of curved cross section, means for making loops of cord and laying them at the required angle across the former whereby the fabric is. built up corresponding in shape to the finished tire and having loops in the edges on both sides, a member for pressing home the loop last laid against those previously laid, and means for operatively connecting such member with the means for laying the cord on the former so that the cord is thrust home as it is brought into position. substantially as set forth.
27. In a machine for making pneumatic tires the combination of a former having a working face of curved cross section, means for making loops of cord and laying them at the required angle across the former whereby a fabric is built up corresponding in shape to the finished tire and having loons in the edges on both sides, a member for pressing home the loop last laid against those previously laid, means operatively connecting such member with the means for laying the cord on the former so that the cord is thrust home as it is brought into position, a presser foot to hold the cord unon the former when in position, and means for operatively connecting the presser foot with the mechanism for laying the cord, so that the presser foot is broucht into operation after the cord has been brought into position and pressed home by the member referred to, substantially as set forth.
28. In a machine for making pneumatic tires, the combination of a former having a working face of curved cross section, two folding pins \(A^{5} \mathrm{~A}^{10}\), means for supporting these pins at a given distance apart, means for folding the cord in loons upon the folding pins, means for presenting the loop which is extended between the pins to the former and then laying it upon the same, a guide above the former and over which the loop passes so that it is raised above the level of the former, such guide extending to the point where the cord is to be laid, a member situated behind the lonn, and means for advancing such member as the loop is presented so that it pushes the loon from the guide and over the end thereof and presses it against those already laid on the former. whereby a fabric is built up corresponding in shape to the finished tire and having loops in the edges on both sides, substantially as set forth.
29. In a machine for making nneumatic tires the combination of a former having a working face of curved cross section. a pivoted arm upon which the cord is folded into loons and presented to the former, a guide between the arm and the former which raises the central portion of the loop above the level of the former as the loop advances, a presser arm pivoted to the folding arm and depending therefrom to engage the rear of the loon but having an extension on the further side of its pirot, a fixed ston against which such extension is brought when the folding arm approaches the limit of its movement whereby the presser arm is swung forward and pushes the loon from the guide and against those previously laid on the former, and means for laying the loop thus presented to the former upon the working face thereof whereby a fabric is built up corresponding in shape to the finished tire and having loons in the edges on both sides, substantially as set forth.
30. In a marhine for making pneumatic tires, the combination of a former having a working face of curved cross section, means for laying a cord upon the working face in such manner that a fabric is built up corresponding in shape to the finished tire and having a series of cords side by side disposed transversely relatively to the tire, and means whereby each transverse portion of cord last laid upon the former is drawn back whilst the next is laid thereon, substantially as set forth.
31. In a machine for making pneumatic tires the combination of a former having a working face of curved cross section, means for laying a cord upon the working face in such manner that a fabric is built up corresponding in shape to the finished tire and having a series of cords side by side disposed transversely relatively to the tire, means whereby each transverse portion of cord last laid upon the former is drawn back whilst the next is being, laid thereon, and means whereby the former is rotated automatically whilst the cords are laid thereon, substantially as set forth.
32. In a machine for making pneumatic tires the combination of a former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making loops of cord and delivering them on to the pins in such manner that a fabric is built up corresponding in shape to the finished tire and having a series of cords side-by-side disposed transversely relatively to the tire, a displacing device (L*) adapted to engage the loop last laid on the former at a point near the pins, means for moving the displacing device into proximity to the former and in advance of the loop so that movement in a direction towards the former and parallel with it will cause the loop to be engaged and pushed back,
means for advancing the displacing device to thus push the loop back, means for then carrying the displacing device out of the plane of the loops, and means for returning the device to a position ready for advance again towards the former, substantially as set forth.
33. In a machine for making pneumatic tires the combination of a former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making loops of cord and delivering them onto the pins in such manner that a fabric is built up corresponding in shape to the finished tire and having a series of cords side-by-side disposed transversely relatively to the tire, a displacing device ( \(\mathrm{L}^{*}\) ) adapted to engage the loop last laid on the former at a point near the pins and situated in the same plane as the loops, a spring tending normally to maintain this device clear of the loops on the former, means for advancing the displacing device against the action of its spring so that it is moved parallel with the former and engages and pushes back the loop last laid, means for releasing the displacing device from its advancing mechanism and carrying it out of the plane in which the loops lie so that it is returned by its spring in a different plane, and a guide whereby it is brought again into its normal path as it reaches the limit of its return movement, substantially as set forth.
34. In a machine for making pneumatic tires the combination of a rotatable former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making loops of cord and delivering them onto the pins in such manner that a fabric is built up corresponding in shape to the finished tire and having a series of cords side-by-side and disposed transversely relatively to the tire, a displacing device ( \(L^{*}\) ) adapted to engage each loop last laid on the former at a point near the pins, means for moving the displacing device into proximity to the former and in advance of the loops so that movement in a direction towards the loops and parallel to the former will cause the last loop to be pushed back, means for advancing the displacing device to thus push the loop back, means for returning the device to its original position and means for rotating the former, substantially as set forth.
35. In a machine for making pneumatic tires the combination of a rotatable former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making loops of cord and delivering them onto the pins in such manner that a fabric is built up corresponding in shape to the finished tire and having a series of cords side-by-side and disposed transversely relatively to the tire, a displacing device (L*) adapted to engage each loop last laid on the former at a point near the pins, means for moving the displacing device into proximity to the former and in advance of the loop so that movement in a direction towards the loops and parallel to the former will cause the last loop to be pushed, back, means for advancing the displacing device to thus push the loop back, means for returning the device to its original position, and means for rotating the former step-by-step through such an angle as is required to bring one pair of pins thereon into the position formerly occupied by the preceding pair, substantially as set forth.
36. In a machine for making pneumatic tires the combination of a rotatable former having a working face of curved cross section and a series of pins on opposite sides thereof, means for making loops of cord and delivering them on to the pins in such manner that a fabric is b ilt up corresponding in shape to the finished tire and having a series of cords side by side and disposed transversely relatively to the tire, a displacing device ( \(L^{*}\) ) adapted to engage each loop last laid on the former at a point near the pins, means for moving the displacing device into proximity to the former and in advance of the loop so that movement in a direction towards the loops and parallel to the former will cause the last loop to be pushed back, means for advancing the displacing device to thus push the loop back, means for returning the device to its original position, and means for controlling the movement of the former so that it is permitted to rotate step-by-step under the action of the displacing device whilst the latter is pushing back the cord last laid thereon, such limited movement of the former being equal to that required for the purpose of moving one pair of pins thereon into the position occupied by the previous pair of pins, substantially as set forth.
37 In a machine for making pneumatic tires the combination of a rotatably mounted former having a working face of curved cross section. means laying a cord upon the working face in such manner that a fabric is built up corresponding in shape to the finished tire and having a series of cords side by side disposed transversely relatively to the tire, means whereby each transverse portion of cord last
laid upon the former is drawn back whilst the next is laid thereon, such drawing back causing the former to also rotate, and means for limiting the degree of rotation at each operation, substantially as set forth.

\section*{No. 102,633. Sash Fastener. Arrête-croisée.}


William F. Clegg, Greensboro, North Carolina, assignee of James E. Gibbs, Clifton Forge, Virginia, U.S.A., 18th December, 1906; 6 years. Filed 1st October, 1906. Receipt No. 139,914.
Olaim.-1. A sash fastener, comprising a pair of spring actuated bolts for engaging the upper and lower sashes of a window, a connecting piece movably connected with each of the bolts to permit an independent reciprocation of the same, and means fngaging the connecting piece between the bolts for actuating the bolts simultaneously.
2. A sash fastener, comprising a pair of spring actuated bolts for engaging the upper and lower sashes of a window, a connecting piece movably connected with each of the bolts to permit an independent reciprocation of the same, and means located between the bolts and engaging the connecting piece at opposite sides of the center thereof for actuating the said bolts simultaneously.
3. A sash fastener, comprising a pair of bolts for engaging the upper and lower sections of a window, a connecting piece, and a cam arranged to engage the connecting piece and provided with a terminal recess forming a seat for the connecting piece, whereby both bolts are locked against movement.
4. A sash fastener, comprising a pair of bolts for engaging the upper and lower sections of a window, a connecting piece for the bolts, a cam provided with opposite sides and having a connecting portion, the sides being arranged to engage the connecting piece adjacent to the bolts, and means connected with the transverse portion for opera ing the cam.
5. A sash fastener, comprising a pair of bolts for engaging the upper and lower sections of a window, a connecting piece for the bolts, a cam having opposite sides for engaging the connecting piece and provided with a transverse portion having a shank, and an operating member connected with the shank for oscillating the cam.
6. A sash fastener, comprising a plate having opposite casings or housings, reciprocating bolts operating in the housings or casings, springs located within the latter and engaging the bolts, a connecting piece for the latter, a cam mounted on the plate between the casings or housings for engaging the connecting piece, and an operating shaft connected with the cam.
7. A sash fastener, comprising a plate having opposite housings, reciprocatable bolts operating therein, springs located within the casings or housings, means for connecting the bolts, a cam located between the casings and arranged to engage the said connecting means for operating the bolts, and a reversible operating shaft.
8. A sash fastener, provided at an intermediate point with a bifurcated bearing, reciprocatable bolts mounted on the plate, means for connecting the bolts, an actuating cam arranged to engage the said means and having a projecting portion located in the bifurcated bearing, and a revers ble operating shaft detachably interlocked with the projecting portion of the cam and adapted to extend into the bearing from either side thereof.
9. A sash fasten r, comprising a frame consisting of a plate provided with lateral extensions arranged in pairs, one member of each pair forming an attachment arm, and the other member being bent over the plate to form the casing or housing, bolts operating in the casings or housings, and means on said frame for actuating the bolts.
10. A sash fastener, comprising a pair of spring actuated bolts, connecting means pivotally connected with the bolts
to permit the same to move independently of each other, and operating mechanism detachably engaging the connecting means at a point between the bolts for simultaneously operating the same.

No. 102,634. Sash Fastener. Ariêtc-croisée.


Isaac M. Deppen, Scrafton, Pennsylvania, U.S.A., 18th December, 1906; 6 years. Filed 31st October, 1906. Receipt No. 140,790 .
Claim.-1. A sash fastener comprising an apertured plate adapted to be secured to the window casing, and having a projecting flange on one end thereof, an angle lever, one of the arms of which extends behind the plate and has on one side a catch passing through an opening in said plate and engageable with the sash, and on the opposite side a laterally extending branch, the other arm of the lever extending through one of the apertures in the plate and fulcrumed on the wall of said aperture, and a spring between the aforesaid flange of the plate and branch of the lever.
2. A sash fastener comprising a plate secured to the window casing and provided with an opening having a stud projecting from the wall thereof, and an angle lever, one of the arms of which extends behind the plate and has a catch engageable with the sash, the other arm of the lever exlending through the opening in the plate and having a notch to receive the aforesaid stud which forms the fulcrum of the lever.

No. 102,635. Sash Fastener. Arrête-croisíe.


Charles M. Evans, Carmichaels, Pennsylvania, U.S.A., 18th December, 1906; 6 years. Filed 6th October, 1906. Receipt No. 140,098 .
Claim.-In a sash fastener, the combination of a casing, the two bolts 6 and 9 mounted in said casing and slidable at right angles to each other, the finger piece 7 projecting upwardly from the bolt 6 through the top of the casing, the casing having a slot therein in which the finger plece 7 is adapted to slide, the finger piece 10 at one side of the casing and carried by the outer end of the bolt 9 , and the pin 11 projecting upwardly from the bolt 9 between the ends or the latter and arranged within the casing aforesaid, the boit 6 being arranged adjacent the bolt 9 whereby the bolt 9 may be rotated so as to cause the pin 11 carried thereby to be thrown into a vertical position in engagement with the bolt 6 , the pin 11 when in engagement with the bolt 6 preventing sliding movement of the bolt 9 , but permitting free sliding movement of the bolt 6 .

\section*{No. 102,636. Sash Fastener. Arrête-crot É.}

Jesse S. Packer. Salt Lake City, Utah, U.S.A., 18th December, 1906; 6 years. Filed 31st October, 1906. Receipt No. 140,786 .
Claim.-In a window sash lock, the integral casing comprising a horizontal plate, a downwardly extending flange adapted to be secured to the side of the lower window sash, downwardly extending flanges which overhang the edge of the lower window sash and rest in a recessed portion, dowel pins carried by said last-named flanges and entering
the body of the window sash, and bolt casings formed upon the horizontal bolt, said casing lying at right angles to each

other, in combination with bolts slidably disposed in said casings.

No. 102,637. Sash Fastener. Arrîte-croiséc.


Elias Etzenhouser and Rosanah L. Morris, Los Gatos, California, U.S.A., 18th December, 1906; 6 years. Filed 19th September, 1906. Recelpt No. 139,632.
Claim.-A sash fastener having in combination two flat plates hinged together along their meeting edges, of one of said plates adapted to be fixedly secured on the top rall of the lower sash and having a housing which extends paralle، with the hinge of said plates, said housing having a closed rear end and a longitudinally extending slot offset at the front end, a spring in the rear portion of the housing, a bolt slidable in the housing and normally projected by the spring, said bolt having a knob operable in the slot of the housing, a turnable bolt mounted in the other plate, sald bolt having a conically shaped head and lateral wings or projections, and a handle piece by which the bolt is turnable, a glate adapted to be secured to the upper sash having keyhole slots engageable by the head and wings of the turnable bolt, and a plate adapted to be secured to the window casing having openings engageable by the spring actuated locking bolt.

No. 102,638. Door Fastener. Attache de portc.


Winfield P. Carter, Raymond, Illinois, U.S.A., 18th December, 1906; 6 years. Filed 12th October, 1906 . Recelpt No. 140,256.
Claim.-1. The combination with a recessed base having a sliding bolt thereon, of a leaf hinged to and adapted 10 fold upon the base, and engaging devices upon the leat adapted to be seated in the recesses.
2. A combination with a base and a leaf hinged thereto of a slotted cap upon the base, a bolt slidably mounted within the cap, and means upon the bolt for securing it against movement.
3. The combination with a base and a leaf hinged thereto, of a bolt slidably mounted upon the base and having a plurality of recesses therein, a slotted cap for retaining the bolt upon the base and a manlpulating device adjust ably mounted in one of the recesses and slidable within the slot, and said device adapted to clamp upon the cap.

No. 102,639. Door Closer. Ferme-porte.


George N. Hall, La Crosse, Wtsconsin, U.S.A., 18th December, 1906; 6 years. Filed 9th October, 1906. Recelpt No. 140,177
Claim.-1. In a door closer, in combination, a supporting structure having side bearings and adapted to be secured to a door casing, a frame pivotally mounted at one of its ends in said bearings and projecting forward beyond the end of said structure, a spring connected at one end with the rear end of sald structure and at its other end with the free end of said irame, means for limiting the pivotal movement of said frame, and a wiper bracket secured to the door in positjon to engage the forward end of said frame.
2. In a door closer, in combination, a supporting structure having bearing openings in its side walls intermediate its ends and an open forward end, said structure being adapted to be secured to a door casing, a frame comprising two side bars, the ends of said side bars being turned outward to form bearing studs adapted to lie in said bearing openings, said frame projecting forwardly through the open forward end of said structure, a spring connected at one end with the rear end of said structure and at its other end with the free end of said frame, one side of said structure forming a stop upon which said irame is arranged to impinge to limit the pivotal movement of said frame, and a wiper bracket secured to the door in position to engage the forward end of said frame.

No. 102,640. Ore 8limer.
Appareil pour enlever la scoric.


Peter H. Craven, Spokane, Washington, U.S.A., 18th December, 1906; 6 years. Filed 25th July, 1906. Receipt No. \(138,157\).
Claim.-1. In a machine of the class described, a slimer table, and means for imparting simultaneously a continuous longitudinal movement and a reciprocatory longltudinal movement.
2. In a machine of the class describel, a frame, means to reciprocate the frame longitudinally, an endless slimer
table mounted upon the frame, and means to move the slimer table independently of the frame.
3. In a machine of the class described, a frame, means to impart a reciprocatory longitudinal movement to the frame, a supporting apron extending about said frame and supported upon proper bearings, means to impart a rotary movement to the supporting apron, and an endless slimer table carried upon and moved by said supporting apron.
4. In a machine of the class described, an endless movable slimer table, riaes formed longitudinally of the table, and means for imparting a reciprocatory movement to the table.
5. In a machine of the class described, an endless slimer table, means to move the slimer table continuously, means to impart an auxiliary intermittent movement to the slimer lable, and a washer arranged to cleanse the surface of the table.
6. In a machine of the class described, an endless flexible slimer table, means to move the slimer table continuously and longitudinally, means to move the slimer table longituainally and intermittently, a tank, and means to guide the slimer table through the tank.
7. In a machine of the class described, an endless slimer table, means to impart a continuous movement to the table, means to impart an intermittent movement to the table, a distributing box disposed adjacent one edge of the table, and a receiving box disposed adjacent the opposite edges of the table.
8. In a machine of the class described, an endless slimer table disposed in an inclined plane, means to move the endless table continuously and longitudinally, means to reciprocate the table independently of the continuous moveemnt, a distributing box extending longitudinally adjacent the upper edge of the table, and a receiving box extending longitudinally adjacent the lower edge of the table.
9. In a machine of the class described, a frame provided with rollers at opposite ends, an endless slimer table disposed about and carried upon the collers, means to move the endless table longitudinally, and means connected with and arranged to impart a shaking movement to the frame.
10. In a machine of the class described, a frame provided w'th rollers at its opposite ends, and disposed coincident with an inclined plane, a flexible endless slimer table disposed about and carried by the rollers and in an inclined position, means for moving the slimer table longitudinally upon the rollers, means connected with and to impart a longitudinal shaking movement to the frame, a distributing box arranged adjacent the upper longitudinal edge of the table, and a receiving box arranged adjacent to and to receive material from the lower edge of the table.
11. In a machine of the class described, an endless flexible slimer table, means to move the table continuously and longitudinally, means to impart a longitudinal shaking movement to the table, and independently of the continuous movement, and means to vary the relative continuous and shsking movements.
12. Ir a machine of the class described, a frame, rollers journilled upon opposite ends of the frame, a flexible endless slinn \(\in\) table disposed about and carried by the rollers, means to move the slimer table continuously relative to the frame, means connected with and arranged to impart a shaking movement to the frame, and means to vary the novement of the table relative to the movement of the liame.
13. in a machine of the class described, a frame, rollers journalled adjacent the opposite ends of the frame, a supporting apron carried by sald frame and having its upper surface substantially coincident with the plane of the frame, an endless flexible slimer table disposed about and carried by the rollers and supported upon the supporting apron, means to impart a rotary movement to the supporting apron and whereby the slimer table is moved continuously and longitudinally of the frame, means connected with and arlanged to impart a shaking movement to the frame, and means to vary the relative movements of the frame and the apron.
14. In a rlachine of the class described, a frame supported in a position coincident with an inclined plane, sprockets journalled adjacent the ends of the frame, an endless slatted supporting apron disposed about and carried by the sprockets, means to impart a rotary movement to the sprockets, rollers journalled at the opposite extremes of the frame, a flexible endless slimer table disposed about add carried by the rollers and supported upon the slatted airon, a distributing box arranged adjacent the upper longitudinal edge of the apron, a receiving box disposed beneath the lower longitudinal edge of the apron, a washer arranged to clearse the surface of the slimer table, means connected Witi and aissnged to impart a shaking movement to the frame ard iis associated apron and slimer table, and means :o vary the relative movements of the frame and apron.

No. 102,641. Concrete Caisson. Caisson en béton.


Tuomas Malcolm McAlpine, Glasgow, Scotland, 18th Decembor, 1906; 6 years. Filed 21st September, 1906. Receipt No. 139,669.
Claim.-The construction, or provision, of caissons or cylinders with rods such as \(b\), in combination with caissons or cylinders having apertures such as \(a\), as set forth.

No. 102,642. Coffee Roaster. Machine àrôtir le café.


Everett Tyler Shortt, St. Louls, Missouri, U.S.A., 18th December, 1906; 6 years. Filed 10th September, 1906. Recelpt No. 139,373 .
Claim.-1. A roaster comprising a casing, a roasting cyIinder journalled within the casing and provided with a corrugated sheet metal lining, said cylinder and lining being provided with openings, said lining having its edges turned up to provide ways, and a cover for the roasting cylinder, said cover being provided with a corrugated sheet metal lining having its edges slidably mounted in said ways.
2. A roaster comprising a casing, a roasting cylinder journalled within the casing and provided witn a corrugated shetet metal lining, said cylinder and lining being provided with openings, said lining having its edges turned up to provide ways, and a cover for the roasting cylinder having its ends offset to engage under the edges of the cyllnder, said cover being provided with a corrugated sheet metal lining having its edges slidably mounted in said ways.
3. A roaster comprising a casing, a roasting cylinder provided with frustro-conical ends terminating in tubular trunnions and with a corrugated sheet metal lining, said cylinder and lining being provided with openings, said lining having its edges turned up to provide ways, a cover for the roasting cylinder, said cover being provided with a corrugated sheet metal lining having its edges slidably mounted in said ways, a testing device fitting within one of said trunnions, and a crank handle having a stud fitting within one of said trunnions.

\section*{No. 102,643. Dust Absorbing Substance.}

\section*{Substance pour absorber la poussière.}

Berthold Singer, Chicago, Illinois, U.S.A., 18th December, 1906; 6 years. Filed 3rd November, 1906. Receipt No. 140,890 .
Claim.-1. The process of producing dust collecting or absorbing substances which consists in thoroughly drying absorbent material, adding thereto a relatively non-volatile oily substance having a boiling point above \(140^{\circ}\) Fahrenheft and commingling the materials.
2. The process of producing dust collecting or absorbing substances which consists in thoroughly drying absorbent material, adding thereto a relative non-volatile oily substance haviag a bolling point above \(140^{\circ}\) Fahrenheit, com-
mingling the materials and subsequently permitting the mixture to stand until the said olly substance is practically wholly absorbed.
3. The process of producing dust collecting or absorbing substances which consists in thoroughly drying absorbent material and adding thereto a relatively non-volatile oily substance having a boiling point above \(140^{\circ}\) Fahrenheit in such proportion as to fill the pores of the absorbent material without leaving an appreciable quantity of the oily substance on the surface thereof.
4. The process of producing dust collecting or absorbent substances which consists in thoroughly drying sawdust and adding thereto a relatively non-volatile olly substance having a boiling point above \(140^{\circ}\) Fahrenheit in such proportions as to fll the pores thereof without leaving a sufficient quantity of the said oily substance upon the surface of the sawdust particles to stain or spot white paper upon which it is placed for a period of three minutes.
5. The process of producing dust collecting or absorbing substances which consists in thoroughly drying sawdust, adding thereto a relatively non-volatlle oily substance having a boiling point above \(140^{\circ}\) Fahrenheit in the approxlmate proportion of seventy-five per cent. of the former to twenty-five per cent. of the latter anc. thoroughly commingling the materials.
6. The process of producing dust collecting or absorbing substances which consists in thoroughly drying sawdust, adding thereto a relatively non-volatile oily substance having a boiling point above \(140^{\circ}\) Fahrenheit in the approximate proportions of seventy-five per cent. of the former to twenty-five per cent. of the latter, thoroughly commingling the materials and permitting the mixture to stand until the olly substance is almost wholly absorbed.
7. The process of producing dust collecting or absorbing substances which consists in thoroughly drying sawdust, adding thereto a relatively non-volatile substance having a boiling point above \(140^{\circ}\) Fahrenheit in the approximate proportion of seventy-five per cent. of the former to twentyfive per cent. of the latter, thoroughly commingling the materials and adding a granular material thereto.
8. The process of producing dust collecting or absorbing substances which consists in drying sawdust and adding thereto a relatively non-volatile oily substance adapted to form an almost imperceptible permanent film thereon whereby said sawdust is given a permanent affinity for dust and like particles.
9. The process of producing dust collecting or absorbing substances which consists in drying sawdust and adding thereto a relatively non-volatile oily substance adapted to give the said sawdust particles a permanent afinity for dust and like particles, the proportions of the materials being such that an almost inappreciable film of the said oily substance remains upon the surface of this sawdust, the remainder of said oily substance being wholly absorbed.
10. The process of producing dust collecting or absorbing substances which consists in drying sawdust and adding kerosene thereto in such proportions that the latter is almost wholly absorbed.
11. The process of producing dust collecting or absorbing substances which consists in drying sawdust and adding kerosene thereto in such proportions as to fill the pores thereof without leaving a sufficient quantity of the kerosene upon the surface of the sawdust particles to stain or spot white paper ugon which it is placed for a period of three minutes.
12. The process of producing dust collecting or absorbing substances which consists in drying sawdust and adding kerosene chareto in the approximate proportions of seventyfive per cent of the former and twenty-five per cent of the latter.
13. A dust collecting substance, comprising comminuted absorbent material impregnated with a relatively non-volatile ally substance having a boiling point above 140 degrees Fahrenheit and free from any constituent or ingredient which, in the finished product is capable of smearing, staining or soiling fabrics upon which it is used.
14. A dust collecting substance comprising sawdust impregnated with kerosene, said material being free from any constituent or ingredient which, in the finished product is capable of smearing, staining or soiling fabrics upon which it is used.
15. A dust collecting substance comprising sawdust approximately free from aqueous moisture, and containing kerosene absorbed therein, said substance being free from any constituent or ingredient which, in the finished product is capable of smearing, staining or soiling delicate fabrics upon which it is used.
16. The herein described product consisting of comminuted absorbent material permanently impregnated with a relatively non-volatile oily substance, the surface of said ab-
sorbent material having a glassy or glazy appearance and being free from globules or particles of the sald oily substance and said material being free from any constituent or ingredient capable, in the finished product of smearing, staining or soiling fabrics upon which it is used.
17. The herein described product consisting of sawdust impregnated with kerosene in such proportions that the said sawdust possesses a glassy or glazy appearance, has a permanent ammity for dust or like particles and is free from globules or appreciable quantities of the kerosene upon Its surface, said material being free from any constituent or ingredient which, in the finished product is capable of smearing, stalning or soiling.fabrics upon which it is used.

No. 102,644. Rubber Hose. Boyau in caoutchouc.


The Canadian Rubber Company of Montreal, Quebec, Canada, 18th December, 1906; 6 years. Filed 12 th February, 1906. Recelpt No. 132,810.

Claim.-1. A non-metallic hose for conducting water and the like consisting of a rubber tube, an encircling layer consisting of a plurality of windings of frictioned woven cotton duck the outer end whereof has a film of rubber attached thereto, a single length of cotton cord wound with its windings in close contact with one another and an outer covering of rubber film, substantially as described and for the purpose set forth.
2. The method of making hose which consists in mountfug a raw or unvulcanized rubber tube unon a mandrel, winding a sheet of frictional woven cotton duck around such tube one end of the said sheet having a film of raw or unvulcanized rubber attached thereto in order to come outside when the said sheet is wound, then winding a single length of cotton cord around the latter with its windings in close contact with one another, then completing the structure by winding a layer of raw or unvulcanized rubber around the same, and finally subjecting the whole to a vulcanizing process, substantially as described and for the purpose set forth.

No. 102,645. Electrostatic Separating Process.
Procédé de séparation électrostatique.


The Blake Mining and Milling Company, Denver, Colorado, assignee of Lucien I. Blake and Lawrence N. Morscher, Lawrence, Kansas, U.S.A., 18th December, 1906; 6 years. Filed 13th June, 1906. Receipt No. 136,857.
Olaim.-1. The electrostatic separating process which consists in giving particles initial electro-static charges dependent upon their composition and in allowing them to fall through an electro-static field and deflecting the particles in propartion to their initial charges.
2. The electro-static separating process which consists in fecding particles of material in contact with one another to produce a stream of falling particles having initial charges dependent upon their composition and in producing a comparatively weak electro-static field adjacent said falling particles to deflect them in proportion to their initial charges.
3. The electro-static separating process which consists in projecting particles previously in contact through a fuid medium and through an electro-static fleld to deflect said particles according to their composition.
4. The electro-static separating process which consists in bringing particles into contact to give them initial charges dependent upon their composition, in projecting them through a fluid medium in substantially separated condition and in acting on said moving particles by an electro-static field having comparatively weak inductive action upon them to deflect said particles according to their composition.
5. The electro-static separating process which consists in bringing particles into contact and giving them intial electro-static charges dependent npon their composition in projecting said particles through a fluid medium and in acting on said particles by an electro-static field to deflect said particles in proportion to their composition and initial charges.
6. The electro-static separating process which consists in bringing particles into contact with one another and giving them initial electro-static charges dependent upon their composition and allowing a stream of such particles to fall through a fluid medium between substantially symmetrically placed and oppositely charged electrodes to deflect said particles.

No. 102,646. Flectric Furnace. Fournaise électrique.


La Sociate Electro-Metallurgique Francaise, Froges, Loire, assignee of Paul L. T. Heroult, Le Praz. Savoie, both of France, 18th December, 1906; 6 years. Filed 8th June, 1906. Receipt No. 136,704.
Claim.-1. An electrlc furnace having chutes for feeding the furnace from a distance, and flues surrounding said chtes and carrying away the hot gases from the furnace and thereby preheating the charge.
2. An electric furnace having chutes \(D\) extending directly from the charge to a distance, at least the lower ends of said chutes being made of sheet nickel, and flues \(J\) surrounding said chutes and carrying away the hot gases from the furnace and thereby preheating the charge, sald flues being provided with means for regulating the temperature.
3. An electric furnace having chutes for feeding the furnace from a distance, and flues surrounding said chutes and carrying away the hot gases from the furnace and thereby preheating the charge, and a cover plate having branch pipes leading into said flues.
4. An electric furnace having chutes \(D\) extending directly from the charge to a distance, at least the lower ends of said chutes being made of sheet nickel, and flues \(J\) surrounding said chutes and carrying away the hot gases from the furnace and thereby preheating the charge, sald flues being provided with means for regulating the temperature, a cover plate \(K\) having apertures through which the charge is fed from said chutes and through which the gases escape Into said flues, and branch pipes \(O\) conducting the gases to said flues from points of the furnace intermediate of the location of said flues.
5. An electric furnace having chutes for feeding the furnace from a distance, and flues surrounding said chutes and carrying away the hot gases from the furnace and thereby preheating the charge, an electrode, a cover plate having an opening surrounding said electrode, and a plate fitting over the spaces between said electrode and cover plate.
6. An electric furnace having chutes \(D\) extending directly from the charge to a distance, at least the lower ends of sald chutes being made of sheet nickel, and flues \(J\) surrounding said chutes and carrying away the hot gases from the furnace and thereby preheating the charge, sald flues being provided with means for regulating the temperature, a cover plate \(K\) having apertures through which the charge is fed from said chutes and through which the gases escape into said flues, and branch pipes 0 conducting the kases to said flues from points of the furnace intermediate of the location of said flues, an electrode, a cover plate having an opening surrounding the electrode, and a series of plates \(P\) fitting over the spaces between the electrode and the cover plate and resting on said cover plate.
7. An electric furnace having an electrode of non-circular cross section and including means for shaking the electrode so as to shake down the charge.

\section*{No. 102,647. Fleotric Resistance Finrnace. Fournatse électrique à résistance.}


James Francis Bottomley and Arthur Paget, both of Kent, England, 18th December, 1906; 6 years. Filed 8th May. 1906. Recelpt No. 135,676.

Claim.-1. Electric resistance furnaces for high temperatures characterized by the fact that the resistance plates form in effect the cuver of the furnace, such plates being removably connected at either end to graphite terminal blocks with which they make close contact, the arrangement being such that the materials on the removable hearth are in close proximity to the plates and that there is practically no loss of the heat radiated and the plates can be readlly removed when destroyed by oxidation and the effect of high temperatures and new plates inserted.
2. In electric resistance furnaces the combination with resistance plates, removably connected at either end to graphite terminals blocks with which they make close contact, and forming in effect the cover of the furnace, of vertical shafts terminating in suitable openings in the cover, through which the material to be heated is fed, substantially as described and for the purpose set forth.

No. 102,648. Btep Ladder. Echelle d marches.


William F. Randall and Pelham Falconbridge, co-inventors, both of Grimsby. Ontario, Canada, 18th December. 1906; 6 years. Fyled 26th September, 1906. Recelpt No. 189,979.
Claim.-1. In a step ladder, sides apart and gradually widening asunder in concave order from the top to the botoom thereof, a horizontal step or top on the sides, steps extending between said sides, trusses connected to the underside of the lower steps and extending through the sides of the ladder, and a rear bifurcated support pivotally connected to said sides and extending to the ground in the form of two pleces of material joined firmiy together.
2. In a step kadder, side apart, a horkontal top extendIng on the sides, said sides gradually widening apart in concave order from the top to the bottom thereol. stops extending between said sides, trusses connected to the underside of the lower steps and extending through sald sifes a bifurcatod rear support of the ladder pivotally connarial to the upper part of the sides and extending in two pleces. folned together to the ground, a basket bracket pirotally connected to the upper part of the blfurcated support and adjustable braces pivotally connected to the bracket and the ladder rear support, and means on the braces to retair the same in supporting position.

\section*{No. 102,649. Decantation of Oyanide, Etc.} Methode de transiaser la cyanide, etc.

Patrick Fitzgerald, Lawlers. Western AustraMa. Australta 18th December. 1906; 6 Jears. Filed 24th January. 1906 Receipt No. 132,218.
Claim.-1. In the decantation of cyanide and like solutlons contained in crusbed ores, pulp, sands or slimes for the opparation of solutions contalning precious metals. particularly gold and silver, from the said ores or their compounds. the employment of wash waters by admitting the same under pressure in a vat below such ores, or their compounds, substantially as described.
2. In the decantation of cyandie and like solutions contained in orushed ores, pulp. sands or slimes, a process of separating solutions or solvents containing precions metals, and particularly gold and silver, from ores and their compounds, which consists in agitating mildy a mixture of such ores and such suitable solvent in a vat having a \(\mathrm{al}^{-}\) ter bed bottom beneath and through which wash is admitted under pressure, substantially as described.
3. In the decantation of cyanide and like solutions contained in crushed ores, pulp, sands. or nlimes, a process of separating solutions or solvents containing precions mriais and particularly gold and silver. from ores and their rompounds which consists in forcing such solutions nut of euch ores by substituting thercfor wash waters introduced for such purpose underneath such ores or their compounds under pressure, substantially as described.

\section*{No. 102,650. Apartment Fonse.}


Lawrenco Holmes, Los Angeles, California. U.S.A., Ifth December, 1906: 6 years. Filed 2nd October, 1806. Receipt No. 139,978 .
Claim.-1. A building provided with three adjoining rooms having a common floor at one level and a space between two of sald rooms, and a floor at a higher level in said space, said space being thus formed into another romm with a recess below the eame, an opening belng prorided into said recess from one of said rooms.
2. A building provided with two rooms of unequal leagth spaced apart, a third room adjolning said two rooms, boors for said rooms, an L-shaped secondary floor arranged abore the level of the first-named floors, a bath room and clothes closet above said secondary floor, and a bed under the bath room arranged to be drawn out into one of the Arst-mestioned rooms, and a drawer under the clothes closet and arranged to be drawn out into another of sald rooms.
3. A bullding provided with adjoining rooms and a re cess extending above the level of the floor of one of the rooms and below the floor of the other rooms. and a beld adapted to normally chamber in sald recess.
4. A bullding provided with adjoining rooms, and a re cess opening from one room and extending below the door of the other room, and a bed provided with rollers ams adapted to roll Into sald recess.
5. A building provided with a room and a recoss at one side of the room, a bed provided with rollers and adaptes to chamber in the recess, and means for ralsing and 10 .
ering said bed relative to the rollers for the purpose of adapting the bed for use at a level higher than the recess.
6. A building provided with a room and a recess opening Into the room at the floor thereof, and a bed adapted to chamber in the recess and to fit into the recess, said bed being provided with a footboard which forms a closure for the mouth of said recess.
7. A building provided with a primary and a secondary floor, a recess being between said floors, and a bed adapted to roll into and close said recess.
8. An apartment house comprising a room arranged above the level of a general apartment floor, a recess being between the general floor and the floor of said room, and a bed adapted to fit into said recess.
9. An apartment provided with a secondary floor, a china closet or the like arranged above said secondary floor, a recess being below said secondary floor, and a bed adapted to roll into and out of said recess, the china closet or the like being above the mouth of said recess.
10. A building comprising a room, a primary and a secondary floor arranged one above the other, stairs connecting the two floors, a room or rooms arranged above sald secondary floor, a recess being between said floors communicating with the first-mentioned room, a bed adapted to fit into and close said recess, and ventilating means for said recess.
11. A building provided with three adjoining rooms having a common floor at one level and a space between two of said rooms and a floor at a higher level in said space, seic space being thus formed into another room with a recess below the same, an opening being provided into sald recess from one of said rooms, and a bed adapted to chamber in said recess and close the mouth thereof.
12. A room provided with a recess in a wall, and a horizontal bed in said recess adapted to be moved into said room and having an end board forming a part thereof which closes and conceals the mouth of the recess and forms a base board for the wall of the room when the bed is in the recess.
13. An apartment house having a main and a secondary floor, a recess between said floors, a ventilating opening into the recess, and a vent from the recess, and a bed in said recess closing the mouth thereof.

No. 102,651. Sash Fastener. Arrête-croisée.


Patrick J. O'Brien, Mobile, Newfoundland, 18th December, 1906 ; 6 years. Filed 25th July, 1906. Receipt No. 135,135.
Claim.-1. The combination with a window and a window frame, of spring devices secured to the frame and the window for raising the window, a latch device carried by the window and co-operating with the frame for holding the window against the tension of the spring device, substantially as shown and described.
2. The combination with a window frame and windows thereon, said window frame having a box portion, of plates having grooves secured to the window frame, tension springs held within the window frame and secured at one end to the window frame, stud bolts carried by the window and projecting through said plate grooves and secured to the other end of the spring, and means carried by the window and co-operating with said plate for locking the window in various positions, substantially and described.
3. The combination with a window frame and windows therein, sald window \({ }^{\circ}\) frame having a box portion, of plates having grooves secured to the window frame, tension springs held within the window frame and secured at one
end to the window frame, stud bolts carried by the window and projecting through said plate grooves and secured to the other end of the springs, and means carried by the window and co-operating with said plate for locking the window in various positions, said last-named means comprising a latch member carried by the window, said plates having latch receiving apertures for co-operating with the latch member, substantlally as shown and described.
4. The combination with a window frame, of windows held therein, spring devices within the window frame and secured at one end to the frame, slotted plates secured to the window frame, stud bolts carried by the window and projecting through said slotted plates and into the window frame and connected with said springs, said plates having latch receiving apertures and latch devices carried by the window for engaging said latch apertures of the plates, substantially as shown and described.
5. The combination with a window frame and windows mounted therein, of a plate secured to the window frame, sald plate having an elongated aperture and a transverse aperture merging therewith and latch engaging apertures a stud bolt secured to the window and projecting through said slotted plate, a coil spring within the window frame and secured at one end of said bolt, a second stud bolt secured to the window frame and to the other end of the said spring, a latch member carried by the window and comprising a face plate and a key guard plate secured to the window sash, a latch bolt having a spring portion secured to said face plate and projecting through an aperture therein to engage the latch apertures of said first-mentioned plate, said latch bolt having an apertured head, an operating key adapted to be inserted into sald apertured head through said elongated aperture of said key guard plate to release said latch from said first-mentioned plate latch aperture, substantially as shown and described.

No. 102,652. Electrolysis. Electrolyse.


Geovanni Rambaldini, Milan, Italy, 18th December, 1906 ;
6 years. Filed 30th April, 1906. Receipt No. 135,376.
Claim.-1. In electrolysis a liquid producing a soluble substance and a solid or gaseous substance, the said soluble product being added in the liquid form only to.replace the part in the process decomposing in contact with the electrode, at the point where the soluble product is formed sufficient in volume to the liquid extracted and decomposed solvent and anhydrous esalt being added. to replace the decomposed solid or gaseous product, as specified.
2. In electrolysis a plurality of liquids of varying density superposed one on the other respectively and retained as separate strata only by the difference of density existing between the liquids, means for feeding and withdrawing from each strata individually and means for collecting outside the gases produced at the electrodes, as specified.
3. In electrolysis, a vessel containing a plurality of liquids of varying density superposed one on the other respectively and retained as separate strata only by the difference of density existing between the liquids, a plurality of miner vessels at each side of said vessel and connected therewith and communicating respectively with different strata of liquids, a plurality of sets of electrodes suspended in two of said strata respectively, bell shaped insulators covering sald electrodes, gas exhaust pipes from said bell shaped covers and means for raising and lowering said electrodes, as specified.

\section*{No. 102,653. Produotion of Aluminium-Nitrio Combination.}

Production de nitrate d'aluminium.
Ottakar Serpek, Luterbach Solothurn, Switzerland. 18th December, 1906: 6 years. Filed 20th June, 1906. Receipt No. 137,115.
Claim.-1. The method of producing aluminium nitric combinations which consists in treating aluminium nitric with nitrogen at a higher temperature.
2. The method of producing aluminium nitric combinations which consists in treating aluminium carbide with air at a higher temperature.
3. The method of producing aluminlum nitric combinations which consists in powdering aluminium carbide, heating the powder up to a higher temperature and exposing it to the action of nitrogen.
4. The method of producing aluminiufn nitric combinations which consists in powdering aluminium carbide, heating the powder up to a higher temperature and exposing it to the action of air.
5. The method of producing aluminium nitric combinations which consists in powdering aluminium carbide, heating the powder up to a higher temperature and exposing it to the action of gases containing nitrogen.
6. The method of producing aluminium nitric combina: tions which consists in mixing aluminlum carbide with coal or alumina or choloride of aluminium or any two or all of them powdering the mixture, heating the powder up to a higher temperature and exposing it to the action of nitrogen.
7. The method of producing aluminium nitric combinations which consists in mixing aluminium carbide with coal or alumina or choloride of aluminium or any two or all of them, powdering the mixture, heating the powder up to a higher temperature and exposing it to the action of gases containing nitrogen.
8. The method of producing aluminium nitric combinations which consists in mixing aluminium carbide with copper or aluminium or iron or a similar metal, or an alloy from any two or all of them, powdering the mixture, heating the powder'up to a higher temperature and exposing it to the action of nitrogen.
9. The method of producing aluminium nitric combinations which consists in mixing aluminium carbide with copper, or aluminium with iron, or a similar metal, or an alloy from any two or all of them, powdering the mixture, heating the powder up to a higher temperature and exposing it to the action of gases containing nitrogen.
10. The method of producing aluminium nitric combinations which consists in mixing aluminium carbide with coal or alumina or chloride of aluminium, or any two or all of them, or with copper or aluminium or iron or a similar metal. or an alloy from any two or all of these metals, or with a mixture of any two or several of these bodies, powdering the mixture, heating the powder up to a higher temperature and exposing it to the action of nitrogen.
11. The method of producing aluminium nitric combinations which consists in mixing aluminium carbide with coal or alumina or chloride of aluminium or any two or all of them, or with copper or aluminium or iron or a similar metal, or an alloy from any two or all of these metals, or with a mixture of any two or several of these bodies, powdering the mixture, heating the powdering up to a higher temperature and exposing it to the action of gases containing nitrogen.
12. The method of producing aluminium nitric combinations which consists in mixing aluminium carbide with coal or alumina or chloride of aluminium or any two or all of them, or with copper or aluminium, or iron or a similar metal or an alfoy from any two or all of these metals, or with a mixture of any two or several of these bodies, powdering the mixture, heating the mixture up to a higher temperature and exposing it to the action of nitrogen mixed with muriatic acid gas or sulphurous acid gas.
13. The method of producing a mixture of aluminium carbide, alumina and coal containing nitrogen which consists in mixing alumina with coal, heating the mixture up to such a temperature at which a partial formation of aluminium carbide takes place and exposing the mixture to the aetion of nitrogen or air.
14. The method of producing a mixture of aluminium carbide, alumina and coal containing nitrogen which consists in mixing alumina with coal and copper or iron or a similar metal or an alligation of copper with aluminium, heating the mixture up to such a temperature at which a partial formation of aluminium carbide takes place and exposing the mixture to the action of nitrogen or air. 15. The method of producing a mixture of aluminium carbide, alumina and coal containing nitrogen which con-
sists in mixing alumina with coal, powdering the mixture, compressing the powder, heating it up to such a temperature at which a partial formation of aluminlum carbide takes place and exposing the whole to the action of nitrogen or alr.
16. The method of producing a mixture of aluminium carbide, alumina and coal containing nitrogen which consists in mixing alumina with coal, powdering the mixture, compressing the powder, heating it up in an electrical furnace to such a temperature, at which a partial formation of aluminium carbide takes place and exposing the whole to the action of nitrogen or air.

No. 102,654. Level. Niveau.


Walter Thorburn, Seattle, Washington, U.S.A., 18th December, 1906; 6 years. Filed 13th July, 1906. Receipt No. 137,769.
Claim. -1. In a device of the class described, a sight tuins provided with an off-set tube, means to determine the position of the perpendicular line reflected through the offset tube, means to determine the pasition of the line at an angle to the tube, and means to adjust the means for locating the angular line.
2. In a device of the class described, a tube provided with a sight opening, and an object opening in aligument with the sight opening, an off-set tube communicating with one side of the sight tube, means within the sight tube for receiving and reflecting a vision projected through the off-set tube, means to determine the angular position of the object relative to the sight tube, and means for locating a line at an angle to the axis of the sight tube.
3. In a device of the class described, a sight tube provided with a sight opening, and an object opening, a borizontal sight wire extended across the sight opening. a spirit level secured upon the tube and provided with a mark, and a reflector disposed within the tube and in position to reflect the mark of the spirit level as a continuation of the sight wire.
4. In a device of the class described, a sight tube proFided with a sight opening at one end, and an object opening at the opposite end, an ofr-set tube extending from the sight tube intermediate its ends, a reflector disposed within the sight tube, and at an angle to reflect through the sight opening a ray of light projected through the ofl-set tube, and means for determining the fongitudinal and transverse horizontal position of the sight tube
5. In a device of the class described, a sight tube, a plate disposed within the said tube and movable longitudinally thereof, and provided with a slot, an eccentric sorew engaged within the slot and arranged to move the plate as the screw is moved rotatably means to secure the plate at its adjusted position, and a renector carried by the plate.
6. In a device of the class described, a sight tube, \({ }^{a}\) plate disposed within the sight tube, and movable longitudinally relative thereto, a reflector pivoted upon and movable with the plate, and means for moving the reflector angularly upon its movable pivot.
7. In a device of the class described, a sight tube provided with an off-set tube, a plate disposed within and morable longitudinally of the sight tube, a reflector pivotally able longitudinally of the sight tube, a reffecty to register mounted upon the plate and disposed normally to register with the off-set tube, and means to move the reflector angularly upon the pivot.
8. In a device of the class described, a sight tube provided with a sight opening at one end, and an object opering at the opposite end, a horizontal sight wire spanning the object opening, a reflector mounted within the tube
and inclined relatively thereto, a spirit level mounted upon the tube and provided with a circumferential mark, and means to move the spirit level until the circumferential mark is reflected in the reffector as a continuation of the sight wire.
9. In a device of the class described, a sight tube proFided at one end with a sight opening, and at the opposite end with an object opening. a vertical sight wire spanning the object opening, an ofi-set tube disposed intermediate the ends of the sight tube, a vertical sight wire disposed within the extremity of the off-set tube, a reflector disposed within the tube and in position to refect the image of the sight wire of the off-set tube as a communication of the vertical sight wire of the object opening, and means to change the position of the reflector
10. In a device of the class described, a sight tube provided with an off-set tube, a reflector pivotally mounted within the tube, and registering with the off-set tube. a plate arranged to support the reflector and provided with a slot, and an eccentric screw disposed within the slot and arranged to move the plate angularly upon being rotated.
11. In a device of the class described, a sight tube provided with a sight opening at one end, and an object opening at the opposite end, a horizontal and a vertical sight wire spanning the object opening, a tube off-set from one side of the sight tube intermediate its ends, and provided with an object opening, a vertical sight wire spanning the object opening of the off-set tube, a spirit level secured to the sight tube adjacent the object end, and provided with a circumferential mark, a refector secured within the sight tube, and at an angle to reflect to the sight opening. the circumferential mark of the spirit level as a continuation of the horisontal sight wire of the object opening, a spirit level disposed within and transversely of the sight tube, and in such position that when the tube is horizontal transversely the bubble of the level is in alignment between the vertical sight wire of the object opening and the sight opening, a reflector disposed in position to reflect to the sight opening, the image of the vertical sight wire of the off-set tube as a continuation of the vertical sight wire of the object opening of the sight tube, means to move the !ast-named reflector longitudinally of the sight tube, and means for moving the last-named reflector angularly relative to the axis of the sight tube.

No. 102,655. Production of Packages of Interfolded Sheets.
Moyens de mettre le papior en paquete.


Seth Wheeler, Castleton, New York, U.S.A., 18th December
1906; 6 years. Filed 7th May, 1906. Receipt No. 135,616.
Clatm.-1. The herein described process or method of producing a package of interfolding sheets which consists in severing a sheet from the web, partially folding the same, severing a new sheet, inserting the forward end of the new sheet into the partial fold of the preceding sheet, completing the fold of the preceding sheet, folding the new sheet over the end of the preceding sheet and partially backward upon itself severing another sheet, inserting its forward end into the partial fold of the preceding sheet, and 80 on.
2. The herein described process or method of producing a package of single sheets or units containing two or more superposed sheets, folded into books of three leaves with their terminals interfolded, which consists in severing a unit from a web, partially folding the same over a new unit. inserting the forward end of the new unit into the incomplete last fold of the preceding unit, completing the terminal fold of the preceding unit, folding the new unit over the terminal of the preceding unit and partially backward upon itself, severing another unit, inserting its end into the incomplete tetrminal of the preceding unit, and so on.

No. 102,656. Extemsion Table. Table dallonge.


Charles H. Goller, Hicksville, Ohlo, U.S.A., 18th December, 1906; 6 years. Filed 22nd October, 1906. Receipt No. 146,530.
Claim.-1. In an extension table the opposite table sections, an extension leaf, swinging carrier links for sald leaf having a pivotal support on a fixed member, one of sald links having a tappet pin and a reciprocating operating bar carried by one of the table sections and provided with reversely arranged advance and return press shoulders adapted to engage and disengage said pin.
2. In an extension table, the opposite table sections, a rising and falling extension leaf, swinging carrier links pivotally supported on a fixed frame member and having pivotal connection with the extension leaf, one of said links having a rock arm extension and a release cam and a shouldered operating bar carried by one of the table sections and co-operating with said pin and cam.
3. In an extension leaf, the opposite table sections, a horizontal rising and falling extension leaf, swinging carrier links pivotally supported on a fixed frame member and having pivotal connections at their upper ends with the leaf. one of said links having a rock arm extension provided with a tappet pin and with a rocking release cam above the latter and a reciprocal operating bar having a spring end portion engaged by said cam and provided with the reversely disposed spaced shoulders co-operating with the sald pin.
4. In an extension table, the opposite table sections, a latching device for said sections comprising a notched catch bar and a spring pressed latch lever normally engaging the bar, sald catch bar and latch lever being relatively shiftable, a rising and falling extension leaf, swinging carrier links s:-p eorting said leat and one of which is provided with a tappet pin and a release cam, and a reciprocal operating bar having separate press shoulders co-operting with said pin.
5. In an extension table, the opposite table sections, a rising and falling extension leaf. swinging side rall sections hinged to the end portion of the leaf, single throw links interposed between the side rail sections and a point of fixed support and leaf raising and lowering mechanism.
6. In an extension table, the opposite table sections, a rising and falling horizontally movable extension leaf, swinging side rail ections hinged to the end portiong of the leaf, a single throw link interposed between and having hinged connection respectively with the side rall sections and a fixed support, and leaf raising and lowering mechanism.

No. 108,65't. Clothes Closet. Cabinet pour vétements.
Maximilien Lucien Heurbond, Denver, Colorado, U.S.A., 18th December, 1906 ; 6 years. Filed 17th October, 1906. Recelpt No. 140,371.
Claim.-1. A clothes closet comprising a main arm, a plate fixed thereto, movable arms pivoted to maid plate,
rall detachably connected with said movable arm and means for attaching said rail to sald main arm.

2. A clothes closet comprising a main arm, movable arms jointed to said main arm, a rail comprising sections having a hinged connection therebetween, means for detachably connecting said rail to said movable arms, and a movable member carried by said main arm and adapted to engage said hinged connection so as to lock said rail upon said main arm.
3. A clothes closet comprising a maln arm, outer arms making a pivotal connection with said main arm, intermediate arms also pivotally connected and disposed between said main arm and said outer arms, said outer arms having sockets formed at the extremities thereof, a rail the extremities whereof engage said sockets, and means for attaching said rall to said intermediate arms and to said main arm.
4. A clothes closet comprising a main arm, outer arms making a pivotal connection with said main arm, intermediate arms pivotally connected between said main arm and said outer arms, said outer arms having sockets at the extremities thereof, a rail the extremities whereof are receivedin said sockets, the body of sald rail abutting the extremities of said main arm and said intermediate arms, said intermediate arms having pins projecting at the extremities thereof, said rail having openings recelving said pins and a fastening at said main arm for attaching the same to said rail.

No. 102,658. Diaplay Rack. Ratelier d'étalage.


Jacob H. Kummer, Uhrichsville, Ohio, U.S.A., 18th December, 1906; 6 years. Filed 19th October, 1906. Receipt No. 140,415.
Claim.-1. In a display rack, a plurality of hangers for attachment to a ceiling or other support, a pair of horizontal rails supported by said hangers and adjustable longitudinally therein, supporting brackets carried by the rails, spring actuated display rollers journalled in said brackets and each provided with an angular end portion, means carried by the hangers for locking said rails in adjusted position, and locking clips pivoted to the brackets and adapted to engage the angular end portions of said rollers for locking the latter in the supporting brackets.
2. In a display rack, a plurality of hangers for attachment to a ceiling or other support and provided with terminal sockets having transverse openings formed therein, a pair of spaced horizontal rails engaging said sockets and adjustable longitudinally therein, supporting brackets depending from the rails and adapted to enter the transverse openings in the sockets to thereby permit the adjustment of the ralls, spring actuated rollers journalled
in said brackets, means for locking the rollers in said brackets and means carried by the hangers for clamping the rails in adjusted position.
3. In a display rack, a plurality of hangers for attachment to a ceiling or other support and provided with terminal sockets having transverse openings formed therein, a pair of spaced horizontal rails engaging said sockets and adjustable longitudinally therein, supporting brackets depending from said rails and adapted to enter the transverse openings in the sockets to thereby permit the adjustment of said rails, spring actuated display rollers journalled in said brackets and each provided with ad angular end portion, clamping members carried by said rollers, pivoted clips adapted to engage the angular portions of the rollers for locking said rollers in the supporting brackets, and set screws carried by the hangers and adapted to engage the horizontal rails for locking the latter in adjusted position.
4. In a display rack, a plurality of hangers provided with threaded shanks for attachment to a ceiling or othes support, a pair of spaced horizontal rails supported by said hangers and adjustable longitudinally therein, supporting brackets depending from said rails, spring actuated rollers journalled in said brackets and provided with spring catches. locking clips pivoted to the brackets for engagement with the rollers, clamping bars pivoted to said rollers and having their free end engaging said spring catches, and set screws carried by the hangers and adapted to engage the horizontal rails for locking the latter in adjusted position.

\section*{No. 102,659. Power Transmission.}

\section*{Transmission de pouvoir.}


Chester Phillips, Rochester. New York, U.S.A., 18th December, 19066 years. Filed 5th December, 1906. Recelpt No. 141,831.
Claim.-1. In a device of the kind described comprising parallel shafts, intermeshing gear wheels carried by the shafts, crank arms carried by the shafts and a slotted lever pivoted to one of the crank arms and having its slotted portion in engagement with the other crank arm.
2. In a power transmission device, intermeshing gears, parallel shafts upon which said gears are mounted, oppositely arranged crank arms connected to said shafts, longitudinally slotted lever pivotally connected at one end to the free end of one of said crank arms, the crank portion of the other crank arm working freely in the slot of the lever. 3. In a device of the kind described, parallel shafts, oppositely arranged crank arms carried by the shafts, Jntermeshing gear wheels carried by the shaft, a lever having one end pivotally connected to one of sald crank arms, said end describing a circular path, the said lever being longitudinally slotted adjacent its opposite end, the other crank arm having its crank portion in engagement with said slot and the free end of the lever describing a path upon an irregular line and of greater length than the path described by the pivot end of the lever.

\section*{No. 102,660. Wrench. Clé è écrou.}

William C. Raynard, Jansville, Idaho, U.S.A., 18th December, \(1906 ; 6\) years. Filed 4th September, 1906 . Receipt No. 139,220.
Claim.-1. A wrench consisting of a pair of pivoted han. dles, one bearing a smooth faced jaw and the other a serrated or toothed jam, the jaws near their ends belng curved on a line nearly approaching the arc of a circle and thence to their pivotal point gradually becoming straight.
2. A wrench consisting of a pair of pivoted handles one bearing a smooth faced jaw and the other a serrated or

toothed jaw, the jaws near their ads being curved on a line nearly approaching the are of a circle and thence to their pivoted point gradually becoming straight, the bevel or inclination of the teeth of one jaw being substantially the same with respect to the smooth jaw throughout.
3. A wrench consisting of a pair of pivoted handles, one bearing a smooth faced jaw nnd the other a serrated or toothed jaw, the jaws near their ends being curved on a line nearly approaching the arc of a circle, and thence to their pivotal point gradually becoming straight, the handle bearing the smooth faced jaw having an offset on its front side above its pivotal point and an offset in reverse direction on the opposite side below its joint, a slot extended through the handle between the offsets and the opposite handle extended through said slot and pivoted therein to its co-acting handle.

No. 102,661. Pick Point Folder.
Porte-pointe de marteau à piquer.


Donald Dougl Riley, Hamilton, Victoria, Australia, 18th December, 1906 ; 6 years. Filed 4th December, 1906. Receipt No. 141,806.
Claim.-1. In combination with a recessed head, a pick point or tool shank to enter the same, shoulders at the shank base to be located outside of the said head, a second slot opening into said recess, a double headed wedge located partly in the said recssed head, and projecting into the said second slot and inclined surfacis to the latter, substantially as and for the purpose set forth.
2. In combination with the recessed head, a pick point or tool shank adapted to enter the same, the shank base having shoulders located outside of said head, a second slot in the latter meeting the first-named recess, a wedge having an end portion (adapted to be struck) situated partly in the said recess and partly in but not projecting outside the said second slot and in the latter an inclined surface to allow the striking of the said wedge to free it, all substantially as described.
3. In combination with a recessed head having a second slot opening into the recess and having inclined surfaces as described, a shouldered pick or tool point shank and a wedge partly in the recess and partly in the slot and having an upward projection adapted to be struck forwardly to loosen the said shank.

\section*{No. 102,662. Wardrobe. Garde-robe.}

Anna M. Scherff, Wells, Nevada, U.S.A., 18th December, 1906; 6 years. Filed 8th October, 1906. Receipt No. 140,121.
Cladm.-1. A portable wardrobe comprising a top board consisting of two hinged sections, hangers attached to the 12-28
upper side of said top board, an eye on the under side of each of the top board sections, a rod for engaging in said

eyes, a wedge for engaging between the rod and top board sections and a bag-like structure extended from the tod board.
2. A portable wardrobe comprising a top board composed of hinged sections foldable upwardly upon each other, having a locking device on the underside of the hinged sections for locking the sections to their extended position and a supplemental locking device for holding the first locking device to its adjusted position for locking the hinged sections from folding up.
3. In a portable wardrobe of the character described, in combination with a hinged section 1 and 2 adapted to fold upwardly upon each other, a keeper on the underside of each of the said sections adjacent the hinged connections, a locking member adapted to engage with the said keepers and a means for holding the said locking member positively in engagement with the keepers. for the purpose specified.

No. 102,663. Safety Razor. Rasoir de silreté.


Henry B. Stillman, Upper Montclair, New Jersey, U.S.A., 18th December, 1906; 6 years. Filed 1st December, 1906. Receipt No. 141,727.

Claim.-1. In a safety razor, a handle, a head connected to the handle having flaring edges and a down turned end forming a clamping jaw, a plate having flaring edges which extend beyond the edges of the head and a down turned end. said plates being pivoted to the handle to form a swinging movable clamping jaw and guard and a cutting blade between said jaw.
2. In a safety razor, a handle, a head connected to the handle having flaring or widened edges, a down turned end forming a clamping jaw, a guard plate pivoted to the handle having flaring edges which extend beyond the edges of the head and a down turned end forming a movable clamping jaw having teeth to form a guard and a cutting blade between the clamping jaw, the movable clamping jaw being so arranged with respect to the other that the upper edge will first come in contact with the blade near the cutting edge thereon, and when moved to its normal position will jam the blade and hold it securely in place.
3. In a safety razor, a handle, a head connected to the handle having fiaring edges and a downturned end forming a clamping jaw, a plate having flaring edges which extend beyond the edges of the head and down turned ond, said plate being pivoted to the handle to form a swinging movable clamping jaw and guard and a blade between the jaws, the handle being arranged at an angle to the faws whereby a drawing action is obtained.
4. In a safety razor, a handle, a head connected to the handle and provided owith a clamping jaw, a guard plate also provided with a clamping jaw and so pivoted to the handle that the clamping jaw thereof will move eccentrically to the clamping jaw of the head whereby a cutting blade placed between the jaws may be wedged and securely held in position.
j. In a safety razor, a handle, a head connected to the handle having a down turned end to form a movable clamping jaw, the guard plate being pivoted to the handle, a blade between the jaws and a spring adapted to hold the guard plate against the head and the movable jaw against the blade to secure the blade in position between the jaws.
t. In a safety razor, a handle, a head connected to the handle and provided with a clamping jaw, a guard plate also provided with a clamping jaw, said plate being pivoted to the head in such a manner that the clamping jaw thereof will be eccentric to the clamping jaw of the head, a cutting blade between the two jaws and a spring co-operating with the guard plate to hold the said plate against the head and the clamping jaws in engaging position.
7. In a safety razor, a handle, a head connected to the handle having flaring or widened edges and a down-turned end forming a clamping jaw, a guard plate plvoted to the handle also having flaring edges which extend beyond the edges of the head and a down-turned end forming a movable clamping jaw, and having teeth on the edge of the jaw to form a guard, a cutting blade between the two clamping jaws, the guard plate being so connected to the handle that the movable clamping jaw is eccentric to the clamping jaw on the head, and a spring carried by the handle and co-operating with the guard plate to hold the guard plate against the head and the movable jaw into co-operative position with the other jaw.

No. 102,664. Book Purse. Portefeuille-calpin.


Emma L. Sweet, Wallace, Idaho, U.S.A., 18th December, 1906; 6 years. Filed 27th October, 1906. Recelpt No. 140,673.
Claim.-A book having a substantially circular pocket formed in the cover thereof, adapted to receive a coin, and a folding flap attached to one edge of said cover, said flap having side pieces attached to said flap and to sald cover, said pocket having a recess in the edge thereof opposite the point of attachment of said flap to said cover.

No. 102,665. Bookcase. Bibliothèque.


Fred Walter Tobey, Grand Rapids, Michigan, U.S.A., 18th December. 1906; 6 years. Filed 6th October. 1906. Receipt No. 140,106.
clatm.-1. The combination of two sections of a bookcase arranged end to end, detachable legs supporting the exposed
front corners and arranged diagonally beenath the same, a detachable leg partially beneath each adjacent corner of the cases and facing the front of the cases, two fastening members under each corner of each bookcase section, and two fastening members on each leg adapted to interchangably interlock with the members on the bookcase sections, whereby the legs may be attached in either of said positions.
2. The combination of two sections of a bookcase arrnged end to end, means for supporting the non-adjacent ends of the same, a detachable leg partially beneath the respective adjacent ends of the sections, two fastening members on each bookcase section and two fastening members on the leg adapted to engage with one member on eash bookcase section or both members on one bookcase section. whereby the leg serves to separately support the sections and to couple the same to each other.
3. The combination of two sections of a bookcase arranged end to end, means for supporting the non-adjacent ends of said sections, a detachable leg beneath both adjacent ends of the sections, a screw in each section and slots in the leg to receive the respective screws whereby the leg supports both sections and couples the same together in alignment.
4. In combination with two base sections of a sectional bookcase, two fastening members arranged digonally under each corner of the sections, a detachable leg and two fastening members on the leg and adapted to engage both fastenings under one corner and adjust diagonally under the case or to engage one each of said fastenings under two sections to support both sections and couple the same to each other.
5. In combination with a sectional bookcase, a detachable leg having its upper part provided with parallel horizontal slots spaced apart and screws in the upper side of the case and near each front corner thereof, one of each of said screws being arranged distant from the end of the case substantially one-half of the distance between the center lines of the slots whereby a leg may be attached under either one corner of the section to support the same, or under two corners of two adjacent sections to support both sections and to couple the same together.
6 In combination with the base section of a bookcase, detachable legs each having a segmental plate at the top provided with parallel slots spaced apart and at the respective sides of the central radial line of the plate, screws in the under side of sections spaced apart and arranged on diagonal lines, said slots and screws being so adjusted that the screws at one corner of the case will engage the slots and adjust the leg in one position relative to the case or one screw under each of two adjacent corners of the case will engage the slots and adjust the leg in a different relation to the sections.
7. In combination with the base sections of a sectional bookcase, detachable legs each provided with a segmental top plate having parallel slots to recedve screws and spaced apart parallel and at each side of a centrol radial line on the plate, and screws in the bottom of the case arranged in pairs and on diagonal lines of forty-five degrees, each pair of screws being spaced apart to enter the slots and the screws of each pair most remote from the front being spaced from the end of the section substantially one-half the distance between the center lines of the slots.
No. 102,666. Apparatus for Displaying Advertisoments.
Appareil pour annonces.


Sarah Edith Low and Alfred William Tooley, both of London, England, 18th December, 1906; 6 years. Filed 30th July, 1906. Receipt No. 138,283.
Claim.-In apparatus for displaying advertisements and the like, the provision of an improved arrangement for July 1906. Receipt No. 138,283 1906; 6 years. Fis
holding horizontal bars or rods for carrying the advertisement sheets, an improved arrangement of fast and loose toothed wheels for imparting intermittent motion to the revolving rollers, fixed direct to the actuating revolving roller, thereby reducing friction and loss of power to a minimum, and the provision of a continuous raised strip or projection for keeping the catch lever raised till the cross bars for giving intermittent motion have passed the fixed driving wheel on the shaft of the actuating winding roller, thereby causing the catch lever to automatically drop in its place, and prevent overwinding from momentum or other cause, all substantially as and for the purpose herein set forth and described and illustrated in the accompanying drawings.

No. 102,667. Stamp Mill. Moulin d pilon.

G. P. Bounard and G. H. Mackell, assignee of G. W. Benyon, all of England, 18th December, 1906; 6 years. Filed 21st August, 1906. Receipt No. 138,877.
Claim.-1. In apparatus for the aforesaid purposes, and in which two lifts are given to the stamp or weight, or to cach stamp or weight, for each rotation of the shaft, the employment of what we have hereinbefore referred to as a pair of lifting cams and as a supplementary pair of cams, the latter for giving downward impulse for each descent of the stamp or weight. or of each stamp or weight, both the pair of lifting cams and the supplementary pair of cams being carried on one shaft, and providing the said stamp or weight, or each stamp or weight. with projections or tappets, or the equivalents, to be acted upon respectively by the said pair of lifting cams and the said supplementary pair of cams, substantially as hereinbefore described.
2. In or for apparatus for the purposes aforesaid, a lifting cam or lifting cams having the portions which first comes into contact with the part to be raised and the portion which last comes into contact with the said part, of a quicker curvature, or one more nearly concentric than the curvature of the portion between them, this portion between them having a quicker rise or flatter curvature. substantially as and for the purposes hereinbefore described.
3. In or for apparatus for the purposes aforesaid, a supplementary or downward impulse giving cam or cams, to act upon the stamp or weight, the portion of such cam or each such cam which first acts being of quicker curvature. and the portion which follows this having a quicker rise or flatter curvature, to act upon the descending stamp or weight. in the manner hereinbefore described.
4. In apparatus for the purposes aforesald. in which two lifts are given to the stamp or weight. or to each stamp or weight, at each rotation of the shaft, the combination of two projections or tappets, or the equivalents on the stem of the stamp or weight. or on each such stem. and a shaft carrying both the lifting cases and the supplementary or downward impulse giving cams and a hinged lever or hinged levers through the intervantion of which downward impulses are given to the stamp or weight, or to each stamp or weight, substantially as hereinbefore described and illustrated in the accompanying drawings.

\section*{No. 102,668. Amalgamator. Amalgameur.}

William H. Morgan and Henry G. Burton, assignee of a half interest, both of Veterans' Home. 18th December. 1906; 6 years. Filed 14th September, 1906. Receipt Nin 139,507.
Claim.-1. An amalgamator comprising an inclinfit sluice box provided with an amalgamated surface and having depressions forming riffles sunk in the bottom and spiceed apart and charged with mercury, the upper walls of the riffles respectively being overhanging and deeper than the lower walls and a screen arranged to shield the amalgamated surface.
2. An amalgamator comprising a transversely inclined sluice box provided with an amalgamated surface and hav-

ing a series of transversely extending depressions forming riffles sunk in the bottom and spaced apart and charged with mercury, transverse revoluble amalgamated plates arranged respectively above the riffies and a screen arranged to shield the amalgamated surface.
3. An amalgamator comprising an inclined sluice box provided with an amalgamated surface and having depressions forming riffles sunk in the bottom and spaced apart and charged with mercury, the upper walls of the riffles being overhanging and deeper than the lower walls, revoluble amalgamated plates arranged above the riffes and a screen arranged to shield the amalgamated surface and said riffles and plates.
4. An amalgamator comprising a longitudinally inclined sluice box provided with an amalgamated surface and having a series of transversely extending depressions forming riffles sunk in the bottom and spaced apart and charged with mercury, a screen arranged to shield the amalgamated surface, transverse revoluble amalgamated plates arranged under the screen and above the riffles and straight, swinging pendent amalgamated plates between the sunken riffles and beneath the screen, said swinging plates adapted to lie substantially flat upon the surface of the stream passing thereunder.

No. 102,669. Window Hinge. Gond de fenetre.


Thomas Black, assignee of Arthur Plerre Couture, both of Winnipeg, Manitoba, Canada, 18th December, 1906;
6 years. Filed 8th June, 1905. Receipt No. 125,847.
Claim.-1. A hinge comprising a plate provided with a boss thereon and a flange adjacent said boss, and a second plate provided with a flange adapted to engage said boss and provided with a flange adjacent said first flange and provided with a pivot adapted to engage sald first plate.
8. A hinge comprising a plate provided with a boss thereon having a curved edge and a straight edge and provided with a flange adjacent said boss, and a second plate provided with a flange having a curved edge and a straight edge adapted to engage said boss and provided with a flange adjacent said first fiange and provided with a pivot adapted to engage said first plate.
3. A hinge comprising a plate provided with a boss thereon and provided with an integral flange adjacent said boss, and a second plate provided with a flange adapted to engage said boss and provided with a flange adjacent said first flange and provided with a pivot adapted to engage said plate.

No. 102,670. Machine for Making Battery acoumuMachinc pour la fabrication des latrices.


The Gould Coupler Company, New York City, assignee of Willard F. Richards, Buffalo, New York, U.S.A., 18th December. 1906; 6 years. Filed 10th November. 1906. Receipt No. 141,081 .
Claim.-1. The combination of a frame provided with open ended guideways, a grid plate carrier, spinning rollers arranged on opposite sides thereof, journal boxes for said rollers which are arranged to slide toward and from each other in sald guideways, and are removable through the open ends thereof, and devices between which the two open ends thercon, and which are detachably connected rollers are arranged and which are detachably cournal boxes for moving the rollers toward and from each other, substantially as set forth.
2. The combination of a frame provided with open-ended gudeways, a reciprocating grid plate carrier, spinning rollers arranged on opposite sides of the grid plate carrer, cross heads in which the spinning rollers are journalled and which are mounted to slide toward each other in said guideways and are removable through the open ends there, and mechanism detachably connected with said cross heads for moving the spinning rollers toward each other, substantially as set forth.
3. The combination of a frame provided with open-ended guideways, a grid plate carrier, spinning rollers arranged on opposite sides of the grid plate in said carrier, journal boxes for said rollers which are arranged to slide in said guideways and are removable through the open ends thereof, and mechanism for moving said rollers toward each other, the journal boxes for one of said rollers being detachably connected to said mechanism, and the journal boxes for said other roller being removably supported by but disconnected from said mechanism, substantially as set forth.
4. The combination of a frame provided with open-ended guideways, a grid plate carrier, spinning rollers arranged on opposite sides of the grid plate in said carrier, journal boxes for said rollers which are arranged to slide in said guideways and are removable through the open ends thereof, and mechanism for moving said rollers toward each other comprising levers fulcrumed on said frame and detachably connected to the fournal boxes for one of said rollers, slide rods on which the fournal boxes for the other roller are removably supported, levers fulcrumed on the frame and connected to said slide rods, and means for operating said levers, substantially as set forth.
5. The combination of a frame provided with guideways open at their upper ends, upper and lower spinning rollers
mounted to slide toward and from each other in said guideways to operate upon opposite shich the lower spinning roller tically movable supports on which the said upper spinning is removably seate, connected, and mechanism connecting roller is detachably conn for moving said spinning rollers said supports and levers for mos set forth.
toward each other, substantially as carrier for holding the grid plate 6. The combinatin spinning rollers arranged above borizontally. horizontal to move vertically toward pach and below sald carrier to said spinning rollers. a single other. levers connect provided with rock arms. links conhorizontal rock shat levers and forming with sald necting said rock arm toggles for the spinning rolls. and rock arms operating said rock shaft, substantially as set means
forth.
7. In a grid spinning machine. the combination of a irame proyided with open-ended guideways, a grld plate carrier. spinning rollers removably mounted in said guideways on onposite sidies of the grid plate in sald carrier mrans for moving the said soinning rollers toward and from each other, said means being detachably connerted to said rollers to rnable the removal of the rollers from the machinn no of the sninning rollers having a wherl at one pad therenf. and the other spinning roller having a when at the onnosite end thereof. a shaft nroviden at onoosite sides of the machine with whmels, and a bolt connecting each of said wheels on said shaft with tho wherl on one of the spinning rollers. substantially as set forth.
8. The combination of a grid plate carrier nroviden with a projecting shank. a grid niate holder slidably held in said carricr and provided with a nonineting handin whim extends along side of the shank of the carrier. a clamp device secured to sald shank for clamping saif handlthereto. and having a clamping nart which is movable away from the plane of movement of the grid nlate holder. whereby the latter can be slid out of the grid platn carrier past said scruring device, substantialliv as set Preth.
3. The combination of a grid nlate carrier. a grid nlatn holder slidably held in said carrier and provided with a projecting handle. and a device connected to said carmer for securing sald grid plate holdor in said carrier. said devief having a pivoted part to engage said handle. and a nivoted lock for holding sald nivoted nart in nneacement with aald handle, sald pivoted part and lock being constructed to swing away from said handle to free the same and permit the removal of the grid plate holder from sald carrier, substantially as set forth.:

\section*{No. 102,671. Kiln. Séchnir.}


Paul Chmelewski, Helsingsfors, Finland, 18th December. 1906; 6 years. Filed 1st October, 1906. Receipt No. 139,918.
Claim.-1. A kiln of the character described comprising an inner wall, an outer wall surrounding the same and spaced therefrom to form a continuous chamber, removable partitions for dividing said chamber into separate compartments, and temporary tops supported upon the brick masses in said chamber, substantially as described. 2. A kiln of the character decribed, compriing an inner wall, an outer wall surrounding the same and spaced therefrom to form a continuous chamber, said outer wall having filling openings and fire openings, removable partitions between said walls for dividing said continuous chamber into separate compartments, and temporary tops supported upon brick masses in said chamber and having sutlet openings formed therein, substantially as described.
3. A kiln of the character described comprising an inner wall, an outer wall surrounding the same and spaced there from to form a continuous chamber, said outer wall having flling openings and fire openings, removable partitions between said walls for dividing said continuous chamber

Into separate compartments, temporary tops supported upon brick masses or the like in said chamber and having outlet openings formed therein, said inner wall having a smoke passage communicating with the compartments of said chamber, valves for controlling the communication between said passage and said compartments, fire passages in said temporary tops and removable closures for said. fire passages or pipes.
4. A kiln of the character described comprising a center wall having formed therein a longitudinally extending smoke flue which may be located also under this center wall in the surrounding side wall or under the furnace foundation and inlet passages adjacent to its bottom communicating with said flue, valves for controlling said inIet passages an outer surrounding side wall spaced from the center wall to form a continuous chamber, said side wall having filling openings and fire openings adjacent to its bottom, vertically removable temporary partitions be tween said center and side walls to divide said chamber into separate compartments. temporary tops for the compartments of said chamber supported upon the brick masses or the like therein, sald tops having outlet openings, fire passages mounted in said tops and removable caps or closures for said fire passages, substantially as described and for the purpose set forth.
5. A kiln of the character described having an endless fire passage, movable partitions for dividing said passage into compartments. means for introducing heat into some of said compartments adjacent to their bottoms, means for introducing heat into some of said compartments through their tops, outlet passages for sald compartments and means for controlling said outlet passages.

No. 102,672. Band and Slime Soparator. séparateur de sable et de limon.


David J. Kelly, Salt Lake City, Utah, U.S.A., 18th December, 1906; 6 years. Filed 22nd September, 1906. Receipt No. 139,722.
Claim.-1. In a sand and slime separator the combination with a pulp supply, of a revolubly mounted member having side delivery settling compartments adapted to be successively aligned with said supply.
2. In a sand and slime separator the combination with a pulp supply, of a revolubly mounted wheel divided into separate compartments, said compartments having a side delivery and adapted to be successively aligned with said supply.
B. In a sand and slime separator the combination with a pulp supply, of a revolubly mounted wheel having side delivery settling compartments into which the pulp is successively delivered, means for holding the wheel against movement, means for automatically releasing the wheel and means for imparting to the wheel a step-by-step movement.
4. A sand and slime separator comprising a revoluble nember having partitions dividing it into settling compartments having a side delivery, and means for giving a partial rotation to said member to allow the slime to separate from the same and discharge over the edge of the partition.
5. In a sand and slime separator the combination with a source of pulp supply, of a side delivery settling compartment member revolubly mounted, and means whereby the member is given a step-by-step movement in one direction to bring its compartments successively into the range of action of the pulp supply.
6. In a sand and slime separator the combination with a source of pulp supply, of a normally locked revolubly mounted member having side delivery settling compartments, and means controlled by the overfiow from one compartment for automatically releasing the member from its locked position whereby the weight of the contained material in a flled compartment produces a partial rotation of the member and brings a successive empty compartment in the range of action of the pulp supply.
7. In a sand and slime separator the combination with a source of pulp supply. of a revolubly mounted wheel having partitions dividing it into side delivery settling compartments, said wheel capable of a step-by-step movement in one direction to bring the compartments successively into the range of action of the pulp supply.
8. In a sand and slime separator the combination with a pulp supply, of a revolubly mounted wheel having side delivery settling compartments. means whereby said wheel is given a step-by-step movement, and shiftable means for diverting the pulp supply from a flled compartment into an empty compartment co-ordinately with the movement of the wheel from one position to another.
9. In a sand and slime separator the combination with a pulp supply, of a revolubly mounted wheel having compartments, means whereby said wheel is given a step-bystep movement, and tiltine means automatically cohtrolled by the overflow from a filled compartment for diverting the pulp supply from sald compartment into a succeeding compartment co-ordinately with the movement of the wheel from one position to another.
10. In a sand and slime separator the combination with a pulp supply, of a revolubly mounted wheel having compartments, means whereby said wheel is given a step-bystep movement; a tilting launder normally receiving the overflow from one compartment of the wheel, means Whereby, sald overflow tilts the launder out of its normal position, and means connected with the launder for diverting the pulp supply from a flled compartment of the wheel into a succeeding empty pocket thereof co-ordinately with the movement of the wheel.
11. In a sand and slime separator the combination with a pulp supply, of a revolubly mounted wheel having compartments, means for imparting to the wheel a step-bystep movement, a tiltable launder normally receiving the overflow from a flled compartment, an overfiow receiving vessel connected to and movable with the launder, and means connected with the launder for diverting the pulp supply from one compartment of the wheel to another co-ordinately with the movement of the wheel.
12. In a sand and slime separator the combination with a pulp supply, of a revoluble wheel having compartments. projections on the wheel corresponding to each of the compartments, a tiltably mounted launder normally positioned to receive the overflow from a fllled compartment. \(a\) vessel connected with the launder and receiving said overflow, a counterweighted lever connected with the launder, and means Including a stop movable with the lever and normally disposed in the range of action of one of said projections for locking the wheel against discharging movement, said launder automatically tilting to release the stop from the engaged projection when the overflow overbalances the counterwoighted lever.
13. In a sand and slime separator the combination with a pulp supply, of a revoluble wheel having compartments. projections on the wheel corresponding to each of the compartments, a tiltably mounted launder normally positioned to receive the overflow from a fllled compartment. a vessel connected with the launder and recelving said overflow, a counterweighted lever connected with the launder, and means including a stop movable with the lever and normally disposed in the range of action of one of said projections for locking the wheel against discharging movement, said launder automatically tilting to release the stop from the engaged projection when the overflow overbalances the counterweighted lever, and means controlled by the tilting of the launder for diverting the pulp supply from the filled compartment of the wheel into a succeeding empty compartment.
14. In a sand and slime separator the combination with a pulp supply, a revolubly mounted wheel having side delivery, settling compartments and means whereby said wheel is given a step by-step movement to bring the compartments successively into the range of action of the pulp supply, of a mechanism for governing the rate of travel of the wheel.
15. In a sand and slime separator the combination of \(a\) pulp supply, a revolubly mounted wheel having compart ments, means for giving said wheel a step-by-step movement to bring the compartments seccessively into the range of action of pulp supply, and a governing mechan ism including a fluid containing vessel, a rising and fall
ing vessel operable therein and connections between said movable vessel and said wheel whereby the vessel is operated by the wheel to control the rate of movement of the latter.
16. In a sand and slime separator the combination of a revolubly mounted wheel having compartments, means for giving said wheel a step-by-step movement, and mechanism for governing the rate of movement of the wheel, said mechanism including a pair of fluid containing vessels, hollow vessels operable therein and adapted to receive the fluid displaced therefrom, and means whereby the hollow vessels are alternately moved in opposite directions.
17. In a sand and slime separator the combination with a pulp supply, a revolubly mounted wheel having compartments and means for giving the wheel a step-by-step movement, of a tiltably mounted apron normally disposed in the range of action of the wheel and adapted to receive the overflow from a filled compartment thereof, and means carried by the apron and wheel respectively for moving the apron out of the range of action of the wheel as the latter is moving from one position to another.
18. In a sand and slime separator the combination with a pulp supply, a revolubly mounted wheel having compartments and means for giving the wheel a step-by step movement, of a tiltably mounted apron normally disposed in the fange of action of the wheel and adapted to receive the overflow from a filled compartment thereof and means carried by the apron and wheel respectively for moving the apron out of the range of action of the wheel as the latter is moving from one position to another, a launder into which the apron discharges and a splash plate opposing the apron.

No. 102,673. Apparatns for Classifying Materials. Appareil pour classifler les matériaus.


René Emile Trottier, Husseun Dey, Algeria, France. 18th December, 1906; 6 years. Filed 23rd August, 1906. Recelpt No. 138,933.
C'laim.-1. An apparatus for classifying any solid materials first by their linear dimensions, then by their specific gravity and then again by their linear dimensions, comprising a tube, a feed device to introduce the materials into one end of said tube, means to secure a fluid current in said tube in opposite direction to the movement of the materials, a passage of roduced section in said tube, and a classifying table along which the fluid current traverses.
2. An apparatus for classifying and solid materials first by their linear dimensions, then by their specific gravity and then again by their linear dimensions, comprising a tube, a feed device to introduce the materials into one end of said tube, means to secure the fluid current in said tube in opposite direction to the movement of the materials, a passage of reduced section in said tube, a classifying table along which the fluld current traverses, and an adjustable shoe to regulate the speed of the fluid current.
3. An apparatus for classifying any solid materials first by their linear dimensions, then by their specific gravity and then again by their linear dimensions, comprising a lube, a feed device to introduce the materials into one cond of said tube, means to secure a fluid current in said lube in opposite direction to the movement of the materials, a passage of reduced section in said tube, a clasifying table along which the fluid current traverses, an adjustable shoe to regulate the speed of the fluid current, and means to more or less incline the classifying table in order to regulate the classification by specific gravity.
4. An apparatus for classifying any solid materials, first by their linear dimensions, then by their specific gravity and then again by their linear dimensions, comprising a tube, a feed device to introduce the materials into one end of said tube, means to secure a fluid current in said tube in opposite direction to the movement of the mate-
rials, a passage of reduced section in said tube, a classifying table along which the fluid current traverses, an adjustable shoe to regulate the speed of the fluid current, means to more or less incline the classifying table in order to regulate the classification by specific gravity, and a vane to regulate the passage of the materials.

\section*{No. 102,674. Stropping Machine.}

\section*{Machine pour aifuiser les rasofre.}


Henrie Clauss, Fremont, Ohio, assignee of Edward B. Gibford, Adrian, Michigan, U.S.A., 18th December, 1906; 6 years. Filed 27th July, 1906. Receipt No. 138,219.
Claim.-1. In a blade stropping device, the combination of the movable blade holder, the friction roller and movable arm, gearing connecting said roller and arm, said arm having a slidable engagement with the blade holder.
2. In a blade stropping device, the combination with the blade holder, a friction roller journalled between the ends of the blade holder, a pivoted arm, gearing connecting said roller and arm, a pin upon the blade holder having a slidable engagement with sald arm, and a spring in said arm engaging said pin.
3. In a blade stropping device, the combination with the movable blade holder, of a friction roller, a gear wheel thoreon, a second gear wheel meshing therewith, a shaft upon which said second gear wheel is fixed, a movable arm fixed to the end of said shaft, said arm having a slot therein and a slot extending from said slot. a colled spring seated in said socket, and a pin upon the blade holder lying in said slot and engaging said pin.
4. In a stropping device, the combination of the blade holder having a longitudinal slot in the bottom thereof, a friction roller, means connected with said roller for swinging the blade holder from side to side, a slidable spring arm in the blade holder, sald arm having a rivet engaging in the slot in the bottom of the blade holder and having jaws adapted to clamp the handle of the razor.

\section*{No. 102,675. Engine Starter.}

Apparcil pour la mise en marche de moteur deaplosion.


Francis Leonard Orr, Thurman, and Mark Morrow, Percival, both in Iowa, U.S.A., 18th December. 1906; 6 years. Filed 14th November, 1906. Receipt No. 141,210.
Claim.-1. The combination with a cylinder and piston of an engine, of a storage tank, tubular passageways providing communication between the engine cylinder and tank, a check valve in one if said tubular passageways, a controller valve in a separate similar passageway, a cylinder having independent communicating passageway with the storage tank, a valve in the latter passageway, having an exit opening leading to the outer air, a piston in the latter



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cylinder having a suitably extended rod, means operatively connecting the piston rod with the engine power shaft, whereby the same may be given boosting action, and means operatively connecting the boosting action, and means operatively connecting the bosting devices with the controller valve, substantially as described.
2. The combination in an engine starter, of a suitable tank, a passageway leading from the tank into the engine cylinder, a governor valve in said passaguway, having a projecting stem, a suitably supporicil cam with means whereby it may be driven by operation of the engine, an adjustable arm arranged between sald projecting stem and cam, a cylinder having communicating passageway with the storage tank, a compound valve in the latter passageway, having an opening leading therefrom to the open air, a piston in the latter cylinder having an extended rod, rack teeth of the said rod, a toothed segment loosely arranged on the engine power shaft, a pawl carried by the toothed segment. with the same arranged for engagement with the ratchet wheel teeth, the said rack and segment teeth being arranged for meshing engagement, a bell crank having one end secured to the racked piston rod, a rod extending from the bell crank to the adjustable arm between the governor valve and its operating cam, whereby in operation of the engine the arm is thrown into and out of operative position, and a separate passageway leading from the tank into the engine cylluder, the latter passageway having a check valve therein, whereby to close return flow into the engine cylinder, substantially as described.
3. The combination in an engine starter. of a storage tank having communicating passageway with the negine cylinder, a governor valve in sald passageway, a separate passageway providing communication between the tank and engine cylinder, a check vaive in the latter passageway, means whereby boosting action may be lmparted to the engine power shaft, means for the conveying and controlling of the booster motive power, and means controlling operation of the governor valve, actuated by the means for imparting boosting action, substantially as described.

No. 102,676. Grinding and Polishing Wheel.
Roue d aiguiser et d polir.

A. W. Thomas and B. W. Gerwig, assignee of a half interest, both of Rome, New York, U.S.A., 18th December, 1906; 6 years. Filed 24th October, 1906. Receipt No. 140,573.
Cham.-1. A device of the character described having a lever which comprises a single piece extending across the center of the wheel and bored for an arbour with other pieces with sides converging thereto and having means inserted therein and in the single piece to secure them relatively to the center of the wheel, substantially as described.
2. In a device of the character described, a wheel comprised of a plurality of layers, each layer having a central member extending diametrically across the wheel and each of said members of the several layers disposed at a different angle relative to others, and means engaging the several members of the several layers to hold them relative to the center of the wheel, substantially as described.
3. In a device of the character described, a wheel made up of a plurality of parts, one of said parts extending diametrically across the wheel and being pierced for the arbour, and the other of said parts being grouped radially at the sides of said pioce, the said wheel being provided with a non-porous peripheral band adapted to support a grinding surface, substantially as described.
4. A device of the character described composed of a plurality of layers, each layer having a member bored for the center of the wheel and having sides diverging to form an obtuse angle and having parts grouped in said angles and a ring-like member recessed into parts of each layer adjoining, the said layers being provided on the periphery with a non-porous leather collar secured thereon and provided with a surface adapted to receive and carry grinding material, substantially as described.
5. A wheel of the character described comprising one or more layers, each of the same being composed of a single piece extending diametrically across its layer and having grouped in each of said layers radially extending pieces to complete the layer, the grain of each member of each layer running substantially radially of the center of the layer, the said construction being bored for an arbor, substantially as described.
6. A wheel of the character described comprising one or more layers, each of the same being composed of a single piece extending diametrically across its layers and having grouped on each layers radially extending pieces to complete the surface of the layer, the grain of each member of each layer running substantially radially of the center of the layer, the said constructios being bored for an arbour and being provided with a peripheral non-porous band with grinding material thereon, substantially as described.
7. A wheel of the character described composed of one or more layers, each layer being built up of an integral member lying diametrically across the layer and of sec-tor-like members grouped on each side thereof, and meaus engaging the several members of each layer and the several layers to hold the members of each layer and the adjacent layer relatively to the center of the wheel, substantially as described.
8. A wheel comprising one or more layers, each made up of diametrically disposed members with sector-like members arranged therewith all rigidly connected, and a nonporous peripheral surface to maintain grinding material thereon at a fixed consistency, substantially as described.

No. 102,677. Pnermatic Hammer. Martoau pncumatique.


Fairbanks, Marse and Company, Chicago, Illinois, assignee of Allen J. Patch, Bcloit, Wisconsin, U.S.A., 18th December, 1906; 6 years. Filed 2nd November, 1906. Receipt No. 140,818 .
Claim.-1. A pneumatic hammer comprising in combination a cylinder, a piston, a main valve located at the rear of said cylinder and controlling certain ports and passages for admission of fluid pressure to said piston and exhaust of pressure therefrom, and a supplementary valve at the forward end of said cylinder controlling the exhaust from such forward end and in itself controlled by fuid pressure admitted to and exhausted by means of the main valve.
2. A double valve pneumatic hammer comprising in combination a cylinder, a piston, a main valve, and a supplementary valve, said supplementary valve being independently fluid pressure actuated in both directions, substantially as described.
3. A pneumatic hammer comprising in combination a piston, a cylinder within which said piston operates, and a main distributing valve located at the rear end of the piston chamber, said valve being provided with three pressure areas acted on by admissios or exhaust of motlve fluid intermittently governed through ports controlled by said piston to operate the valve, substantially as described.
4. A pneumatic hammer comprising in combination a piston, a cylinder within which said piston operates, and
a main distributing valve located at the rear end of the piston chamber, sald valve being provided with three pressure areas to which motive fluid is intermittently admitted through ports controlled by said piston, and an auxiliary valve located near the forward end of the piston chamber and controlling the exhaust ports in advance of the piston, substantially as described.
5. A fluid pressure impact tool comprising in combination a cyliader, a piston, a valve located near the forward end of said cylinder, and means co-operating with said valve, whereby when the tool is removed from the work the air pressure will act to force the valve to the rear and rause the piston to cushion and thus prevent the piston from striking the tool, substantially as described.

\section*{No. 102,678. Hardening and Tempering Copper. \\ Trempe du cuivre.}

The Renstrom Tempered Copper Company, assignee of Carrie Renstrom Plumer, all of Seattle, Washington, U.S.A., 18th December, 1906; 6 years. Filed 14th October, 1905 . Receipt No. 129,235.
Claim.-1. The herein described process of hardening copper, or the alloys of copper, comprising subjecting copper or the alloys of copper to heat of a sufficiently high degree to melt the same, and while in a heated condition subjecting the same to the action of sulphate of copper for hardening the same, and also to the action of a chilling ingredient.
2. The herein described process of hardening copper, or the alloys of copper, comprising subjecting the same to heat of a sufficiently high degree to melt the same, and while in a heated condition subjecting the same to the action of sulphate of copper for hardening the same, and also to the action of blchroma:e of potash for chilling or freezing the metal.
3. The herein described process of hardening copper or the alloys of copper, comprising subjecting the same to heat of a sufficiently high degree to melt the same, and while in a heated condition subjecting the mass to the action of sulphate of copper for hardening the mass and to the action of birchromate of potash for chilling or freezing the mass and then reheating the mass and allowing it to cool.
4. The process of hardening copper, comprising the heating of copper until it is reduced to a molten condition and then introducing hardening ingredients and permitting them to chill the molten copper until it is too stiff to be stirred, the materials being stirred until such condition is reached.
No. 102,679. Shears. Cisailles.


The Davies Automatic Shear Company, assignce of Frederick David Davies, all of New York City, New York, U.S.A., 18th December, 1906; 6 years. Filed 27th October. 1905. Receipt No. 129,614.
Claint.-1. A pair of shear members or the like connected by a freely rotatable pivot having a head at one end and an annular groove near the other end, together with a flat spring plate having one end down turned and resting thereby upon the nail surface to dispose its body portion in a longitudinal plane at an angle to the horizontal of the nail, said plate having a slot in slidable engagement with the groove in the pivot, and having a seating portion, and said nail surface being provided with depressions, arranged longitudinally of the nail, to adjustably seat said plate, and prevent lateral movement thereof.
2. A pair of shear members or the like connected by a freely rotatable pivot having a head at one end and an annular groove near the sther end, said groove having a right angular bearing surface, together with a flat spring plate having one end down turned and resting thereby upon the nail surface to dispose its body portion in a longitudinal plane at an angle to the horizontal of the nail, said plate having a slot in slldable engagement with the bearing sur-
face in the pivot groove, and having a seating portion, and said nail surface being provided with depressions, arranged longltudinally of the nail to adjustably seat said plate, and prevent lateral movement thereof.
3. In a pair of shears or the like, a freely rotatable connecting pivot and a spring exerting tension between the pivot and a shear member to retain sald pivot axially while forming a bearing therefor, said spring having a seating portion, the tension of said spring also serving to draw the blade edges together, and depressions in said shear member. arranged longitudinally of the nail, to adjustably seat said spring and prevent lateral shifting thereof.
4. A pivot for shears or the like having an annular groove near one end thereof and a retaining shoulder near its other end, \(a\) tensional device fitting in the groove and bearing against a shear member, and a tensional head retained by the shoulder at the other end of the pivot and bearing against the other shear member.
5. In a pair of shears, a shear member provided with depressions arranged longitudinally of the nail, a plvot, an adjustable tensional device at one end of said pivot adapted to engage with said depressions, and a tensional head at the other end of said pivot whereby pressure applied against the tensional head will cause the pivot to move to relax the tension of the adjustable device, permitting the latter.to be more easily freed from the depression in which seated to facilitate its adjustment.
No. 102,680. Line Structurey for Electrical Distribution.
ronstruction de lignes électriques.


The Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada, assignee of Budd J. Jones, Chicago, Illinois, U.S.A., 18th December, 1906; 6 years. Filed 19th June, 1905. Receipt No. 126,169.
Claim.-1. A line structure for electrical distribution comprising a supporting arm or bracket, an insulator located above and supported upon said arm or bracket, and a conductor suspended from said insulator, as and for the purpose set forth.
2. A linc structure for electrical distribution comprising a supporting arm or bracket, an insulator resting upon the upper side of said bracket, a messenger wire carried by said insulator, and a conductor suspended from said messenger wire, as and for the purpose set forth.
3. A line structure for electrical distribution comprising a supporting arm or bracket, an insulator adjustably supported upon and above said arm or bracket, and a conductor surppuded from said insulator, as and for the purpose set iorth.
4 : line structure for electrical distribution comprising a suppiorting arm or bracket having an elongated opening, ar insulator adjustably supported upon the upper surface of said arm or bracket, and an electric conductor suspended from said insulator, as and for the purpose set forth.
5. A line structure for electrical distribution comprising a supporting arm or bracket having the end thereof doubled or bent unon itself to form a support, an insulator resting upon the upper surface of such support, and an electric conductor suspended from sald insulator, as and for the purpose set forth.
6. A line structure for electrical distribution comprising a supporting arm or bracket, an insulator located above and supported upon the upper surface of sald arm or bracket. an electric conductor, and flexible suspending devices supported from said insulator and attached to said conductor, as and for the purpose set forth.
7. A line structure for electrical distribution comprising a supporting arm or bracket, an insulator supported upon the upper surface of said bracket, a messenger wire supported by said insulator, an electric conductor, and fexiblp suspending connections between iaid messenger wirc and said conductor, as and for the purpose set forth.
8. A line structure for electrical distribution comprising a flanged arm or bracket, an insulator having a base plate, said base plate having a lateral flange arranged to be received upon, and to be supported by. the flange of said bracket, a conductor, and suspending devices for said conductor, said suspending devices being supported from said insulator, as and for the purpose set forth.
9. A line structure for electrical distribution comprising a supporting arm or bracket, an insulator, a base plate in which said insulator is supported, said base plate having a lateral flange that rests upon said arm or bracket. a messenger wire supported by said Insulator, a conductor, and suspending devices interposed between said conductor and said messenger wire, as and for the purpose set forth.
10. A line structure for electrical distribution comprising a supporting arm or bracket, an insulator having a base plate that rests upon said arm or bracket. hook bolts between said base plate and the edges of said arm or bracket. an electric conductor and suspending devices connected thereto and supported from said insulator, as and for the purpose set forth.
11. A line structure for electrical distribution comprising an angle bar arranged to form a supporting bracket, the end of said bar being bent or doubled upon itself. an insulator, a base plate upon which said insulator is supported. said base plate having lateral flange that rests upon the upper surface of the flange of said angle bar at the looned end thereof, hook bolts connecting said flange and the edge of the web of said angle bar. an electric conductor, suspending devices therefor, said suspending devices being esupported from said insulator, as and for the purpose set forth.
12. A line structure for electrical distribution comprising ad insulator, a support upon and above which said insulator is mounted, and a trolley wire suspended from said insulator. as and for the purpose set forth.
13. In a line structure for electrical distribution, the combination with insulators, and supporting arms upon the tpper surface of which said insulators rest, and a messenger wire carried by said insulators, of a trolley wirc. and a I.lurality of suspending connections intermediate adjacent insulators and extending from said messenger wire to salid trolley wire for supporting the latter, as and for the pur pose set forth.
14. An electric rallway structure comprising an approximately horizontal arm or bar, an insulator adjustably mounted upon said arm or bar, a messenger wire supported by said insulator, and a trolley conductor suspended from said messenger wire.
15. An electric railway structure comprising a support, an arm or bar projecting horizontally therefrom, an insulator adjustably mounted upon said arm or bar, a messenger wire supported by said insulator, and a conductor suspended from said messenger wire.
16. An electric railway structure comprising a pole, an angle iron arm projecting laterally therefrom, a brace for said arm, an insulator adjustably supported upon said arm a messenger wire supported by said insulator, and a conductor suspended from said messenger wire.
17. An electric railway structure comprising a plurality of poles. angle iron arms projecting laterally from said poles, insulators adjustably supported upen said arms, a messenger wire supported by said insulators. and a trolley conductor suspended from said messenger wire.
18. An electric rallway structure comprising poles, arms or brackets projecting laterally therofrom, insulators adjustably mounted unon said arms or brackets. a messenger wire attached to said insulators, and a trolley conductor suspended from said messenger wire.
19. An electric railway structure comprising poles, angle iron arms projecting laterally from said poles, braces for said arms, insulators mounted upon said arms, a messenger wire supported by said insulators, and a trolley conductor suspended from said messenger wire.
20. An electric rallway structure comprising poles. angle iron arms projecting laterally therefrom, brace rods connecting the free ends of said arms with the corresponding poles, insulators adjustably mounted upon said arms, a messenger wire supported by said insulators, and a trolley conductor suspended from sall messenger wire.

\section*{No. 102,681. Manufacture of Insulating Tubes.}

Fabrication de tubes isolants.
The Canadian Westinghouse Company, Limited. Hamilton, Ontario, Canada. assignee of Emil Hacfely, Basle. Switzerland, 18th December, 1906; 6 years. Filed 13th November, \(1: 10 \overline{\text { E }}\). Receipt No. 130,066 .
Claim.-1. A machine for manufacturing insulating tubes comprising a mandrel holder provided with a longitudinal groove of angular cross section to receive a mandrel upon which a coated fabric is wound, a pressure device located
above said mandrel and supported upon the outer layer of fabric during the winding operation.

2. A machine for manufacturing insulating tubes comprising a mandrel. a longitudinally recessed mandrel holder, a pressure device that rests upon the material wound upon said mandrel and means for heating the material as it passes to said mandrel and is wound thereon.
3. A machine for manufacturing in\&ulating tubes compris ing a mandrel, a mandrel holder having a longitudinal recess in which the mandrel is rotated, a pressure device that is supported upon the layer of material wound upon the drum, and means for heating the material during the winding operation.
4. A machine for manufacturing insulating tubes compris ing a mandrel upon which coated fabric is wound, a mandrel holder having a longitudinal recess of angular cross section in which the mandrel is rotated, a pressure device located above the mandrel and resting upon the tube during the winding operation and means for heating the material as it is wound.
5. In a machine for manufacturing tubes, the combination with a mandrel and a holder having a longitudinal recess to receive the mandrel, of means for feeding a sheet of fabric to the mandrel, and a pressure device which exerts a constant and downward pressure upon the material on said mandrel and means for heating the material as it passes to and is wound upon said mandrel
6. In a machine for manufacturing tubes, the combination with a rotatable mandrel and a mandrel holder having a longitudinal angular recess to receive the mandrel, of means for feeding sheet material to said mandrel and a vertically adjustable pressure device that engages the surface of the material as it is wound upon the mandrel and the weight of which is entirely supported by such material, of means for heating the material as it passes to and is wound upon the mandrel.
7. In a machine for manufacturing tubes, the combination with a cylindrical mandrel and a hollow mandrel holder having lateral passages leading from its interior to its exterior and having a heating device located therein, of means for feeding sheet fabric to the mandrel and a pressure device that exerts a constant and uniform downward pressure upon the tube as it is formed upon the mandrel.
8. In a machine for maunfacturing tubes, the combination with a frame, a mandrel holder having a longitudinal recess of angular cross section and having internal heating means, of a mandrel adapted to rest in said recess, means for feeding shect material to said mandrel to be wound around the same and a pressure device which exerts a downward, uniform and constant pressure upon the tube during its formation
9. In a machine for manufacturing tubes from sheet material, the combination with a frame and a hollow, internally heated mandrel holder supported therein, of a mandrel adapted to receive the sheet material to form the tube and to rest upon said mandrel holder, of a pressure device which rests upon the material as it is wound upon the mandrel and exerts a constant and uniform pressure thereon.
10. In a machine for manufacturing tubes, the combination with a frame and a hollow, internally heated mandrel holder, having a plurality of angular, longitudinal recesses in its outer surface and lateral passages between its interior and some of the external recesses, of a cylindrical mandrel adanted to be received in one of said recesses, means for feeding sheet material to said mandrel to be wound thereon and a pressure device which exerts a downward, constant and uniform pressure upon the material as it is wound upon the mandrel.
11. In a machine for manufacturing tubes from sheet material, the combination with a mandrel and a mandrel holder, and means for heating the same, the material of the holder being so disposed as to be uniformly heated, of means for feeding sheet material to the mandrel and a pres sure device which exerts a constant and uniform downward pressure upon the material as it is wound upon the mandrel and along a single line of contact.
12. In a machine for maunfacturing tubes from sheet material, the combination with a mandrel, a hollow mandrel holder having a plurality of longitudinal angular recesses and internal beating means, of means for feeding sheet material to said mandrel to be wound thereon and a pressure device having a longitudinal rib provided with a bevelled outer edge to engage the material on the mandrel as the mandrel is rotated.
13. In a machine for manufacturing tubes, the combination with a mandrel holder, a frame having a guide plate adjacent to said holder, of means for heating said mandrel holder and said guide plate, a mandrel supported by said holder adjacent to one edge of sald guide plate, means for feeding sheet material to said mandrel and a pressure device that rests upon the material as it is wound upon the mandrel.
14. The combination with a hollow mandrel holder having a plurality of exterior longitudinal recesses of angular cross section and having lateral passages between the interior and some of said recesses, of a gas burner in the interior of said mandrel holder, the supparting frame of said holder having a gulde plate adjacent to the holder and heated by the gas burner therein, a mandrel located in the uppermost recess in the holder, means for feeding sheet fabric to said mandrel and a pressure device that rests upon the material as it is wound upon the mandrel.
15. In a machine for manufacturing tubes, the combination With a longitudinally recessed mandrel holder and a frame in which said holder is supported, of a mandrel freely supported in the holder recess, means for feeding sheet fabric to said mandrel, a pressure device normally resting freely upon the material as it is wound upon the mandrel and means for raising the pressure device when it is desired to remove the mandrel and a tube formed thereon, said means comprising a lost motion spring connection.
16. In a machine for manufacturing tubes, the combination with a cylindrical mandrel, a mandrel holder having a longitudinal angular recess to receive said mandrel, and a frame having a guide plate adjacent to said holder, of means for heating the mandrel holder and guide plate, means for feeding the sheet material over said guide plate to said mandrel, and a pressure device the welght of which is supported by sald mandrel and the material wound thereon.
17. In a machine for making tubes from sheet material, the combination with a mandrel and a mandrel holder, of a rotatively adjustable pressure device having a plurality of pressure ribs of different widths.
18. In a machine for making tubes from sheet material, the combination with a mandrel and a mandrel holder having a longitudinal recess of \(V\)-shape in cross section, of a rotatively adjustable pressure device having a plurality of ribs the pressure faces of which are of different widths.
19. In a machine for making tubes from sheet material, the combination with a mandrel and a mandrel holder havling a longitudinal recess of \(V\)-shape in cross section, of a rotatively adjustable pressure device having a plurailty of ribs the pressure faces of which are bevelled and of dif ferent widths.
20. In a machine for making tubes from sheet material, the combination with a frame, of a mandrel, a mandrel holder, a pressure device and an adjustable compensating bar over which the sheet material is fed to the mandrel.
21. In a machine for making tubes from sheet material, the combination with a frame, of a mandrel, a mandrel holder, a pressure device, a compensating bar having its ends fastened to the frame in front of the mandrel holder and means for raising and lowering the middle portion of said bar.
22. In a machine for making tubes from sheet material. the combination with a frame, of a rotatively adjustable hollow mandrel holder having a plurality of longitudinal, \(\mathbf{V}\)-shaped recesses and transverse outlets from the interior to some of said recesses and a pivoted angle bar that is adapted to swing into and out of one of the mandrel holder recesses.
23. In a machine for making tubes from sheet material, the combination with a frame, of a hollow mandrel holder having a plurality of longitudinal, V-shaped recesses and transverse outlets from the interior to some of said recesses, and a pivoted angle bar that is adapted to swing into and out of one of the mandrel holder recesses.
24. In a machine for making tubes from sheet material. the combination with a frame, of a hollow mandrel holder having a plurallity of longitudinal recesses and transverse outlets from the interior to some of said recesses, and a pivoted angle bar that is adapted to swing into and out of one of the mandrel holder recesses.
25. In a machine for making tubes from sheet material, the combination with a irame, of a hollow mandrel holder having a plurality of longitudinal recesses and transverse outlets from the interior to some of said recesses, and a
pivoted bar that is adapted to 8 wing into and out of one of the mandrel holder recesses.
26. In a machine for making tubes from sheet material, the combination with a frame, of a hollow mandrel holder having a plurality of longitudinal recesses and transverse outlets from the interior to some of said recesses, a plvoted bar that is adapted to swing into and out of one of the mandrel holder recesses, a mandrel located in one of said recesses, and a pressure device adapted to rest upon the material as it is wound upon the mandrel.
27. In a machine for making tubes from sheet material, the combination with a frame, of a hollow mandrel holder having a plurality of longitudinal receses and transverse outlets from the interior to some of said recesses, a pivoted bar that is adapted to swing into and out of one of the mandrel holder recesses, a mandrel located in one of said recesses, a pressure device adapted to rest upon the material as it is wound upon the mandrel, and an inclined mica guide attached to the frame adjacent to the front side of the mandrel holder.

No. 102,682. Insulating Tribe and Method of Making the Same.
Tubes isolants et méthode de les fabriquer.


The Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada, assignee of Emil Haefely, Basle, Switzerland, 18th December, 1906; 6 years. Filed 2nd October, 1906. Receipt No. 139,988 .
Claim.-1. The method of making insulating tubes which consists in winding a varnish coated fabric upon a core to form a plurality of layers and continuously applying heat and uniform pressure during the winding operation.
2. The method of making insulating tubes which coneists in coating a sheet of fabric with varnish and winding it upon a cylindrical, removable core while heat and uniform pressure are continuously applied.
3. The method of making insulating tubes which consists in winding one or more thicknesses of varnish coated sheet material upon a cylindrical core and simultaneously applying heat and constant uniform pressure.
4. The method of making insulating tubes which consists in winding a sheet of varnish coated fabric and a superposed layer of mica upon a cylindrical core and simultaneously applying heat and unlform pressure.
5. The method of making insulating tubes which consists in winding a paper sheet, a coating of varnish and a superposed mica sheet upon a cylindrical core and simultaneously applying heat and a constant, uniform pressure.
6. The method of making insulating tubes which consists in winding a paper sheet, a layer of varnish and a superposed mica sheet upon a cylindrical core and applying heat and uniform pressure to the wound material untll the tube is completed.
7. An insulating tube composed of concentric layers of paper, varnish and mica solldified by heat and pressure to a substantially homogeneous composition.
8. An insulating tube composed of concentric layers of sheet insulation and varnish solidilied by heat and pressure to a substantially homogeneous composition.
9. An insulating tube composed of concentric layers of sheet insulation and varnish which have been solldifled and from which all air and moisture have been expelled by heat and pressure.
10. An insulating tube composed of concentric lajers of sheet insulation and varnish solidified and freed from air and moisture by heat and pressure.

No. 102,683. Transformer Furnace.
Fournaisc convertisseur.


Axel Rudalf Lindblad and Otto Stalhane, Ludvika, Sweden, 18th December, 1906; 6 years. Filed 13th September, 1906. Recelpt No. 139,473.

Claim.-1. In transformer furnaces of the class described, a transformer core, characterized thereby, that the sheets of inon or lamelles of which the said core is formed, are thus arranged, that the leaking lines of force may not be able to leak out of the iron core without passing across a smaller or greater number of the sheets or lamelles of fron, of which the iron core is composed.
2. In transformer furnaces of the class described, a transformer core characterized thereby, that the transformer core is composed of several parts or sections of triangular or substantially triangular cross section each of which parts or sections being thus put together with the other sections and farmed of iron sheets or lamelles arranged in such a way that the sheets or lamelles, of which a certain section is formed or composed, when all the sections are put together to form the complete iron core, will be parallel with or substantially parallel with that side surface of the said iron core, that is formed by.the same part or section.
3. In transformer furnaces of the class described, a transformer core characterized thereby. that the transformer core is composed of several parts or sections of triangular or substantially triangular cross section, each of which parts or sections being thus put together with the other sections and formed of iron sheets or lamelles arranged in such a way that the sheets or lamelles. of which a certain section is formed or composed. when all the sections are put together to form the complete iron core, will be parallel with or substantially parallel with that side surface of the said iron core, that is formed by the same part or section, each section or part being formed with such a cross section, that when the same are put together to form the complete iron core passages or canals are formed between said parts or sections, through which passages or canals a cooling medium may be led for cooling the transformer core.

No. 102,684. Transformer Furnace.
Fournaise convertisseur.

E. A. A. Grönwall, A. R. Lindblad and O. Stalhane, 18th December, 1906; 6 years. Filed 13th September, 1906. Receipt No. 139,472.
Claim.-1. In transformer furnaces, a device characterized thereby, that two colls or two groups of coils, which are not electrically connected with the primary source of current, but which are in such a way connected with each other that the electro-motorical powers inducted in the same counteract each other are placed around the transformer core in such a way that the leaking lines of force generated by the transformer care exent an inducting action only in one of the colls or groups of coils and that the current hereby
generated in the other coil or group of coils magnetically co-operates with the primary coil for the purpose of reducing the self induction of the transformer furnace.
2. In transformer furnaces of the class described, a device characterized thereby that two coils or two groups of colls which are not electrically connected with the primary source of current but which are in such a way connected with each other that the electro-motorical powers inducted in the same counteract each other are placed around the transformer core, of which coils or groups of colls the ons is placed on the leg surrounded by the smelting bath and the other coil or group of colls on the leg s:llivitusel by :hir frimry coll.

\section*{No. 102,685. Measure for Leather.}

Mesure pour le ouir.


Fig. 1.


FIG. 4.
102685

James Robertson and John S. Delaney, Somerville, Massachusetts, U.S.A., 18th December, 1906; 6 years. Filed 2nd October, 1906. Receipt No. 139,994.
Claim.-1. In an Instrument for measuring sheet material, a frame provided with rigid jaws between which the material is to be inserted, a curved footpiece eccentrically pivoted to the upper jaw and extending. normally toward the lower jaw, a curved plate provided with a scale supported by the frame, a pointer rigid or integral with the footplece and serving as an indicator for the scale, means for pressing the footpiece against a sheet of material placed between it and the lower jaw, and means for regulating such pressure of the footplece.
2. In an instrument for measuring sheet material, a frame provided with rigid jaws between which the material is to be inserted, a curved footplece eccentrically pivoted to the upper jaw and extending normally toward the lower jaw, a curved plate provided with a scale supported by the frame, a pointer rigid or integral with the footpiece and serving as an indicator for the scale, an elbow lever pivotally connected with the frame, a link or rod pivotally connecting one arm of the elbow lever with the footpiece at a point which is between the curved portion of the footpiece and its pivot, and means intermediate of said elbow lever and the frame for holding the footplece normally down toward the lower jaw.

No. 102,686. Cap for sheet Piling. Coffe métallique pour pilon.
Edward Andrew Bern, Chicago, Illinois, U.S.A., 18th December, 1906; 6 years. Filed 17th October, 1906. Receipt No. 140,377.
Claim.-1. A cap for sheet metal piling comprising a block having recesses on one face on each diameter, each recess corresponding in shape to the transverse section of a pile, and a second block having projections adapted to enter the recesses.
2. \(\Lambda\) cap for sheet metal piling comprising an upper block having recesses on one face corresponding in shape to the
transverse section of a pile, and a lower block having a plain face adapted to rest on the pilc and provided on its

No. 102,688. Table Supporting Rack. Support de table.


Rinaldo Calbeck, Pratt, Kansas, U.S.A., 18th December. 1906; 6 years. Filed 23rd October, 1906. Receipt No. 140,537.
Claim.-1. A table rack comprising a base, a plurality of uprights mounted thereon and provided with a plurality of spries of onenings in the length thereof, and a plurality of horizontally arranged supporting rods, pairs of said rods having the ends threaded into openings of the uprights to adjustably connect the rods thereto, each pair of the supporting rods having adjacent ends projecting from the uprights to support a table as specified, the projecting ends of one nair of rods extending from a side of the rack opposite that from which the projecting ends of the adjacent pair of rods extend.
2. A table rack comprising a base. a plurality of uprights mounted thereon and provided with a plurality of series of onenings in the length thereof, a plurality of horizontally arranged supporting rods. pairs of said rods having the ends threaded into openings of the uprights to adjustahly connect the rods therewith, each pair of the supnorting rods having adjacent ends projecting from the uprights t" supnort rods having adjacent ends projorting from the un rights to supnort a table as snecified the profecting ends of one nair of rods extending from a siln of the rack opposite that from which the projecting ends of the adiacent pair of rods extend. and heads an․ind to the projecting cnic of the nairs of unrights aforesaid to engage table parts in the manner specifled.

No. 102.689. Gumming Machine.
Machine \(\begin{aligned} & \text { gommer. }\end{aligned}\)


Emil August Claus, Hartford, Connecticut, U.S.A., 18th December, \(1906 ; 6\) years. Filed 30th July, 1906. Receipt No. 138,264.
Claim.-1. The combination with a blank conveyer, a gumming mechanism comprising a gum supply device, of a gumming device, and means for bringing said gumming device repeatedly into contact with said supply device and a blank on the conveyer, alternately to lay a plurality of gum films on the same portion of the blank surface.
2. The combination with a blank conveyer, a gumming mechanism comprising a gumming device, and means for actuating the same for laying a plurality of gum films on each one of the blanks, of a blank retaining device cooperative with the conveyer and for holding the blanks thereon during the gumming operation.
3. The combination with a blank conveyer, a gumming mechanism comprising a gumming roller, and means for guiding the same in parallelism with said couveyer and in to contact with the blanks thereon, of a blang retaining device co-operative with the conveyer and for holding the blanks thereon during the gumming operation.
4. The combination with a blank conveyer and a gumming mechanism comprising a gum supplying device, of a gumming roller, means for guiding said gumming roller in parallelism with the conveyer and into contact with the blanks on the conveyer and a device for holding the blanks during the gumming operation.
5. The combination with a blank conveyer and a gumming mechanism comprising a gumming roller, of meas for bringing said roller into contact with the blanks on the conveyer, and a friction roller co-npArative with the conveyer and for holding the blanks thereon during the gumming operation.
6. The combinatinn with a blank conveyer and a gumming mechanism comprising a gum reservoir, a bum supplying roller co-operative therewith. and a gumming roller. of a cam for bringing said gumming roller into contact with said supplying roller and the blanks on the conveyer alternately.
7. The combination with a blank ronveyer and a gumming mechanism comprising a gum riservoir, a pum sunnlving roller and a gumming roller, of a cam for guiding said gumming roller in naralieliem with the conveyer, and for reEeatedly gumming cach blank thereon.
8. The combination with a blank conveyer, a gumming mechanism comprising a gum reservoir and a gum supplying device, and a gumming roller. of a pair of stationary cams for guiding said gumming roller in parallelism with the conveyor, and means for actuating said roller.
9. The combination with a blank conveyer, a gumming mechanism comprising a gum reservoir and a gum supplying device. and a gumming roller, of a pair of stationary cams for guiding said gumming roller in parallelism with the conveyer, and means for actuating said roller, and a device for holding the blanks on the conveyer during the gumming operation.
10. In a gumming machine the combination with a gum reservoir, a gum supplying device and a gumming roller. of means for bringing said roller into contact with said supply device and to lay a film of gum substantially on the entire surface of said gum roller.
11. In a gumming machine the combination with a gum reservoir, a gum supplying device, and a gumming roll, of a cam for bringing said roller into contact with said supply device and to lay a film of gum substantially on the entire surface of said gumming roller.
12. In a gumming machine the combination with a gum reservoir and a supply roller, of a yoke mounted for revolution around the reservoir, a gumming roll carried by said yoke, and means for controlling the movement of the yoke and for bringing said roll into contact with the supply roller.
13. In a gumming machine the combination with a gum reservoir and a supply roller, of a yoke mounted for revolution around the reservoir, a gumming roll carried by said yoke, and a cam for controlling the movement of the yok: and for bringing said roll into contact with the supply roller.
14. In a gumming machine the combination with a gum reservoir and a supply roller, of a pair of yokes mounted for simultaneous revolution around said reservoir, a gumming roll carried by said yokes. a pair of stationary cams for controlling the movement of the yokes, and means for positioning the gumming roll on said yokes.
15. In a gumming machine the combination with a gum reservoir and a gum supplying roller, of a pair of yokes mounted for revolutions around said reservoir, a gumming roll carried by said yoke, means for controlling the radial movement of said yokes, and means for positioning the gumming roller on the yokes.
16. In a gumming machine the combination with a gum reservoir, a ductor roll, and a transfer roller, of means for positioning said transfer roller relatively to the ductor roller, and means for actuating the transfer roller at a greater circumferential speed than that of the ductor roll.
17. In a gumming machine the combination with a pair of supports and a gum reservoir mounted for rotation therein. of a gum supplying device, a gum roll mounted for revolution around the reservoir, and means for controlling the movement of said roll toward and away from the supply device.
18. In a gumming machine the eombination with a gum reservoir, a ductor roll rotatable therein, a transfer roller. co-operative with the ductor roll. and means for positioning said transfer roller relatively to the ductor roll, a pair of yokes mounted for revolution around said reservoir, a gumming roll carried by said yokes, and means for posigumming roll carried by said yokes.
tioning the gumming roll on the yoke.

No. 102,690. Governor for Explosion Motors. Régulateur pour moteur à explosion.


Faul Daimler, Vinterturkheim, Wurtemburg, Germany, 18th December, 1906; 6 years. Filed 2nd November, 1906. Recelpt No. 140,852 .
Claim.-In an explosion motor of the character described, two cylinders, a governor shaft, a governor wheel on the said shaft between the said cylinders, and a casing surrounding the said wheel, all combined substantially as and for the purpose set forth.

No. 102,691. Shocker.
Appareil pour mettie les gerbes on moyette.


Alexander Dolson, Beaverton, Ontario. Canada, 18th December, 1906; 6 years. Filed 1st June, 1906. Receipt No. 136,476.
Claim.-1. In a shocker, a frame, a receiving platform attached to the frame and extending laterally therefrom underneath the end of the deck of the binder, and means located on such platform for throwing the sheaves deposited thereon outwardly off the platform, as and for the purpose syecified.
2. In a shocker, a frame, a receiving platform attached to the frame and extending laterally therefrom underneath the end of the deck of the binder, and arms extending laterally over the platform and a rod on which the arms are held journalled in suitable bearings in the platform, and means for turning the rod, as and for the purpose specified.
3. In a shocker, the combination with a frame provided with a main receiving patform for discharging the sheaves rearwardly, of a supplemental laterally extending platform designed to receive the sheaves and means for discharging the sheaves therefrom on to the main receiving platform, as and for the purpose specified.
4. In a shocker, the combination with a frame provided with a main receiving platform for discharging the sheaves rearwardly. of the supplemental laterally extending platform, L-shaped arms designed to recelve the sheaves on the platform. the rod on which the arms are held, suitable bearings for the rod, the short end of the L-shaped arms being designed. when thrown to the horizontal, to open and space between the supplemental platform and the main platform, as and for the purpose specified.
5. In a shocker, the combination with the supplemental platform and arms located on same, and a rod supporting the arms suitably journalled on the platform, of means connected to the knotter shaft for tilting the arms upon the discharge of every two sheaves from the binder deck on to the platform, as and for the purpose specified.
6. In a shocker, the combination with the supplemental platform and arms located on same, and a rod supporting the arms suitably journalled on the platform, of a crank arm on the end of the rod, a ratchet toothed disc pro-
vided with two tecth, such disc being secured on a suitable shaft journalled in bearings in the frame, a rod provided with profections designed to co-act with the teeth on the disc and supported in suitable guides at one end and connected to the crank on the rod on the supplemental platform at the opposite end, and a spring connected to the end of the crank of the rod fournalled in the platform, and to the frame, as and for the purpose specified.
7. In a shocker, the combination with a supplemental platform and arms located on same, and a rod supporting the arms suitably fournalled on the platform, of a crank arm on the end of the rod, a ratchet loothed disc provided with two teeth diametrically located, such disc being secured on a suitable shaft journalled on bearings in the irame, a rod provided with projections designed to co-act with the teeth on the disc and supported in suitable guides at one end and connected to the crank on the rod on the supplemental platform at the opposite end, a spring connected to the end of the crank of the rod journalled in the platform, and to the frame, a ratchet wheel secured on the shaft on which the toothed disc is sccured, an arm swung on the said shaft and provided with a pawl coacting with the ratchet wheel and a rod connecting sucb arm to a crank on the knotter shaft of the binder, as and for the purpose snecifled.
8. The rombination with the frame and the supplemental frame supported at one side of the frame, of the deck or platform located between the side bars of the frame. the fointed bar extending across the deck, and means connected to the ends of the bar for raising the jointed bar upon the sheaves being deposited thereupon, as and for the purpose specified.
9. The combination with the pain frame and the bottom side bars of the main frame, of the deck located between the side bars, the supporting cross bars for the same, and means located on the deck to receive the sheaves near the head and to tilt them in an upright position preparatory to the sheaves being moved rearwardly, as and for the purpose specified.
10. The combination with the main frame and the bottom side bars of the main frame, of the dock located between the side bars. supporting cross bars for the same, the longitudinal guide bars supported on the cross bars at wach side of the deck, the bars supported in the guide bars and having longitudinal movement therein, the upright supporting frame located at the front and suitably secured to the adjustable bars, the L-shaped bars pivoted on the longitudinal bars, the jointed bar extending from the portion of the L-shaped bars normally horizontally disposed across the desk, and means for swinging the normally horizontally disposed portion of the \(L\)-shaped bars forwardly upon the rearward movement of the adjustable frame carried by the longitudinally moving bars. as and for the purpose specified.
11. The combination with the main frame and the bottom side bars of the main frame, of the deck located between the side bars, supporting cross bars for the same, the longitudinal guide bars supported on the cross bars at each side of the deck, the bars supnorted on the guide bars and having longitudinal movement therein, the upright supporting frame located at the front and suitably secured to the adjustable bars, the L-shaped bars pivoted on longitudinal bars, the jointed bar extending from the portion of the L-shaped bars, normally horizontal disposed across the deck, uprights connected to the bottom side bars and provided with rollers designed to come in contact with the normally disposed upright portions of the L-shaped bars as they are being carried rearwardly, as and for the purpose specifled.
12. The combination with the frame and the side bars of the frame and deck and movable frame comprising the side bars and uprights, and cross boards secured to the uprights, of brackets secured to the rear of the top cross boards, and means extending across the deck for receiving the sheaf and raising and depositing it in an upright position between the brackets, as and for the purpose specified.
13. The combination with the frame and the side bars of the frame and deck and movable frame comprising the side bars and uprights, and cross boards secured to the uprights, of brackets secured to the rear of the top cross boards, a jointed bar extending across the deck and designed to recelve a pair of sheaves, and means for swinging such jointed bar upwardlyto deposit the pair of sheaves between the brackets aforesaid, as and for the purpose specified.
14. The combination with the frame and the side bars of the frame and deck and movable frame comprising the side bars and uprights, and cross boards secured to the uprights, of brackets secured to the rear of the top cross boards, a jointed bar extending across the deck and designed to receive a pair of sheaves, and \(L\)-shaped bars pivoted on the sliding bars and carrying the jointed cross bar, as and for the purpose specified.
15. The combination with a frame and the side bars of the frame and desk, and movable frame comprising the side bars nd uprights, and cross boards secured to the uprights, of brackets secured to the rear of the top cross boards, a jointed bar extending across the deck and designed to receive a pair of sheaves, and L-shaped bars pivoted on the sliding bars and carrying the jointed cross bars and provided with inclined upper ends, uprights secured to the uprights nd provided with pins extending to the front of the L-shaped bars, as and for the purpose specified.
16. The combination with the frame and platform at the front and the movable frame provided with side bars between which the sheaves are fed on to the Dlatform, of a cross shaft suitably journalled in the frame, arms secured to the cross shaft and pitmans connecting the arms to the sides of the movable irame, and means for rocking the cross shaft at predetermined intervals, as and for the purpose specifled.
17. The combination with the frame and platiorm at the front and the movable frame provided with side bars between which the sheaves are fed and to the platform, of a cross shaft suitably journalled in the frame, arms secured to the cross shaft and pitmans connecting the arms to the sides of the movable frame, and arms secured to the outer end of the shaft, an upper shaft journalled in bearings in the longitudinal upper bars at the outside of the frame, a swinging frame journalled thereon, a gear wheel secured to the shaft. a supplemental shaft in the swinging frame. a gear wheel secured to the same, a counter shaft journalled in bearings on the upper longitudinal bars. a gear wheel scecured on the latter shaft and provided with a long tooth, an arm secured on the same shaft as the aforesald gear wheel, and a pitman connecting the arm to the arm on the cross shaft, and means for throwing the swinging frame so as to bring the gear wheel and upper shaft of the same into engagement with the gear wheel provided with a long tooth, as and for the purpose specifled.
18. The combination with the frame and platiorm at the front and the movable frame provided with side bars between which the sheaves are fed on to the platform, of a cross shaft suitably journalled in the frame, arms secured to the outer end of the shaft. an upper shaft journalled in bearings in the longitudinal upper bars at the outside of the frame, a swinging frame journalled thereon, a gear wheel secured to the shaft, a supplemental shaft in the swinging frame, a grar wheel secured to the same, a counter shaft fournalled in bearings in the upper longitudinal bars, a gear wherl secured on the latter shaft and provided with a long tooth, an arm secured on the same shaft as the aforesald gear wheel and a pitman connecting the arm to the arm on the cross shaft, a depending arm attached lo the swinging frame and a snring connected to the lower end of the arm and to the frame, and means for controlling the action of the swinging frame. as and for the purpose specified.
19. The combination with the frame and platform at the front and the movable erame provided with sald bars between which the sheaves are fed on to the platiorm, of a cross shaft suitably journalled in the frame, arms secured to the cross shaft and pitmans connecting the arms to the sides of the movable frame. and arms secured to the outer end of the shaft, an upper shaft fournalled in bearings in the longitudinal upper bars at the outside of the frame. a swinging irame journalled thereon, a gear wheel secured to the shaft, a supplemental shaft in the swinging frame. gear wheel secured to the same, a counter shaft journalled in bearings in the upper longitudinal bars, a gear wheel secured on the latter shaft and provided with a long tooth, an arm secured on the same shaft as the aforesald gear wheel and a pitman connecting the arm to the arm on the cross shaft, a depending arm attached to the swinging frame and a spring connected to the lower end of the arm and to the frame, a longitudinal shaft supported on one of the upper bars outside of the swinging frame, and means connected to the knotter shaft and to such shaft for imparting a step-by-step movement to such shaft, a double toothed disc secured on one end of the shaft, an arm pivoted on a suitable bracket on the frame and provided with a notch designed to engage with the front end of the swing. ing frame, and an arm pivoted on the aforesaid bracket and having a notch designed to engage with the rear end of the swinging frame, and a flat end designed to be controlled by the double toothed disc on the end of the shaft operated from the knotter shaft, as and for the purpose specificd.
20. The combination with the frame and platform located between the side bars of the same, and means for receiving the pair of sheaves on the platform and for tilting them towards the front, so as to set such pair of sheaves upright, and a movable arm for carrying such frame forward. of an apron located to the rear of the platform, and means for imparting a movement to the apron, so that the top moves rearwardly, as and for the purpose specified
21. The combination with the frame and platform located between the side bars of the same anr means for receiving the pair of sheaves on the platform and for tilting it towards the front, so as to set such pair of sheaves upright, and a movable arm for carrying such frame forward, of an aprou located to the rear of the platform, endless bands extending rearwardly above the apron from a point above the platform and located parallel to each other, and means for driving such bands, as and for the purpose specified.
22. The combination with the frame and platform located between the side bars of the same, and means for receiving the pair of sheaves on the platform and for tilting it towards the front so as to set such pair of sheaves upright, and a movable arm for carrying such arm forward, of endless bands extending parallel rearwardly from a point above the platform and located parallel to each other, and means for driving such bands, as and for the purpose specifted.
23. In a machine of the class described the combination with the rear apron and rollers thereof, and means for driving one of the rollers, of the upper endless bands and means for driving them from the lower apron, as and for the purpose specifed.
24. The combination with the endless bands parallelly arranged, and means for feeding the sheaves towards the spaces between the bands, of toothed wheels secured on the forward band pulleys, as and for the purpose specifled.
25 . The combination with the lower apron and rollers thereof, and means for driving one of the rollers, of the upper endless bands parallelly located above the apron and means for driving the endless bands from the roller of the apron, as and for the purpose specifled.
26. The combination with the lower apron and rollers thereof and means for driving one of the rollers, of the upper endless bands parallelly located above the apron, the belt passing around the wheels carrying the endless bands, suitable pulleys journalled in the frame and roller of the lower apron, as and for the purpose specified.
27. In a device of the class described the combination with the frame and the front platform suitably held in the frame, of the apron extending rearwardly from the platiorm and carried by rollers sultably journalled in the frame, and means for imparting step-by-step movement to such apron to carry the sheaves rearwardly on the same to form a shock, and means for continually driving such apron after the sheaves sufficient to form a shock are located on the apron, so as to discharge the shock complete, as and for the purpose specified.
28. The combination with the apron extending to the rear of the machine, of means for feeding the tops of the sheaves simultaneously with the butts at the bottom carried by the apron, as and for the purpose specifled.
29. The combination with the apron and means for driving the same, so as to discharge the bottom of the shock located thereon, of means for discharging the top of the shock simultaneously, and a device located at the rear end of the machine and designed to retard the delivery of the top of the rear end of the shock and hasten the delivery of the top of the front end of the shock more quickly than the butt or bottom of the shock at the front ends, as and for the purpose specified.
30. In a machine of the class described the combination with the frame and the rear apron, of an arm journalled on a spindle of the roller, a ratchet wheel secured to the spindle of the roller, a pawl connected to the arm aforesaid and engaging the ratchet wheel and means for imparting rearward and forward throw to the arm, as and for the purpose specified.
31. In a machine of the class described the combination with the frame, and the rear apron, of an arm journalled on a spindle of the roller of the apron, a ratchet wheel secured to the spindle of the roller, a pawl connected to the arm aforesald and engaging the ratchet wheel, a bar supported in suitable guideways and uprights supported on the side bars of the frame and provided with a pin extending into the slot in the upper end of the arm and means for reciprocating said bar, as and for the purpose specifled.
32. In a machine of the class described the combination with the frame and the rear apron. of an arm, journalled on a spindle of the roller of the apron, a ratchet wheel secured to the spindle of the roller, a pawl connected to the arm aforesaid and engaging the ratchet wheel, a bar supported in suitable guldeways, and uprights supported on the side bars of the frame and provided with a pin extending into the slot in the upper end of the arm, rollers on the bar, an arm secured to the cross shaft journalled in the frame and from which the moving is operated, as and for the purpose specified.
35. In a machine of the class described the combination with the frame and the rear apron, of an arm journalled on a spindle of the roller of the apron, a ratchet wheel secured to the spindle of the roller, a pawl connected to the arm aforesaid and engaging the ratchet wheel, a bar supported in suitable guideways and uprights supported on the side bars of the frame and provided with a pin extending into the slot in the upper end of the arm, rollers on the bar, an arm secured to the cross shaft journalled in the frame and from which the moving frame is operated, spring arms secured to the longitudinal bars of the outside of the frame and provided with pins designed to engage in a notch in the bar aforesaid, as and for the purpose speciffed.
34. The combination with the frame, a bar supported in suitable guideways in the frame, and means for reciprocating the bar and driving the apron, of a detent pivoted on the bar and having a suitable stop pin at the front of the same and a disc having the spindle thereof journalled in suitable brackets in the frame and provided with pins with which the detent is designed to contact, as and for tho purpose specifled.
35. The combination with the frame and a bar supported in suitable guideways in the frame and the rollers on the bar, an arm secured in the cross shaft and means for oscillating the shaft so as to swing the arm between the rollers, of a counting device for determining the number of sheaves in a shock operated from the bar, as and for the purpose specifled.
30. The combination with the frame and a bar supported in suitable guldeways in the frame and the rollers on the bah, an arm secured in the cross shaft and means for iscillating the shaft so as to swing the arm between the rollers, of a disc provided with pins and suitably journalled and a detent pivoted on the bar designed to co-act with the pins on the disc, as and for the purpose specifled.
37. The combination with the frame and the bar suitably supported in the frame and means operated by same for determining the number of pairs of sheaves fed rearwardly, of the rollers on the bar and the arm designed to be swung between the rollers, the spring arms located above the bar and having laterally projecting pins designed to co-act with the notch in the bar, as and for the purposo specified.
38. The combination with the frame and the sliding bar suitably supported in the frame and means for reciprocating the same, of the disc provided with pins and means for turning the pins, and a holdfast device designed to co-act with one of the pins on the disc to hold it in position when turned, as and for the purpose specified.
39. The combination with the frame, the rear apron, and means for imparting a step-by-step movement to the same, of the disc rotatably held on the frame and means for turning the disc at pre-determined intervals, driving mechanism connecting the main shaft to a cross shaft journalled in the frame, a retarding device located to the rear of the parallelly arranged travelling bands and driving means between the cross shaft and the rotating device, clutch mechanism located on the cross shaft and means interposed between the disc and the clutch mechanism for throwing such clutch mechanism into and out of gear to throw in or out the driving gear of the retarding mechanism, as and for the purpose specified.
40. The combination with the frame, the rear apron and means for imparting a step-by-step movement to the same, of the disc rotatably held on the frame and means for turning the disc at pre-determined intervals, driving mechanism connecting the main shaft to a cross shaft journalled in the frame, a retarding device located to the rear of the parallelly arranged travelling bands and driving means between the cross shaft and the retarding device, clutch mechanism located on the cross shaft, a lever plvoted in the frame and connected to the clutch mechanism at one end and spring held at the opposite end, a slide bar to which such lever is connected provided with a notch, a lever suitably pivoted and designed to engage with the footh on the disc, such lever being spring held in the notch in the sliding bar, as and for the purpose specifled.
41. The combination with the frame, the retarding wheel and shaft carrying the same suitably journalled in the frame, of the reversely set cone-shaped pulleys provided with spiral grooves and secured on suitable cross shafts journalled in the frame, driving means connecting one of these shafts to the retarding wheel shaft and a rope drive between the cone-shaped pulleys, as and for the purpose specifled.
42. The combination with the frame, the retarding wheel and shaft carrying the same suitably journalled in the frame of the reversely set cone-shaped pulleys provided with spiral grooves and secured on suitable cross shafts journalled in the frame, driving means connecting one of these shafts to the retarding wheel shaft, a rope drive be-
tween the cone-shaped pulleys and means for throwing out the drive of the pulleys, as and for the purpose specified.
\(4:\). The combination with the frame. the retarding wheel and shaft carrying the same suitably journalled in the frame, of the reversely set cone-shaped pulleys provided with spiral grooves and secured on suitable cross shafts journalled in the frame. driving means connecting one of theso shafts to the retarding wheel shaft, a rope drive between the cone-shaped pulleys, means for throwing out the drive of the pulleys and means for causing the pulleys to rotate in the opposite direction after the drive has been thrown out. as and for the purpose specified.
45. The combination with the frame, the retarding wheel and shaft carrying the same suitably journalled in the frame, of the reversely set cone-shaped pulleys provided with spiral grooves and secured on suitable cross shafts journalled in the frame, driving means connecting one of these shafts to the retarding wheel shaft a rope drive between cone-shaped pulleys, means for throwing out the drive of the pulleys, and a spiral spring connected to the roar eross shaft and cone-pulley, as and for the purpose specified.
45. The combination with the cross shaft suitably driven, cluteh mechanism located thereon and the two reversely cone-shaped pulleys provided with spiral grooves and the drive between the shafts of one pulley and the cross shaft containing the cluteh mechamism, of the spring actuatec lever connected to the cluteh at one end, the slide bar to which the lever is connected at the opposite end, the rope drive betwren the cone pulleys provided with a knot. the liver pivoted on the frame and provided with a notch with which the knot is designed to co-act. the arm on the pivot pin of the lever, the slide provided with a pin with which the arm is designed to co-act, and means for holding the slide normally rigid, as and for the purpose specified.

4c. The combination with the cross shaft suitably driven, clutch mechanism located thereon and the two reversely cone-shaped pulleys provided with spiral grooves and the dirive between the shafts of one pulley and the cross shaft containing the clutch mechanism, of the spring actuated lever connected to the clutch at one end, the slide bar to which the clutch is connected at the opposite end, the rope driven between the cone pulleys provided with a knot. the live: pivoted on the frame and provided with a notch with which the knot is designed to co-act. the arm on the pivot pin of the lever, the slide provided with a pin with which the arm is designed to co-act, the disc suitably jourtalled on a standard on the frame and provided with a peripheral tooth, a lever pivoted on the standard of the dise and normally engaging the notch in the sliding bar and having the bottom end located in the path of the tooth of the dise, as and for the purpose specified.
47. The combination with the frame and the apron, provided with a sprocket wheed on one of the rollers. of a cono pulley suitably secured to the cross shaft and providet with a sprocket wheel at one of the ends thereof, a sprocket chain connecting the aforesaid sprocket wheels, a ratchet wheel secured on the shaft of the cone pulley and a dog connected to the sprocket wheel on such shaft and designed to engage with the ratchet wheel, as and for the purpose specified.
48. The combination with the frame and the oppositely set parallel bands suitably driven and held in the frame, of the retarding wheel located at the rear end of the bands and between the same and designed to adjust itself automatically, as and for the purpose sperified.
49. The combination with means for feeding the shock when completed rearwardly, of a retarding device located at the rear end of the machine and designed to adjust itself automatically, as and for the purpose specifted.
50. The combination with means for feeding the shock when completed rearwardly, of a retarding wheel, a shaft upon which the same is secured. a cross shaft, arms on the cross shaft or on a line with the same carrying the retarding wheel shaft, means towards the outer end for supporting the arms, and a driving means extending from the shaft from which one arm is swung on to the shaft upon which each retarding wheel is located, ats and for the purpose specified.
51. In a shocker, a retarding wheel located at the discharge end of the machine and designed to come in contact with the heads of the sheaves of the shock, as and for the purposo specifled.
52. In a shocker, a retarding wheel located at the discharge end of the machine and designed to come in contact with the heads of the sheaves of the shock, the peripheral face of the wheel being of a \(V\)-shape in form, as and for the purpose specified.

No. 102,692. Tidal Motor. Moteur à marée.


Frank Allison Harrison. Sackville. New Brunswick. Canada,
18ih December, 1906; 6 years. Filed 15th December,
1906. Receipt No. \(131,059\).

Claim.-1. In a tidal power apparatus, a power wheel comprising a shaft, a frame having radially extending braces rigidly attached to sald shaft, paddles hinged to the extremities of said braces, and means for limiting the motion of said paddles in either direction.
2. In a tidal power apparatus, a horizontal shaft having a plurality of braces rlgidly attached thereto, paddles hinged to the extremities of said braces, and chains connecting the outer extremities of said paddles.
3. In a tidal power apparatus, a horizontal shaft having a plurality of radially extending braces rigidly attached thereto. a plurality of paddles attached to the extremities of said braces. stop blocks for limiting the motion of said paddles in either direction, chains connecting the outer extremities of said paddles and means for adjusting said chains to reverse the direction of rotation of the wheels.
4. In a tidal power apparatus. a horizuntal shaft, a frame rigidly attached thereto. radially extending paddles hinged to said frame, a chain connecting the outer extremities of said paddles, said chain passing over a drum whereby the paddles are adjusted to rotate in either directions.
5. In a tidal power apparatus, a paddle wheel having a plurality of radial paddles hingedly attached thereto. chains connecting the outer extremities of said paddles. and means for adjusting the tension of said chains whereby the paddies are held in a rigid radial position on entering the water, and in a vertical position on leaving it.
6. In a device of the character described, the combination with a pair of anchor floats, of a reversible power wheel suspended between said floats, said power wheel comprising a horizontal shaft. a plurality of braces rigidly attached thereto. and a plurality of paddles hinged to the extremities of said braces, and means for transferring the power developel by the rotation of said wheel.
7 . In a device of the character described, the combination with one or more anchor floats, of a power wheel suspended from said floats, said power wheel comprising a horizontal shaft, a plurality of braces attached thereto. and a plurality of paddles hinged to said braces, and means for limiting the motion of sald paddles.

\section*{No. 102,693. Non-Refillable Bottle. \\ Boutcille non remplissable.}

Frank H. Hubbard, Kokomo. Indiana, U.S.A., 18th December. 1906; © years. Filed 16th November, 1906. Receipt No. 141,255 .
Claim.-1. A bottle having a tapered neck, a valve seated within the neck and provided at one end thereof with a plurality of longitudinally disposed grooves, and a stopper spaced from the valve and provided with discharge passages to permit the passage of the liquid when the valve is moved to open position.
2. A bottle having a tapered neck, \(s\). valve seated within the neck and provided at one end thereof with a concavity having a plurality of longitudinal grooves communicating therewith and a stopper spaced from the concaved end of the valve and provided with a plurality of angularly disposed discharge passages to permit the passage of the liquid when the valve is moved to open position.
3. A bottle having a tapered neck, a valve seated in the neck and having one end thereof provided with an enlarged head the face of which is formed with a depression and the side walls thereof provided with a plurality of longitudi-
nally disposed grooves communicating with said depression. and a plug spaced from the valve and rigidly secured to the

interior walls of the neck, said plug being provided with a plurality of peripheral angularly disposed discharge passages to permit the passage of the liquid when the valve is moved to open position.
4. A bottle having a tapered neck, a valve seated within the neck and having a plurality of longitudinal grooves formed in one end thereof, and a plug spaced from the valve and having a plurality of peripheral ogee discharge passagea formed in the walls thereof to permit the passage of the liquid when the valve is moved to open position.
5. A bottle having a tapered neck, a longitudinally movable valve seated within the neck and consisting of a shank provided at one end with a globular terminal adapted to engage the walls of said neck and at its opposite end with an enlarged head having a plurality of longitudinally disposed grooves formed therein, a plug rigidly secured to the interior walls of the neck and arranged in spaced relation to the valve, said plug being provided with a plurality of discharge passages each in the form of an ogee curve to permit the passage of liquid when the valve is moved to open position.

No. 102,694. Ventilator. Ventilateur.


Robert A. Ilg, Chicago, Illinois, U.S.A., 18th December, 1906; 6 years. Filed 15th October, 1906. Receipt No. 140,322.
Claim.-1. The combination with an electric motor and a ventilating fan mounted directly on the armature shaft thereof, cf a protective hood of less diameter than and wholly in rear of sald fan surrounding said motor with its open end adjacent to the suction side of the fan, said fan being uncovered on its suction side whereby the current induced by the fan flows over said hood, and a suction pipe leading from a point exterior to the room or chamber containing the motor and tapping said hood, substantially as described.
2. The combination with an electric motor and a ventilating fan mounted directly on the armature shaft thereof, of a protective hood of less diameter than and wholly in rear of said fan surrounding said motor with its open end adjacent to the suction side of the fan, said fan being uncov-
red on its suction side whereby the current induced by the fan flows over said hood, and a suction pipe leading from a point exterior to the room or chamber containing the motor and tapping sald hood laterally of the motor, substantially as described.
3. The combination with an annular fan casing adapted to be located in an opening in the wall of a room or chamber, of an electric motor suported by and concentrically with sald fan casing and having a ventilating fan mounted directly on the armature shaft thereof, a protective hood of less diameter than and wholly in rear of said fan covering the sides and inner end of said motor with its open end adjacent to the suction side of the fan, the spaces between the open end of said hood and sald fan casing being open whereby the current induced by the lan flows over said hood, and a suction pipe leadjug from a point exterior to the room or chamber containing the motor and tapping said hood, substantially as described.
4. The combination with a ventilating fan and a motor mounted on the shaft thereof, of a protective device for said motor comprising a cylindrical member surrounding the motor, a removable cap or cover closing the end of sald cylindrical member remote from the fan, and an annular member convergent toward the fan applied to the opposite end of said cylindrical member, substantially as described.
5. The combination with a ventilating fan and a motor mounted on the shaft thereof, of a protective device for said motor comprising a cylindrical member surrounding the same, a removable cap or cover closing that end of said cylindrical member which is remote from the fan, an annular member secured to the opposite end of said cylindrical member inwardly convergent or flaring towards the fan shaft, and a suction pipe leading from a point exterior to the room or chamber containing the motor and tapping said cylindrical member laterally to thereby induce a cocling current upon the motor, substantially as described.
6. The combination with an electric motor and a ventilating fan mounted directly on the armature shaft thereof, of a protective hood of less diameter than and wholly in rear of said fan surrounding said motor with its open end adjacent to the suction side of the fan, said fan being uncovered on its suction side whereby the current induced by the fan flows over said hood, a suction pipe leading from a point exterior 20 the room or chamber containing the motor and tapping said hood, and a strainer in said suction plpe, substantially as described.

No. 102,695. Apparatus for Producing Ozone. Apparcil d produire l'ozone.


Alexis Louis Mangin, Hull, Quebec, Canada, 18th December, 1906; 6 years. Filed 21st February, 1905. Receipt No. 122,723.
Claim.-1. In an apparatus of the character described, the combination comprising a pair of dielectric plates, an electrode of less area than the plates disposed therebetween, insulating members disposed between and around the edges
of the plates, an electrical connection to the electrode, a plurality of electrodes disposed transversely on the outer faces of the plates, and an electrical connection to the other electrodes.
2. In an apparatus of the character described the combination comprising a pair of dielectric plates, an electrode of less area than the plates provided with a projecting point, means for insulating the plates from each other and connecting the same together, an electrical connection to said projecting point, a plurality of electrodes disposed transversely around the plates, and a single electrical connection thereto.
B. In an apparatus of the character deseribed. the combination comprising a pair of glass plates, means insulating and securing said plates together, a sheet of metallic gauze disposed between the plates, an electrical connection to the metallic gauze, a plurality of transversely disposed continuous electrodes disposed around the plates, and a single connection to said electrodes.
4. In an apparatus of the character described. the combination comprising a pair of glass plates, an electrode of less area than the plates disposed therebetween, means for cocitrically separating the plates and for binding their edges together. a wire connected to the enclosed electrode, a plurality of eut strips of wire gauze disposed continuously around the plates, and a wire connected to the ends oi the wire gatuze strips.
5. In an apparatus of the character described, the combination conprising a pair of glass plates, an electrode dis posed between the plates and terminating short of the edges thetcof and having a projecting point, a wire connected to said point, insulating means disposed between the edges of the plates and adapted to bind said edges together, outer electrodes of wire gauze disposed on said plates. said gauze having its wires cut to provide a plurality of points. and a wire connected to said outer wire gauze.

No. 102,696. Paper Tarring Apparatus.
Apparcil à goullronner le papier.


Arthur Edward Millington, Espanola, Ontario, Canada, 18th December, 1906; 6 years. Filed 18th July, 1906. Receipt No. 137,948.
Claim.-1. The process of preparing tarred paper, which consists in passing a continuous web of paper through a body of tar, subjecting the coated paper to relatively high pressure to force the tar into and through the flibers of the same, winding said paper in a roll, then unwinding the paper so that it is exposed to the air and finally rewinding said paper, substantially as described.
2. In a machine for tarring paper, the combination of a tank, a guide roll in said tank, means for directing a paper web into the tank to said guide roll, and means for directing the web in a substantially vertical line from said guide roll out of the tank, a scraper or scrapers placed to engage the vertical part of the web after it emerges from the liquid in the tank, with squeeze rolls placed to engage the paper web after it has passed said scraper or scrapers, substantially as described.
3. A machine for tarring paper consisting of a tank, ? guide roll having means whereby it is retained below the level of the liquid in the tank, a guide roll for directing the paper web into the tank to said first guide roll, a second guide roll for causing the paper web to be drawn in a substantially vertical line out of the tank, squeeze rolls. a pair of scrapers placed to act upon opposite sides of the vertically extending portion of the web, and a second scraper placed to act upon the under side of the web before it passes to the squeeze rolls, substantially as described.
4. A machine for preparing tarred paper consisting of a tank. means for directing a web of paper through liquid in said tank. squeeze rolls, means for winding the paper in a roll after it passes through said squeeze rolls, with means for unwinding and subsequently rewinding the freshly tarred paper from said first roll, substantially as described.

No. 102,697. Rotary Converter. Convertisseur rotatif.


John L. Murdock. Bound Brook, New Jersey, U.S.A., 18th December. 1906; 6 years. Filed 19th April, 1906. Receipt No. 135,064 .
Cluim.-1. The combination of an armature provided with : plurality of separate windings, means for energizing said windings in a predetermined successive order, sectors conn"cted respectively with said windings, brushes engaging said sectors, and wire connections so arranged from said Windings to said sectors that currents through said brushes shall always llow in the same direction as said armature is rotated.
2. The combination of an armature provided with a plurality of separate windings, a plurality of sectors mounted lipon said armature and connected respectively with said windings, means for so energizing said windings that said sectors all attain the same sign upon reaching a predetermined point in their revolution, a brush located at this point and adapted to receive current flowing always in the same direction, and means for completing the circuit from said brush to the other windings not directly connected thereto.
3. In a rotary converter the combination of a field armature provided with a plurality of separate windings, a plurality of sectors connected directly with said windings respectively and energized thereby, a plurality of sther sectors connected with said armature and each in electrical communication with one of said first-mentioned sectors disposed diametrically opposite thereto, a brush engaging said firstmentioned sectors, another brush engaging said second-mentioned sectors, and means for energizing said windings.
4. The combination of a revoluble armature provided with a plurality of windings, means for energizing sald windings successively in dirierent phase, a plurality of positive sectors connected directly with said windings, each sector being connected with a particular winding, a plurality of negative srectors each in communication with a positive sector, said negative sectors each being diametrically opposite the positive sector connected therewith, a brush adapted to engage said positive sectors, another brush adapted to engage said negative sectors, said brushes being disposed adjacent to each other, and means for so energizing said windings in such phase that the positive sectors are energized at the instant when in contact with their brush, the negative sectors being likewise energized at he instant when they are in contact with their brush.
5. The combination with a revoluble armature provided with windings, sectors connected with said windings, brushes engaging sall sec:ors, and means for so energizing sald windings that the latter become neutral at the instant when said brushes leave said sectors connected with said windings.
6. In a three-phase rotary converter the combination of three windings. three sectors connected therewith, each of said sectors representing approximately 120 degrees of a circle, and a brush having a width representing approxi-
mately 60 degrees of a circle, said brush being adapted to rest throughout its entire length upon one or more of the sectors.
7. In a rotary converter the combination of a field, an armture revoluble in relation thereto, said armature belng built up of a plurality of separate windings, a plurality of sectors connected with said windings and built up into separate rings, one of said rings being always positive at a predetermined point relative to the horizon, the other of said rings being always negative at a predetermined point relative to the horizon, and brushes engaging said positive and negative portions of said rings.

No. 102,698. Flash Sign. Signal Lumineux.


John S. Nesbitt, Victoria, British Columbia, Canada, 18th December, 1906; 6 years. Filed 5th September, 1906. Receipt No. 139.262.
Claim.-1. In a flash sign, a general letter frame troughshaped in cross section the outline of which frame includes within it the several letters or flgures for which the sign is designed, partitions dividing this frame at the position of variation of the several letters and means for inserting an illuminant in the several sections.
2. In a flash sign, a general letter frame trough-shaped in cross section the outline of which frame includes within it the several letters or figures for which the sign is designed, partitions dividing this frame at the position of variation of the several letters, and sockets for the reception of lamp bulbs in the several sections of the letter frame so divided.
3. In a flash sign, a general letter frame trough-shaped in cross section the outline of which frame includes within it the several letters which the sign is designed to display, partitions at the positions of variation of the several letters, a cover plate over certain of the sections which plate is sten-cil-cut to show certain letters or figures, and sockets in the several sections for the reception of electric light bulbs.
4. In a flash sign, the sign frame 2 and 3 , the letter frame 6 secured to the face of 3 , the partitions 7 dividing the letter frame into the sections \(8,9,10,11,12,13,14\) and 15 , the hinged cover plate over the section 9 which plate is stencilcut with a \(C\) and the lamp bulb sockets 4 in the several sections.

\section*{No. 102,699. Bottle Closure.}

Fermerture pour boutcilles.


Henry A. Olsson, New York City. New York, U.S.A., 18th December, 1906; 6 years. Filed 15th November, 1906. Receipt No. 141,218.
Claim.-1. A bottle closure comprising two dises and means for holding them at a distance from each other, the disc being separated from each other at their edge whereby a marginal space is afforded when the closure is in position.
2. A bottle closure comprising two dises of different diameters, and means for holding them at a distance from rach other and affording a space between them, said means comprising a disc of the same shape as the first-mentioned discs, but of smaller diameter.
2. A bottle closure comprising a disc adapted to enter the mouth of a bottle and a shect secured to the disc at a distanco from the latter and adapted to cover the mouth of tho bottle.
4. A bottle closure comprising a disc adapted to enter the mouth of the bottle, a shect seoured to the disc at a distance from the latter and adapted to cover the mouth of tho bottle, and a third dise between the first two and of a smaller diameter than either.
\(\therefore\). A closure for spen-mouthed receptacles comprising a shieet adapted to project over the mouth of a receptacle, and a disc of smaller diameter than the sheet separated from the latter to provide a space therebetween, and adaptto enter the mouth of the receptacle.
6. A milk bottle closure comprising a pair of discs, one located above the other, the upper one being of larger diameter than the lower, a third disc located between the other two and of smaller diameter than either, and a strip of flexiblo material secured to the bottom of the lower disc: and adapted to project beyond the upper disc.
7. A bottle closure comprising two dises suitably connected and free of each other at their edpes.
8. A bottle closure comprising two dises having separate and free edges, and means for holding said edges at a distanca from each other.
9. A bottle closure comprising two discs centrally connerted and the edges thereof heing free and separable.
10. A bottle closure comprising two substantially parallel dises of different diameters and means for holding the edges thercof at a distance from earh other.
11. A closure for milk bottles comprising two individual parts connected together. one of said parts fitting into the neck of the bottle and the other over the mouth of the hottle.
12. A bottle closure comprising a disc adanted to enter the mouth of the bottle and a disc adapted to cover sald mouth. said discs being connected substantiolly at their central portions onls.
15. A closure for open-mouthed receptacles comprising a shent adapted to project over and cover the mouth of a receptacle and a disc of smaller diameter than the sheet adapted to enter the mouth of the receptarle. sald dise and shect being sultably connected together and separated from rach other at their edges.
14. A closure for bottles having an annular groove or reress in its neck portion. which comprises two circular parts suitably connected together. one of which parts has its edge portion fitting in said annular groove or recess and the other of which projects over the mouth of the bottle and serves as a hand hold for removing the closure from the bottle.

No. 102,700. Bottle. Bouteille.


Robert Pitt. Pinetops, North Carolina, U.S.A., 18th December, 1906; 6 years. Filed 8 th October, 1906. Receipt No. 140,151.
Claim.-1. In a bottle or similar receptacle of the class described the combination of a body section formed with a plurality of separate compartments, an outlet section provided with a central passage and also with a laterally extending outlet passage communicating therewith, a rod pivotally connecting the two sections to admit of the outlet passage being turned into registry with any one of the before-mentioned separate compartments in the body section. the said rod being disnosed in alignment with the before-mentioned central passage in the outlet section and being serewed into the body section, the head of the rod engaging with the bottom of the central passage so as to be readily accessible through the same.
2. In a bottle or similar receptacle of the class described the combination of a body section formed with a plurality of separate compartments, an outlet section provided with a central passage and also with a laterally extending outlet passage communicating therewith, a washer interposed be-
tween the two members and provided with an opening adapted to register with the before-mentioned outlet passage, and a rod pivotally connecting the two sections and admitting of the outlet passage being turned into registry with any one of the separate compartments in the body section, the said rod being disposing in alignment with the before-mentioned central opening in the outlet section and being screwed into the body section, the head of the rod engaging with the bottom of the central passage and being readily accessible therethrough.
3. In a bottle or similar receptacle of the class described the combination of a body section. a plurality of separate receptacles fitting removably within the body section. and an outlet section loosely connected to the body section and provided with an outlet passage. the said outlet section being movable to enable the outiet passage therein to be drawn into communication with any one of the beforementioned removable receptacles within the body sertion.
4. In a bottle or similar recentacle of the class described the combination of a body section. a nlurality of senarate receptacles arranged therein. an annular ring surrounding the separate receptacles and holding them against movement within the body section, and an outlet section annlied to the body section and provided with an outlet nassage. the sald outlet section heing adjustable th throw the outlet passage into registry with a selected one of the brforementioned receptacles.

No. 102,701. Engine and Air Compressor.
Moteur et machine \(d\) compression pour l'air.


Daniel Schiffbauer, Stauffer, Pennsylvania, U.S.A., 18 th December, 1906; 6 years. Filed 24th April, 1906. Receipt No. 135,221.
Claim.-1. In a comblned engine and air compressor, in combination with an engine cylinder having an inwardly extending cylinder at one end, a piston operating in the engine cylinder and having a piston rod, cylinders in the engine cylinder sceured to the niston rod movable with the piston, and having slldable telescopic connections with the firstnamed interior cylinders, a valve to admit aid to the telescopically disposed cylinder, and an air duct leading from said telescopically disposed cylinders, and having a valve, substantially as described.
2. In a combined engine and air compressor the combinalion with the cylinder, of a piston rod slidably mounted therein, a piston fixed on said rod, a pumping mechanism arranged in said cylinder, sald pumping mechanism consisting of a pair of hollow telescoping cylinders arranged on each side of said piston, one member of each of said pairs of cylinders being secured to the inner wall of ons of the cylinder heads and the other member of each of said pairs being secured to the piston rods adjacent to each side of said platon whereby when said piston rod is reciprocated said pairs of cyllnders wil be alternately opened and closed thereby pumping air to a suitable storage receptacle or reservoir, a valved inlet pipe, and a valved discharge pipe arranged in each head of said cylinder whereby the admission and discharge of air to and from said pumping cylinders will be automatically controlled, substantially as described.
3. In a comblned engine and air compressor the combination with the cylinder, of a plston rod slidably mounted therein, a piston fixed on said rod, a pumping mcehanism consisting of a pair of hollow telescoping cylinders arranged on each side of said piston, one member of each of said pairs of cyilinders being secured to the inner wall of one of the cylinder heads and the other member of each of said pairs
being secured to the piston rod adjacent to each side of said piston whereby when said piston rod is receprocated said pairs of cylinders will be alternately opened and closed thereby pumping air to a suitable storage receptacle or reservoir, a valved inlet pipe, and a valve discharge pipe arranged in each head of said cylinder whereby the admission and discharge of air to and from said pumping cylinders will be automatically controlled, an air conduit connecting said discharge pipes and a manually operated cut-off valve arranged in said conduit whereby the air may be held in said cylinders, substantially as and for the purposes described.
No. 102,702. Troliey. Trolle.


John Henry Walker, Lexington, Kentucky, U.S.A., 18th December, 1906; 6 years Filed 26th March, 1906. Receipt No. 134,293.
Clain.-1. The combination substantially as herein described, of the harp having the upper prongs provided with the inwardly projecting stiffening flanges, and the lower prongs inclining inwardly toward each other, below the upper prongs, the conduit leads held at their upper ends to the harp and extending thence downwardly and fitting agains the inner sides of the upper prongs beneath the stiffening flanges and merging at their lower ends in a terminal rest ing upon the lower prongs, the sald conduit leads being provided at their upper ends with bosses fitting within openings in the harp, and provided in their inner faces with recesses, the wheel and its shaft and rockers fitting on the shaft and within the recesses in the conduit leads, the abutting faces of the rockers and the base walls of said recesses being concavo-convex, all substantially as and for the purposes set forth.
2. The combination with the harp, the trolley wheel and its shaft, of rockers on the shaft and forming bearings between the harp and the wheel, substantially as set forth.
3. The combination with the harp. the trolley wheel and its shaft supported in the harp, of rockers on the shaft between the wheel and the harp, concavo-convex bearings being provided between the rocker and the harp, substantially as set forth.
4. The combination of the harp. the wheel. its shaft, the washers fitting against the ends of the wheel hub, and the rockers interposed between said washers and the harp, substantially as set forth.
5. The combination with the harp, the wheel, its shaft, and the rockers on the shaft, of the washers between the rockers and the wheel, and provided with projecting lugs interlocking with the harp, whereby to prevent the turning of the washers, substantially as set forth.
6. The combination of the harp, the conduit leads having bosses held to the harp, and provided with bearings for the wheel shaft, and the wheel and its shaft, substantially as set forth.
7. The combination of the harp provided with apertures. the conduit leads having bosses fitting and held in said aper tures and provided in their inner faces with recesses, the base walls of which are provided with openings for a shaft, the wheel having its shaft fitting in said openings, the wash© rs abutting against the ends of the wheel, and the rockers in the said recesses and bearing between the base walls thereof and the sald washers, substantially as set forth.
8. The combination of the harp having the upper prongs provided with inwardly projecting stifiening flanges, and with the lower prongs extending below said upper prongs, the conduit leads held at their upper ends to the harp and extending downwardly beneath the stiffening flanges of the upper prongs, and provided at their lower ends with the terminal supported upon the lower prongs, gubstantinity set forth.
9. The combination of the harp having upper and lower prongs, and the conduit leads extending alqng side the upper prongs and braced against upward movement by said upper prongs and aga nst downward movement by the lower prongs, substantially as set forth.
10. A trolley harp having upper and lower prongs and condult leads extending beneath the lower and upper prongs, the upper prongs having portions overlying the conduit leads, and the lower prongs having portions underconduit leads, and the lower prongs having port
lying the said leads, substantially as set forth.
11. The combination of the harp having the upper prongs provided with the inwardly projecting stiffening fianges, and the lower prongc inclining inwardly toward their lower ends below the said upper prongs, and the conduit leads extending along side the upper prong and bearing beneath the stiffening flanges and provided at their lower ends with the terminal resting upon the lower prongs.
12. The combination of the harp having opposite apertures, the conduit leads having bosses intting in the opposite apertures, and provided in the inner faces of said bosses with recesses, the rockers fitting in said recesses, tho wheel, its shaft held in the said bosses of the leads, and extending through the rockers, and the washers bearing between the rockers and the wheel hub.
13. The combination with the harp having openings and the conduit leads having bosses fitting in said openings, and tho wheel and its shaft supported in said bosses, of means on the harp for preventing upward and downward movement of the leads, whereby to prevent any rotation of the bosses within the openings in the harp.
14. The combination of the pole, the harp having a shank fitting within the upper end of the pole, a reinforce band fitting around the upper end of the pole, and a screw for securing said band on the pole, and the harp shank within the pole.
15. The combination of the pole. the harp having upper and lower prongs and a shank fitting within the upper end of the pole, the reinforce band fitting over the pole and having means engaging with the lower end of the harp, and devices for securing the sald reinforce band.

\section*{No. 102,703. Bathometer. Instrument de sondage.}


Eben S. Wheeler, Detroit, Michigan, U.S.A., 18 th December, 1906; 6 years. Filed 1st October, 1906. Receipt No. 139,933.
Claim.-1. In a bathometer in combination with an openended tube, a flexible tubular guard terminal thereto, a check valve at the junction of the tube and guard, and means for supplying air to said tube, substantially as described.
2. In a bathometer in combination with an air containing tube, an indicator connected thereto at the upper end, means for furnishing a continuous supply of alr under pressure to the tube at its upper end, means for preventing an inflow of water into said tube at its lower end, a flexible tubular guard extending said tube below the means for preventing an inflow of water, substantially as described.
2. In a bathometer in combination with a tube, means for supplying air under pressure to the upper end of said tube, means whereby the air may escape from the lower end of said tube, a check valve opening outwardly to prevent water frim entering said tube at its lower end, and a guard of flexible material extending beyond the check valve, substantially as described.
4. In combination with a bathometer tube, an armor for the lower end thereof, consisting of short pleces of tubular material threaded on said tube, substantially as described.
5. In a bathometer in combination with a tube provided With means for the introduction of air thereinto at one end and for the escape of air therefrom at the other end, a flexible terminal guarding the escape end of said tube, means to prevent the entrance of water into said tube, said means being located at the junction of the flexlble terminal and the main tube, and an indicator adapted to indicate the pressure of air in said tube, substantially as described.

No. 102,704. Massage Vibrator.
Vibrateur pour massage.


Edmund Hugh Pryce and De Witt Clinton Conkling, Hoboken, New Jersey, U.S.A., 25th December, 1906; 6 years. Filed 30th August, 1906. Receipt No. 139,094.
Claim.-1. A duplex massage vibrator consisting of the combination of a pair of magnets, an armature common thereto, a circuit interrupter vibratory with said armature for closing and breaking the circuits of said magnets alternately, and massage cushions actuated by sald armature.
2. A duplex massage vibrator consisting of the combination of a casing, a magnet attached to one side thereof and located inside thereof, a second magnet in said casing and having its poies facing those of the first magnet, a vibratory armature between the magnets for being attracted first to the one and then to the other magnet, a flexible interrupter, a post on the armature attached to said interrupter, a terminal in the path of said interrupter and connecting with one magnet, a second terminal on the other side of said interrupter from the first-named terminal and also in the path of said interrupter and connecting with the other magnet, a handle for the massage vibrator, a push button thereon, and in a normally open circuit with both magnets, and massage cushions actuated by said armature.
3. In a duplex, massage vibrator the combination of an armature, magnets for vibrating the same, rods extending laterally of said armature, a percussion cushion for being attached to said rods, and means by which a friction cushion may be attached to the reciprocating end of said armature.
4. In a duplex massage vibrator the combination of \(a\) cushion. a magnet for causing it to move one way, and another magnet for causing it to move the other way.
5. In a duplex massage vibrator the combination of magnets facing each other, a vibratory armature between the same and vibrated thereby, and a massage cushion carried by said armature.
6. The combination of a bowl, a diaphragm therein, to act as a pneumatic massage cushion, and an electro-magnetic device for causing said diaphragm to pulsate, to produce alternate suctions and pressures upon any part of the human body.
7. In a duplex massage vibrator the combination of an armature vibratory about one end of itself, magnets having plane poles facing opposite sides of said armature, the plane surfaces of sald magnets radiating from about the same center of vibration as that of the armature for ensuring actual contact of the armature with said doles when attracted by the respective magnets, means for causing said magnets to alternately attract said armature, and massage cushions actuated by said armature.
8. In a duplex massage vibrator the combination of a vibratory armature, a rod passing through the same, a pin holding said rod fast to said armature, and massage cushions attachable to the outer ends of said rod.

\section*{No. 102,705. Gas Chandelier. Chandelier à gaz.}

William E. Cotton and Levi C. Moore, co-inventors, both of Kansas City, Missouri, U.S.A., 25th December, 1906; 6 years. Filed 29th August, 1906. Receipt No. 139,067.
Claim.-1. In an extension gas chandelier the combination of an outer fixed pipe having an internal annular shoulder near its lower end, an inner pipe slidably fitted in the outer pipe and having an external annular shoulder extending to the wall of the outer pipe, a cushion on the internal annular shoulder of the inner pipe arranged to receive the impact of the external shoulder on the inner pipe, a longitudinally
movable cup mounted on the end of the outer pipe and encircling the inner pipe, means for moving said cup longi-

tudinally of the pipes, and an elastic ring inclosed within said cup bearing against the end of the outer pipe and arranged to frictionally embrace the inner pipe and hold the two pipes in their relative adjustment.
2. A pair of pipes fitting telescopically together, a cup fitting upon and having a sliding relation with the inner one and longitudinally adjustable on one end of the outer one, a combined gasket and clamp ring fitting between the cup, and the outer pipe and externally embracing the inner pipe, a lever suitably supported to prevent downward movement of the cup, and means for imparting vertical movement to said lever to press the cup upward or leave it free to move downward.
3. An extension gas chandeller, comprising a pair of pipes fitting telescopically together, a cup adjustable longitudinally of the outer pipe, a combined gasket and clamp ring fitting between the cup and the outer pipe and externally embracing the inner pipe, a lever supported from the outer pipe and pivotally movable only and having one end underlying the cup and its opposite end provided with a threaded passage, a rod having threads engaging said threaded passage, and means rigid with said outer pipe affording a bearing for the upper end of said rod.

\section*{wo. 102,706. Rotary Steam Engine. \\ Machine rotative d vapcur.}


Joseph Hilaire Daniel Beaucage, Pittsfield, Massachusetts, U.S.A., 25th December, 1906; 6 years. Filed 31st October, 1906. Recelpt No. 140,800 .

Claim.-1. In a reversible rotary steam engine, an engine body having a cylindrical working chamber, and having outwardly therefrom and within such body an interminately located cylindrical inlet valve bore, cylindrical cut-off-valve bores separated from and at opposite sldes of the inlet valve bore, and oppositely located exhaust valve bores separated from the cut-off valve bores, and further from the inlet valve bore, all said bores being in axial parallelism with the working cylindrical chamber, and said engine body having an inlet opening leading to the inlet valve bore, a pair of oppositely located steam ways leading from such bore to the cut-off valve bores, and ways leading from the latter bores into the working chamber at opposite sides of its median line, such ways having branched passages leading to the exhaust valve bores, and exhaust outlets leading from the exhaust valve bores, a cylindrical rotatable body mounted within the working chamber and having a main shaft as
part thereof. wings or blades carried by, and radially exlended from. said body and edgewise bearing against the working chamber wall, a roversible cylindrical inlet valve. rotary cut-off valves, and roversible exhaust valves fitted for their movements in the respective bores therefor, and moans for imparting continuous rotary motions to said cut"fi values.
\(\therefore\). In a reversible rotary steam engine, an engine body having a cylindrical working chamber, and having outwardly therefrom an intermediately located cylindrical inlet valve bore. cylindrical cut-off valve bores separated from and at opposito sides of the inlet valve bore, and oppositely located exhaust valve bores separated from the cutoff valve bores and further from the inlet valve bore. all said bores being in axial parallelism with the working cylindrical rhamber, and said engine body having an inlet opening leading to the inlet valve bore. a pair of oppositely locater steam ways leading from such bore to the cut-off valv, bores. ways leading from the latter bores into the working chamber at onposite sides of its median line. such ways having branched passages leading to the exhaust valve bores, and cxhaust outlets leading from the exhaust valvo bores, and cylindrical rotatable body eccentrically mountrd within the working chamber, peripherally in contact with one side of the chamber wall, having outwardly opening blade pockets. and having a main shaft as part thercot. blades carried by said body inwardly and outwardly movable in the nockets therein, and springs having outwardly forcing actions against said blades, a rotatively reversible cylindrical inlet valve, rotary cut-off valves, and rotatively reversiblo exhaust valves, fitted for their movements in the respectivo bores therefor, and means for imparting rotary motions to said cut-off valve.
3. In a reversible rotary steam engine, an engine body having a cylindrical working chamber, and having outwardly therefrom an intermediately located cylindrical inlet valvo bore, cylindrical cut-off valve bores separated from and at opposite sides of the inlet valve bore. and oppositely loratel exhaust valve bores separated from the cut-off ralvo bores, and further from the inlet valve bore, all said bores being in axial parallelism with the working cylindrical chamber, and said engine body having an inlet opening Irading to the inlet valve bore, a pair of oppositely located steam ways leading from such bore to the cut-off valve bores, ways leading from the latter bores into the working "hamber at opposite sides of its median line, such ways having branched passages leading to the exhaust valve bores, and exhaust passages leading from the exhaust valve bores, a cylindrical rotatable body mounted within the working: chamber and having the engine shaft as part thereof. wings or blades carried by, and radially extended from. said body and edgewise bearing against the working 'hamber wall, a reversible cylindrical inlet valve, rotary rut-off valves, and reversible exhaust valves fitted for their movements in the respective bores therefor, said inlet and rut-off valves having reversed or slabbed formations at their opposite sides, and said exhaust valves recessed or slabbed formations at one side only, a gear wheel on the ringino shaft, and gear wheels on the cut-off valves with which tho first-named gear is in mesh.
4. In a reversible rotary steam engine, an engine body having a cylindrical working chamber, and having outwardly therefrom an intermediately located cylindrical inlet valve bore, cylindrical cut-off valve bores separated from and at opposite sides of the inlet valve bore, and oppositely located exhaust valve bores separated from the cut-off valvo bores, and further from the inlet valve bore, all said bores being in axial parallelism with the working cylindrical chamber, and said engine body having an inlet opening leading to the inlet valve, bore, a pair of oppositely located steam ways leading from such bore to the cut-off valve bores, and ways leading from the latter bores into the working chamber at opposite sides of its median line, such ways having branched passages leading to the exhaust valvo bores, and exhaust outlets leading from the exhaust valvo bores, a cylindrical rotatable body mounted within the working chamber and having a main shaft as part thereoi, wings or blades carried by, and radially extended from said body and edgewise bearing against the working chamber wall, a reversible cylindrical inlet valve. rotary cut-off valves, and reversible exhaust valves fitted for their movements in the respective bores therefor. a lever having a handle connected to the inlet valve, levers connected to the exhaust valves, links connecting said exhaust valre levers with the inlet valve lever, and means for imparting continuous rotary movements to the cut-off valves.
5. In a reversible rotary steam enginc, an engine body having a cylindrical working chamber. and having outwardly therefrom an intermediately located cylindrical inlet valve bore, cylindrical cut-off valve bores separated from and at opposite sides of the inlet valve bore, and oppo-
sitely located exhaust valve bores separated from the cutoff valve bores, and further from the inlet valve bore, all said bores being in axial perallelism with the working cylindrical chamber, and said engine body having an inlet opening leading to the inlet valve bore, a pair of oppositely located steam ways leading from such bore to the cut-off valve bores, and ways leading from the latter bores into the working chamber at opposite sides of its median line, such ways having branched passages leading to the exhaust valvo bores, and exhaust outlets leading from the exhaust valve bores, a cylindrical rotatable body mounted within tho working chamber and having a main shaft as part thereot, wings or blades carried by, and radially extended therefrom, said body and edgewise bearing against the working chamber wall. a revedsible cylindrical inlet valve, rotary cut-off valves. and reversible exhaust valves fitted for their movements in the respective bores therefor, a lever having a handle, connected to the inlet valve, levers connected to the exhahst valves having a pointer, links connecting said exhaust valve levers with the inlet valve lever, reversely pointing motion indicating arrows on the face of the engine body adjacent the inlet valve and in relation to either of which said pointer may be positioned and means for imparting continuous rotary movements to the cut-off valves.
6. In a reversible rotary steam engine, an engine body having a cylindrical working chamber, having thereabove a steam chamber and therebelow an exhaust way, a passage leading from the top of the body to said steam chamber, an intermediately located cylindrical inlet valve bore below the steam chamber, cylindrical cut-off valve bores separated from and at opposite sides of the inlet valve bore, and oppositely located exhaust valve bores separated from the cutoff valve bores, and further from the inlet valve bore, all said bores being in axial parallelism with the working cylindrical chamber, and said body having an opening leading vertically from the stcam chamber to the inlet valve bore, a pair of oppositely located steam ways leading from such bore to the cut-off valve bores, and T-shaped ways connecting the latter bores with the working chamber and connecting the latter chamber with the exhaust valve bores, and having curved exhaust outlets leading within the engine body from the exhaust valve bores, downwardly and towards each other and connecting with said exhaust way, a cylindrical rotatable body mounted within the working chamber and having a main shaft as part thereof, wings or blades carried by and radially extended from said body and edgewise bearing against the working chamber wall, a reversible cylindrical inlet valve, rotary cut-off valves, and reversible exhaust valves fitted for their movements in the respective bores therefor. a gear wheel on the engine shaft and gear wheels in mesh therewith on the cut-off valves, a lever connected to the inlet valve, levers connected to the oppositely located exhaust valves, and links connecting said exhaust valve levers with the inlet valves.

No. 102,707. Burial Casket. Cercucil.


Albert Belair, Ahuntsic, Quebec, Canada. 25th December, 1906; 6 years. Filed 27th November, 1906. Receipt No. 141,581.
Claim.-1. In a device of the character described, a casket in combination with an insertible tray, and a grill disposed in the tray.
2. In a device of the character described, a casket in combination with an insertible tray, a removable grill disposed in the tray, and a body of absorbent matter disposed under the grill.
3. In a device of the character described, a casket having a removable end wall, in combination with an insertible tray and a grill disposed in the tray.
4. In a device of the character described, a casket, an insertible tray disposed in the casket, a removable grill disposed in the tray, a body of absorbent matter disposed under the grill, and said casket being provided with a removable end wall to permit the removal of the tray.

No. 102,708. Denture. Denture.

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Robert Meade Craig, Dennison, Ohio, U.S.A., 25th December, 1906; 6 years. Filed 25th August, 1906. Receipt No. 138,986.
Claim.-1. A denture comprising a porcelain having its posterior portion formed into a dove-tail, a backing having a recess shaped to fit the dove-tail, and a locking device for tho backing.
:. In a denture, a porcelain having its body portion dovetail in cross section, being widest at the rear, forming thereby occlusal edges and occlusal surfaces, a backing also anteriorly dove-tall in cross section, which backing fits close to the said occlusal surfaces and against said occlusal edges, and a locking device for the backing.
s. In a denture, a porcelain provided with a posterior portion dove-tail in cross section, the anterior portion of the said porcelain extending beyond the side faces of the posterior portion of the procelain, one of said side faces having a recess therein, and a backing dove-tail in cross section, which backing conforms strictly to the contour of the posterior portion of the porcelain and adheres closely thereto, the side members of the said backing engaging with the shoulders formed by the extension of the anterior portion of the porcelain beyond the sides of its posterior portion, one of the side members of the backing having an opening therein adapted to register with the recess in the porcelain, and a key passed through said opening into said recess.

No. 102,709. Dental Expander or Dilator.
Dilatateur dental.


Cleveland G. Davis, Manistee, Michigan, U.S.A., 25th December. 1906; 6 years. Filed 20th August, 1906. Recelpt. No. 138,835 .
Claim.-1. The combination with the expansible bow, of the tepth or gums engaging hooks pivoted to the ends of the bows, and rubber tubing covering the hooks.
2. The combination with the expansible bow, of the teeth or gums engaging hooks pivoted on the free ends of the bow and a lip rest and dilator frictionally engaging the base of the hooks.
3. The combination with an expansible bow, of hooks pivoted on the free ends of the bows and consisting of an angular base plate having two upturned ends, the horizontal part of the base plate being piroted to the ends of the bows.
4. A lip dilator and support consisting of a crossbar spoon-like lip support extending from each side theroof, and legs and a plate depending from sald crossbar.
5. The combination with the expansible and contractible bows and screw for controlling the same, of tecth hooks pivoted on the ends of the bows, said hooks consisting of an angular plate with two upturned ends, the horizontal part of the angular hook plate being on the ends of the hows.

\section*{No. 102,710. Insulating Compound.}

Compose isolant.
Robert L. Johnston, Glenridge, New Jersey, U.S.A., 25th December. 1:06; 6 years. Filed 29th October, 1906. Receipt , vo. \(140, \mathrm{i}: 39\).
Claim.-1. A permanently pliable and adhesive compound consisting of gutta percha. resin and a waxy substance having a relatively high melting point.
2. A permamently pliable adhesive compound consisting of gutta percha, resin and a vegetable wax having a relatively high melting point.
3. A permanently pliable adhesive compound consisting of gutta percha, resin and carnatuba wax.
No. 102,711. Advertising, Envelope.
Enveloppe-réclame.


Joshua Rudd Ritchic. Philadelphia, Pennsylvania, U.S.A., 25 th December, \(1: 06\); 6 years. Filed 21st July, 1906. Receipt No. 138,052.
Claim.-1. An envelope having on the front face therenf on an integral section thereof, a primarily concealed advertisement normally facing the interior of the envelope, said section being adapted to be released and render the advertisement visible, and means on the exposed face of said section directing attention to the back of the same, whereon said advertisement is concealed.
2. A commercial envelope having on the front face thereof, a section surrounded by perforations for release from the remaining intact portion, a primarily concealed advertisement on the back of said section, a notice on the exposed face of sald section directing attention to said back and a recess adjacent to sald perforations for the insertion of an implement to the latter whereby the envelope may be opened and sald section released.
3. A commercial envelope having on the front face thereof, a section surrounded by weakened lines for releasing from the remaining intact portion, a primarily concealed advertiscment on the back of sald section, a notice on the exposed face of said section directing attention to said back and a recess adjustment to either line for the insertion of an implement to reach the latter, wheriby sald section may be severed or releasid.
4. A commercial envelope having on the front face thereof, a section surrounded by means for releasing it from the remaining intact portion, a primarlly concealed advertisement on the back of said section, a notice on the exposed face of sald section directing attention to sald back, said means extunding a portion of the length of the envelope which they occupy, the corners of sald section being in normal condition solldly connecting said section with the adjacent intact portions.
i. A commercial envelope having on the front face thercof. a suction surrounded by means for releasing it from the remaining intact portion, a primarily concealed adveriisement on the back of said section, a notice on the exposed face of suid section dirceting attention to sald back, sald means ज. nd ndiug a portion of the length of the envilope which they woupy, the curnirs of said section heing in normal condilom solidly connecting sald section with the adjarent intart poritons, and a recess in the envelope adjacent to said weans for the Insertion and guidance of an Implement.

No. 102,712. Lamp Lishter and Dixtingiaher. Allumour et extincteur de lampes.


George Robson, Sydney. New South Wales. Australla, z:! December, 1906; 6 years. Filed 22nd August. 1906. Ke. celpt No. 13S.913.
Claim.-1. A device for lighting and extingulshing from a distance strcet and other sas lights charactarizid by an outir casing, a gas chamber in communfeation with gas \(61 ;\) ply covered by a bell with mercury seal, sald bell toring adapted to rise and fall by the variation of prissure with. the chamber and having attached thereto a hanging \(1, i\) which engages and oscillates a balanced beam carrylar, pair of small bells which overlie the gas outlets to the buraers, so as to alternately control the supply of gas ther. : 0 . substantially as described and illustrated in the drawicas
2. In a device for lighting and extinguisaing from a d:s. tance street and other gas lights the combination of a mo:-r bell adapted to rise and fall with the variation of pressis: in the gas main with a balance oscillating beam carry ins a pair of small bells which alternately concrol the gas strpiy to the burners, substantially as described and as lllusiraid. in the drawings.
3. A device for lighting and extinguishing from a dis:ann street and other gas lights having an outer casing. a \(g\) is chamber with cover adapted to rise and fall, a pair of < 1 . outlets with mercury scals, a pair of small bells suspende. from a balanced oscillating honm and overlying said mireiry seals and a link attached to the gas chamber cover for thpurpose of oscillating the beam.
4. In a device for lighting and extingnishing from a distance street and other gas lights, a balanced oscillating bean carrying a pair of small bells which are alternately immersed In the mercury seals surrounding the gas outle'e and resained in the immersed position by the pressure within the ras chamber for the purpose and substantially as described and illustrated in the drawings.

\section*{No. 102,713. Carton Making Machine.}

Machine d fabriquer le carton.


Edward A. L. Roohl, Minneapolis, Minuesuta U December, 1906; 6 years. Filedifih S. ptu:nber, 1908 . R-. ceipt No. 139,566 .
Claim.-1. In a carton making machine the comblast iz with a sultable frame, of belt wherls munntid upon asd ri.
voluble in the said frame, a belt running upon the said belt wheels, a deflecting wheel the periphery of which impinges and deflects the said belt, a pressure wheel journalled in the said frame and underlying the said deflecting wheel, a movable carriage having a head block thereon against which the carton blanks are delivered by the said belt wheels, belt and deflecting wheel, bending cam wheels journalled in the said frame and on opposite sides of the said head block, said bending cam wheels rotating in opposition to the said pressure wheel and folding cam wheels journalled in the said frame and rotating at right angles to the said pressure wheel and the said bending cam wheels, substantially as shown and described.
2. In a carton making machine bending, folding and pressing mechanism comprising a shaft jourvalled in the frame thereof, said shaft having reversely faced bevelled gear wheels mounted thereon, a pressure wheel mounted upon and revoluble with the said shaft, parallel shafts journalled in the said frame at a right angle to the first-named shaft carrying the pressure wheel, said shafts having reversely faced bevelled gear wheels mounted thereon, the teeth of one pair of which engage those of the first-named bevelled gear wheels, folding cam wheels mounted upon the said shafts between the said bevelled gear wheels, a pair of shafts journalled in the said frame parallel with the first-named shaft carrying the pressure wheel and at right angles to the last-named shafts carrying the folding cam wheels, and in longitudinal alignment one with the other, said shafts being respectively provided with bevelled gear wheels the teeth of which engage those of the bevelled gear wheels of the parallel shafts carrying the folding cam wheels, bending cam wheels mounted upon the said aligned shafts, and a carriage longitudinally movable withIn the said frame and between the oppositely faced ends of the said aligned shafts in which the bent and folded cartons are pressed, substantially as shown and described.

No. 102,714. Heat Diffuser for Steam Boiler. Répartisseur de chaleur pour chaudière d vapeur.


Alfred Smallwood, London, England, 25th December, 1906, 6 years. Filed 13th February, 1906. Receipt No. 132,882.
Claim.-1. A means for generating and diffusing heat in connection with steam boilers comprising a furnace tube, a furnace formed within and adjolning the front end thereof, an inner tube of mineral material capable of becoming incandescent centrally located within the furnace tube, supporting divisions to maintain the inner tube correctly positioned within the furnace tube and to form the space between he inner and furnace tubes into separate flues, means for passage of the gases from the inner tube at the opposite end thereof to the furnace into one of said flues, and other means for the passage of the gases from said flues into the other flue or flues at the opposite end thereof to the firstmentioned means.
2. A means for generating and diffusing heat in connection with stcam boilers comprising a furnace tube, a furnace formed within and adjoining the front end thereof, an inner tube of mineral capable of bccoming incandescent centrally located within the furnace tube, supporting divisions to maintain the inner tube correctly positioned within the furnace tube and to form the space belween the inner and furnace tubes into separate flues, means ior the passage of the gasses from the inner tube at the opposite end thereof to the furnace into one of said flues, other means for the passage of the gases from said flue into the other flue or flues at the opposite end thereof to the first-mentioned means, and a metallic casing inclosing the inner tube and having dovetails formed on its inner face to enter dovetail grooves in the outer face of the inner tube.
3 A means for generating and diffusing heat in connection with steam boilers comprising a furnace tube, a furnace formed within and adjoining the front end thereof, an inner tube of mineral material capable of becoming incandescent centrally located within the furnace tube, supporting divisions to maintain the inner tube correctly positioned within the furnace tube and to form the space between the inner and furnace tubes into separate flues, means for the passage
of the gases from the inner tube at the opposite end thereof to the furnace Into one of said flues, other means for the passage of the gases from said flue into the other flue or flues at the opposite end thereof to the first-mentioned means, and a boller inclosing the furnace tube.
4. A means for generating and oiffusing heat in connection with steam boilers comprising a furnace tube, a furnace formed with in and adjoining the front and thereof, an inner tube of mineral material capable of becoming incandescent centrally located within the furnace tube, supporting divisions to maintain the inner tube correctly poitioned within the furnace tube and to form the space between the inner and furnace tube into separate flues, means for the passage of the gases from the inner tube at the opposite end thereof to the furnace into one of said flues, other means for the passage of the gases from said flue into the other flue or flues at the opposite end therevf to the first-mentioned means, a metallic casing inclosing the inner tube and having dovetails formed on its inner face to enter dovetail grooves in the outer face of the inner tube, and a boller enclosing the furnace tube.

No. 102,715. Picture Slide for Stereopticons.
Chissis d glissière pour photographtes stéróoscoptques.


Arthur K. Wait, Roanoke, Virginia, U.S.A., 25th December, 1906; 6 years. Filed 27th August, 1906. Receipt No. 139,000.
Claim.-1. In an apparatus of the class described the combination of a rotary carrier having radial guideways provided with open outer ends for the reception of picture slides, a guard embracing the open outer ends of the guideways to retain the picture slides therein and provided with an opening with which the guideways are adapted to successively register for the outward movement of the slide through the opening, an annular series of ratchet teeth for the carrier, a lever having a dog associated with the ratchet teeth, a swinging arm carrying a crosshead aligned with the opening in the guard and working towards and away from the same, and a rotary shaft have a plurality of cams adapted to engage and operate the lever and the arm.
2. The combination with a stereopticon, of a rotary picture slide carrier mounted above the stereopticon and provided with radial guideways open at their outer ends for the reception of picture slides, said carrier having ratchet teeth, a guard embracing the lower side of the carrier to retain the picture slides in the guideways and having an opening in alignment with the picture slide guide of the stereopticon and with which the guideways are adapted to successively register for the discharge of the picture slides, a plicture slide support working in the picture gulde of the stereopticon, pivotal arms mounted at opposite sides of the stereopticon and connected to the picture slide support, a lever having a dog to engage the teeth of the picture carrier, and a shaft having a crank handle at one end and a plurality of cams adapted to engage the pivotal arms and the lever at different times for operating the same.
8. The combination of a stereopticon having a vertical slot adjacent the forward end thereof, a rotary picture slide carrier mounted above the stereopticon and provided with radial grooves, said carrier having ratchet teeth, a pair of parallel pivotal arms extending along opposite sides of the stereopticon and having longitudinal slots in their forward ends, a crosshead extending through the vertical slot in the stercopticon and having trunnions engaging the longitudinal slots of the pivotal arms, uprights for supporting the pivotal arms, an independent lever having a dog to engage the ratchet teeth of the rotary picture carrier, an upright for supporting said independent lever, a shaft supported adjacent the rear ends of the pivotal arms and independent lever, said shaft having a pair of cams for operating the pivotal arms, and a separate cam for operating the independent lever nnd a crank handle for said shaft.

No. 102,716. Gas Range. Fourneau d̀ gaz.


The Gurrey Foundry Company, assignee of William Cromwell Gurney, all of Toronto, Ontario, Canada, 25th December, 1906; 6 years. Filed 4th September, 1906. Receipt No. 139,1ss.
Claim.-1. A gas range or stove comprising a burner, an oven, a bottom for the oven opposed to the burner and a lining of refractory material interposed between the burner and oven bottom to be acted upon by the products of combustion from the burner flame and distribute the calories absarbed therefrom to the uven bottom.
2. A gas range or stove comprising a roasting oven, a burner therein, a cooking oven, a partition separating the roasting oven from the cooking oven, a non-fusible lining of refractory material interposed between the burner and the partition to be acted upon by the products of combustion from the burner flame and to absorb the calories therefrom and distribute them to the partition.
3. A gas range or stove comprising a roasting oven, a burner therein, a cooking oven, a partition separating the roasting oven from the cooking oven, a non-fusible lining of refractory material interposed between the burner and the partition to be acted upon by the products of combustion from the burner flame and to absorb the calories therefrom and distribute them to the partition, said partition and lining having an aperture therethrough and a cover to close said aperture having a lining of refractory material similar to the liuing of the partition.
4. A gas range or stove comprising a roasting oven, a burner therein, a cooking oven, a partition separatng the roastIng oven from the cooking oven, a lining of refractory material interposed between the burner and partition to be acted upon by the products of combustion from the burner flame and distribute the calories absorbed therefrom to the partition, and means to removably fasten the lining to the partition.
5. A gas range or stove comprising a roasting oven, a burner therein, a cooking oven, a partition separating the roasting oven from the cooking oven, a non-fusible lining of refractory material interposed between the burner and the partition to be acted upon by the products of combustion from the burner flame and to absorb the calories therefrom and radiate them to the partition, said partition and lining having an aperture therethrough, and a cover to close said aperture having a lining of refractory material similar to the lining of the partition, and means to removably fasten the linings to the partition cover.

No. 102,717. Vapour Lamp.
Lampc pour l’émission de vapeurs.


Landers, Frary and Clark, assignees of Alonzo Abner Warner, all of New Britain. Connecticut, U.S.A., 25th December, 1906; 6 years. Filed 20th August, 1906. Receipt No. 138,814.
Claim.-1. In a vapour lamp the combination of a lamp font with a fixed nut on the inside at the bottom of the said font,
the interior of the said nut communicating through fts lower end with the said font, a removable wick tube having a rolled thread at its lower end whereby the said lower end is both exteriorly and interiorly threaded, and a wick within the said tube bearing on the inward projections of the inner thread at the lower end of the said tube, leaving a sptral passage around the wick inside the lower end of the said passage around the wick inside the lower end of the said
tube for the fuid in the font to pass upwardly through from the lower end of ho said nut to the fluid level of the font.
2. In a vapour lamp the comblnation of a wick tube having jet nerforations at its upper end with a perforated ring mounted on the said tube below the said jet perforations for forming an annular wick chamber inside of the said ring and outside of the said wick tube, a priming wick within the sald chamber, and a shutter surrounding the wick tube and adapted to close over the said ring and jets.

\section*{No. 102,718. Mannfacture of Alnminium Hydroxide and Aluminater.}

\section*{Fabrication d'hydroxides d'aluminium et d'aluminate.}

Dr. Otto Dieffenbach, Griesheim-on-Main, Germany, 25th December, 1906; 6 years. Filed 5th July, 1906. Receipt No. 137,560.
Claim.-1. The process of manufacturing aluminium hydroxide and aluminates which consists in treating aluminiferous material with caustic alkali at atmospheric pressure and at a temperature from \(180^{\circ}\) to \(500^{\circ}\) centigrade, substantially as and for the purpose set forth.
2 The process of manufacturing aluminium hydroxide and aluminates which consists in treating the aluminiferous material with caustic alkall lye at atmospheric pressure and at a temperature of from \(180^{\circ}\) to \(500^{\circ}\) centigrade, substantially as and for the purpose set forth.
3. The process of manufacturing aluminium hydroxide and aluminates which consists in stirring aluminiferous material in a separate vessel and heating it at atmospheric pressure to a temperature from \(150^{\circ}\) to \(500^{\circ}\) centigrade and adding thereto alkali lye, as and for the purpose set forth.
4. The process of manufacturing aluminium hydroxide and aluminates which consists in stirring aluminiferous material in a separate vessel, heating it at atmospheric pressure to from \(180^{\circ}\) to \(500^{\circ}\) centigrade at atmospheric temperature, introducing into the stirred mass first as much caustic alkaline lye as will form with the aluminifersus material a stiff pulp, urging the fire until the temperature of the mass has again risen to \(180^{\circ}\) to \(500^{\circ}\) centigrade. adding then a further quantity of lye, urging again the fire and so on until the required amount of lye has been added when the contents of the vessel are further heated for some time, substantially as and for the purpose set forth.
5. The process of manufacturing aluminium hydroxide and aluminates which consists in treating aluminiferous material with caustic alkali at atmospheric pressure and at a temperature from \(180^{\circ}\) to \(500^{\circ}\) centigrade, lixiviating the melt, fltering and evaporating the aluminate lye, as and for the purpose set forth.
6. The process of manufacturing aluminium hydroxide which consists in treating aluminiferous material at atmospheric pressure and at a temperature from \(180^{\circ}\) to \(500^{\circ}\) centigrade, lixiviating the melt, fltering the aluminate lye and decomposing it by previously precipitated aluminium hydroxide, as and for the purpose set forth.

\section*{No. 102,719. Drier. Séchcur.}

The Vacumn Process Company, assignee of George Albert Cutter, Both of Boston, Massachusetts, U.S.A., 25th December, 1906; 6 years. Filed 12th June, 1906. Receipt No. 136,829.
Claim.-1. In a drying apparatus the combination with a series of drying surfaces, of feed rolls for carrying the web of material to be dried back and forth in a path adjacent to said surfaces, a feed member to engage the front portion of a web of material, and means for carrying said feed member through the machine in the path which the material is to follow in the operation.
2. In a drying apparatus the combination with a series of drying surfaces, of feed rolls for carrying the web of material to be dried back and forth in a path adjacent to said surfaces, a feed member to engage the front portion of a web of material, means for carrying said feed member through the machine in the path which the material is to follow in the operation. and means for varying the speed of movement of said feed member during its travel through the machine.
3. In a machine for drying a web of pulp the combination with a series of drying surfaces, of feed rolls to feed the material back and forth through the machine between adjacent surfaces, and means for varying the speed of different feed rolls to allow for shrinkage.
4. In a machine for drying pulp, a plurality of sections cach containing a plurality of stationary drying surfaces,

feed rolls located adjacent to the ends of said drying surfaces to feed the pulp back and forth over the same, separate driving mechanism for the feed rolls in the separate sections of the machine, and means for adjusting the speed of each driving mechanism independently of the others.
5. In a machine for drying pulp the combination with a series of drying surfaces, of feed rolls to carry the pulp back and forth over said surfaces, and a tension rolle to engage a loop of the pulp to compensate for the shrinkage thereof in drying.
6. In a machine for drying pulp the combination with a feeding member provided with driving chains at opposite sides of the machine, said feeding member being arranged to engage a web of pulp so as to carry a loop thereof, feed rolls arranged to act upon the pulp after it has been carried through the machine, and independent driving devices for said feed member and said feed rolls.
7. In a machine for drying pulp the combination with a series of stationary drying surfaces, of a feed member comprising a transverse bar arranged to engage a loop of pulp, means for causing said feed member to travel through the machine adjacent to the drying surfaces, and guides for said feed member adapted to engage each drying surface and hold the feed member out of contact therewith to prevent the loop of pulp on the feed member from being rubbed or chafed.
8. In a drying apparatus the combination with a series of drying surfaces, of feed rolls for carrying the material to be dried back and forth in a path adjacent to said surfaces, a feed member to engage a loop formed in the front portion of the material, means for carrying said feed member through the machine, and means for holding said feed member and the material thereon out of engagement with the drying surfaces.
9. In a drying apparatus the combination with a series of drying surfaces, of a feed member to engage the material to be dried and carry the same back and forth past said feed surfaces, and an endless chain to operate said member, substantially as described.
10. In a drying apparatus the combination with a series of drying surfaces, of feed rolls for carrying a web of materiap past said surfaces, a feeding device to engage the front edge of a web of material to carry the same over said feed rolls in starting the operation. and means for controlling the operation of said feeding device.

\section*{No. 102,720. Valve for Air Brakes.}

\section*{Valve pour frein a air comprimé.}

Thomas Behan. Alliquippa, Pennsylvania, U.S.A.. 25th December, 1906; 6 years. Filed 3rd December, 1906. Receipt No. \(141,765\).
Claim.-1. In a safety valve for air brakes the combination with a traln pipe of a section pipe carried by said train pipe, a plug valve revolubly mounted in said section pipe, said section of pipe having an air passage formed therein. a piston mounted in said air passage, a head carried by said piston and adapted to actuate said plug valve, sections of hose carried by said pipe and having a common connection, one section of hose being mounted within the other and forming an annular passage communicating with said air passage, substantially as described

2, In a safety valve for air brakes, the combination with 3 train pipe, of an angle cock carried by said train pipe and provided with a valve, said cock having an air passage formed therein, a piston mounted in said air passage and adapted to actuate said cock, sections of hose connecting
with said cock, and having a common connection, one section of hose being mounted within the other and forming

an annular passage adapted to communicate with said air passage, substantially as described
3. In a valve for air brakes, the combination with a traln pipe. of an angle cock carried by said pipe, and having a hose connection, a valve in said cock, said angle cock having an air passage formed thereln. a section of hose surrounding the hose connection of said cock, and forming an annular passage communicating with said air passage, and means mounted in said air passage and actuated by air entering said passage to close the valve in said cock, substantially as described.
4. In an air brake system, the combination with cocks having loose connections, and provided with valves, of hose surrounding said hose connections and forming annular air passages, and means carried by said cocks and actuated by air entering said passages to close the valves in said cocks, substantially as described.

No. 102,721. Potato Harvester.
Arracheur de pommes de terre.


Alvin F. Clarke, Edwardsville, Illinois, U.S.A., 25th December, 1906; 6 years. Filed 30th November, 1906. Receipt No. 141,695.
Claim.-1. In a potato harvester, a vertically adjustable digger carrying a frame, a vertically movable cutter carry ing frame, and a lever for the adjustment of the cutter carrying frame supported upon and connected with the adjustable digger carrying frame.
2. In a machine of the class described, a vertically adjustable digger carrying frame, elevating means permanently connected with said frame, a vertically movable cutter carrying frame, an adjustable lever fulcrumed upon.the digger carrying irame, and lugs upon the cutter carrying frame connected by a pin or roller beneath which the adjusting lever extends.
 to rotate thed.
No. 102,724. \(\begin{gathered}\text { Harness Pad Skirt. } \\ \text { Bourrelet de harnais. }\end{gathered}\)


Chicago, Illinois, U.S.A., 25th December.
Scott H. Hull, Chicago, 2rd December, 1906. Receipt No. 1906; \({ }^{6}\)
Claim.-1. In a harness having a backband, an adjustable pad skirt fixed to said backband. 2. In a harncess having a backband, a pad from said pad said backband, a skirt extension connections between said skirt and pivotal and slidin shirt extension and pad skirt,
d. In a harness, a pad skirt, a skirt extension and pivotal connections between said pad skirt and skirt extension.
4. In a harness, a pad skirt; a skirt extension and sliding connections between said pad skirt and skirt extension.
5. In a harness, a pad skirt, a skirt extension and pir otal and sliding connections between said pad skirt and skirt extension.
6. In a harness, a pad skirt formed with a slot, a skirt extension and a book on said skirt extension and sliding and pivotally mounted in said slot.
7. In a harness, a pad skirt, a skirt extension, pivotal and sliding connections between said pad skirt and skirt extension, a buckle on said skirt extension, and a billet on said pad skirt adapted to engage said buckle adjustably. 8. In a harness, a pad skirt formed of two layers of leather arranged face to face and connected, one of said layers of leather formed with a slot, a skirt extension, an engaging device on said skirt extension and extending through said slot to and between said leathers. buckle and billet connections between said extension and pad skirt and supporting devices carried by said extension.
9. In a harness, a pad skirt formed with a slot and an interior slide bearing, a skirt extension, a hook fixed to said skirt extension and a crosshead on said hook adapted for insertion through said slot into and for sliding engagement with said slide bearing.
10. In a harness, a pad skirt, a skirt extension and a connecting device composed of a stem fixed to said skirt extension, a goose neck on said stem and a crosshead on said goose neck adapted to engage said pad skirt.
11. In a harness the combination of an adjustable pad skirt comprising a plurality of members suitably connected, a billet on one member and a buckle on the other
member of sald adjustable pad skirt, a supporting device for a trace, tug or shaft carried by one member of sald adjustable pad skirt and a bellyband billet carried by the same member of the adjustable pad skirt

\section*{No. 102,725. Railway Switch.} Aiguille de chemin de fer.


Henry N. LaFlame, Waterville, Massachusetts, U.S.A., 25th December, 1906; 6 years. Filed 29th August, 1906. Receipt No. 139,062
Claim.-1. In a rallway switch, a switch stand, a semaphore standard operatively connected to throw the switch, a train operated turn post located at a distance therefrom, and operating connections between the turn-post and switch standard by means of which the standard is unlocked and turned and again locked.
2. In a rallway switch, a switch stand, a semaphore standard connected to throw the switch, a train operated turn-post at a distance therefrom. interlocking means between the switch stand and semaphore standard, and operative connections between the turn-post and standard for locking and unlocking and turning said standard.
3. In a rallway switch, a switch stand having a shouldered socket, a semaphore carrying and switch shifting standard shouldered to engage and interlock with said socket, and means operable from a distance for throwing the standard into and out of interlocked engagement with said socket and also turning the standard and its semaphore.
4. In a railway switch, a switch stand having a shouldered socket, a semaphore carrying and switch shifting standard shouldered to engage and interlock with said socket, and means operable from a distance for moving the standard endwise into and out of interlocked engagement with said socket and also turning the standard and its semaphore.
5. In a railway switch, a switch stand having a shouldered socket, a semaphore carrying and switch shifting standard shouldered to engage and interlock with said socket, an oscillatory head having means to raise and lower and turn the standard and means for operating said head.
6. In a railway switch, a switch stand having a shouldered socket, a semaphore carrying and switch shifting standard shouldered to engage and interlock with said socket, an oscillatory head having means to raise and lower and turn the standard, a train operated turn-post at a distance from the switch stand, and an operating cable connecting the turn-post and standard.
t. In a railway switch, a switch stand having a shouldered socket, a semaphore carrying and switch shifting standard shouldered to engage and interlock with said socket, and means operated from a distance for imparting a stepped movement to the standard, imparting both vertical and axial motion thereto.
8. In a railway switch, a switch operating stand having a shouldered socket, a semaphore carrying and switch shifting standard shouldered to engage and interlock with said socket, a crosshead connected with said standard, an oscillatory head at the lower end of the standard and provided with a cam groove in which the crosshead works, and means on the oscillatory head for turning the standard axially.
9. In a railway switch, a switch stand having a shouldered socket, a semaphore carrying and switch shifting standard shouldered to engage and interlock with said socket, an oscillatory head surrounding the lower portion of the standard and provided with a cam groove, a crosshead on the standard and working in said groove, a tappet arm projecting from the standard and a throw lever carried by the oscillatory head and co-operating with said tappet arm.
10. In a railway switch, a switch stand having a shouldered socket, a semaphore carrying and switch shifting standard shouldered to engage and interlock with sald socket, an oscillatory head encircling said standard and provided with a cam groove, a cross head on the standard engaging said groove, a tappet arm projecting from the standard, a throw lever carried by the oscillatory head and co-operating with said tappet arm, and means for tripping the throw lever at certain points in the movement of the oscillatory head while the standard is unlocked.
11. In a rallway switch, a switch stand having a shouldered socket plate, a semaphore carrying and switch shifting standard shouldered to engage and interlock with said socket plate, and a combined hasp-and-lever extension laving a pivotal connection with sald socket plate.
12. In a railway switch, a switch stand having a shouldered socket, a semaphore carrying and switch shifting standard shouldered to engage and interlock with said socket, turn posts at a distance from the switch stand, cables forming operating connections between the turn posts and standard and one or more trip levers carried by the train for operating said turn posts.

No. 102,726. Roof Flange. Bordure de toiture.


John C. Louth, Rochester, New York, U.S.A., 25th December, 1906; 6 years. Filed 1st December, 1906. Receipt No. 141,735.
Claim.-1 In a roof flange, a tapering tube having a series of hollow beads around and projecting from one of its surfaces, each bead being made in a plane corresponding to the intersection with sald tube of the plane of a roof of different pitch.
2. In a roof flange, a tapering tube having a series of beads around and projecting from its outer surface, each bead being made in a plane corresponding to the intersection with said tube of the plane of a roof of different pitch, and a recess around said tube near its top for producing a socket for packing.
3. In a roof flange, a tapering tube having a series of beads around and projecting from its outer surface, each bead being made in a plane corresponding to the intersection with sald tube of the plane of a roof of different pitch, and a plate having a perforation therethrough adapted to fit upon the upper of said beads.
4. In a roof flange, a tapering tube having a series of beads around and projecting from its outer surface, each bead being made in a plane corresponding to the intersection with said tube of the plane of a roof of different pltch, a plate having a perforation therethrough adapted to fit upon the upper of said beads, and contour lines upon said plate whereby the said plate may be cut out to fit the respective other beads.
5. In a roof flange, a tapering tube having a series of hollow beads around and projecting from one of its surfaces, each bead being made in a plane corresponding to the intersection of said tube with the plane of a roof of different pitch, and a plate having a perforation therethrough constructed to engage any one of said beads.

\section*{No. 102,7:27. Butter Packing Machine.}

Machine pour emballer le beurre.
John Maltson, Dresser Junction, Wisconsin, U.S.A., 25th December, 1906; 6 years. Filed 19th November, 1906. Receipt No. 141,335.
Claim.-1. In a press, a yieldably mounted receptacle support, a compression member in alignment therewith, an
operating means for the compression member, and a controlling device arranged under the yieldable support and

movable by engagement of the support therewith when the pressure has reached a predetermind point.
2. In a press, a yleldably mounted receptacle support. a compression member in alignment therewith, an operating means for the compression member, and a controlling device for stopping and reversing the direction of movement of the operating member, sald controlling device being arranged under the yieldable support and operable by the engagement of the support therewith.
3. In a press, a scale beam, a receptacle support connected thereto, and an operating means under the control of the scale beam.
4. In a press, a scale beam, a compression member the movement of which is transmitted to the beam, and operating means under the control of the beam.
5. In combination, a scale beam, a compression member the movement of which is resisted by the beam, and a compression member operating means under the control of the beam.
6. In combination, a scale beam, a receptacle the weight of which is imposed on the load end of the beam, a compression member for packing material in the receptacle and the movement of which is resisted by the poise end of the beam, and a compression member operating means under the control if the beam.
7. In a press, a scale beam having an adjustable poise, a compression member, a recentacle for receiving material to be acted upon by the compression member, the movement of the compression member and the weight of the receptacle and its contents being Imposed on the load end of the beam during a portion of the pressing operation, and a compression member operating means under the control of the scale beam.
8. In combination, a scale beam, a lever connected thereto, a receptacle support arranged over the lever, a plunger in the line of the support, a threaded rod carrying sald plunger, a nut engaging said threaded rod, a nut operating means, and mechanism under the control of the scale beam for determining the direction of movement of the nut.
9. The combination with a scale beam, of a yleldable receptacle support, a lever connected to the scale beam and arranged under the support. a plunger for packing material in the receptacle, a threaded rod carrying said plunger, a nut on said threaded rod, an automatic means controlled by the extent of movement of the scale beam for stopping the downward movement of the plunger when the compression has reached a predetermined stage.
10. In apparatus of the class described, a plunger, a stripper surrounding the plunger and movable therewith. the downward movement of the stripper being checked by engagement with the material being packed.
11. In apparatus of the class described, a plunger, a stripper surrounding the same and movable therewith, and means for locking the stripper for movement during the initial back stroke of the plunger.
12. In apparatus of the class described, a plunger and stripper, an operating means for effecting an initial movemena of the plunger and then a simultaneous movement of the plunger and stripper.
13. In apparatus of the class described, a plunger and stripper, means for locking the stripper from movement, and means for unlocking the stripper after initial movement of the plunger.
14. In apparatus of the class described, a plunger and stripper, a stripper locking means, a plunger operating mechanism, and means controlled by the movement of the plunger for unlocking the stripper and permitting its upward movement with the plunger.
15. The combination with an intermittently revoluble receptacle support, of a plunger, a threaded rod carrying the same, a bevel wheel the hub of which forms a unt on said threaded rod, a shaft; the bevel wheel carried thereby and intermeshing with the bevel wheel on the rod, and means controllable by the movement of the plunger for determining the stopping and direction of rotation of said shaft.
16. The combination with a revoluble receptacle support, of a plunger, a threaded rod carrying the same, a bevel wheel forming a nut on said threaded rod. a shaft having a bevel wheel intermeshing with the first bevel wheel, pulleys on the shaft, belts running over said pulleys and belt shifters controlled by the movement of the plunger in opposite directions.
17. The combination with an intermittently revoluble receptacle support, of a compression plunger, a threaded rod carrying the same, a bevel wheel forming a nut on sald rod, a shaft, the bevel gear carricd thereby and intermeshing with the bevel wheel, pulleys on said shaft, beit shifters movable on completion of the upward movement of the plunger, and means operable at the completion of the downward movement of the plunger for operating sald belt shifters.
18. The combination with a revoluble receptacle support. of a plunger, a threaded rod carrying the same. a bevel wheel mounted on the rod and forming a nut therefor. a shaft, a bevel gear carried by the shaft and intermeshing with the bevel wheels, pulleys on sald shaft, belts passing over the pulleys, a belt shifter, a lever carrying the same and operable at the completion of upward movement of the plunger. a second belt shifter, a treadle for operating the same in one direction, a locking lever for maintaining said second belt shifter in adjusted position, and means operable on downward movement of the receptacle carrier for moving said lever to released position.
10. The combination with an intermittently revoluble reerptaclo support, of a plunger, a threaded rod carrying the same, a bevel wheel forming a nut on said rod. a shaft, a bevel gear carried thereby and intermeshing with the bevel wherl, a fast pulley and a pair of loose pulleys mounted on the shaft, a pair of belts arranged to drive the pulleys, said belts running in opposite directions respectively, a pair of belt shifters engaging said belts. means tending to move the belt shifters in one direction, a locking device releasable on complete downward movement of the plunger for permitting movement of the belts to reverse the direction of rotation of the bevel wheel, a lever operable on completion of upward movement of the plunger for shifting one of the belts and a pedal actuated mechan1 sm for shifting the second belt.
21. In an apparatus of the class described, a revoluble receptacle support, a plunger, means for raising and lowering the plunger, a stripper for said plunger, a stripper carrying bar, a pawl supported thereby, a rack bar with which said pawl may engage, and means controllable by the movement of the plunger for releasing the pawl.
21. In an apparatus of the class described the combination with an intermittently revoluble receptacle support, a plunger, a threaded rod carrying the same, a revoluble nut on said rod, a vertically guided bar secured to the plunger and extending parallel with the threaded rod, a plate or irame secured to said vertically guided rod, a pawl carried by the plate, a rack bar with which said pawl may engage, a cam carried by the threaded rod and adapted to engage said pawl, said cam having a rccessed shoulder for positively engaging the threaded rod with the plate and a stripper supported by and movable with the plate.
22. The combination with an intermittently revoluble receptacle support, of a shaft carrying the same, a worm wheel on the shaft, a worm meshing with the wheel, a worm shait, a loose driving pulley arranged on the shaft and having a clutch face, a clutch member feathered to the shaft, a clutch operating lever, means for locking sald lever in clutching position, and means controlled by the revoluble movement of the receptacle support for releasing said lever.
23. The combination with a receptacle support, of a shaft carrying the same, a worm wheel on the shaft, a worm intermeshing with the worm wheel, a worm carrying shaft, a loose pulley mounted on the worm carrying shaft and having a clutch face, a clutch member feathered on the worm shaft, an operating lever engaging said clutch, a locking bar connected to the lever and having a notch, a locking lever arranged to engage said notch, means controlled by the receptacle support for moving the locking lever to released position, a pedal actuated mechanism for moving the clutch lever in one direction and a spring for moving said clutch lever in the opposite direction.
24. In an apparatus of the class described, a frame, a revoluble receptacle support comprising a plurality of yield-
able arms, a shaft to which said arms are secured, a worm wheel on said shaft, a worm intermeshing with the worm wheel, a worm carrying shaft, a loose belt wheel mounted thereon and having a clutch face, a crutching member \(f\) fathered on the worm shaft, a clutch operating lever, a spring tending to move the lever in one direction, a pedal merhanism for moving the lever in the opposite direction, a notched locking bar connected to the pedal lever, a locking lever arranged to engage in said noteh, a cam lever connected to the locking lever-and having an arm in the path of movement of the receptacle carrler, a plunger, means for operating the same, a scale beam and a lever connected to the scale beam and having a cam-shaped block arranged below the plunger and over which the receptacle carrying arms are successively moved.

No. 102,728. Collar. Col.


Hydesaburo Ohashi, New York City, New York, U.S.A., 25th December, 1906; 6 years. Filed 20th November, 1906. Receipt No. 141,360.
Claim.-1. As a new article of manufacture, a shirt collar provided at its rear with means for engagement with the shirt and with means for engagement with a coat hanger strap.
2. As a new article of manuacture, a shirt collar provided at its rear with means or engagement with a shirt and with a depending tab having openings or recesses to receive a coat hanger strap.
3. As a new article of manufacture, a shirt collar provided at its rear with means or engagement with the shirt and with depending tab having laterally projecting ears designed for engagement with the lower edge of a coat hanger strap, the collar being notched at the upper end of the tab to receive the upper edge of the strap.

No. 102,729. Washing Machine. Lessiveuse.


Adolph A. Rullman and David B. Rullman, co-inventors, both of Wattena, Kansas, U.S.A., 25th December, 1906; 6 years. Filed 30th November, 1906. Recelpt No. 141696.
Claim.-A washing machine having an angular body portion with corners which flare laterally toward their upper ends and which are slightly inwardly inclined; angular tapering members B projecting from said corners, the upper ends of said members being flush with the upper edges of the side walls of the body portion of the machine, the lower ends of said members being open and spaced a slight distance above the bottom of the body of the machine, and a pounder adapted to cause water to circulate through the perforations and ends of said members, as shown and described.

\section*{No. 102,730. Brake for Flevatora.}

Frein pour ascenceur.


Frederick Williams, Minersville, Pennsylvania, U.S.A., 25th December, 1906; 6 years. Filed 30th November, 1906. Receipt No. 141,670.
Claim.-1. In a safety brake mechanism for elevator cars or mine cages, the combination with a shaft structure provided with stationary brake members, of a car having sliding catches to engage said brake members, sets of bell crank levers having long and short arms divergently arranged and plvoted at their angle of intersection upon the car, links connecting the short arms of the levers with the sllding catches, connections between the long arms of the levers and hoisting rope to hold the levers from movement, and normally expanded springs held expanded by the levers and adapted when the levers are released upon the breakage of the hoisting rope to contract and project the catches.
2. In a safety brake mechanism for elevator cars or mine cages, the combination with a shaft structure provided with stationary brake members, of a head beam forming part of the car structure, brackets upon the ends of the head beam and provided with guides, sliding catches operating in said guides and adapted when projected to engage the adjacent stationary members, a central bracket upon the beam, sets of bell crank levers pivoted to said central bracket, said levers having divergently arranged upper long and lower short arms, the latter being pivotally connected with the catches, restraining connections between the long arms of the levers and the hoisting rope, and contractile springs connected with the end brackets and catches to project said catches when the levers are freed from movement by the breakage of the holsting rope.
3. In a safety brake mechanism for elevator cars or mine cages, the combination with a shaft structure provided with stationary brake members, of a head beam forming part of the car structure, sliding catches mounted upon said beams to engage said stationary brake members, contractile springs associated with said catches to project same, bell crank levers connected with catches to normally hold the same retracted and the springs expanded, and connections between sald levers and the hoisting rope for normally holding the levers in restraining position.
4. In a safety brake mechanism for elevator cars or mine cages, the combination with a shaft structure provided with stationaity brake members, of a head beam forming part of the car structure, brackets upon the ends of the head beam and provided with guides, sliding catches operating in said guides and adapted when projected to engage the adjacent stationary members, sets of bell crank levers pivotally mounted unon the beam between the brackets and levers having divergently arranged upper long and lower short arms, the latter being pivotally connected with the catches, restraining connections between the long arms of the levers and the hoisting rope, and contractile springs connected with the end brackets and catches to project said catches when the levers are free for movement by the breakage of the hoisting roye.

No. 102,731. Rail Joint. Assemblage pour rails.
George W. Whitman and Ernest Decker, assignee of a half interest, both of Pleasantonville, Kansas, U.S.A., 25th December, 1906; 6 years. Filed 26th September, 1906. Receipt No. 139,800.

Claim.-In a device of the class described the combination of the rails 1 , the angle bars at opposite sides of the rails and having the vertical portions \(a\) of said angle bars in contact with the under sides of the head portions of the adjacent rails 1, said vertical portions a being provided with the cut-away portions 13 extending downwardly from
their upper edges, the cut-away portions 13 being located upon opposite sides of the point at which the ends of the

rails mect and forming clearance spaces between the upper edge portions of the angle bars and the head portions of the rails, and bond wires it having their ends passing through the cut-away portions 13 of the angle bars and attached to the sides of the rails, for the purpose set forth.

No. 102,732. Draft Regulator for Furnaces. Régulateur d'air pour fournaise.


Peter Furlong, assignee of Gregory H. Scharf, co-inventors, both of Ypsilanti, Michigan, U.S.A., 25th December, 1906; 6 years. Filed 3rd December, 1906. Receipt No. 141,784.
Claim.-1. In a draft regulator for furnaces the combination of a valve or damper, means for operating the same in one direction, and a controlling device for operating the same in the reverse direction, comprising a cylinder. a plunger therein, a reservoir below the cylinder, ports permitting the fluid in the reservoir to pass into the cylinder as the plunger is lifted, and a restricted outlet from the lower part of the cylinder leading to at or near the lower end of the reservoir. for the purpose described.
2 . In a draft regulator for furnaces the combination of a valve or damper, means for operating the same in one direclion, and a timing device for controlling the reverse movement thereof comprising a cylinder, a plunger therein connected to the valve or damper, a reservoir below the cylinder, a restricted outlet from the cylinder to the reservoir, and a comparatively large inlet into the cylinder from the reservoir, a check valve controlling the same, and an air vent passage leading from the upper end of the cylinder into the reservoir.
3. In a draft regulator the combination of a valve or damper. of a controller therefor comprising a cylinder provided with a pipe \(N\), a plunger therein connected to the valve or lamper for controlling the movement of the same in one direction, a valve controlled exit from the lower end of the cylinder to the pipe \(N\), forming the exit pipe from said valve controlled exit, and a strainer in said outlet pipe.
4. In a draft regulator the combination of a valve or damper, means for operating the same in one direction, and a timing device for controlling the reverse movement thereof comprising a cylinder, a plunger therein connected to the valve or damper, a reservoir below the cylinder and a restricted outlet connection from the cylinder to the reservoir, a comparatively large inlet connection from the reservoir to the cylinder, a chick valve controlling the same and external means for opening said check valve to permit the escape of the fluid beneath the planger, to more rapidly control the opening of the valve or damper.
5. In a draft regulator the combination with the valve or damper, of means for operating the same in one direction, a timing device for controlling the reverse movement thereof comprising a cylinder, a plunger therein connected to the valve or damper, a reservoir below the cylinder, a restricled discharge from the lower end of the cylinder into the reservoir, means responsive to the upward movement of the plunger for establishing free communication between the reservoir and the cylinder and manually operable means adapted to control the aforesaid means to establish free communication between the cylinder and the reservolr.
6. In a furnace regulator the combination with a furnace
oor, means for opening the damper by the opening of the door, means for opening the damper by the opening of the door, and timing means for controlling the closing of the damper, a casing \(P^{1}\) around the damper opening, the damper N fitling on said casing, the ball \(P\) connected to the damper and the inclined bearing \(Q\) on which said damper slides in its open position.
7. In a draft regulator for furnaces the combination with a timing means, of a door, a ball pivoted on said door, a damper pivoted to said bail, and cannections between sald damper and said timing means, for the purpose described.
8. In a draft regulator the combination of a valve or damper, a controller therefor comprising a cylinder and a plunger therein connected to the valve or damper for controlling the movement of the same in one direction, a reservoir communicating with the cylinder, and a strainer arranged to purify the reservoir contents.
9 In a draft regulator for furnaces the combination of the furnace door. a damper operated in one direction by the opening of the door, a controlling plunger lifted by the opening of the door, a connection from the plunger to the damper to control the reverse operation thereof, a cylinder in which the plunger operates and a reservoir operably connected thereto.

No. 102,733. Conveyer. Transmetteur.


Isaac Peabody, St. Mary's, New Brunswick, Canada, Frank Allen Peabody and Robert Tweedie Peabody. both of Houlton, Maine, U.S.A., each an assignee of \({ }^{2}\) third interest, 25 th December, 1906; 6 years. Filed 28 th November, 1906. Receipt No. 142,639.
C'laim.-1. A conveyer belt comprising a plurality of parallel slats each having a metal strap extending across its base at each end thereof and having the ends of said straps bent to form loops and terminating in recesses in tho sides of the slats, and means connecting the loops of adjacent straps, thus securing the slats together.
2. A conveyer belt comprising a plurality of parallel slats substantially triangular in cross section, each hav ing a metal strap extending across its base at each end thereof, and having the ends of said straps bent to form loops and terminating in recesses in the sides of the slats and links connecting the loops of adjacent straps, thus securing the slats together.
3. In combination a slat for use in conveyer belts, a metal strap extending across one side of said slot and secured thereto by forcing its extremities into the opposite side of the slat, the portions of said strap adjacent its 'nds constituting means whereby one slat may be secured to the next one.
4. A conveyer belt comprising a plurality of paralle! slats substantially triangular in cross section, each having a metal strap extending across the base and secured thereto by bending its ends to form loops and forcing its extremities into the faces of the slat opposite said base. whereby no additional securing means is necessary and a link connecting the loop of each strap with that of the strap on the next adjacent slat.

No. 102,734. Railway Tie. Dormant de chemin de for.


Zachary T. Booth, James F. Bittle and Christian Smith, each an assignee of a third of the interest, all of Brunswick, Maryland, U.S.A., 25th December, 1906; 6 years. Filed 30th November, 1906. Receipt No. 141,700. Claim.-1. A metal railroad tie comprising a bottom and side walls integral with each other, blocks located between the side walls and a plurality of fenders integral with the bottom of the tie and extending up vertically to hold the ballast in place within the tie when either block is removed, substantially as and for the purpose described.
2. A metal railroad tie comprising a bottom and side walls integral with each other, blocks located between the side walls, vertically extending fenders abutting against. the inner ends of the blocks and clamping supports having downwardly extending ends to embrace the side walls of the tie and having lugs with elongated openings thereIn for suitable spikes or like fastening means to hold the rails on the supports, substantially as and for the purpose set forth.

No. 102,735. Draft Gear for Railway Cars.
\(\Delta p p a r c i l\) de traction à frottement pour wagons de chemins de fer.


The W. H. Miner Company, assignee of Frederick B. Townsend, all of Chicago, Illinois, U.S.A., 25th December, 1906; 6 years. Filed 3rd December, 1906. Receipt No. 141,783.
Claim.-1. In a friction draft rigging the combination with a drawbar and a drawbar strap or yoke, of a sliding friction shell or casing having a friction chamber and interior friction laces parallel with the drawbar, and a spring chamber of larger size or diameter than the friction chamber, sliding friction blocks within the friction chamber of said shell or casing having exterior iriction faces parallel and in sliding frictional engagement with said interior friction faces of said shell or casing, a wedge or device for spreading said blocks and a spring in the spring chamber of said sholl or casing, said friction shell or chamber having an opening in one of its sides for insertion and removal of the spring, the walls of said friction chamber being thicker and stronger

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than the walls of said spring chamber, substantially as specifled.
2. In a friction draft rigging the combination with a drawbar and a draw bar strap or yoke, of a sliding friction shell or casing having a friction chamber and interior friction faces parallel with the drawbar and a spring chamber of larger size or diameter than the friction chamber, sliding friction blocks within the friction chamber of said shell or casing having exterior friction faces parallel to and in sliding frictional engagement with said interior frictional faces of sald shell or casing, a wedge or device for spreading said blocks and a spring in the spring chamber of said shell or casing, said spring being of larger size or diameter than the friction chamber, said friction shell or casing having an opening in one of its sides for insertion and removal of the spring the walls of said friction chamber being thicker and stronger than the walls of the spring chamber, substantially as specified.
3. In a friction draft rigging the combination with a car frame furnished with front and rear stops, of a draw bar and draw bar yoke or extension, a follower abutting against ons of said stops on the car frame, a sliding friction shell or casing abutting at one end against the other stop on the car frame, and having a friction chamber, and a spring chamber of larger size than the friction chamber, said sliding friction shell having interior friction faces parallel to the draw bar and said friction blocks having exterior friction faces parallej to and in frictional engagement with said interior friction faces of said friction shell or casing, sliding friction blocks in said friction chamber, a wedge for spreading said blocks and a spring, said friction shell or casing having a lateral opening for insertion and removal of the spring, the walls of said friction chamber beling thicker and stronger than the walls of said spring chamber, substantially as specified.
4. In a friction draft rigging the combination with a car frame furnished with front and rear stops, of a drawbar and drawbar yoke or extension, a follower ahutting against one of said stops on the car frame, a sliding friction shell or casing abutting at one end against the other stop on the car frame and having a friction chamber, and a spring chamber of larger size than the friction chamber, sliding friction blocks in said friction chamber, said sliding friction shell having interior friction faces parallel to the drawbar and said friction blocks having exterior friction faces parallel to and in frictional engagement with said interior friction faces of said friction shell or casing, a pair of wedges for spreading said blocks and a spring, said sliding friction shell or casing having a lateral opening through one of its sides for insertion and removal of the spring, the walls of said friction chamber being thicker and stronger than the walls of said spring chamber substantially as specifled.
5. In a friction draft rigging the combination with a drawbar and a draw-bar strap or yoke, of a sliding friction shell or casing having a friction chamber and a spring chamber and furnished with a lateral opening into the spring chamber for insertion and removal of the spring, sllding friction blocks in the friction chamber, said sliding friction shell having interior friction faces parallel to the draw-bar, and said friction blocks having exterior friction faces parallel to and in frictional engagement with sald interior friction faces of said friction shell or casing, and a spring in the spring chamber, the walls of said friction chamber being thicker and stronger than the walls of said spring chamber, substantlally as specifled.

No. 102,736. Milking Machine. Machine de trairo.

D. H. Burrell and Company, assignee of Loomis Burrell, both of Little Falls, New York, U.S.A., 25th December, 1906; 6 years. Filed 3rd December, 1906. Receipt No. 147,777.
Claim.-1. In a milking machine the combination of a receiving pail having milk compartments arranged side by
side and a milking mechanism mounted on said pail and provided with means for milking two cows simultaneously, said milking mechanism having two separate milk passages, each opening into one of said compartments, substantially as set forth.
2. In a milking machine the combination of a receiving pail having muk compartments arranged side by side and 0 . milking mechanism mounted on said pail and provided with means for milking two cows simultaneously, said milling mechanism comprising a pulsator valve having two separate milk passages, each opening into one of said compartments, substantially as set forth.
3. In a milking machine the combination of a receiving pail having an upright partition dividing the pail into two compartments, and a pulsator valve arranged above said partition and provided with separate milk passages, opening into the pail on opposite sides of said partition, substantially as set forth.
4. In a milking marhine the combination of a receiving pail having an upright partition dividing the pail into two compartments, an upright pulsator cylinder arranged above said partition and a vertically movable pulsafor piston arranged in said cylinder and provided with separate milk ports on opposite sides of said partition, substantially as set forth.
5 In a milking machine the combination of a recelving pail having milk compartments arranged side by side and a separate discharge spout for each compartment, and a milking mechanism mounted on said pail and provided with means for milking two cows simultaneously and with separate milk passages, one for each compartment, substantially as set forth.
6. In a milking machine the combination of a receiving pail having an upright partition dividing the pail into two compartments and having discharge spouts on opposite sides of said partition, and a pulsator mechanism mounted on said pail and having separate milk passages opening into said pail on opposite sides of said partition, substantially as set forth.
7. In a milking machine the combination of a receiving pail having an upright partition dividing the pail into two compartments and having discharge spouts arranged side by side on the same side of the pail near the top thereof and on opposite sides of said partition, and means for delivering the mill from two cows separately into the pail on oppsite sides of said partition, substantially as set forth.

No 202,737. Apparatus for Heating or Cooling Liquids.
Appareil pour le chauffage et le refroidissement des liquides.

D. H. Burrell \& Company, assignee of Harvey Feldmeier, both of Little Falls, New York, U.S.A., 25th December, 1906; 6 years. Filed 3rd December, 1906. Receipt No. 141,778.
Claim.-1. An apparatus for heating and cooling liquids comprising a vat, an oscillating coil arranged within the same, and a supplemental stirrer which oscillates with the coil and projects below the same, substantially as set forth.
2. The combination of a vat, an oscillating coil arranged therein, and a supplementary stirrer mounted to move eccentrically with reference to the coil, substantially as set forth.
3. The combination with a vat having a concave inner surface, an oscillating coil mounted to move eccentrically to said surface, and a supplementary stirrer mounted to move concentrically to said surface, substantially as set iorth.
4. The combination of a vat having a concave inner surface, horizontal bearings arranged above said vat and eccentric to its inner surface, an oscillating coil having trunnions which are journalled in said bearings, and a supplemental stirrer which is pivotally mounted concentric with said surface, substantially as set forth.
5. The combination of a vat having a concave inner surface, horizontal bearings arranged eccentrically to said surface, an oscillating coil having trunnions which are journalled in said bearings, and a supplementary stirrer oscillating on an axis which is arranged lower than said bearings, substantially as set forth.
6. The combination of a vat having a concave inner surface, horizontal bearings arranged eccentrically to said surface, an oscillating coil having trunnions which are journalled in said bearings, a supplementary stirrer mounted on an axis eccentric to said bearings, and means on said coil for moving said stirrer, substantially as set forth.
7. The combination of a vat having a concave inner surface, horizontal bearings arranged eccentrically to said surface, an oscillating coil having trunnions which are journalled in said bearings, a supplementary stirrer, a pivotal support for the same arranged concentric to said concave surface, and means on said coil for moving said stirrer back and forth with the coil, substantially as set forth.
8. The combination of a vat having a concave inner surface, horizontal bearings arranged eccentrically to said surface, an oscillating coil having trunnions which are journalled in said bearings, a supplementary stirrer, a cover on said vat, and a pivotal support for said stirrer secured to said cover and arranged concentric with said concave surface, substantially as set forth.
9. The combination of a vat having a concave inner surface, horizontal bearings arranged eccentrically to said surface, an oscillating coll having trunnions which are journalled in said bearings, a supplementary stirrer, a cover on said vat, a pivotal support for satd stirrer secured to said cover and arranged concentric with said concave surface, and means on said coil for oscillating said stirrer, substantially as set forth.
10. The combination of a vat provided with horizontal bearings and an oscillating coil having trunnions which are journalled in said bearings and having longitudinal circulating pipes which are arranged in groups on opposite sides of its longitudinal central plane, the groups of pipes diverging further downwardly from their outermost point, set forth.
11. The combination of a vat provided with horizontal bearings and an oscillating coil having trunnions which are journalled in said bearings and having longitudinal circulating pipes which are arranged in groups on opposite sides of its longitudinal central plane, the groups of pipes first diverging downwardly from the trunnions and then converging further downwardly from their outermost point, substantially as set forth.
12. The combination of a vat having bearings, and an oscillating coil comprising trunnions journalled in said bearings, chambered heads connected with said trunnions, and longitudinal circulating pipes connecting the chambers of said heads, substantially as set forth.
13. The combination of a vat having bearings, and an oscillating coil comprising trunnions journalled in said beafings, a chambered head connecting with the inlet trunnion, a chambered head connected with the outlet trunnion, longitudinal circulating pipes connecting the chambers of said heads, and a horizontal outlet pipe extending from the lower chamber of the inlet head to the outlet head and connected with the outlet trunnion, substantially as set forth.
No. 102,738. Refrigerator. Réfrigérateur.


The Chatham Motor Car Company, assignee of John Joseph Holmes, both of Chatham, Ontario, Canada, 25th December, 1906; 6 years. Filed 17th April, 1906. Receipt No. 131,798 .
Claim.-1. In a pump for refrigerating machipe, an afternating valve chamber, a cylinder communicating there-
with, a piston in said cylinder, a number of grooved bull rings in said piston, and a corresponding number of piston rings placed in the grooves between the bull rings, substantially as and for the purpose set forth.
2. In a pump for refrigerating machine, a cylinder, communication with an alternating valve chamber, a valve cage, having a number of holes communicating with the discharge port and containing a discharge valve and guide, the said guide forming a cushion chamber for the said discharge valve, substantially as and for the purpose specified.
3. In a pump for refrigerating machinc. a cylindor communicating with an attending valve chamber, a valve cage communicating with the discharge port and containing a discharge valve, guide and. cushion chamber, a suction valve, working in guides inside of the discharge valve. work said discharge valve alternately with said discharge valve. substantially as set forth.
4. In a pump for refrigerating machines, a cylinder communicating with an alternating valve chamber, a valve cage containing the alternative, valves, guides and cushion chamber, a flexible rubber sheave guide ring and compression springs. substantially as and for the purposes set forth.
5. In a pump for refrigerating machines, a cylinder, a piston in said cylinder, a number of grooved bull rings on said piston, and a corresponding number of piston rings placed in the grooves between the hull rings. the said cylinder communicating with an alternating valve chamber, a valve cage containing the alternating valves. guides and cushion chamber, a flexible rubber sleeve, guide. ring and compression springs, substantially as and for the purpose specified

No. 102,739. Apparatus for Separating and Refining Graphite.
Appareil pour la séparation et le raflnage du graphite.


James Francis Latimer and William Henry Matthews, both of Toronto, Ontario, Canada, 25th December, 1906, 6 years. Filed 18th January, 1906. Recetpt No. 131,979.
Claim.-1. An apparatus of the class described comprising a vessel provided with a funnel-shaped bottom having a controlled discharge opening at the apex thereof, a screen of suitable mesh supported within said vessel, a hollow shaft extending down into said vessel and having its end opening below said screen and directly above said discharge opening whereby water is introduced into said apparatis below said screen, and means secured to said hollow shaft and operated above said screen by the rotation of said shaft so as to create a centrifugal force so as to divide the graphite or similar substance from the rocky matter or gangue passed into said vessel.
2. An apparatus of the class described, comprising a vessel provided with a funnel-shaped bottom and having a controlled discharge opening at the apex thereof, and provided at its top with a discharge opening, a deflecting plate leading towards said discharge opening, and a screen of suitable mesh supported within said vessel, and a hollow shaft extending down into said vessel and having its end opening below said screen, suitable supports for said hollow shaft, and paddles secured to said hollow shaft and operating above said screen by the rotation of said shaft so as to create a centrifugal force so as to divide the graphite or similar substance from the rocky matter or gangue passed into the said vessel, the deflecting plate causing the senarated graphite or similar substance to pass out of said vessel through the discharge opening.
S. An apparatus of the class described comprising a vessel provided with a funnel-shaped bottom and having a controlled discharge opening at the apex thereof, and provided at its top with a discharge opening, a deflecting plate leading towards said discharge opening, and a screen of suitable mesh supported within said vessel, and a hollow shaft extending down into said vessel and having its end opening below said screen, suitable supports for said hollow shaft, and adjustable paddles secured to said hollow shaft and operating above said screen by the rotation of said shaft so as to create a centrifugal force so as to divide the graphite or similar substance from the rocky matter or gangue passed into the said vessel, the deflecting plate causing the separated graphite or similar substance to pass out of said vessel through the discharge opening.
4. The combination with an apparatus of the class described comprising a vessel provided with a funnel-shaped bottom and having a controlled discharge opening at the apex thercof, of a conduit held within said vessel and directly above the discharge opening in the apex of said funnel-shaped bottom.
5. In an apparatus of the class described the combination with a vessel provided with a funnel-shaped bottom and having a controlled discharge opening at the apex thereof, and a screen of suitable mesh supported within said vessel. a pipe or conduit for introducing water into said vessel below said screen, means operating within said vessel and above said screen so as to create a centrifugal force so as to divide the graphite or similar substance from the rocky matter or gangue passed into said vessel, of a second vessel held at an inclined angle and provided at its higher end with a freely open discharge opening. and provided at the lower end with a controlled discharge opening, a shaft mounted therein, a plurality of paddles or blades attached to said shaft and at a suitable angle so as to break up and work the mass of graphite or similar substance passed into said vessel at its lower end from said first-mentioned vessel, and force them out of said freely open discharge opening, means for introducing water into the higher end of said second-mentioned vessel. and a screen of suitable mesh placed over said controlled discharge opening.
6. In an apparatus of the class described, the combination with. a vessel provided with a funnel-shaped bottom and having a controlled discharge opening at the apex thereof, and provided at its top with a discharge opening. a deflecting plate leading towards said discharge opening. and a screen of suitable mesh supported within said vessel, a pipe or conduit for introducing water into said vessel below said screen, means operating within said vessel and above sald screen so as to create a centrifugal force so as to divide the graphite or similar substance from the rocky matter or ganguc nassed into the said vessel. the deflecting plate causing the separated graphite or similar substance to pass out of said vessel through the discharge opening, of a second yessel held at an inclined angle and provided at its higher end with a frcoly open discharge opening. and provided at the lower end with a controlled discharge onening, a shaft mounted therein. a plurality of paddles or blades attached to said shaft and at a suitable angle so as to break up and work the mass of granhite or similar substance passed into said vessel at its lower end from said first-mentioned vessel, and force them out of said freely onen discharge opening, means for introducing water into the higher end of said second-mentioned vessel. and a screen of suitable mesh placed over sald controlled discharge onening.

\section*{No. 102,740. Process of Separating and Refining Graphite.}

Procéde pour la séparation et le rafinage du graphite.
James Francis Latimer and William Henry Matthews, both of Toronto. Ontario, Canada, 25th December, 1906; 6 years. Filed 19th January. 1906. Receipt No. 132,006.
Claim.-1. The process of separating graphite and similar substances from their rocky matter or gangue, which consists first in thoroughly mixing the pulverized rocky matter or gangue with oil, then thinning it with water, and then subjecting the mass to the action of a centrifugal force in a vessel containing water and over a foraminate partition, recovering the graphite, the rocky matter or gangue with water passing away.
2. The process of separating graphite and similar substances from their rocky matter or gangue, which consists first in thoroughly mixing the pulverized rocky matter or gangue with oil, then thinning it with water, and then subjecting the mass to the action of a centrifugal force in a vessel containing water and over a foraminate partition. recovering the graphite, the rocky matter or gangue with water nassing away, and then working the recovered ofl provided graphite or similar substance in a stream of water so as to refine it.
3. The process of separating graphite and similar substances from their rocky matter or gangue, which consists

first in thoroughly mixing the pulverized rocky mater or gangue with oil, then thinning it with water, and then subjecting the mass to the action of a centrifugal force in a vessel containing water and over a foraminate partition, recovering the graphite, the rocky matter or gangue with water passing away then working the recovered oil provided graphite or similar substance in a stream of water so as to refine it, and then recovering the oil from said oil provided graphite or similar substance.
4. The process of separating graphite and similar substances from their rocky matter or gangue, which consists first in mixing the pulverized rocky matter or gangue with oil, then passing it into a body of water subjected to the action of a centrifugal force and above a foraminate partition which is impervious to the commingled oil and graphite but pervious to the water and gangue, maintaining a downward current of water through that body of the mixture below said foraminate partition and deflecting portion of this current causing it to pass upward through said for aminate partition, removing the residuum from below said foraminate partition, and recovering the graphite.
5. The process of separating graphite and similar substances from their rocky matter or gangue, which consists first in thoroughly mixing the pulverized rocky matter or gangue with oil, then passing it into a body of water subjected to the action of a centrifugal force and above a foraminate partition which is impervious to the commingled oil and graphite, but pervious to the water and gangue, maintaining a downward current of water through that body of the mixture below said foraminate partition and deflecting portion of this current causing it to pass upward through said foraminate partition, removing the residuum from below said foraminate partition, and recovering the graphite, and then working the recovered oil provided graphite or similar substance in a stream of water so as to refine it.
6. The process of separating graphite and similar substances from their rocky matter or gangue, which consists first in thoroughly mixing the pulverized rocky matter or gangue with oil, then passing it into a body of water subjected to the action of a centrifugal force and above a foraminate partition which is impervious to the commingled oil and graphite, but pervious to the water and gangue, maintaining a downward current of water through that body of the mixture below said foraminate partition and deflecting portion of this current causing it to pass upward through said foraminate partition, removing the residuum from below said foraminate partition, and recovering the graphite, then working the recovered oil provided graphite or similar substance in a stream of water so as to refine it, and then recovering the oil from said oil provided graphite or similar substance.
7. The process of separating graphite and similar substances from their rocky matter or gangue, which consists first in thoroughly mixing the pulverized rocky matter or gangue with oil, then thinning it with water, then passing it into a body of water subjected to the action of a centrifugal force and above a foraminate partition which is impervious to the commingled oil and graphite, but pervious to the water and gangue, maintaining a downward current of water through that body of the mixtune below said foraminate partition and deflecting portion of this current causing it to pass upward through said foraminate partition, removing the residuum from below said foraminate partition, and recovering the graphite.
8. The process of separating graphite and similar substances from their rocky matter or gangue, which consists first in thoroughly mixing the pulverized rocky matter or gangue with oil, then thinning it with water, then passing it into a body of water subjected to the action of a centrifugal force and above a foraminate partition which is impervious to the commingled oil and graphite, but previous to the water and gangue, maintaining a downward current of water through that body of the mixture below said foraminate partition and deflecting portion of this current causing it to pass upward through said foraminate partition, removing the residuum from below said foraminate partition, and recovering the graphite, and then working the recovered oil provided graphite or similar substance in a stream of water so as to refine it.
9. The process of separating graphite and similar substances from their rocky matter or gangue, which consists first in thoroughly mixing the pulverized rocky matter or sangue with oil, then thinning it with water, then passing it into a body of water subjected to the action of a centrifugal force and above a foraminate partition which is impervious to the commingled oil and graphite, but pervious to the water and gangue, maintaining a downward current of water through that body of the mixture below said foraminate partition and deflecting portion of this current causing it to pass upward through said foraminate partition, removing the residuum from below said foraminate partition, and recovering the graphite, then working the recovered oll provided graphite or similar substance in a stream of water so as to refine it, and then recovering the oil from said oil provided graphite or similar substance.
10. The process of separating graphite and similar substances from rocky matter and gangue, consisting in mingling the crushed ore with oil, delivering the oil provided mass to, and maintaining it in, an upflowing current of water, centrifugally agitating the mass to separate the components and so accelerate the current as to carry the oll provided graphite to the top of the water, flowing the so separated graphite away, settling the gangue through a current of reduced speed below the zone in which the material is fed and agitated, and removing said gangue by a downwardly flowing current.
11. The process of separating graphite and similar substances from rocky matter and gangue, consisting in mingling the crushed ore with oil, delivering the oil provided mass to and maintaining it in, an upflowing current of water, centrifugal agitating the mass to separate the components and so accelerate the current as to carry the oil provided graphite to the top of the water, flowing the so separated graphite away, settling the gangue through an upflowing current of reduced speed below the zone in which the material is fed and agitated, and removing said gangue by a downwardly flowing current.
12. The process of separating graphite and similar substances from rocky matter and gangue, consisting in ming. ling the crushed ore with oil, delivering the oil provided mass to, and maintaining it in, an upflowing current of water, centrifugally agitating the mass to separate the components and so accelerate the current as to carry the oil provided graphice to the top of the water, flowing the so separated graphite away, settling the gangue through an upflowing current of reduced speed below the zone in which the material is \(f \in d\) and agitated, and removing said ganguc, below the zone in which the material is fed and agitated, by a downwardly flowing current of greater speed than said upflowing current of reduced speed.

No. 102,741. Valve. Valve.
The Star Brass Manufacturing Company, assignee of Charles Frederick Fernald, all of Boston, Massachusetts, U.S.A., 25th December, 1906; 6 years. Filed 10th November, 1906. Receipt No. 141,089.
Claim.-1. A valve of the character specified having a valve casing with inlet and outlet passages inside the same, a partition separating said passages having therein a port or opening connecting the passages, a main valve controlling said port or opening, a piston larger than said valve, a piston rod connecting said valve with the piston, a cylinder casing for containing said piston, means for closing the end of said cylinder casing, means whereby pressure from the inlet passage may be obtained on both sides of said piston, a passage through said piston, piston rod and main valve providing outlet from the chamber in the rear thereof into the outlet passage, a valve for controlling said passage, and means for controlling said valve from a point outside the valve casing.
2. A valve of the character specified having pressure inlet and outlet passages, a main valve controlling said passages. a piston, a piston rod connecting the same with the mainvalve, a chamber on either side of said piston in communi-
cation with the pressure inlet passage, a vent passage for the chamber in the rear of the piston and leading through

the same and also through the piston rod and main valve into the pressure outlet passage, an auxiliary valve normally seated inside said vent passage for controlling the same, and means for operating said valve.
3. A valve of the character specified having pressure inlet and outlet passages, a main valve controlling said passages, a piston, a piston rod connecting the same with the main valve, a chamber on either side of said piston in communication with the pressure inlet passage, a vent passage for the chamber in the rear of the piston leading through the same and also through the piston rod and main valve into the pressure outlet passage, an auxiliary valve normally scated inside said vent passage for controlling the same, and a rod connecting with said valve and extending forward to a point outside the valve casing, whereby said auxiliary valvo may be operated.
4. A valve of the character specified having pressure inlet and outlet passages, a main valve controlling said passages, a valve stem extending forward from said main valve having bearings in the side of the valve casing. a piston larger than said valve, a piston rod connecting said piston and valve, a casing containing said piston forming a chamber on either side thereof in communication with the pressure inlet passage, means for exhausting the chamber in the rear of said piston, whereby the piston may become overbalanced to operate the main valve, the same comprising a vent passage leading out of said chamber through the piston, thence through the piston rod and main valve to exit into the pressure outlet passage, an auxiliary valve contained within the piston rod for controlling said vent passage, and a rod connecting with said valve and extending through the valve stem to project through the wall of the casing.
5. A valve of the character specified having pressure inlet and outlet passages, a main valve between said passages. a piston connecting with said main valve, a chamber formed on elther side thereof in communication with the pressure inlet passage, a vent passage leading out of one chamber through the piston and communicating with the pressure outlet passage, an auxiliary valve in said vent passage for controlling the same, a compression spring also inside said vent passage holding said valve normally seated, and means for controlling said auxiliary valve from a point outside the valve casing.
6. A valve of the character specified having a casing and inside the same a main valve controlling inlet and outlet passages, a piston located inside said casing with chambers on either side thereof, a niston rod connceting said main valve with said piston the interior of which rod is made chambered, connceting at one end with the chamber in the rear of this piston and at the other end with an exhaust passage therefrom, and which rod also has passages leading into the chambered interior thereof by which the pressuro may pass into and through the same to the chamber back of the piston, an auxiliary valve in said chambered passage for controlling said cxhaust from said chambered passage for controlling the pressure passing into the same.
7. A valve of the character specified having a casing and inside the same a main valve controlling inlet and outlet passages, a stem extending from said main valve, a piston locater inside said casing with chambers on eilher side thereoi, a piston rod connecting said main valve and piston. the interior of which rod is made chambered, connecting at one end with the chamber in the rear of the piston and
at the other end with an exhaust passage therefrom and which rod also has passages leading from the pressure inlet into the chambered interior thereof by which the pressure may pass through the same to the chamber back of the piston, an auxiliary valve in said chambered passage for controlling said exhaust from said chamber back of the piston, means operatable with and by said valve for controlling the passages entering into the chambered interior of ald piston, and a stem secured to said auxiliary valve and extending through the stem of said main valve to a point outside the valve casing.
8. A valve of the character specifled having a casing anl inside the same a main valve controlling inlet and outlet passages, a piston located inside said casing with chambers on either side therof, a piston rod connecting said main valve with said piston, which rod is made chambered, the chamberedinterior therest connecting at one end with the chamber in the rear of the piston and at its other end with an exhaust passago connecting with the outlet passage of the valve, and which rod also has passages extending through the same into the chambered interior thereof by Which the pressure may pass from the chamber forward of the piston or the inlet passage to the chamber back of the piston, an auxiliary valve located inside said chambered passage for controlling said exhaust, means for extraneously operating said valve, means for keeping the valve normally seated, and sliding gate also located inside the chambered interior of the rod, attached to and movable with sald auxiliary valve for closing the passage leading into the chambered interior of the rod at and during the time of the exhaustion of the chamber in the rear of the piston.
9. A valve of the character specified having a casing and inside the same a main valve controlling inlet and outlet passages, a piston located inside said casing with chambers on either side thereof, a piston rod connecting sald main valve with said piston, which rod is made chambered, the chambered interior thereof connecting at one end with the chamber in the rear of the piston and at its other end with an exhaust passage connecting with the outlet passage of the valve, and which rod also has passages extending through the same into the chambered interior thereof by which the pressure may pass from the chamber forward of the piston or the inlet passage to the chamber back of the piston, an auxiliary valve \(C\) located inside said chambered passage for controlling said exhaust, having agate \(\mathrm{C}^{1}\) secured thereto, which gate is adanted to slide in said chambared passage, means for extrancously operating said valve and sliding gate, and means comprising a compression spring within said chambered passage for holding sald auxiliary valve normally seated.

No. 102,742. Holder for Roll Paper Binder Strips. Porte rouleau pour papier cn bandes.


Edwin C. Eldcr, Orange, New Jersey, and George W. Herbert, assignee of a half interest, New York City, New York, both in U.S.A., 25th December, 1906; 6 years. Filed 4th August, 1906. Receipt No, 138,420.
Claint-1. In a device of the character described, the combination of a support designed to receive a roll of gummed tape or the like, a rescrvoir carried by said support and provided with a moistening device, a guide frame for the tape as it passes from the roll to the moistening device, means for rocking said guide frame as the taye is withdrawn therefrom, and means positively actuated from said frame for presenting fresh surfaces of the moistening device to the tape.
2. In a device of the character described, the combination of a support for a roll of gummed tape, a well or reservoir, a moistening band designed to turn in said reservoir, a rocker frame through which the tape is designed to pass to the moistener, and means whereby the rocking of sald frame will effect the movement of the moistening band, as and for the purpose set forth.
3. In a device of the character described, the combination of a support for a roll of gummed tape, a rescrvoir, a travelling moistening band mounted in said reservoir, a rocker frame provided with rollers around which a tape is designed to pass towards the moistening band, means whereby a pull of the taje will effect the rocking of said frame, and a connection between said frame and moistening band, said connection embodying an intermittently operating device for moving said band.
4. In a device of the character described, the combination of a support for a roll of gummed tape, a well or reservoir, a band mounted in said reservoir, a rocker frame provided with rollers around which paper is designed to pass towards the moistening band, a roller carrying said band and provided with a ratchet, and a pawl carriex by said rocker frame and arranged for engagement with said ratchet, as and for the purpose set forth.

5 . In a device of the character deseribed, the combination of a frame for a roll of gummed tane, a well or reservoir mounted thereon and provided at its upper end with a studded roller, a moistening band suspended from said roller. and means for imparting an intermittent motion to said roller.
6. In a device of the character described, the combination of a support for a roll of gummed tane, a well or reservoir, a rocker frame mounted to ride in said support, and designed to guide the tape to the moistening device, the frame being so arranged that when the tape is pulled upon to unwind it, it will rock the said frame. and a knife carried by said frame and arranged to be carried towards the tape when the later is rocked.
7. In a device of the character described, the combination of a support for a roll of gummed tape, moistening mechanism carried by said support. a frame mounted to rock in said support and provided with rollers around which the lape is designed to pass, the said frame being so arranged that when the paper is drawn from the roll, it will rock the forward end of said frame downward, and a knife carried by the forward end of said frame.
8. In a device of the character described, the combination of a support for a roll of gummed tape, a reservoir detachably connected to said support, a mnistening band vertically disposed in said reservoir, a roller mounted in said reservoir and suspended from said band, said roller being provided with a ratchet, a rocker frame designed to direct the paper to said moistening band, a crank operated pawl carried by said frame into intermittent operative engagement with said ratchet, and a knife carried at one end of said frame.
9. In a device of the character described, the combination of a support for a roll of gummed tape, moistening mechanism carried by said support, a pivoted rocker frame carried by said support and comprising two spaced apart \(U\) shaped members, upper and lower rollers 19 and 20 journalled between said members at one side of their pivot, a guide plate 21 at the ends of said members on the same side of said pivot. two horizontally aligned rollers 22 mounted between said members at the other side of the pivot, a knife carried by said members at their other ends, and a ratchet and pawl device designed to actuate the moistening mechanism when the said frame is rocked.

\section*{No. 102,743. Telegraphic Apparatus. \\ Appareil télégraphique.}


James Tarbolton, Armstrong and Alex. Orling, co-inventors, both of London, England, 25th December, 1906; 6 years. Filed 5th January, 1903. Receipt No. 101,891.
Claim.-1. In an apparatus for transmitting electric impulses, the combination of conductors constituting an electric circuit with earth connections, and means for producing low tension currents and high potential discharges toing low thersion currents and substantially, as set forth.
2. Transmitting apparatus consisting of conductors constituting an electric circuit, earth connections therewith, and means for producing low tension currents and high potential discharges through the same in combination with a distant receiver provided with earth connections cutting tho lines of current flow through the earth at points of different potential, permitting some of the transmitted energy to flow through them and actuate the recelver, substantially as set forth.
3. A source of electric energy, a self inductance coil or coils, an interrupter, a circuit closing key and conductors making circuit through said devices, in combination with ground connections from said circuit at points on each side of the saj interrupter, substantially as set forth.
4. A source of electric energy, a self inductance coil or coils. an interrupter, a circuit closing key and conductor making cirucit through these devices, in comblation with ground connections from said circult at points on each side of the interrupter, and a condenser or equivalent means for preventing sparking at the interrupter, substantially as set forth.
5. A source of electric energy, a self Inductance coll or coil:. an interrupter located in an exhausted chamber, a circuit closing key and conductor making circuit through theso devices, in combination with ground connections from said circult at points on each side of the interrupter. substantially as set forth.
f. In transmitting apparatus the combination of electric conductors constituting a divided circuit with a source of elcetric cenergy, a circuit closing key. a self inductance coil or coils in each branch of said circuit. a vibrating armature to make and break sald circuit alternately through cach branch, ground connections from said circuit at points on earh side of said circuit making and breaking devices and condensers in shunt thereto. substantlally as set forth.
i. In a transmitting apparatus the combination of electric conductors constituting a divided circuit with a source of electric energy, a circuit closing key, a self inductance coil or coils in each branch of sald circuit. a vibrating wrdge-shaped armature to make and break said circuit alternately through each branch, said armature being carried by a spring mounted on an adiustable slide. and adapt0 to co-operate with adjustable contacts. ground connections from saict circuit at points on each side of said circult making and breaking deviees and condensers in shunt thereto. substantially as set forth.
8. A source of electric energy. a self Inductance coil or coils, an interrupter, a circuit clos ing key, conductor making circuit through these devices, a condenser in shunt to the interrupter, ground connections from s aid circuit at points on each side of said interrupter, and a secondary winding to said inductance coil or colls connected in shunt at such points through a spark gap, condenser or equivalent device, substantially as set forth.
g. In combination with a receiver having two earth connections adapted to cut the lines of transmitted current flow at points of different potential, transmitting apparatus comprising electric circuit conductors, a source of electric energy, a self inductance coil or colls, and a key, earth connections from said circuit at two or more points. and an interrupter whereby extra currents are induced and discharged into the earth periodically with the battery current, whereby lines of current flow are propagated whose presence may be detected by the distant receiver, substantially as set forth.
10. In receiving apparatus the combination of a telephone receiver with means for producing a flame in proximity thereto, a conductor in proximity to said frame, and a relay \(i_{11}\) circuit with said conductor, the said apparatus being provided with two earth connections adapted to cut the lines of transmitted current flow at points of different potential, and the resistance of the said conductor varying with the vibrations of the flame which are caused by th vibrations of the diaphragm, substantially as set forth.
11. The receiving apparatus provided with a local circuit including a relay, a sensitive flame arranged in proximity to tho said circuit to vary its resistance with the vibrations oi the flame, and means responsive to transmilted electrical impuises for communicating vibrations to said flame, the said apparatus being provided with two earth connections adapted to cut the lines of transmitted current flow at points of different potential, substantially as set forth.

\section*{No. 102,744. Wire Fence Making Machine.}

\section*{Machine it fabriquer des cloturcs on fil de fer.}

Daniel F. Anthony, Tecumseh. Michigan. U.S.A., 25th December. 1906; 6 years. Filed 10th March, 1906. Receipt No. 134,046 .
Claim.-1. In a feed mechanism for wire fence machmes the combination of a revoluble wire support and a clamp-
ing member thereon rotatable about an axis radial to and parallel with the plane of movement of the support, and adapted normally to engage and grip the wire.

2. In a feed mechanism for wire fence machines the combination with a revoluble wire support, of a clamping member thereon rotatable about an axis radial to and parallel with the plane of movement of the support, and adapted normally to engage and grip the wire, and means for periodically disengaging the clamp during a determined period in the rotation of the support.
3. In a feed mechanism for wire fence machines the combination of a rotary disc having a channelled periphery to receive the fence wire, of a plurality of radially arranged spring pressed clamp members thereon mounted for rotary movement on an axis radial to and parallel with the disc and adapted to normally engage and grip the wire, and a cam in the path of the clamps adapted to successively disengage the latter at a point in rotation to the disc.
4. In a wire fence machine the combination with a drive shaft, of a shaft driven thereby an adjustably variable parial rotation at each rotation of said drive shaft, a plurality of wire supports bearing clamping members and carried by said driven shaft, a reel adapted to receive the finished feuce, and a shaft ther for.
5. In a wire fence machne the combination with a drive shaft, of a shaft driven thrreby an adjustably variable partial rotation to each rotation of said drive shaft, a plurality of wire supports bearing clamping members and carried by said drivin shaft, a reel adapted to receive the finished fence, a shaft the:pfor, and a friction drive connection between said shaft and said driven shaft.
6. In a wire fence machine the combination with a drive shaft, of a shaft driven thereby an adjustably variable partial revolution at each rotation of said drive shaft, a plurality of revoluble wire supports mounted on said driven shaft, clamping members mounted to rotate radially to the place of movement of said supports and adapted normally to engage and grip the wire, a recl adapted to receive the finished fence, a shaft therefor, and a friction drive connection between said shaft and said driven shaft for regulating the winding tension of the material on said reel.

No. 102,745. Wire Fence Making Machine.
Machine d fabriquer des colôtures en fil de fer.


John S. Barnes, Detroit, MichLgan, U.S.A., 25th December, 1906; 6 years Filed 8th October, 1906. Receipt No. 140,135..

Claim.-1. In a wire fence machine, means for putting an extended section of the line wires of a fence under tension, said means consisting of devices for gripping the line wires at one end and provided with means for producing a drag-
ging grip on the opposite end of the extended section, the construction being such as to permit the passage of wire to relieve the increasing strain caused by twisting the strands together, and means for twisting said strands together throughout the length of said extended section between and around the pickets, substantially as described.
2. In a wire fence machinc, means for gripping one end of the line wires of an extended section of fence consisting of a rocking cam roll journalled in the frame of the machine, means for rocking said cam roll, springs housed below sald rocking cam roll in the frame of the machine, the construction being such that the line wires pass between said springs and the rocking cam whereby said cam when partially rotated will grip said wires between the cam and the springs, substantially as described.
3. In a wire fence machine, means for gripping one end of the line wires consisting of a rocking cam roll journalled in the frame of the machine, means for rocking said cam roll, springs housed in the frame of the machine below said rocking cam roll adapted for lateral adjustment, the construction being such that said springs may be set so that the line wires may pass between said springs and the rocking cam whereby said cam when partially rotated will grip said wires between the cam and the springs, substantially as described.
4. In a wire fence machine, means for putting an extended section of the line wires of the fence under tension, said means consisting of devices for gripping the line wires at one end and providing a dragying grip on the opposite end of an extended section, a reciprocating carriage adapted to travel the length of said extended section provided with t.wisting gears for twisting the strands of the line wires together and around the pickets, driving gears for operating said twisting gears and also the reciprocating carriage, substantially as described.
5. In a wire fence machine, means for putting an extended section of the line wires of the fence under tension, consisting of devices for securely gripping the line wires at one end and provided with means for producing a dragging grip on the opposite end of an extended section, a reciprocating carriage on which are mounted twisting gears designed to twist the strands forming the lateral wires together, suitable driving gears to operate the twisting gears and to control the movement of said carriage, substantially as described.
6. In a wire fence machine, a reciprocating carriage on which are mounted twisting gears for twisting together the strands between and around the pickets of the fence, and means for determining the distance between pickets in said twisted section, said means being adjustable to adapt it for varying conditions, substantially as described.
7. In a wire fence machine, a reciprocating carriage on which are mounted twisting gears for twisting the strands of the line wires together between and around the pickets of the fence, means for reversing the direction of the twist betwien alternate pickets, and adjustable means for regulating the distance twisted between pickets, said means consisting of a movable stop secured to a gear driven by the driving gear, the construction being such that the movement of the gear will cause the stop to come in contact with the driving gear, thus stopping the rotation of the twisting gears and indicating the predetermined distance between pickets, substantially as described.
8. In a wire fence machine, a reciprocating carriage on which are mounted twisting gears for twisting together the strands forming the line wires of the fence, the construction being such that the gearing operating the twisting gears will control the travel of the carriage, means for stopping the movement of the twisting gears when the strands are twisted a predetermined distance between pickets consisting of an adjustable stop secured to one of the operating gears aranged to limit the movement of said gear in any one direction, substantially as described.
9. In a wire fence machine, a reciprocating carriage on which are mounted twisting gears to twist together the strands forming the line wires of the fence, the construction being such that the movement of said carriage will be regulated by the predetermined travel of the twisting gears, means for reversing the direction of the twist between alternate pickets, and means for regulating the number of times said strands are twisted together between pickets and the distance from one picket to the next, substantially as described.
10. In a wire fence machine, means for putting an extended section of the line wires of the fence under tension consisting of a gripping device at one end and a tension device at the other end of the extended section, a travelling carriage designed to reciprocate between the ends of said extended section of line wires, said carriage provided with twisting gears through which the strands of the line wires pass, suitable gearing meshing with said twisting gears and operated through a driving gear meshing with rack bars over which the carriage travels, and means consisting of a
suitable clutch mechanism for throwing the driving gear in or out of engagement, substantially as described.
11. In a wire fence machine, means for putting an extended section of the line wires of the fence under tension, consisting of devices for gripping the line wires at each end of the extended section, a reciprocating carriage adapted to travel the length of said extended section on which are mounted twisting gears for twisting the strands forming the line wires of the fence together between and around the pickets, said twisting gears operated by means of gearing engaging a rack mounted on the frame of the machine, the construction being such that the movement of the carriage along the rack is controlled by the predetermined travel of the twisting gears, substantially as described.
12. In a wire fence machine, a reciprocating carriage on which are mounted the twisting gears for twisting together the strands forming the line wires of the fence, means for holding the line wires under tension by suitable gripping devices forming part of the machine, an auxiliary carriage mounted on said travelling carriage having a comb between the teeth of which the strands of the line wires pass, said auxiliary carriage mounted on a rack and onerated by a pinion meshing with the rack on the frame of the machine and controlled by a suitable operating lever. substantially as described.
13. In a wire fence machine, means for gripping an extended length of the strands constituting the line wires of the fence, said means consisting of devices for gripping the line wires at one end and provided with means for producing a dragging grip on the opposite end of the extended section, adjustable means for twisting said strands together from picket to picket, the construction being such that the twist may be regulated to the distance between pickets and the gauges of wire employed, substantially as described.
14. In a wire fence machine in which an extended length of the lateral wires of the fence are placed under tension between the wind-up or bundling drum and the feed wire rolls of the machine, an extensible frame for said machine, whereby any predetermined length of wire may be put under tension, a reciprocating carriage on which are mounted twisting gears to twist togother the strands undor tension to form the line wires of the fence, substantially as described.
15. In a wire fence machine designed to hold extended lengths of wire strands under tension while twisting them together to form the line wires of the fence, means for producing a dragging grip on the strands of wires, the construction being such that when it becomes necessary to change the distance between the line wires they may be adjusted laterally without re-threading the machine, substantially as described.
16. In a wire fence machine designed to hold an extended section of the strands forming the line wires of the fence under tension, means for producing a dragging grip consisting of two bars mounted in adjacent relation between which the strands of the line wires pass, said bars suitably mounted whereby they may be given a rocking movement producing a dragging grip on the wires, the construction being such that the strands forming the line wires may be given a lateral adjustment without re-threading the machine, substantíally as described.
17. In a wire fence machine designed to hold an extended section of the strands forming the line wires of the fence under tension, means for producing a dragging grip on the line wires consisting of two bars mounted in adjacent relation and capable of adjustment with respect to each other between which the wires pass, said bars suitably mounted whereby they may be given a rocking movement producing a dragging grip on the wires, substantially as described.
18. In a wire fence machine, means for twisting the strands forming the line wires of the fence together consisting of suitable gears mounted in hangers adjustable with respect to each other whereby the line wires of the fence may be located nearer to or farther apart as required without re-threading the machine, substantially as described.
19. In a wire fence machine, adjustable hangers, a twisting gear mounted in each hanger, a driving gear for each twisting gear mounted in each hanger keyed to the driving shaft but free to move laterally along the same for purposes of adjustment, and said driving shaft, substantially as described.
20. In a wire fence machine, means for placing and holding the strands of wire constituting an extended section of the line wires of the fence under tension, said means consisting of devices for gripping the line wires at one end and provided with means for producing a dragging grip on the opposite end of the extended section, means for twisting said strands together from picket to picket inserted between the said strands while under tension, and means for bundling the finished product after the tension on the for bunde wires is released, substantially as described.
21. In a wire fence machine, means for gripping and patting under tension an extended length of the strands constituting the line wires of the fence, said means consisting of devices for gripping the line wires at one end and provided with means for producing a dragging grip on the opposite end of the extended section, means for twisting said strands together from picket to picket, means for reversing the direction of the twist given to sald strands between each alternate picket, and means for bundling the finished product when released by the tension mechanism, substantially as described.
22. In a wire fence machine, means located between the wind-up or building drum and the feed wire reels of the machine for putting an extended section of the line wires under tension, said means consisting of devices for securing tho line wires at one end and providing a dragging grip on the opposite end of the extended section, a reciprocating carriago on which are twisted gears to twist together the strands forming the line wires of the fence, and means for reversing the twist between alternate pickets, substantially as described.
23. In a wire fence machine in which an extended length of the lateral wires of the fence are placed under tension between the wind-up or building drum and the feed wire reels of the machine, an extensible frame for said machine whereby any predetermined length of wire may be put under tension, a reciprocating carriage on which are mounted twisted gears to twist together the strands under tension to form the line wires of the fence, substantially as described.
24. In a wire fence machine, means other than the bundling drum for putting an extended length of the strands composing the line wires of the fence under tension, means for twisting the strands together between pickets, and a suitable bundling mechanism for rolling up the finished product after being released by said tension mechanism, substantially as described.

No. 102,746. Hotel Cabinet.
Cabinet d'hôtel.


John Q. Adams, Omaha, Nebraska, U.S.A., 25th December, 1906: 6 years. Filed 4th September, 1906. Recelpt No. 139,227.
Claim.-1. An hotel cabinet comprising a base portion having a plurality of receptacles therein, a vertically arranged panel at the rear thereof having a surrounding frame grooved at the inner front edge thereof and flanged and braced at the rear, a plurality of receptacles supported behind said panel, a panel supported at the rear of said receptacles and extending upwardly therefrom and having a frame grooved at its front edge and flanged and braced at the rear edge, glass fronts arranged in said grooved front edges of the panels, and suitable adpertising matter arranged behind said glass fronts, as and for the purpose specified.
2. An hotel cabinet comprising a base portion having a plurality of receptacles and an outwardly extending portion containing an ink well, a plurality of panels arranged in tíers and receptacles arranged between said tiers and extending downwardly behind the first tier, said panels having surrounding frames formed at their front edges in substantially S-shape and flanged and braced at the rear, glass fronts arranged in said front edges and advertising matter arranged behind said glass fronts, as and for the purpose specified.
3. An hotel cabinet formed of a sheet metal frame having tiers of panels partially surrounded by a substantially S-shaped formation in said metal and flange formation to the rear of said \(S\)-shape said panels having glass fronts and

an open end for the insertion of advertising matter, a stationary receptacle centrally arranged at the foot of the upper tier of panels and sundry receptacles to each side thereof, and a base portion at the foot of the lower tier of panel having receptacles containing ink well, call bell and sundries, as and for the purpose specified.

\section*{No. 102,747. Cushion for Bicycles.}

Consxin pour birycles.


George Arlington Bennet, Winnipeg, Manitoba, Canada, 25th December, 1906; 6 years. Filed 22nd August, 1904. Receipt No. 117,915.
Claim.-In an air cushion device for bicycles, a cylinder formed of an upper section open at its lower end and provided with interior projections near said open end, a lower section open at its upper end and provided with longitudinal grooves corresponding to the projections of the upper section said groove extending into bayonet joint grooves terminating near the open end and means for connecting said cylinder section to a bicycle frame, in combination with a pneumatic cushion fitting into said cylinder and having the portion of its walls lying near the meeting ends of the cylinder section thickened and means for inflating saict cushion, substantially as described.

No. 102,748. Catter Blade. Lame de compoir.


Paul Franklin Bolton, Scarboro, Ontario, Canada, 25th December. 1906; 6 years. Filed 5th November, 1906. Receipt No. 140,928.
Claim.-1. As a new article of manufacture, inter-related cutter blades one of which has cutter blades of equal width, spaced equal distances apart and the other of which has cutter blades spaced equal distances apart and of unequal width.
2. In apparatus for cutting interlocking tongues and grooves the combination with a facing cutter blade comprising a body provided with a series of cutters separated by spaces, and a syace wider than the space between said series of cutters, at one end of said cutter blade, and two spaces, wider than the space between said series of cutters, at the other end of said cutter blade, and separated from each other by a cutter blade, of an inter-related base cutter blade comprising a body provided with a series of cutters separated by spaces, and a cutter wider than the said series of cutters at one end of said cutter blade, and two cutters wider than the said series of cutters at the other end of said cutter blade, and separated from each other by a space.

34 A cutter blade for grooving lumber having a wide cutter at one end and two wide cutters, of equal width to the first-named cutter, at the other end and a series of narrower intermediate cutters, all the cutters being spaced apart an distance equal to the width of said intermediate cutters.
4. In an apparatus for cutting interlocking tongues and grooves in lumber, the combination of two bitdes inter-related in the production of an article, one cutter blade having a plurality of teeth of equal width and an additional tooth equal in width to one of said plurality of teeth but differently spaced, the other cutter blade having a plurality of teeth of equal width spaced equal distances apart and a plurality of teeth of greater width than the first-named teeth, and spaced apart the same distance as the spacing of the first-named teeth.

No. 102,749. Machine for Stripping Tobacco. Machine pour effeuiller le tabac.


George Robert Gross, Detroit, Michigan, U.S.A., 25th December, 1906; 6 years. Filed 17th September, 1906 . Receipt No. 139,571.
Claim.-1. In a tobacco stripping machine the use of a revolving knife grooved in its periphery lying between two revolving dises which drive the knife by friction and a compressible washer separating said dises.
2. In a tobacco stripping machine the combination with a revolving grooved knife, of a pair of discs driving the said knife by friction, a pair of endless belts situate contiguously to the said dises respectively and driven upon rollers.
3. In a tobacco stripping machine the combination with a revolving knife grooved in its periphery, of a pair of discs driving the said knife by friction, and a pointed guide adapted to engage in the grooved knife.
4. In a tobacco stripping machine the combination with a revolving knife grooved in its periphery, of a pair of discs driving the same by friction, an upper guide with a point adapted to engage the groove in the revolving knife and a lower guide adapted to substantially fill the space between the two discs.
5. In a tobaces stripping machine the combination with a revolving knife grooved in its periphery, a pair of dises driving the same by friction and a pair of belts situate one on either side of the revolving knife, a pointed guide adapted to engage in the groove of the revolving knife and a lower guide with point projecting between the discs.
6. In a tobacco stripping machine the combination with a revolving knife in its periphery, of a pair of discs driving the same by friction and a guide with a point adapted to engage in the groove in the revolving knife and having a pair of shoulders situate in relation thereto in a horizontal plane and a flange situate radially with the said discs.
7. In a tobacco stripping machine the combination with \(u\) revolving knife grooved in its periphery, of an upper guide having a point adapted to engage in the groove in the revolving knife, a pair of discs driving the said knife by friction and a lower guide projecting between the said discs.
8. In a tobacco stripping machine the combination with a revolving knife grooved in its periphery, of a pair of discs driving the same by friction, an upper guide with a point adapted to engage in the groove in the said knife, and having shoulders situate relatively in a horizontal plane and a flange situate radially with the said discs and a lower guide projecting the said discs and having a pair of shoulders impinging on the circumference of the said discs.
9. In a tobacco stripping machine the combination with a revolving knife grooved in its periphery, of a pair of discs driving the same by friction, an upper guide with a point adapted to engage in the groove if the said knife and having shoulders situate relatively in a horizontal plane and a flange projecting between the said discs and having a pair of shoulders impinging on the circumference of the said discs, and a pair of endiess belts situate one on each side of the revolving knife acting as carriers for the leaf and a bar adjustable to change the tension of the belts and having adjustable collars attached thereto to act as guldes for the belts.
10. In a tobacco stripping machine the combination with a revolving knife grooved in its periphery, of a pair of discs driving the same by friction, an upper guide with a point adapted to engage in the groove of the said knife, and having shoulders suitate relatively in a horizontal plane and a flange situate radially with the said discs and a lower guide projecting between the sald discs and naving a pair of shoulders impinging on the circumference of the said discs, and a pair of endless belts situate one on each side of the revolving knife acting as carriers for the leat and a bar adjustable to change the tension of the belts and having adjustable collars attached thereto to act as guides for the belts, and a sliding clutch attached to the main shaft driving the said discs adapted to engage with the hub of the driving pulley so as to allow of throwing the discs in and out of operation and means for operating same.
11. In a tobacco stripping machine the combination with a revolving knife grooved in its periphery, of a pair of disos irictionally driving the same and a pair of endless belts upon rollers acting as carriers, an upper guide having a point adapted to engage in the groove of the said knife and a pair of removable rollers resting upon the said endless belts and tending by their weight to press out and smooth the leaf carried by the said belts.

\section*{No. 102,750. Artificial Fuel. Combustible artifciel.}

Anthon Vlastimil Hassman, Elkhart, Indiana, U.S.A., 25th December, 1906; 6 years. Filed 25th November, 1905. Receipt No. 130,441.
Claim.-A fuel containing the following ingredients in the proportions stated, to wit : carbonaceous matter, 1490 pounds; clay, 484 pounđs; lime, 5 pounds; chloride of lime, 1 pound; sodium chloride, 3 pounds; potassium chloride, 1 pound; potassium permanganate, is pounds: potassium nitrate, \(\frac{1}{2}\) pound; colophony or resin, 10 pounds; caustic soda, \(2 \frac{1}{2}\) pounds; linseed oil or its equivalent, \(1 \frac{1}{2}\) pounds; alum, 3 pounds.

No. 102,751. China Kiln. Four it porcrlaine.


Julius C. Hinz, Detroit, Michigan, U.S.A., 25th December, 1906; 6 years. Filed 12th November, 1906. Receipt No. 141,125.
Claim.-1. In a china kiln, the combination with the base portion containing the combustion chamber and having flue passages communicating therewith, of the superstructure mounted upon the base portion consisting of interchangeable blocks having inwardly extending members, and relatively thin tile pieces removably seated between said members to form one side of the flue passage ways leading from the combustion chamber, said thin tile pieces forming collectively the walls of the oven.
2. In a china kiln, the combination of a base having a combuation chamber and flue openings leading therefrom, of a superstructure consisting of tile blocks supported upon said base having projecting members, which together with the body of the blocks form three sides of the flue passages,
thin, flat tiles removably interposed between said members to form the fourth side of said filue passages, said removable tiles and said members forming the walls of the oven.
3. A china kiln having a wall with vertical flues, said wall consisting of blocks of tile provided with inwardly projecting members and relatively thin removable tiles supported between said projecting members to form the inner side of the vertical flues in said wall.
4. A tile block for china kilns having inwardly projecting members provided with vertical grooves therein and relatively thin tiles seated in said grooves to form one of the walls of a flue, the remaining walls of the flue being formed by said inwardly projecting members and the body portion of the block.

No. 102,752. Apparatus for Burning Cement.
Appareil à brûler le ciment.


Thomas Matthew Morgan, Longue Pointe, Quebec, Canada, 25th December, 1906; 6 years. Filed 6th February 1906. Receipt No. 132,654.
Claim.-1. A method of burning cement which consists in injecting a quantity of inflammable gas into a revolving cylinder, and imparting a swirling motion to said gas by means of a fet of air or steam discharge across the mouth of the cylinder.
2. A method of burning cement which consists in injecting inflammable material into a revolving cylinder, igniting said inflammable material at the mouth of the cylinder, and imparting to the flame of combustion a swirling motion by means of a pressure jet discharged across the mouth of said cylinder.
3. A method of burning cement which consists in injecting a stream of gas or finely powdered coal into a revolving kiln, igniting said stream at the mouth of the kiln, and imparting to the flame of combustion a swirling or revolving motion by discharging jets of compressed air or steam across the mouth of the cylinder at right angles to the inflow of gas.
4. A method of burning cement which consists in injecting a stream of inflammable gas into a revolving cylinder, igniting said gas at the mouth of the cylinder, and discharging a jet of compressed air or steam downwardly across the mouth of said cylinder at right angles to the infiow of gas but out of the line of impact with said gas, to thereby prevent cold air from entering the cylinder from below, and to impart a swirling motion to the flame of combustion.
5. A method of burning cement which consists in injecting a quantity of inflammable material into a revolving cylinder, and imparting a circumferentially revolving motion to said gas by means of a jet of air or steam discharged across the mouth of said cylinder.
6. A method of burning cement which consists in injecting a stream of inflammable material into a revolving cylinder. igniting said material at the mouth of the cylinder, and imparting to the flume of combustion a circumferentially revolving motion by means of a jet of air or steam discharged across the mouth of the cylinder at right angles to the inflow of gas but out of the line of impact with said gas. 7. In a cement kiln, a revolving cylinder, means for injecting inflammable material into one end of sald cylinder. and means, independent of said injecting means, for imparting a revolving motion to the flame of combustion.
8. In a cement kiln, an inclined revolving cylinder, means for discharging a stream of inflammable gas into said cylinder, means for dlscharging a stream of steam or compressed air downwardly across the mouth of said cylinder to thereby prevent cold air entering from beneath the aflasder, and to impart a swiring motion to the inflammalo gas.

No. 102,753. Machine for Making Wooden Tooth Picks.
Machine pour faire des cure-dents en bois.


John H. Nute, Portland Maine, U.S.A., 25th December, 1906; 6 years. Filed 18th June, 1906. Receipt No. 137,015.
claim.-1. In a machine for cutting tooth picks from veneer the combination with an oscillating plate, and means for feeding the veneer across the same, of a rotating cutter head, cuitters thereon adjusted to shear against the edge of the plate in its two extreme oscllated positions and means for oscillating the plate and rotating the cutter head, as and for the purpose specifled.
2. In a machine for cutting tooth picks from veneer the combination with an oscillating plate and means for feeding the material across the same, of a shear blade secured to the edge of the plate to a rotating cutter head cutters thereon, adjusted to shear against the shear blade on tho edge of the plate when the said plate is in its two extreme oscillated positions, means for oscillating the plate and rotating the head, as and for the purpose specified.
3. In a machine for cutting tooth picks from vencer the combination with an oscillating plate and means for feedIng the material across the same, of a rotating cutter head, cutters thereon adjusted to shear against the edge of the plate in its two extreme oscillated positions, means for rotating the head and means operated by the rotation of the head for oscillating the plate, as and for the purpose specifled.
4. In a machine for cutting tooth picks from veneer the combination of an oscillating plate and means for feeding the material across the same, of a rotating cutter \(h\) ?ad, outters thereon adjusted to shear against the edge of the plate in its two oscillated positions, a shaft supporting the cutter head, means for supporting the shaft, an eccentric thereon, connecting means extending between the eccentric and the plate whereby the rotation of the eccentric oscillates the plate, as and for the purpose specifled.
5. In a machine for cutting tooth picks from veneer the combination with an oscillating plate, means for feeding the material across the same of a shear blade on the end of said plate, a rotating cutter head, cutters adjustably held thereon, and arranged to shear against the shear blade on the plate in its two extreme oscillated positions, a shaft supporting the cutter head, means for supporting the shaft, an ececntric on the shaft, an arm secured to the plate and connecting means extending between the ececntric and the arm whereby rotation of the ecentric reciprocates the arm, as and for the purpose specified.

\section*{No. 102,754. Manufacture of Iron. \\ Preparation du for.}


Otto Thiel, Luitpoldstrasse No. 1 Landstuhl, Rhenish, Palatinate, Germany, 25th December, 1906; 6 years. Filed 2nd May, 1906. Receipt No. 135,468.
Claim.-1. In the manufacture of iron forming a slag
layer containing oxide of iron upon the surface of an iron
bath maintaining the slag and iron in a llquid state and reducing the iron from the slag by means of a reducing material whereupon the reduced iron is directly absorbed by the iron bath.
2. In the manufacture of iron applying a molten slag layerlayer containing oxide of iron upon the surface of an iron bath maintaining the slag and iron in a liquid state and reducing the iron from the slag by means of a reducing material whereupon the reduced iron is directly absorbed by the iron bath.
3. In the manufacture of iron forming a slag layer containing oxide of Iron upon the surface of an iron bath maintaining the slag and iron in a liquid state and reducing the iron from the slag by injecting reducing material into the molten slag whereupon the reduced iron is directly absorbed by the iron bath.
4. In the manufacture of iron forming a slag layer containing oxide of iron upon the surface of an iron bath maintaining the slag and iron in a liquid state and reducing the iron from the slag by blowing in powdered reducing material into the molten slag whereupon the reduced iron is directly absorbed by the iron bath.

No. 102,755. Safety Envelope. Enveloppe de sureté.


Robert William Vail, New York City, New York, U.S.A., 25th December, 1906; 6 years. Filed 4th July, 1906. Receipt No. 137,523.
Claim.-1. An improved safety envelope of the class described, having its back sheet and sealing flap provided with openings adapted to relatively register, and provided with a plate or strip carried at the inner side of the back sheet and having projections extending through said openings and adapted to be enclosed within the mass of a plastic sealing material and with means for securing said plate or strip to the back sheet, substantially as and for the purposo set forth.
2. An improved safety envelope of the class described. provided with a plate or strip carried by the envelope and having openings and projections, the envelope having openings through which said projections extend beyond the exterior surface and are adapted to be enclosed within the mass of a plastic sealing material, and having a strip of absorbent material underlying said plate and adapted to be adhesively engaged by said plastic material, substantially as and for the purpose set forth.
3. An improved safety envelope of the class described. provided with a plate or strip carried by the envelope and having openings and projections, the envelope having openings through which sald projections extend beyond the exterior surface and are adapted to be enclosed within the mass of a plastic sealing material, and having a strip of absorbent material underlying said plate and securing the same in connection with the envelope and adapted to be adhesively engaged by sald plastlc material, substantailly as and for the purpose set forth.
4. An improved safety envelope of the class described provided with a plate or etrip carried by the envelope, and having openings and projectlons, the envelope having openings through which said projections extend beyond the exterior surface and are adapted to be enclosed within the mass of a plastic sealing material, and having a strip underlying said plate and its openings and securing the plate in connection with the envelope and adapted to be engaged by said plastic material, substantially as and for the purpose set forth.
5. An improved safety envelope of the class described, provided with a plate or strip carried by the back sheet and having openings and projections, and provided with openings in the sealing flap through which said projections extend and are adapted to be enclosed within the mass of a plastic sealing material and with an absorbent strip secured to the back sheet and underlying said plate and its openings and adapted to be adhesively engaged by said plastic material, substantially as and for the purpose set forth.
6. An improved safety envelope of the class described. having its back sheet and sealing flap provided with openings, and provided with a plate or strip carried at the inner side of the back sheet and having openings and projections extending through the openings in the back sheet and sealing flap and adapted to be enclosed within the mass of a plastic sealing material and with a strip of absorbent material secured to the back sheet and underlying said plate and-its openings and securing the plate in position and adapted to be adhesively engaged by said plastic material, substantially as and for the purpose set forth.
7. An improved safety envelope of the class described, provided with a plate or strip having openings and profections, and having a strip of absorbent material underlying said plate and its openings, the envelope having openings through which the projections of the plate extend and are adapted to be enclosed within the mass of a plastic sealing material and which permit the passage of said sealing material to adhesive engagement with said absorbent strip, substantially as and for the purpose set forth.
8. An improved safety envelope of the class described, having openings, and provided with a plate or strip underlying said openings and having openings and projections extending through said envelope openings and with a strip of absorbent material underlying said plate and its openings, whereby the mass of a plastic sealing material is adapted to enclose said projections at the outer surface of the envelope and adhesively engage said absorbent strip, substantially as and for the purpose set forth.

ITo. 102,756. Tharbine. Turbinc.


William Arthur Waddell, Wellington, New Zealand, 25 th December, 1906; 6 years. Filed 10th October, 1906. Recelpt No. 140,195.
Claim.-1. The improved turbine engine comprising a number of helical channels or grooves arranged concentrically one outside the other, and fixed within a cylinder mounted so as to be free to revolve, such channels being in communication with each other in such a manner as to form a continuous passage through them all, means for admitting motive power fluid alternatively to the inner or outer end of such passage, and for conveying it away therefrom, and blades secured radially within the channels, and so disposed and arranged as to present obstructions to the passage of the fluid, substantially as specified.
2. The improved turbine engine, comprising a spindle, a ring secured around said spindle and provided with a helical channel extending lengthwise of said ring and open at both ends thereof, and blades secured within the channel aforesaid.
3. The improved turbine engine, comprising a rotatable cylindrical member provided with a helical groove extending lengthwise of said member and having a supply opening and an exit opening, blades secured within said groove, and a cylinder secured around and closing the groove of the cylindrical member aforesaid.
4. The improved turbine engine, comprising a rotatable cylindrical member provided with a helical channel extending lengthwise of said member and having a supply opening and a discharge opening, blades secured within the channel aforesaid, and a rotatable member driven by that first-mentioned.
5. The improved turbine engine, comprising a rotatable cylindrical member provided with a helical channel extending lengthwise of said member and having a supply opening and a discharge opening, and blades secured radially within the channels and arranged in rows at reverse angles to each other across the width thereof
6. The improved turbine engine, comprising a rotatable cylindrical member provided with a helical channel extend-
ing lengthwise of said member and having a supply opening and a discharge opening, connections for supplying motive power fluid to either opening of the channel, blades secured within the channel aforesaid, and a rotatable member driven by that first-mentioned.
7. The improved turbine engine, comprising a spindle, a number of rings secured, one outside the other, concentrically around the spindle, a helical channel formed in and extending lengthwise of each ring and in communication with that next. in order to it, blades within the helical channels, means whereby a motive power fluid may be admitted alternatively to the inmost or outmost helical channel and may be released therefrom, and a cylinder fitted around the outmost ring.
8. The improved turbine enginc, comprising a cylinder having end covers provided with sleeves, pedestals supporting said covers and provided with steam chests with which sald slecves communicate, a spindle within the cylinder and freely passing through the aforesaid sleeves. a number of rings secured, one outside the other, concentrically around said spindie, and all within the cylinder, a helical channel formed in and extending lengthwise of each ring and in communication with that next in order to it , the outmost ring communicating directly with one of the sleeves aforesald and the inmost ring communicating directly with the other of said sleeves.

No. 102,757. Production of Solid Blocks from Pulverulent Material.
Fabrication de blocs solides avcc des matériaux pulcírulents. Ludwig Weisz, Budapest, Hungary, 25th December, 1906; 6 years. Filed 7th October, 1905. Receipt No. 129,035.
Claim.-1. The berein described mothod of producing blocks from a mixture of scrap iron with a flux and fuel, consisting in moistening the mixture with lime water and then pressing the mixture under heat, substantially as described.
2. The herein described method of producing blocks from pulverulent or other material in which the material is mixed with lime water, the mixture pressed into blocks and the blocks subjected to the action o: convressed carbonic -cid gas under high pressure-preferably 8 to 25 atmospheres.
3. The herein described method of producing blocks from pulverulent or other material in which the material is mixed with slaked lime, the mixture pressed into blocks, the blocks, placed in gas tight chambers and compressed carbonic acid gas passed into said chambers.
4. The herein described method of producing blocks from pulverulent material consisting in mixing the material with slaked lime or lime and water, pressing the same into blocks and submitting them to the action of carbonic acil gas under high pressure in the form of snow and then adding heated carbonic acid gas under pressure of about 8 to 25 atmospheres to effect immediate blading action, substantially as described.

No. 102,758. Production of Interfolded Paper Packages.

a web longitudinally, folding and interfolding the partially severed web to form a connected gang of packages, and then separating the product thus formed, into a plurallty of individual packages by completing the said partial severance.
2. The herein described process of producing interfolded paper packages, tonsisting in partially severing a web longitudinally, then completely severing the web transversely into sections of predetermined lengths, then folding and interfolding the said sections to form a gang of packages connected laterally along the line of partial severance, and in finally separating the product thus formed into a plurality of individual packages by completing the said partial severance.
3. The herein described process of producing interfolded paper packages, which consists in partially severing units into a plurality of smaller units, folding and interfolding the partially severed greater units into a connected package, and then completely severing the connected package where partially severed, to constitute a plurality of smaller packages, each containing a combination of the smaller upits.

No. 102,759. Roof. Toiture.


Thomas Wilson, Ottawa, Ontario, Canada. 25th December, 1906; 6 years. Filed 5th October, 1906. Receipt No. 140,074.
Claim.-1. In an adjustable roof for the purpose specified. the combination with fixed posts at each corner of the pile to support two roof sections adapted to cover the top of the pile, of hoisting means extending between each end of the roof section and the posts and adapted to ralse and lower the roof sections, as and for the purpose specified
2. In an adjustable roof for the purpose specified, the combination of fixed posts at cach corner of the pile to support two roof sections having eyobolts at each end near the center thereof, eyebolts at the top of tach post, pulleys removably secured to the eyebolts on the posts and on the roof and ropes connecting the tackle on each post with the corresponding tackle on the roof section, the said ropes extending down alongside the posts and adapted to be operated by a person at the foot of the posts and cross member: extending between the posts at the head of the pile, as and for the purpose specified.

No. 102,760. Furnace Charging Apparatus.
Appareil à charger les fournaises.


Robins Conveying Belt Company, assignee of Edwin Henry Messiter, New York Oity, New York, U.S.A., 25th December, 1906; 6 years. Filed 23rd July, 1906. Receipt No. 138,091.
Claim.-1. In furnace charging apparatus, the combination with means or supplying and maintaining a stream of charg-

Ing material, of deflecting devices having periodic movement in a single vertical plane for deflecting the stream of charging material to different parts of the furnace.
2. In a furnace charging apparatus, the combination with means for supplying charging material, of means for automatically effecting the distribution of the charging material to the furnace so that different amounts of material will bo supplied to different portions of the furnace.
3. In furnace charging apparatus, the combination with means for supplying charging material, of material distributing devices, and means for imparting periodic movements to said distributing devices in a single vertical plane.
4. In furnace charging apparatus, the combination with means for supplying charging material, of means for mechanically controlling the distribution of charging material to different parts of the furnace so that different amounts of material are automatically supplied to different parts of the furnace.
5. In furnace charging apparatus. the combination with means for supplying a stream of charging material, of means for shifting the point of delivery of said stream of charging material, and means for automatically controlling the movement of said point of delivery so that unequal amounts of material will be delivered to different parts of the furnace.
6. In furnace charging apparatus, the combination with means for maintaining a flow of charging material to the furnace, of means for deflecting the flow of material to different parts of the furnace and automatic devices whereby the movements of said deflecting devices may be controlled so as to effect the delivery of unequal amounts of material to different parts of the furnace.
7. In furnace charging apparatus, the conbination with means for supplying charging material, of a receptacle to receive the supply of charging material and distributing devices bencath said receptacle arranged for periodic movement in a single vertical plane, whereby a stream of material from said receptacle to the furnace is maintained and its dircction periodically changed.
8. In furnace charging apparatus, the combination with a furnace having a shifting charging opening, of means for maintaining a flow of charging material through said opening, and means for automatically controlling the rate of shifting of said charging opening so that unequal amounts of charging material will be suplied to different parts of the furnace.
9. The combination with a smelting furnace having an clongated chargling opening, of a distributor for charging material arranged to discharge through said opening and having a reciprocatory movement lengthwise of said opening. of a chute or conduit leading to said distributor and having its lower end secured thercto, the upper end of said chute or conduit being arranged to receive material discharged at a fixed point.
10. The combination with a smelting furnace having an elongated charging openings of material distribuiing devices comprising a carriage external of the furnace and arranged for reciprocatory movement lengthwise of said charging opening and an inclined chute extending downward from said carriage and through said charging opening, shields at both ends of said carriage and of sufficient length to keep said charging opening closed in any position of said carrlage, means for supplying a stream of charging material, and means for deflecting said stream of charging material from a fixed point to said carriage during the reciprocatory movement of said carriage and directing sald stream of material into said Inclined chute.
11. The combination with a smelting furnace having a charging opening on each side near the top, of a pair of material distributors arranged for reciprocatory movement at the sides of said furnace so as to effect the delivery of material into the interior of sald furnace, a material receiving hopper above said furnace having divergent discharge chutes, and means for directing the streams of material from said discharge chutes to said distributors during the reciprocatory movement of said distributors.
12. The combination with a smelting furnace having an opening at the top thereof, of a hopper arranged for horizontal travel with respect to said opening, an oscillatory chute pivotally connected at its lower end with said hopper so as to discharge thereinto, means for moving said hopper to and fro with respect to said opening, and means at the top of said chute for discharging material thereinto.
13. The combination with a smelting furnace, of a fixed hopper, a travelling hopper at a lower level than the fixed hopper and having a chute leading to the furnace, and a chute pivoted at its lower end on the travelling hopper and having its upper end supported by suitable guiding devices so that material passing from the fixed hopper will pass into the last-named chute when the travelling hopper is in any position.
14. The combination in charging apparatus for a smelting furnace, of a movable distributor for charging material and mechanism for imparting reciprocatory movement to said distributor, said mechanism comprising a heart cam and a members engaging the surface of said cam and connected with said distributor.
15. The combinaton in charging apparatus for a smelting furnace, of a movable distributor and mechanism for imparting periodic movement to said distributor, said mechanism comprising a heart cam, a travelling structure moving in guides and having a part in contact with said cam, and connections between said structure and said distributor.
16. The combination in charging apparatus for a smelting furnace, of a movable distributor for the charging material and mechanism for imparting periodic motions to said distributor and comprising a heart cam tapering from one end to the other and of the exact contour intermediate of its ends to impart uniform reciprocatory movement to a member engaging the cam. a travelling structure to which motion is imparted by the rotation of said cam, a roller carried by said travelling structure and engaged by said cam, said roller being adjustable between the ends of the cam.
17. The combination in charging apparatus for a smelting furnace, of a distributor for the charging material and mechanism for imparting periodic movement to said distributor, said mechanism comprising a cam and a structure to which reciprocatory movement is imparted by said cam, a pulley mounted on a fixed axis and a pulley carried by said structure, and a cable rove over said pulleys and connected with said distributor.
18. The combination in furnace charging apparatus, of an endless conveyer, a fixed receiving hoppor into which said conveyer delivers, a distributor arranged for recinrocatory movement adjacent to said furnace so as to deliver material thereinto throughout its movement, and shiftable members for conducting the material delivered from sald hopper to said distributor during the movoment of sald distributor.
19. In furnace charging apparatus, the combination with means for incroducing charging material within the furnace hood, of distr buting d viecs (nclosed within the ftrace hoos and arranged for periodic movement in a single vertical plane.
20. In furnace charging apparatus, the combination with a furnace hood having a hopper fixed therein and adapted to discharge matcrial within the hood. of a chute or conduit arranged to receive material from said fixed chute and having its lower cad mounted for periodic movement in a single vertical plane.
21. The combination with a furnace hood having a charging aperture therein, of means for discharging material through said aperture and aptomatic operative distributing devices within the furnace hood, said distributing devices being arranged for reciprocatory movement in a single vertical plane only and adapted to receive material from said charging aperture in all positions of said distributing devices.
22. In furnace charging apparatus, the combination with \(\Omega\) furnace hood, of a carriage arranged for transverse movement in a single vertical plane at the base of the hood, a hopper mounted on said carriage and enclosed within the hood, and means for supplying charging material to said hopper.
23. In furnace charging apparatus, the combination with a furnace hood, of a carriage arranged for reciprocatory movement transversely trrough said hovd, a condult having its lower end arranged for travel with said carriage and its upper end resting on a fixed support, and means for supplying charging material to the said conduit at its upper end,
24. In furnace changing apparatus, the combination कith a furnace hood, of a carriage arranged for reciprocatory movement transversely through the hood at its base, a hopper fixed upon said carriage, a conduit having its lower end pivoted on said hopper, a roller fixed in the upper part of said hood upon which the upper end of said conduit rests, and means for supplying charging material to said conduit at its upper end.
25 . The combination with a smelting furnace, of an endless conveyer having a fixed supporting frame, said conveyer having a movable point of discharge and being adapted to deliver material at the movabis point of discharge to the furnace.
26. In furnace charging apparatus, the combination with an endless conveyer having a fixed supporting frame and a shiftable point of discharge, of means for directing the material discharged from the conveyer into the furnace.
27. In furnace charging apparatus, the combination with an endless conveyer having a fixed supporting frame, of travelling apparatus for discharging material from said conveyer and directing it into the furnace.
28. In furnace charging apparatus, the combination with an endless conveyer having a shiftable point of discharge and
a fixed supporting irame, of a discharge spout or condult shiftable with the point of discharge for the conveyer and arranged to deliver material to said furnace.
29. In furnace charging apparatus, the combination with a conveyer having a movable point of discharge, of a discharge spout extending downwardly from said conveyer ant formed in relatively adjustable sections.
30. In furnace charging apparatus, the combination with a conveyer having a movable point of discharge, of a discharge spout extending from the conveyer toward the furnace and having its lower end adjustable toward and away from the median line of the furnace.
31. In furnace charging apparatus, the combination with a conveyer and a travelling tripper or deliverer for sald conveyer, of a discharge spout carried by said tripper or deliverer and having its lower end adjustable so as to control the delivery of material within the furnace.
32. In furnace charging apparatus, the combination with an endless conveyer and a travelling deliverer for said conveyer, of a discharge spout extending from sald deliverer and having the upper section rigidly attached to the deliverer and the lower section pivotally connected with the upper section.
83. In furnace charging apparatus, the combination with a conveyer having a shiftable point of discharge, of a discharge spout extending downwardly from the conveyer at the point of discharge and shiftable with its point of discharge, and a deflector disposed beneath the lower end of said discharge spout.
34. In furnace charging apparatus, the combination with means for supplying charging material, of a spout or conduit for conducting said material into the furnace, said discharge spout being arranged for reciprocatory movement bencath the furnace, and an adjustable deflector arranged beneath the end of said discharge spout.
35. In furnace charging apparatus, the combination with a conveyer having a fixed supporting frame and a travelling deliverer or discharger for said conveyer, of a discharge spout extending downwardly from said deliverer or discharger, and means at the lower end of said discharge spout for deflecting the material passing therethruugh.

No. 102,761. Reduction of Metallic Compounds.
Réduction des composés métalliques.


The Union Carbide Company, assignee of Edga: F. Price, all of Niagara Falls, New York, U.S.A., 25th December, 1906; 6 years. Filed 9th August, 1906. Recelpt No. 138,541.
Claim.-1. The process of smelting a charge of divided materials, which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a relatively large body, and electrically heating said body to the required temperature, as set forth. 2. The process of smelting a charge of divided materials, which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperature, removing the product and supplying fresh materials as required, as set forth.
3. The process of smelting a charge of divided materials, which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a relatively large body, alectrically heating said body to the required temperature, maintaining the smelting zone or region of highest temperature within said body, removing the product and supplying fresh materials as required, as set forth.
4. The process of melting a charge of divided materials, which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperature, maintaining the smelting zone or region of highest temperature within said body, removing the product and supplying fresh materials as required, as ret forth.
5. The process of smelting a charge of divided materials, which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a relatively large body, and heating sald body to the required temperature by an electric arc or arcs maintained within the body, as set forth.
6. The process of smelting a charge of divided materials, which consists in preheating the charge by showering it through a hot atmosphere, callecting the showered particles into a relatively large body, heating said body to the required temperature by an electric arc or arcs maintained within the body, removing the product and supplying fresh materials as required, as set forth.
7. The process of producing calcium carbide, which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, and electrically heating said body to the required temperature, as set forth.
8. The process of producing calcium carbide, which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperature, removing the carbide and supplying fresh materials as required, as set forth.
y. The process of producing oalcium carbide, which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperature, and maintaining the smelting zone or aregion of highest temperature within said body, as set forth.
10. The process of producing calcium carbide, which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperature, maintaining the smelting zone or region of highest temperature within said body, removing the carbide and supplying fresh materials as required, as set forth.
11. The process of producing calcium carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, and heating said body to the required temperature by an electric arc or arcs maintained within the body, as set forth.
12. The pnocess of producing calcium carbide, which consists in showerfing a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, heating said body to the required temperature by an electric arc or arcs maintained within the body, removing the carbide and supplying fresh materials as required, as set forth.
13. The process of smelting a charge of divided materials, which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperature, and burning the gases produced by the reaction to furnish the preheating atmosphere, as set forth.
14. The process of smelting a charge of divided materials, which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperatume, maintaining the smelting zone or region of highest tempenature within said body, and burning the gases produced by the reaction to furnish the preheating atmosphere, as set forth.
15. The process of producing calcium carbide, which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large- body, electrically heating said body to the required temperature, and burning the gases produced by the reaction to furnish the preheating atmosphere, as set forth.
16. The process of producing calicum carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperature, maintaining the smelting zone or region of highest temperature within said body and burning the gases produced by the reaction to furnish the preheating atmosphere, as set forth.
17. The process of smelting a charge of divided materials which consists in preheating the charge by showering
it through a hot atmosphere, collecting the showered particles into a relatively large body and electrically heating said body to the required temperature by means of electrodes the ends of which are embedded in said body, as set forth.
18. The process of smelting a charge of divided materials which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperature by means of electrodes the ends of which are embedded in said body, removing the product and supplying frest materials as required, as set forth.
19. The process of smelting a charge of divided materials which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a relatively large body and heating said body to the required temperature by an electric arc or arcs by means of electrodes the ends of which are embedded in sald body, as set forth.
20. The process of smelting a charge of divided materials which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a relatively large body, heating said body to the required temperature by an electric arc or arcs by means of electrodes the ends of which are embedded in said body, removing the product and supplying fresh materials as required, as set forth.
21. The process of producing calicum carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body and electrically heating said body to the required temperature by means of electrodes the ends of which are embedded in said body, as set forth.
22. The process of producing callicum carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperature by means of electrodes, the ends of which are embedded in said body, removing the carbide and supplying fresh materials as required, as set forth.
23. The process of producing calicum carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body;' and heating said body to the required temperature by an electric arc or arcs by means of electrodes, the ends of which are embedded in said body, as set forth.
24. The process of producing calicum carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, heating said body to the required temperature by an electric arc or arcs by means of electrodes, the ends of which are embedded in said body, removing the carbide and supplying fresh materials as required, as set forth.
25. The process of producing calcium carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperature, rotating and thereby removing the carbide from the heating zone and supplying fresh materials as required, as set forth.
26. The process of producing calclum carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, heating said body to the required temperature by an electric arc or arcs by means of electrodes, the ends of which are embedded in said body, rotating and thereby removing the carbide from the heating zone and supplying fresh materials as required, as set forth.

No. 102,762. Process Reducing Componnds and Producing Carbides.
Prodécé pour réduire des composés et produire des carbures.
The Union Carbide Company, assignee of Edgar F. Price, both of Niagara Falls, New York, U.S.A., 25th December 1906; 6 years. Filed 9th August, 1906. Recelpt No. 138,542.
Claim.-1. The process of smelting a charge of divided matetrials, which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a body and electrically heating the body to the required temperature by an electric current passing through a resistance conductor, as set forth.
2. The process of smelting a charge of divided materials which consists in preheating the charge by showering it
through a hot atmosphery, collecting the showered particles into a bady, electrically heating the body to the requirel

temporalure by an cloctric current or current: nasion through a resistance conductor, and increasing the heat supplied by said resistance conductor along the path of the electric current, as set forth.
3. The process of smeliting a charge of divided materials which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a body, electrically heating the body to the required temperature by an electric current or currents passing through a resistance conductor and increasing the heat supplied by said resistance conductor along the path of the electric current to a point where the product becomes molten and may be tapped out, as set forth.
4. The process of smelting a charge of divided materials which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a body, electrically heating the body to the required temperature by an electric current or currents passing through a resistance conductor and increasing the current density along the path of the electric current in said resistance conductor, as set forth.
5. The process of smelting a charge of divided materials which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a body, electrically heating the body to the required temperature by an electric current or currents passing through a resistance conductor and increasing the current density along the path of the electric current in said resistance conductor to a point where the product becomes moltetn and may be tapped out, as set forth.
6. The process of producing calcium carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a body and electrically heating the body to the required temperature by an electric current passing through a resistance conductor, as set forth.
7. The process of producing calcium carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a body, electrically heating the body to the required temperature by an electric current passing through a resistance conductor, and increasing the heat supplied by said resistance conductor along the path of the electric current, as set forth.
8. The process of producing calcium carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a body, electrically heating the body to the required temperature by an electric current passing through a resistance conductor, increasing the heat supplied by said resistance conductor along the path of the electric current to \(A\) point where the carbide becomes molten, and tapping out the molten carbide, as set forth.
9. The process of producing calcium carblde, which consists in showering a charee of divided lime and carbon through a hot atmosphere, collecting the showered particles into a body, electrically heating the body to the required temperature by an electric current passing through a resistance conductor, and increasing the current density along the path of the electric current in said resistance conductor, as set forth.
10. The process of producing calcium carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles jnto a body, electrically heating the body to the required temperature by an electric current passing thrdough a resistance conductor, and increasing the current density along the path of the electric current in said resistance conductor to a point where the carbide becomes molten and may be tapped out, as set forth.
11. The process of producing calcium carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a body, electrically heating the body to the required temperature by an electric current passing through a resist-
ance conductor, and burning the gases produced by the re-action to furnish the preheating atmosphere, as set forth. 12. The process of smelting a charge of divided materials which consists in preheating the charge by showering it through a hot atmosphere, collectling the showered particles into a relatively large body, electrically heating sald body to the required temperature and bringing the product into a molten condition and removing the moltetn product and supplying fresh materials as required, as set iorth.
13. The process of smelting a charge of divided materals whch consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperature and increasing the current density along the path of the current, thereby bringing the product into a molten condition and removing the molten product and supplying fresh materials as required, as set forth.
14. The process of smelting a charge of divided materials which consists in preheating the charge by showering it through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the required temperature and bringing the product into a molten condition, removing the molten product and supplying fresh materials as required and burning the gases produced by the reaction to furnish the preheating atmosphere, as set forth.
15. The process of producing calcium carbide which ccnsists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body to the requirid temperature and bringing the carbide into a molten condition and removing the molten carbide and supplying fresh materials as required, as set forth.
16. The process of producing calcium carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating sald body to the required temperature and increasing the current density along the path of the current, thereby bringing the carbide into a molten condition and removing the molten casbide and supplying frtsh materials as required, as set forth.
17. The process of producing calcium carbide which consists in showering a charge of divided lime and carbon through a hot atmosphere, collecting the showered particles into a relatively large body, electrically heating said body t.o the required temperature and bringing the carbide into a molten condition, removing the molten carbide and supplying fresh materials as required, and burning the gases produced by the reaction to furnish the preheating atmosphere as set forth.
No. 102,763. Apparatus for Reducing Metallic Compounds.
Appareil ì réduire des composés nétalliques.


The Union Carbide Company, assignee of Edgar F. Price, all of Niagara Falle, New Yark, U.S.A., 25th December,
1906; 6 years. Filed 9th August, 1906. Receipt No. 138,543.
Claim.-1. An apparatus for smelting divided materials, comprising means for preheating the material by shower-
ing it through a hot atmosphere, means for collecting the showered particles into a relatively large body, and means for electrically heating said body to the required temperature, as set forth.
2. An apparatus for smelting divided materials, comprising means for preheating the material by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, means for electrically heating said body to the required temperature, and means for removing the product and supplying fresh materials as required, as set forth.
3. An apparatus for smelting divided materials, comprising means for preheating the material by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, and an electric furnace adanted to heat said body to the required temperature and to maintain the smetting zone or region of highest temperature within said body, as set forth.
4. An apparatus for smelting divided materials, comprising means for preheating the material by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, an electric furnace adapted to heat said body to the required temperature and to maintain the smelting zone or region of highest temperature within said body, and means for removing the product from the electric furnace and supplying fresh materials as required, as set forth.
5. An apparatus for smelting divided materials, comprising means for preheating the material by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, and an electric furnace adapted to heat said body to the required temperature by an electric arc or arcs maintained within the body, as set forth.
6. An apparatus for smelting divided materials, comprising means for preheating the material by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, an electric furnace adapted to heat said body to the required temperature by an electric arc or arcs maintained within the body, and means for removing the product from the electric furnace and supplying fresh materials as required, as set forth.
7. An apparatus for smelting divided materials, comprising means for preheating the charge by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, and an electric furnace adapted to heat said body to the required temperature by means of electrodes the ends of which are embedded in said body, as set forth.
8. An apparatus for smelting divided materials, comprising means for preheating the charge by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, and an electric rurnace adapted to heat said body to the required temperature by means of electrodes the ends of which are embedded in said body, and means for removing the product from the electric furnace and supplying fresh materials as required, as set forth.
9. An apparatus for smelting divided materials, comprising means for preheating the charge by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, and an electric furnace adapted to heat said body to the required temperature by an electric arc or arcs by means of electrodes the ends of which are embedded in said body, as set forth.
10. An apparatus for smelting divided materials, comprising means for preheating the charge by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, and an electric furnace adapted to heat said body to the required temperature by an electric arc or aras by means of electrodes the ends of which are embedded in said body, and means for removing the product from the electric furnace and supplying fresh materials as required, as set forth.
11. An apparatus for smelting divided materials, comprising means for preheating the charge by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, means for electrically heating said body to the required temperature, and means for rotating and thereby removing the product from the heating zone, as set forth.
12. An apparatus for smelting divided materials, comprising means for preheating the charge by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, an electric furnace adapted to heat sald body to the required temperature by an electric arc or arcs by means of electrodes the ends of which are embedded in said body. and means for rotating and thereby removing the product from the heating zone, as set forth.
13. An apparatus for smelting divided materials, comprising means for preheating the charge by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, an electric furnace for heating said body to the required temperature, and means for burning the waste gases from the electric furnace to furnish the preheating atmosphere, as bet forth.
14. An apparatus for smelting divided materials, comprising means for preheating the charge by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, an electric furnace adapted to heat said body to the required temperature and to maintain the smelting zone or region of highest temperature within said body, and means for burning the waste gases from the electric furnace to furnish the preheating atmosphere, as set forth.
15. An apparatus for smelting divided materials, comprising an electric furnace, a hood extending down into the upper end of said furnace, and a preheating chamber opening into said hood, as set forth.
16. An apparatus for smelting divided materials, comprising an electric furnace having a revoluble body, a hood depending into said body, an electrode or electrodes in said hood, an a preheating chamber opening into said hood, as set forth.
17. An apparatus for smelting divided materials, comprising an electric furnace, a hood extending into said furnace, a preheating chamber opening into said hood, and a gas conduit leading from said hood into said preheating chamber, as set forth
18. An apparatus for smelting divided materials, comprising an electric furnace having a revoluble body, a hood depending into said body, an electrode or electrodes in said hood, a preheating chamber opening into said hood and a gas conduit leading from said hood into said preand a gas conduit leading iro
19. An apparatus for smelting divided materials, comprising an electric furnace, an electrade or electrodes extending into said furnace, a preheating chamber for supplying material to said furnace, a gas collecting chamber surrounding said electrode or electrodes, and a conduit leading from said gas collecting chamber into said preheating chamber, as set forth.
20. An apparatus for smelting divided materials, com prising an electric furnace, a hood extending into said furnace, a preheating chamber opening into said hood, sald chamber having a transverse passage, an electrode or electrodes extending through said hood, and electrode connections in said passage, as set forth.

No. 102,764. Apparatus for Reducing Compounds and Producing Carbides.
Appareilr à réduire des composés et à produire des carbures.


The Union Carbide Company, assignee of Edgar F. Price, both of Niagara Falls, New York, U.S.A., 25th December, 1906; 6 years. Filed 9th August, 1906. Receipt No. 138,544.
Claim.-1. An apparatus for smelting divided materials comprising means for preheating the material by showering it through a hot atmosphere, an electric resistance furnace and means for charging a body of the preheated material into said furnace, as set forth.
2. An apparatus for smelting divided materials comprising means for preheating the material by showering it through a hot atmosphere, an electric resistance furnace constructed to gradually raise the preheated materlal to the required temperature, and means for charging a body \(o_{i}\) the preheated material into said furnace, as set forth.
3. An apparatus for smelting divided materials comprising means for preheating the material by showering it through a hot atmosphere, an electric resistance furnace constructed to gradually raise the preheated material to tho required temperature and to bring the product into a molten condition, said furnace having a tap hole and means for charging a body of the preheated material into sald furnace, as set forth.
4. An apparatus for smelting divided materials compris. ing means for preheating the material by showering it through a hot atmosphere, an electric furnace having a resistance couductor and means for passing through said conductor, an clectric current of increasing density and means for charging a body of the preheated material into said furnace, as set forth.
f. An apparatus tor smelting divided materials comprising means tor preheating the material by showering it through a hot atmosphere, an electric furnace having a resistancu comlucior, means for passing through sadd conductor an electric current of increasing density and a tap hole adjacelit to the region of maximum current density. athd means for charging a body of the preheating material iltu satd furnace, as set forth.
6. An apparatus for smelting divided matorials comprising means for prehoating the material by showering it through a hot atmospere, an electric resistance furnace, means for charging a body of the preheating material into said furnace, and means for burning the waste gases from the electric furnace to iurnish the preheating atmosphere, as set forth.
i. An apparatus for smelting divided materials comprising means for preheating the material by showering it through a hot atmosphere, means for collecting the showcred particles into a relatively large body, means for electrically heating said body to the required temperature and bringing the product into a molten condition and a tap hole for tho molten product, as set forth.
B. An apparatus for smetting divided materials comprising means for preheating the material by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, and means for gradually heating said body to the required temperature by an electric current of increasing density, as set forth.
9. An apparatus for smelting divided materials comprising means for proheating the material by showering it through a hot atmophere, means for collecting the showcred particles into a relatively large body, means for gradually heating said body to the required temperature and for bringing the product into a molten condition by an electric current of increasing density and a tap hole ior the molten product adjacent to the region of maximum current density, as set forth.
10. An apparatus for smelting divided materials comprisinf: means for preheating the material by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, means for electrically heating said body to the required temperature and an electric current of increasing density and a tap hole for the molten product and means for burning the waste gases to furnish the preheating atmosphere, as set forth.
11. An apparatus for smelting divided materials comprising means for proheating the material by showering it through a hot atmosphere, means for collecting the showered particles into a relatively large body, means for gradually heating said body to the required temperature and for bringing the product into a molten condition by an electric current of increasing density, a tap hole for the molten product adjacent to the region of maximum current density and means for burning the waste gases to furnish the preheating atmosphere, as set forth.

No. 102,765. Gun Barrel. C'anon de fusil.


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Charles Ross Bellamy and Phillip J. Dennig, assignee of a half interest, both of Shreveport, Louisana, U.S.A., 25 th December, 1906; 6 years. Filed 30th April, 1906. Recelpt No. 135,412.
Claim.-1. A gun barrel having a lock block near its muzzle, in combination with a sleeve to fit on the muzzle and having a bayonet slot to engage and clear said block, a choke piece and means to detachably secure the choke piece in the sleeve with the inner end engaging the muzzle piece in the sleeve with the inner end en
of the barrel, substantially as described.
}
2. In combination with a gun barrel having a lock block near its muzzle, a sleeve having a bayonet slot to engage and disengage the lock block and detachably secure the sleeve on the barrel, a choke piece having screw-threaded congagement with the sleeve and adapted to be engaged with the muzzle of the barrel, and means to lock the choke piece against reverse turning when thus engaged with the muzzlu of tho barrel, substantially as described.
i. The combination of a gun barrel having a lock block near its muzzle, a sleeve to fit on the muzzle of the barrel and having a bayonet slot to engage and disengage said lock block, a choke piece having screw-threaded engagement with the outer portion of the sleeve and adapted to bear against the muzzle of the barrel, said choke piece being further provided with ratchet teeth extending around the same, and a detent carried by the sleeve to co-act with said ratchet teeth to prevent reverse furning of the "hoku picer, for the purpose set forth.

\section*{No. 102,766. Mnsic Leaf Turner.}

Tournewi pour feuillets dr musique.


Harry L. Wilson, Portland, Oregon, and Frank H. Walgamot, Port Townsend, Washington. U.S.A., 25th December, 1906; 6 years. Filed 16th Ootober, 1906. Receipt No. 140,343.
Claim.-1. In a music leaf turner, a plurality of leaf turning elements. means for moving said elements bodily successively into active position, and means for successively operating said elements while in active position to turn the leaves.
2. In a music turner, a plurality of leaf turning elements means for moving said elements bodily successively into active position, and means for successively opera:ung said elements while in active position to turn the leaves.
3. In a music leaf turner, a plurality of leaf :uraiag ellments, means including a spring for moving sald c! 2ments bodlly sucerssively into active position, spring propelled means for suc:essively operating said elements while in active position to turn the leaves, and hand means for conirolling the operation of said elements.
4. In a music leaf turner, a leaf turning element, mean: for elevating said element bodily into active position, and means for horizontally swinging said element from its active position to turn a leaf.
5. In a music leaf turner, a leat turning element, means for elevating said element bodily into active position, means ior horizontally swinging said element from its active position to turn a leaf, and a support for said element during its swinging movement, said support terminating to permit the depression of said elem?nt at the end of its swinging movement
6. In a music leaf turner, a leaf turning element, means for including a spring for elevating said element bodily into active position, normally locked means including a spring for horizontally swinging said element from its active position to turn a leaf, hand controlled means for releasing said last-named means, and a support for said element during its swinging movement, said support terminating to permit the depression of said element as at the end of its swinging movement.
7. In a music leaf turner, a lower fixed casing, an upper spring rotated casing, hand controlled means for locking and releasing the upper casing, a plurality of leaf turning elements vertically movable in the lower casing to successively occupy a recess in the upper casing, and a spring in the lower casing to move said elements.
8. In a music leaf turner, a lower fixed casing having therein oppositely disposed vertical tubes and vertical slots in
ils walls at said tubes, leaf turning arms slidably arranged at their inner ends in one of the tubes and slots, a spring for moving said arms in sald tube.and slot, a shaft extending vertically from the lower casing, an upper casing rotatable on said shaft and moved by a spring and having in its lower end recesses normally registering with baid tubes and slots.
9. In a music leaf turner, a lower flxed casing having therein oppositely disposed vertical tubes and vertical slots in its opposite walls communicating with sald tubes, leaf turning arms slidably arranged at their inner ends in one of the lubes and slots, a spring pressed follower for vertically moving sald arms, a shaft extending vertically from the lower casing, an upper casing rotatable by spring action on said shaft and having its lower ends oppositely disposed. recesses normally registering with the tubes and slots, stops on the upper casing and a spring pressed hand controlled dog for locking and releasing said upper casing.
10. In a music leaf turner, a lower fixed casing having its opposite sides vertical, recesses having oppositely extending lateral extensions, leal turning arms slidably confined at their inner ends in said recesses, a spring pressed follower for vertically moving said arms, said follower having a handle and adapted to be turned laterally to engage one of the recess extensions to hold it in depressed position to permit the insertion of the arm ends in the opposite extension, a shaft extending vertically from the lower casing, an upper casing rotatable by spring action on said shaft and having its lower recesses normally registering with the aforesaid recesses. stops for limiting the movements of the upper casing and hand controlled means for locking and releasing said upper casing.

No. 102,767. Storage Battery.
Accumulateur d'éléctricité à plaque.


James H. Churchill, Quincy, assignee of the interest of Alfred Elmare Knight, Somerville, both in Massachusetts, U.S.A.. 25th December, 1906; 6 years. Filed 24th July, 1906. Receipt No. 138,131.
Claim.-1. In a storage battery, in combination, a battery plate provided with slots extended from one edge or side to form arms having their edges separated from one another, a guide loosely applied to the plate and extended transversely of said arms to direct said arms in their expansive movement laterally, and means to secure said - guide to said plate.
2. In a storage battery, in combination, a positive plate, a guide loosely applied to said plate and co-operating with one edge of the said plate to permit expansion of the same and yet resist buckling of said plate, and means to secure said guide to said plate.
3. In a storage battery, in combination, a battery plate suspended at its upper end and having its lower end free, and means loosely applied to said plate transversely thereof to permit free lateral movement of said plate and to guide tho same in its lateral movement, for the purpose specified.
4. In a storage battery, in combination, a plate suspended at its upper end and having its lower end free, and means loosely applied to the lower free end of said plate to permit lateral expansion yet resist buckling of said plate.
5. In a storage battery, in combination. a positive plate and a negative plate, one of the said plates being extended below the other and a guide co-operating with a portion of the plate extended below the other to permit expansion and yet resist buckling of the plate which is extended below the other, said guide being loosely applied to the plate with which it co-operates, substantially as described.
0. In a storage battery, in combination, a battery plate, supports for the opposite sides of said plate provided with slots, and means attached to said plate intermediate its ends and extended loosely into said slots to move therein and guide the plate in its expansive movement, substantially as described.
7. In a storage battery, in combination, a battery plate provided with a projection intermediate its ends, and means having a slot into which said projection is loosely extended to permit movement of said projection in said slot for guiding said plate in its expansive movement, substantially as described.
©. In a storage battery, in combination, a battery plate substantially anchored at one end and having its opposite end free to expand in one direction, and means loosely applied to said plate and co-operating with the free end thereot to permit expansion of the plate in a direction substantially at right angles to the first-mentioned direction and yet resist the buckling or distortion of the plate by the expansion in the second-mentioned direction.
9. In a storage battery. in combination. a plate, a support for one side of said plate provided with a slot, means attached to the said plate intermediate its ends and extended loosely into said slot to move therein. and a guide loosely applied to one cdge of said plate to permit expansion of the same and yet resist buckling of the said plate, substantially as described.
10. In a storage battery, in combination, a battery plate, in a substantially non-oxidized condition substantially anchored at one end and having its opposite end free, and means loosely applied to the free end of sald plate to permit free lateral movement of said plate as it is oxidized and yet resist buckling of said plate under the influence of such oxidation, substantially as described.

No. 102,768. Apparatus for Making Cellulose Vessels.
Appareil pour fabriquer des récipients en cellulose.


The Roenitz Exploiting Company, assignee of William Glader, both of Chicago, Illinois, U.S.A., 25th December, 1906; 6 years. Filed 9th June, 1906. Receipt No. 136,744.
Claim.-1. In an apparatus for forming receptacles for cellulose pulp, comprising a main frame, an upper plate, having an opening therein, secured to said frame, a base plate having an opening therein secured to the main frame below the upper plate, a plurality of concave staves, having flanges at each side thereof disposed between the upper plate and base plate, a plurality of concave segments held in contact with the flanges of the staves by means of the preseure of a spiral spring, said staves and segments forming a circular mould, flaring upwardly from the bottom, and forming a continuous pressing surface against the outer surface of the receptacle, a plunger movable in and out of the mould formed by said staves and segments. eccentric shafts, carrying pinlons disposed between the upper plate and base plate. connecting rods connecting the stave to said eccentric shafts, thus moving the staves inwardly or outwardly when the pinions are rotated, substantially as described.
2. An apparatus for forming a receptacle from cellulose pulp, comprising a main frame, an upper plate having an opening therein, secured to said frame, a base plate having an opening therein, secured to the main frame beneath the upper plate, a plurality of concave staves, having flanges on each side thereof disposed between the upper plate and base plate, a plurality of concave segments held in contact with the flanges on said staves by means of the tension of a spiral spring, said staves and segments forming a circular mould, flaring upwardly from the bottom and forming a continuous pressing surface against the outer surface of the receptacle, ribs on the under surface of the upper plate, adapted to engage the grooves in the upper and lower ends of the staves, a plunger movable in
and out of the mould formed by the staves and segments. a plurality of eccentric shafts, carrying pinions journalled in the upper plate and base plate, connecting rods connecting the eccentric shafts to the staves, means for operating said shafts, thus moving the staves inwardly and outwardly, substantially as desaribed.
3. An apparatus for forming a receptacle from cellulose pulp, comprising a main frame, an upper plate having an pulp, comprising a main frame, an upper plate and base plate having openings intermediate thereof secured \(t\) said beneath the upper plate, a plurality of staves and segments, disposed between the upper plate and base plate. forming a mould, flaring outwardly from the bottom, and forming continuous pressing surface against the outer surface of the receptacle, means for moving the staves inwardly and outwardly, a plunger movable in and out of the mould, formed by the staves and segments, an auxiliary frame secured to the lower end of the main frame, a movable sleeve disposed between the upper plate of the auxillary frame and the bearing plate, a gear wheel secured to said sleeve, screw threads in the lower portion of said sleeve, sald screw threads engaging the screw threads on the lower end of the shaft, which operates in the sleeve in sald auxiliary frame, the upper end of said shaft having a spider to which is secured the die for forming and compressing the bottom of the receptacle, gear transmission far rotating the shaft, carrying the forming die, upwards and downwards, substantially as described.
4. An apparatus for forming receptacles from cellulose pulp, comprising a main frame, an upper plate an base plate, having openings intermediate thereof, secured to said frame, a bottom forming die, a plurality of staves and segments disposed between said upper plate and base plate. forming a circular mould, a plunger operated vertically by means of a rack gear, said plunger belng adapted to fit into said mould, against which the cellulose pulp is pressed by the staves and segments, and bottom forming die, during the formation of a pail, substantially as described.
5. An apparatus for forming a receptacle from cellulose pulp comprising a main frame, an upper plate and a base plate having openings intermediate thereof secured to said frame, a bottom forming die, a plurality of staves and scgments disposed between the upper plate and base plate forming a circular mould, a plunger operated vertically by means of rack gear adapted to fit into the mould, and against which the cellulose pulp is pressed by the staves and segments and the bottom forming die during the formation of a receptacle, a flange on the head of the plunger, a releasing rim normally held in contact with said flange by means of the tension of a spiral spring, a plurality of pipes rigidly secured to the head of the plunger and extending into the plunger, the upper end of said pipes connected to a bifurcated extension, substantially as described.
O. An apparatus for forming receptacles from cellulose pulp comprising a main trame, an upper plate and base plate rigidly secured to the main frame, openings intermediate of said upper and base plate, a plurality of concave staves having flanges disposed between said plates, a plurality of eccentric shafts journalled in the upper plate and base plate and connected to sald staves by means of connecting rods, a plurality of concave segments lield in contact with the flanges on the staves by means of a spiral spring exerting lateral pressure thereon, said staves and segments forming a circular mould, pinions on the lower of the eccentric shafts meshing with the gear wheel secured by means of a collar to the under surface of the base plate, said gear wheel meshing with a pinion on the shaft operated by the driving pulleys, a plunger provided with a head, a releasing rim normally held in contact with the flange on said head by means of a spiral spring encircling a contact post, a rack bar carrying gears operated vertically by means of gear transmission connected with the driving pulleys moving the plunger upward and downward, substantially as described.
7. An apparatus for forming a receptacle from cellulose pulp comprising a main frame, an upper plate and base plate having openings intermediate thereof secured to the main frame, a plurality of staves and segments disposed between the upper plate and base plate forming a mould, means for moving the staves and segments inwardly and outwardly, a plunger movable in and out of the mould, an auxiliary frame secured to the lower end of the main frame, a movable sleeve disposed between the upper plate intermediate of the auxiliary frame and bearing plate, a cylinder secured to the upper portion of the auxiliary frame and extending into the opening in the base plate, a gear wheel secured to sald sleeve having screws threads in the lower portion thereof, a shaft, the lower end of which is provided with external screw threads which are adapted to engage the screw threads in the lower end of the mov-
able sleeve, the upper end of said shaft being provided with a spider and adapted to operate in the cylinder, a bottom forming die secured to said spider, means for operating shaft carrying the splder and die upwardly and downwardly, substantially as described.
8. An apparatus for forming a receptacle from cellulose pulp comprising a main frame, an upper plate and base plato having openings intermediate thereof secured to sald frame, a plurality of staves and segments disposed between the said upper plate and base plate, forming the sides of the mould for compressing the cellulose pulp. a bottom forming die operated vertically forming the bottom of the mould, a vertically movable plunger adapted to be placed into said mould and against which the cellulose pulp is pressed by the inward movement of the staves and segments and the upward movement of the bottom forming die. means for drawing staves and segments and the bottom forming die away from the cellulose pulp pressed against the plunger, and means for lifting the plunger with the receptacle adhering thereto out of the mould and removing the said receptacle therefrom, substantially as
dsscribed dsscribed.

No. 102,769. Musical Instrument.
Instrument de musique.


102769
The Chase and Baker Company, assignec of Joseph Herbert Chase and William Frederick Bayer, all of Buffalo, New York, U.S.A.. 25th Dec mber, 1006; 6 yenrs, Filed 11!th July, 1906. Receipt No. 137,951.
Olaim.-1. The combination with the piano action and the manual keys, of a wind chest arranged below the keys, motor pneumatics mounted on the front portion of the wind chest and having their movable boards arranged above their fixed baseboards, levers arranged between the wind chest and the keys and having their front arms connected with the respective pneumatics and stickers loosely interposed between the under sides of the keys and the rear arms of said levers, substantially as set forth.
2. The combination of the sound producing parts, a tracker board, a wind chest composed of a fixed rear section and a removable front section, motor pneumatics for the sound producing parts mounted on the removable section of the wind chest, valve mechanism in the wind chest controlling the passage of the air to and from said pneumatics, and tracker connections extending from the tracker board to the fixed action of the wind chest, substantially as set forth. 3. The combination with the piano action and the manual keys, of a tracker board, a wind chest arranged below the keys and composed of a fixed rear section and a front section removably secured to the rear section, motor pneumatics mounted on said removable section, levers also carried by sa:d removable section and operatively connected with the pneumatics and stickers interposed between said levers and the piano keys, substantially as set forth.
4. The combination with the piano action and the manual keys, of a tracker board, a wind chest arranged below the keys and composed of a flxed rear section and a front sec-
tlon removably secured to the rear section, motor pneumatics mounted on the front portion of the removable section and having their movable boards arranged above their fixed baseboards, levers carried bv said removable section and arranged between the top therenf and the rear portion of the Key tab'e. the front ar ns of said levers being connected with the respective pneumatics and stickers passing through the rear portion of the key table and bearing loosely against the undersides of the kevs and the rear arms of said levers. substantially as set forth.
5. The combination with the niano action, the keys and the key table, of a tracker board arranged above the keys, a wind chest arranged below the kev table. motor nneumatins act'n : on the keys, valve mechanism in the wind rhest controlling the passage of the air to and from the pneumatics, and a tracker frame or comb comprising an upner bar arranged on the front side of the piano action and having air passages or chambers connected with the ducts of the tracker board, a lower bar secured to the kry table in rear of the keys and having passagos connected with the wind chest, any rigid tubes secured at their ends to said bars and connecting corresponding passages thereof and passing between the stickers of the piano action, substantally as set forth.

No. 102,770. Conveyer. Transport.


John Androw Brown, Portland, Oregon, U.S.A., 25th December, 1906 ; 6 years. Filed 29th October, 1906. Receipt No. 140,724.
Claim.-1. In a portable conveyer the combination of a frame, carrier wheels under the middle part thereof. an electric motor in such middle part of the frame and having a transversely arranged projecting axle, a miter gear on such projecting axle end, a gear meshing with such miter gear and having a shaft journalled lengthwise of the frame to one end thereof, a miter gear on the extremity of such shaft, a driven drum journalled in such frame end. a gear on the axle thercof and meshing with the last mentioned miter gear and a continuous casing entircly enclosing such motor and power transmitting means, the parts being arranged on the frame to balance each other over the wheel base.
2. A conveyer comprising a frame, carrier wheels under the middle part thereof, a series of rollers fournalled in the upper part of the frame to support the carrier end of the carrier belt. rollers journalled at the ends of said middle part to support the return end of such carrier belt. a positively driven drum at one end of the frame, a longitudinally movable drum at the opposite end of the frame. a motor in the middle part of the frame. means transmitting the power of such motor to the driven drum, and a continuous casing entirely enclosing such motor and nower transmitting means, the parts being arranged on the frame to balance each other over the wheel base.
3. A conveyer comprising a frame, carrier wheels under the middle part thereof, a series of concaved rollers journalled in the upper part of the frame to support the carrier end of the carrier belt, rollers made with shoulders near the ends and journalled at the ends of said middle part to support the return end of such carrier belt, a positively driven drum at one end of the frame. a longitudinally movable drum at the opposite end of the frame. a motor in the middle part of the frame. means transmitting the power of such motor to the driven drum and a continuous casing entirely enclosing such motor and power transmitting means, the parts being arranged on the frame to balance each other over the wheel base.

No. 102,771. Connection for Pole Plates of Storage Batteries.
Raccordement pour plaques des pôles d'accumulatcurs électriqucs.


Gustav Dreidhardi, No. 1 Hinschenwey, Hamburg, Eimsbüttel, Germany, 25th December, 1906; 6 years. Filed 1st August, 1906. Receipt No. 138,324.
Claim.-1. Improved connecting means for the pole plates of the individual cells of storage batteries comprising in combination a pair of mercury cups \(c\) arranged on the lead electrodes \(a\) to be connected together, a lining \(d\). of a substance non-affected by mercury in each cup c tightly adhering thereto, a bridge piece \(f\) of variable length adapted to be dipped with its two extremities in the mercury cups of two electrodes so as to co-act with the mercury to complete the conncction, and a lid \(g\) of insulating material for covering the mercury cups, substantially as set forth.
2. Improved connecting means for the pole plates of the individual cells of storage batteries comprising in combination, a pair of mrrcury cups constructed integral with the lead electrodes \(a\) to be connected together, a lining \(d\), of a substance non-afficted by mercury in each cup ctightly adhering thereto, a bridge piece \(f\) of variable length to be dipped with its two extremities in the mercury cups of two electrodes so as to co-act with the mercury to complete the connection, and a lid \(g\) of insulating material for covering the mercury cups, substantially as set forth.
3. Improved connecting means for the pole plates of the individual cells of storage batteries comprising in combination, a pair of mercury cups carranged on the lead electrodes \(a\) to be connected together, a lining \(d\), of a substance nonaffected by mercury in each cup ctightly adhering thereto. a bridge piece \(f\) of variable length adapted to be dipped with its two extremitios in the mercury cups of two electrodes so as to co-act with the mercury to complete the connection, and a lid \(g\) of insulating material for covering the mercury cups, said lid having apertures for the penetration of the extremities of the bridge piece \(t\), substantially as set forth.

No. 102,772. Glass Melting Pot.
Chaudic̀re pour la fonte du verrc.


Henry Clay Fry, Rochester, Pennsylvania, U.S.A., 25th December, 1906; 6 years. Filed 6th August, 1906. Receipt No. 138,448 .
Claim.-1. A glass melting pot having a hollow wall above the metal line of the pat to form a charging and fusing chamber, said chamber being onen only to the pot interior and to the exterior of the pot heating furnace.
2. A glass melting pot constructed with a hollow crown above the metal line of the pot to form a charging and fusing chamber, the crown cavity being open only to the pot interior and to the exterior of the pot heating furnace.
3. A glass melting pot constructed with a hollow crown to form a charging and fusing chamber, said chamber exlonding from front to rear of the pot above the metal line thereof and open at its rear to the pot interior and at its front to the exterior of the pot heating furnace.
4. A glass melting pot wholly closed to the furnace in which it is heated, the pot crown being hollow above the metal line to form a charging and fusing chamber, said chamber sloping downwardly from front to rear with its lower end communicating with the pot interior and its front or upper end open to the exterior of the pot heating furnace.
5. A glass melting pot having a working chamber in its front and a working mouth communicating therewith, a refining chamber at the rear of the working chamber, and a charging and fusing chamber above the refining chamber and open only thereto and to the exterior of the pot heating furnace.
6. A glass melting pot having a working chamber at the front provided with a working mouth, a refining chamber at the rear of the working chamber, and a charging and fusing chamber above and extending longitudinally of the pot from front to rear, the charging chamber being wholly closed to the pot heating furnace but open to the exterior thereof, the rear portion of the charging chamber being open to the refining chamber.
7. A glass melting pot having a working chamber in the front provided with a working mouth, a refining chamber at the rear of and communicating with the working chamber, the pot crown being hollow from front to rear to form a charging and fusing chamber which at the rear communicates with the refining chamber and at the front is open to the exterior of the pot heating furnace.

\section*{No. 102,773. Manufacture of Iron and Steel.}

\section*{Préparation du fer ct de l'acier.}

Montague Moore, Melbourne, and Thomas James Heskett, Brunswick, Victoria, both in Australia, 25th December, 1906; 6 years. Filed 10th August, 1906. Receipt No. \(138,516\).
Claim.-1. In the direct process of manufacturing iron and steel. keeping the slag in the gas or other reverberatory furnace in the ferrous condition, that is, in a state in which it contains a minimum of oxygen and is prevented from absorbing oxygen from the gases of the furnace thereby preventing any oxidation of the reduced iron by contact with the slag.
2. Keeping the slag in a gas or other reverberatory furnaco in the ferrous condition by the addition thereto, or in contact therewith, of solid carbon or other suitable deoxidizing material, or an admixture of reduced íron and carbonaceous or other suitable deoxidizing material. according as to whether wrought iron or steel is to be manufactured.
No. 102,774. Process of Purifying Flnids.
Procédé de purification des liquides.


George Huntington Reynolds, Mansfield Depot, Connecticut, U.S.A., 25th December, 1906; 6 years. Filed 15th May, 1905. Receipt No. 125,209.

Claim.-1. The art of purifying fluids comprising the generation of an electric current, the translation of said current by means including electrodes in contact with a secondary liquid, and the transmission of said current to the primary liquid which is suspended in the secondary liquid out of the contact with the electrodes.
2. The art of purifying fluids comprising the generation of an electric current and the transmission of said current through two fluid bodies of different character, which bodies are mechanically separated though electrically connected so that one of said bodies will become purified to a preservative degree.
3. The art of purifying liquids comprising the generation of an electric current, and the translation of said current to and through a plurality of fluid bodies, one of said fluid bodies being in contact with electrodes in the circuit and another of sald bodies being also in the circuit but mechanically separated from the first fluid body and from the electrodes.
4. An apparatus for purifying fluids comprising a tank containing a fluid, a receptacle suspended in said fluid containing a second fluid, and means for translating an electric current 10 and through both said fluids, the said receptacle mechanically separating the fluid contained therein from the fluid contained in the tank, but affording electric connection.
5. An afparatus for purifying fiuids comprising a tank composed of insulated sections, a fluid contained therein, means whereby another fluid may be contained in the first fluid without intermixing therewith, and means for translating an electric current to the second fluid through the first fluid.
6. An apparatus for purifying fluids comprising an electric circuit two different fluids inserted in said circuit, means for translating the current through said fluids, said means comprising electrodes in contact with one of said fluids.
7. An apparatus for purifying fluids comprising an electric circuit, a tank containing a fluid inserted in the circuit, a receptacle containing another fluid inserted in the circuit, and means wher by the current may be translated through both fluids, said means including a device for forming a coagulum in one of the fluids.

\section*{No. 102,775. Apparatus for Sterlizing Liquids.}

Appareil à stériliser les liquides.


Henry Jacques Wessels, Comte de Frise, Paris, France, 25th December, 1906; 6 years. Filed 11th July, 1905. Receipt No. \(126,794\).
Claim.-1. In an apparatus of the character described the combination comprising a plurality of ozonizers, a sterilizer. means for forcing ozone into the bottom of the sterilizer, and means for maintaining a moving liquid in a plurality of different strata in the sterilizer.
2. In an apparatus of the character described the combination comprising a plurality of ozonizers, a sterilizer, a filter adapted to act on a liquid supply for the sterilizer, means for forcing the ozone into the bottom of the sterilizer, and means for maintaining a moving liquid in a plurality of different strata in the sterilizer.
3. In an apparatus of the character described, the combination comprising a plurality of ozonizers, a sterilizer, a pump, means for forcing the ozone into the bottom of the sterilizer, and means for maintaining a moving liquid in a plurality of different strata in the sterilizer.
4. In an apparatus of the character described the combination comprising a plurality of ozonizers, a sterilizer, variable resistances interposed between the ozonizers, means for forcing ozone into the bottom of the sterilizer, and means for maintaining a moving liquid in a plurality of different sitrata in the sterilizer.
5 . In an apparatus of the character described the combination comprising a plurality of ozonizers, each having a plurality of rings, plates disposed between the rings and provided with serrated edges, a conducting tube, a casing disposed around the tube, a jacket disposed around the casing, leaving a space adapted to receive a cooling medium, am insulated block disposed in the jacket and beneath the casing, glass covers for the conducting tube and the jacket, a conductor connected to the conducting tube, variable resistances disposed between the ozonizers, a sterilizer connected with the ozonizers, and means for malntaining a moving liquid In a plurality of strata in the sterilizers.
6. In an apparatus of the character described the combinstion comprising a pluraIity of ozonizers, variable resistances connected with and interposed between the ozonizers and each comprising a non-conducting vessel filled with oil, a glass tube disposed in the vessel, a conducting closure for the bottom of the closed tube, means for securing the closure
to the bottom of the vessel, a liquid body of low conductivity disposed in the tube, a cover for the vessel, and a roll adjustably disposed through the cover, and a sterilizer connected with the ozonizers and a source of water supply.
7. In a device of the character described the combination comprising a source of ozone, a receiver, a plurality of horizontal perforated shelves forming superposed compartments within the receiver, means for siphoning a liquid successively from the uppermost compartment to the bottom of the receiver, and means for distributing the ozone from the bottom of the receiver to the top thereof.
8. In a device of the character described the combination comprising a source of ozone, a receiver having an upper water inlet and a lower water inlet opening and an ozon. escape opening in its top, a plurality of horizontal perforated shelves forming superpoied compartments within thi receiver, means for siphoning a liquid successfvely from the uppermost compartment to the bottom of the receiver, and mrans for distributing the ozon from the bottom of the recelver to the top thereof.

\section*{No. 102,776. Purification of Sugar Juices.}

Lipuration de jus de sucre.
Hermann Wiëse, Detroit, Michigan, U.S.A., 25th December, 1906; 6 years. Filed 10th August, 1906. Receipt No. 138.562.

Claim.-1. The process of purifying sugar juices, which consist in reating the difusion juices with a non-basic sub stance to coagulate the albumen, separating out the coagulated substance and subsequently treating with lime.
2. The process of purifying sugar juices which consist in treating the diffusion juices with an acid to coagulate the albumen, in removing the coagulated substance, and subsequently treating with lime.
3. The process of purifying sugar juices, which consists in treating the diffusion juices with sulphurous acid to coagulate the albumen and to prevent fermentation and inversion. removing the coagulated substance and subsequently treat ing with lime.

No. 102,777. Apparatus for Cleaning and Drying Wool, Hair, Cotton.
Appareil à nettoyer et àsécher la laine. le crin. et le coton.


Thomas Alexander Stephen Wood, 4 St. Thomas Road, London, England, 25th December, 1906; 6 years. Filed 7th August, 1906. Receipt No. 138,472.
Claim.-The improved construction of apparatus for cleaning, dyeing, or otherwise treating wool, hair, cotton, and other animal or vegetable fibrous or textile material, consisting of a fixed tank 1 having blades 14 across the bottom, steam inlet 33, water inlet 32, draw off tap 16 and manholes 17, a revolving cage 12 situate within tank 1 and operated by gear outside of said tank, a reciprocating plunger or piston 18 arranged in said washer 12 and operated by gear outside said tank 1, doors 28 and operated enclosing an opening in said plunger, angled plate 15 on bottom of cage 12 , all arranged and acting substantially as set forth.

\section*{No. 102,778. Smelting Furnace.}

\section*{Fournaise pour la fonde.}

William J. Watson, Ladysmith, British Columbia. Canada 25th December, 1906; 6 years. Filed 30th July, 1906. Receipt No. 138,268.
Claim.-1. In a smelting furnace for the reduction of sulphide ores the combination with a matting chamber pro-
vided with low pressure tuyeres and a slag spout. of a refining chamber separated from the aforementioned cham-

ber by a partition having a passage therethrough in the level of the bottom, said refining chamber having a basic lining and high pressure tuyeres relatively lower than the tuyeres of the matting chamber. and an overflow spout relatively lower than the slag spout of the matting chamber.
2. In a smelting furnace of the class discribed, the combination with a matting chamber having matting tuyeres, and a slag spout, of a bottom downwardly sloping therefrom to a relatively low passsage in the level of the bottom, a refining chamber in connection with the foregoing through said passage, said refining chamber having a basic lining. an overflow spout lower than the slag spout in the matting chamber, converting tuyeres downwardly directed inward, means for conveying away the furnace gases from both chambers, and means for charging ore into each.
3. In a smelting furnace of the class described, the combination with a matting chamber having matting tuyerew and a slag spout, a bottom downwardly sloping therefrom to a relatively low passage in the level of the bottom, a reflining chamber with which said passage connects said refining chamber having a basic lining and a relatively low arched roof, an overflow spout lower than the slag spout of the matting chamber, converting tuyeres below the level of the matting tuyeres of the other chamber, a flue to carry off the furnace gases, a tilting grate in such flue, and means for charging ore thereupon.

No. 102,779. Blast Furnace. Haut fourneav.


Hiram Weave Hixon, Victoria Mines, Ontario, Canada, 25th December, 1906; 6 years. Filed 14th August 1906. Receipt No. 138,701 .
Claim.-1. A blast furnace comprising a lining of refractory material, an alr jacket surrounding the same, the outer wall of said jacket belng curved outwardly and provided with vertical partitions betwen sald lining and said jacket thereby forming a plurality of parallel passages, means for delivering air to the top of said passages, and tuyeres in the lining communicating with the lower end of said passages.
2. A blast furnace comprising a rectangular lining of refractory material, an air jacket surrounding the same and constituting a strengthening brace for said lining, the outer wall of said jacket being curved outwardly and provided with a plurality of perforated, vertical partitions between said lining and said jacket, means for delivering air to said air jacket at the upper end thereof, and means for admitting air from said jacket through said lining at the lower end thereof.
3. A blast furnace comprising a rectangular lining of magnesite, an air jacket surrounding the same, the outer wall of said jacket being covered outwardly and constituting a strengthening brace for said lining. vertical partitions hotwern said lining and said jacket, thereby subdividing said jacket into a plurality of vertical passageways, tuyeres in the walls of said furnace communicating with the lower ends of said passageways, and ports and closures therefor in the outer wall of said air jacket and in alignment with each of said tuyeres, whereby the tuyeres may be freed from obstructions.
4. A blast furnace comprising a rectangular refractory lining, and an air jacket surrounding said lining, the outer wall of said air jacket being curved outwardly and provided with a plurality of spacing braces, whereby the air jacket and its braces constitute a truss for strengthening the walls of the furnace.
5. In a blast furnace, a lining of refractory material, an air jacket surrounding the same, vertical partitions in said air jacket, each of said partitions being provided with a plurality of perforations, tuyeres communicating with the lower end of said air jacket, and means whereby the tuyeres may be freed from obstructions and foreign matter removed from the air jacket.
6. A blast furnace comprising a lining of magnesite, an air jacket surrounding sald lining, spacing partitions in said air jacket, means for admiting air to the upper end of said jacket, means for admitting air from the lower end of said jacket through said lining. means for drawing off the contents of said furnace adjacent the lower end thereof, and a magnesite spout adjacent said draw-off.
7. In a blast furnace, a lining of refractory material, a jacket surrounding said lining. means for admitting air to the jacket at the upper end thereof, and means for admitting air from the jacket to the furnace at the lower end thereof.
8. In a blast furnace, a suitable lining having tuyeres at the lower end thereof, an air jacket surrounding said lining, and means for forcing air into said jacket through said tuyeres.
9. In combination, a blast furnace lining composed of magnesite, an air jacket surrounding said lining, and means for admiting air to the upper end of said jacket and delivering it therefrom into the furnace at the lower end.

No. 102,780. Electrical Annunciator. Avertisseur électrique.

and operating to move the said ratchet wheels forward ua the return or rebound of the said oscillating lever when the electro-magnet is de-magnetized by the opening of the clectric current, a third pawl pivotally attached to the frame of the machine and operating adversely to the other pawls, and adapted to engage the ratchet wheels and limit the movement of the ratehet wheels precisely to the movement of one ratchet at each return of the said oscillating lever, a revolving pivot attached to the frame of the machine, carrying the oscillating lever, and the ratchet wheels, and extendiing through the center of a disc or dial. a dise or dial placed loosely upon the said revolving pivot, the dial being divided into equal segments, each segment being numbered, a hand or indicator fixed to the sald revolving pivot, and extending across the face of the dial, and with a bell to announce the change indicated on the dial, cells of battery to operate the bell. and lights to illuminate the dial intermittently, substantially as described, and for the purposes specifled.
2. The combination of an electro-magnet, with an autocoil and circuit changers, of two ratchet wheels operating adversely to each other, an oscillating lever, a pawl pivoted to the frame of the machine, and operating to prevent the movement of the ratchet wheels when the lever is attached by the action of the electro-magnet, a pawl pivotally attached to the oscillating lever and operating to move the said ratchet wheels forward on the return or rebound of the said oscillating lever when the electro-magnet is de-magnetized by the opening of the electric current, a third pawl pivotally attached to the frame of the machine and operating adversely to the other pawls, and adapted to engage the ratchet wheels and limit the movement of the ratchet wheels precisely to the movement of one ratchet at each return of the sald oscillating lever, a revolving pivot attached to the frame of the machine, carrying the oscillating lever and the ratchet wheels, and extending through the center of a disc or dial, a disc or dial placed loosely upon the said revolving pivot, the dial being divided into equal segments, each segment being numbered, a hand or indicator fixed to the said revolving pivot, and extending across the face of the dial, and with a bell to announce the change indicated on the dial cells of battery to operate the bell. and lights to illumine the dial intermittently, substantially as described, and for the purposes specifed.
i. The combination of an electro-magnet, with a coil. with connecting taps or leads from the coil, at intervals throughout the coil, and circuit changers, of two ratchet wheels operating adversely to each other, an oscillating leves, a pawl pivoted to the frame of the machine, and operating to prevent the movement of the ratchet wheels when the lever is attached by the action of the electric magnet a pawl pivotally attached to the oscillating lever and operating to move the said ratchet wheels forward on the return or rebound of the said oscillating lever when the electro-magnet is de-magnetized by the opening of the electric current, a third pawl pivotally attached to the frame of the machine and operating adversely to the pawls, and adapted to engage the ratchet wheels and limit the movement of the ratchet wheels precisely to the movement of one ratchet at each return of the said oscillating lever, \& revolving pivot attached to the frame of the machine, carrying the oscillating lever and the ratchet wheels, and extending through the center of a disc or dial, a disc or dial placed loosely upon the said revolving pivot, the dial being divided into equal segments, each segment being numbered. a hand or indicator fixed to the said revolving pivot. and extending across the face of the dial, and with a bell to announce the change indicated on the dial. cells of battery to operate the bell, and lights to illumine the dial inter mittently, substantially as described and for the purposes specifled.

No. 102,781. Box for Talking Machine Needles.

\section*{Boite pour aiguilles de phonographe.}

Horace Sheble, Philadelphia, Pennsylvania and Ellsworth Adam Hawthorne, Springfield, Massachusetts, U.S.A.. 25th December, 1906; 6 years. Filed 21st September, 1900. Recelpt No. 139,668.

Claim.-1. A box or case for talking machine needles, said box or case having compartments for used and unuser ncedles, and a lid or cover having an opening communicat ing with the compartment which receives the used needles.
2. A box or case for talking machine needles, said box or case having compartments for used and unused needles, and a lid or cover chambered for the reception of unusen needles, and having an opening communicating with the compartment which receives the used needles.
3. A box or case for talking machine needles. said box or case having a plurality of compartments for the reception of unused needles, a compartment for the reception of used

Goldsmith English and Edward Jennings, co-inventors, both of Windsor, Ontario, Canada, 25th Decemb
rears. Filed
years. Filed
Claim.-1. In an electrical annunciator the combination with an electro-magnet, and circuit changes, of two ratchet wheels operating adversely to each other, an oscillating lever, a pawl pivoted to the frame of the machine, and operating to prevent the movement of the ratchet wheels when the lever is attracted by the action of the electromagnet, a pawl pivotally attached to the oscillating lever
needles, and a lid or cover having an opening communicating with the latter compartment.

4. A box or case for talking machine needles, said box or caso having a plurality of compartments for the reception of unused needles, a compartment for the reception of used needles, and a lid or cover having an opening communicating with the latter compartment, and a plurality of chambers in the top for the reception of unused needles.
5. A box or case for talking machine needles, said box or case having compartments for used and unused needles, and a lid or cover having a projecting tubular boss communicating with the compartment which receives the used needles, and serving as a handle for the manipulation of said lid or cover.
0. A box or case for talking machine needles, said box or case having a false bottom with tubular projection communicating with the compartment below said false bottom, and a lid or cover having an opening registering with said tubular projection when the lid or cover is closed.

\section*{No. 102,782. Garment Support.}
support pour vitements.


Joseph W. Stockwell and Raymond Coates, both of Jackson Michigan, U.S.A., 25th December 1906; 6 years. Filed 10th October, 1906. Receipt No. 146,188.
Claim-1. A garment supporting device comprising a main body portion, a hook projecting from one side thereof, an inverted hook on the opposite side of the body portion, adapted to suspend a garment, and means at the rear of the first-mentioned hook for rigidly securing the device to a garment or the like, said means comprising a hook resilliently mounted with respect to the body portion.
2. A garment supporting device comprising a body portion, a resilient bar substantlally parallel therewith and epaced therefrom, a hook on the bar projecting toward the body portion, a hook on the body portion on the side opposite the bar, and an inverted hook on the body portion.
3. An article of manufacture comprising a body portion having a hook at its lower end and extending to one side thereof, a top portion extending from the body portion on the opposite side from the hook, a second hook in an inverted position extending downwardly from said top portion, a bar extending downwardly from the top of said inverted hook, means for resiliently connecting said bar with the top portion, and a hook on the lower end of sald bar projecting upwardly and toward the body portion.
4. An article of manufacture composed of a single piece of wire, a bend belng formed at the center of said plece of wire, the two parts of the wire extending upwardiy from the bend to form a body portion, then rearwardly from the upper end of the body portion, thence downwardly therefrom to form an inverted hook, and from the extremity of this hook upwardly again to the upper end of the body portion, thence downwardly upon a line parallel to the body portion, but spaced therefrom, and each of the last-mentioned downwardly extending portions of the wire being provided with moans for securing it to a garment located at its lower end.
5. An article of manufacture consisting a single piece of wire, and comprising a hook formed at the center of said plece of wire, the wire belng bent upon itself at the extremity of said hook, the two parts thereof extending parallel to each other upwardly from the hook to form a body portion, rearwardly from the upper end of the body portion, thence downwardly therefrom to form an inverted hook. and from the extremity of this hook upwardly again to the upper end of the body portion, then downwardly upon a line parallel to the body portion, but spaced therefrom, and each of said portions of the wire being provided with a sharpened upwardly and inwardly inclined hook at the lower end of said last-mentioned downwardly extending portion.
6. An article of manufacture composed of a single piece of wire and comprising a bend formed at the center of said piece of wire, the two parts thereof extending upwardly from the bend to form a body portion, then rearwardly from the upper end of the body portion, thence downwardly therefrom to form an inverted hook, and from the extremity of this hook upwardly again to the upper end of the body portion, thence being bent in a reverse direction to form resilient loops above the upper end of the body portion, and then downwardly along the line parallel to the body portion, and each end of the last-mentioned downwardly extending portions of the wire being provided with means for securing it to a garment.
7. An article of manufacture comprising a body having a hook on one side thereof, a portion extending from the body on the opposite side from the hook, a second hook in a reverse position extending from said portion in a direction toward the end of the body upon which the first-mentioned hook is located, a bar extending from a point beyond said portion in a direction parallel with the body toward the first-mentioned hook, means for resiliently connecting the bar with the said portion, and a hook on the end of said bar projecting at an angle toward the body.

No. 102,783. Burglar Alarm. Alarme d cambrioleurs.


Burton S. Bell, Reo Heights, South Dakota, U.S.A., 25th December, 1906; 6 years. Filed 27th September, 1906. Recelpt No. 139,845.
Claim.-1. In a device of the class specifled, a pair of plates arranged to slide one on the other and provided with toothed end portions, one of said plates being provided with
clongated slots, bolts carried by the other member and extending through said slots, nuts arranged on the bolts to adjust the fractional contact between said plates, a battery and an alarm carried by one of the plates, and normally spaced contacts carried by said plates and movable into engagement with each other as the plates slide.
2. In combination, a pair of slidable plates provided with toothed end portions, one of said plates having an elongated slot, a standard carried by the opposite plate and extending through sald slot, a contact carried by said standard, a bell, a contact carried by one of the binding posts of the bell and arranged to engage the standard carried by contact, and a battery, one pole of which is connected to the standard carried contact, and the opposite pole to the second binding post of the bell.

No. 102,784. Clip for Ironing Board Coverm.
Pinces pour couccrture de planches d repasser.


William L. Ely and Gertrude L. Ely, co-inventors, both of Cleveland, Ohio, Li.S.A., 25th December, 1906; 6 years. Filed 10th Suptember, 1306. Receipt No. 139,385.
Claim.-1. A clip for ironing board covers, comprising a flat spring member adapted to be permanently secured to the board and provided with an angular end adapted to ensage the cover and hold the same against the board.
2. A clip for ironing board covers comprising a that spring mumber adapted to de permanently secured to the board and provided with anguiar ends formed of two pointed prongs adapted to engage the cover and retain the same "balust the board.
\(\dot{\sim}\). A cllp for aroning board covers comprising a member provined with prongs at its ends adapted to engage the cover and detachably secure the same to the board and an mintimediato laterany entarged portion adapted to be permancutly secured to the board.
t. A caip for ironing board covers comprising a flat spring memver provided with angular ends formed of a plurality of pointed prongs adapted to engage the cover and detachadiy secure the same to the board and an intermediate litcrally enlarged strengthening portion adapted to be permanently secured to the board.
o. A clip lor ironing board covers comprising a member adapted to be permanently secured to the board, and provided with an enlarged strengthening portion and angular endis formed of a plurality of pointed prongs adapted to engage the cover and detachably secure the same against the poard.
o. The combination with an ironing board and a cover therefor, of a clip comprising a spring member adapted to be secured to said board and provided with prongs at its ends adapted to engage said cover and detachably secure the same to said board.
i. The combination with an ironing board and a cover therefor, of a cilp comprising a spring member provided with a central strengthening portion adapted to be permanently secured to sald board and angular ends formed of a plurality of pointed prongs adapted to engage said cover and detachably secure the same to said board.

No. 102,785. Button Fastener. Altache pour boutons.
John S. Fissel, West Philadelphia, Pennsylvania, U.S.A., 25th December, 1906; 6 years. Filed 1st S•ptember, 1906. Receipt No. 139.154.
Claim.-The herein described button fastener dusigned to bo secured to the eye of a button prior to its attachment to a garment and consisting of a piece of wire bent to form a single strand bodkin member 1, a loop 2 for the button eye. a member 3 extending from said loop and bent upon itself to form an end seat 4 for the button eye and continued to
form an inclined spring tongue 5 extending across under the loop 2 and having an upwardly curved terminal end 6
disposed within the loop 2 for the button eye and bearlag against the inner portion of one side thercof, sald fastenmp

being formed from a single strand of wire, substantially ae described.

No. 102,786. Mnltiplex Telegraph Byiena. Système télégraphique muleiple.


Tullio Glara, Boston, Massachusetts, U.S.A., 25th December.
1906; 6 years. Filed 4th July, 1905. Receipt No. 126.616
Claim.-1. In a multiplex telegraph system, a single ma:c line, a plurality of sending devices at the sending station. each including a keyboard with a plurality of keys, a plurality of printing mechanisms at the recelving station, each printing mechanism having types corresponding to sald kess. and electrical connections including said s.agle main 1.5 between said devices and said stalions in consequence of which upon the independent manipulation of the keys in the. different keyboards electrical signals are successively :ransmitted from the sending devices to the said printing mechanism over the same line, to cause the actuation of the corresponding types in the corresponding printing mechanisms, and the printing of dinerent messages by said printing mechanisms.
2. In a multiplex telegraph system, a single main line, a plurality of inuependent heyboards at the seadiag statiua each keyboard having a pluraity of independent keys. a source of electricity for said keys, a plurality of priat.ex mechanism at the receiving stations corresponding to sa.c: keyboards, each printing mechanism having a separate morable type bar for each separate key of the correspondiad keyboard, and means for connecting the keys of the keyboards and the corresponding type bar of the correaponding printing mechanisms successively with eaid single maln lioe, whereby different messages equal in number to the keybeards may all be sent over the single main line and printed at substantially the same time.
3. In a multiplex telegraph ayetem, a main line, a ser.es of independent keyboards each haring a set of kers, a plurality of sets of koy circuits each connected to a source of electrical energy having a contact, the contacts of and sets being independent of each other but arranged succeasirely in a circle or arc thereof, a revolving contact for sucomasrely engaging the said contacts of the different sets and coenected to said main line, a plurality of independent sels of printing circuite each having an independent electro-mage. actuating a type, and a contact, the last-mentioned contac. of said sets being arranged successively in a ofrcle. or ta a" arc thereof, a second revolving contact connected to 1 source of electrical energy and adapted to succeasirels in gage said last-mentioned stationary contacts, meass coz trolled by the main line for closing the circuit through asi: second revoiving contact, and moans for revolviag said or
volving contacts, said elements being arranged as described, whereby impulses for the different sets of keys are sent successivey over the line.
4. In a multiplex telegraph system, a plurality of independent sets of key circuits at he sending station each conected to a source of electrical energy having a contact the contacts of said sets being arranged successivly in a circle or the arc thereof, a main line, a revolving contact at the sending station for successively engaging said independent sets of contacts, and connected to said main line, a plurality of independent printing mechanisms at the receiving station each having an independently movable type bar for each character. circuits equal in number to the type bars, \(\bar{a}\) nd each having an electro-magnet for controlling a type bar, and a contact, said contacts being arranged in sets successively in a circle, a revolving contact at the receiving station connected to a source of electrical energy and adapted to succesively engage the sets of contacts at the receiving station, means controlled by the line for closing the circuit through sald second revolving contact, and means for revolving said revolving contacts.
5. In a multiplex telegraph system, a main line, a plurality of key circuits each connected to a source of electrical energy and having a contact, a revolving contact for successively engaging said contacts respectively and connected to the line, so that when a key is moved to close its circuit an electrical impulse is sent over the line upon the engagement o fthe movable contact with the stationary contact in said key circuit, a plurality of printing circuits each having a printing device, and each having a contact, a second revolving contact connected with a source of electrical energy and adapted to successively engage the last-mentioned contacts, a relay in the main line for closing the circuit through said last-mentioned revolving contact and thereby through one of the printing circuits when a signal is sent over said main line by any one of the key circuits, a motor for revolving the revolving contact at the sending station, an electric motor for revolving the revolving contact at the recelving station, and means for synchronizing the movement of sald revolving contacts, by automatically varying the speed of said electric motor
6. In a multiplex telegraph system, a main line, a plurality of sets of key circuits connected to a source of electrical energy each having a contact, the contacts of said sets being arranged serially in a circle, a revolving contact for successively engaging the said contacts and connected to said main line, a plurality of sets of printing circuits each having a printing device and a contact, the last-mentioned contacts of said sets being arranged serially in a circle, a second revolving contact connected to a source of electrical energy and adapted to successively engage said last-mentioned stationary contacts, means controlled by the main line for closing the circult through said second revolving contact, means for revolving said revolving contacts, and means for preventing the closing of the key circuits of the other sets thereof when the first-mentioned revolving contact is in engagement with the contacts of the key circuits of any one set.
7. In a system of the character referred to, the combination of two revolving contacts, means for revolving one of said contacts, an electric motor for revolving the other contact, an energy varying device for the motor circuit having movable contacts, electro-magnets for actuating the movable contacts of said device, separate circuits for said elec-tro-magnets, and means controlled by both of said revolving contacts for diventing current into said electro-magnet circuits.
8. In a multiplex telegraph system, sending apparatus comprising a plurality of different series of sets of contacts, a key connected to each contact to close a circult thereto an independent line for each series of sets of contacts, and a movable element having insulated contacts electrically connected to said independent lines for engaging the contacts of said respective series of sets.
9. In a multiplox telegraph system of the character described, a plurality of independent contacts symmetrically disposed in a circle at the sending station, a source of elec tricity connected to said contacts, a multiple number of independent contacts symmetrically and identically disposed in groups in a circle at the receiving station, a revolving contact at the sending station, a motor for revolving said contact, a revolving contact at the receiving station, an electric motor for revolving said last-mentioned contact, a motor circuit, means for varying the energy of the current in said circuit, and electrical connections between said groups of contacts at the receiving station and said energy varying means, in consequence of which the speed of the electric motor is caused to vary to synchronize the revolution of said revolving contacts.
10. In a multiplex telegraph system of the character referred to, a number of independent contacts symmetrically
disposed in a circle at the sending station, a source of elec tricity connected to said contacts, a main line, a revolving contact for engaging said independent contacts and connecting them to the main line in such manner that from them electric impulses go over the line to a recelving sta tion, means for moving the revolving contact, a revolving contact at the recelving station connected to a source of electrical energy, an electric motor for revolving said re volving contact, a number of electrical resistances in series in the motor circuit, and a multiple number of independent contacts symmetrically disposed in groups in a circle at the receiving station, each contact of the groups being connected to an electro-magnet controlling one of the electrical resistances in the motor circuit, in such manner that an impulse sent by an independent contact of the sending station arrives at the receiving station at one of the con tacts of a group and energizes the corresponding electromagnet which inserts in or cuts out of the motor circuit the corresponding resistance.
No. 102,787. Method of Digging Holes.
Méthode de creuser des trous.


Ira David Kemmerer, Lincoln, Nebraska, U.S.A., 25th December, 1906; 6 years. Filed 30th November, 1906. Recelpt No. 141,679.
Claim.-The method herein described of forming holes in the earth consisting in first scooping out a portion of the earth at the point where the hole is to be made and pouring water in the said cavity, then separating the earth to be removed by a cancave tool and simultaneously forming the separated body of the earth into a core, the water in the cavity being caused to run or seep down into the cut formed in the earth around the core, this water facilitating the formation of the core into an adhering mass and making its outer surface sticky enough to cause it to adhere to the tool and be removed therewith.

No. 102,788. Tool for Digging Holes.
Outil pour creuser des trous.


Ira D. Kemmerer, Lincoln, Nebraska, U.S.A., 25th December, 1906; 6 years. Filed 30th November, 1906. Receipt No. 141,680.
Claim.-A tool for digging holes consisting of a shank provided at one end with means for handing it and at its
other end with a blade substantially crescent-shape in cross section and having its longitudinal edges parallel and sharpened and its lower or entering end brought to a point. this point having cutting edges which are continuous with the side edges, the back of the tool being convex.

No. 102,789. Production of Ferro-Alloys.
Production d'alliages ferrugincur.


Edgar F. Price, Niagara Falls. New York, U.S.A., 25th Deoembar 1906; 6 years. Filed 29th October, 1906. Receipt No. 140,719 .
Claim.-1. The process of producing low carbon ferro alloys, which consists in providing a charge containing fer-ro-silicon and a compound of a metal reducible by silicon and alloyable with iron, establishing an electric arc within the charge, surrounding the zone of reduction and protecting the electrodes from the oxidizing effect of the atmosphere by a considerable body of the charge, tapping the resulting slag and ferro alloy from the furnace, and supplying the charge mixture as required, as set forth.
2. The process of producing low carbon ferro alloys, which consists in providing a charge containing ferro-silicon, an oxidized compound of a metal reducible by silicon and alloyable with iron, and a basic flux, establishing an electrice arc within the charge, surrounding the zone of reduction and protecting the plectrodes from the oxidizing effect of the atmosphere by a considerable body of the charge, tapping the resulting slag and ferm alloy from the furnare and supplying the charge mixture as required, as set forth.
3. The process of producing low carbon ferro alloys, which consists in providing a charge containing ferro-silicon, and a compound of a metal reducible by silicon and alloyable with iron, establishing an electric arc within the charge, surrounding the zone of reduction and protecting the electrodes from the oxidizing effect of the atmosphere by a considerable body of the charge, tapping the resulting slag and ferro alloy from the furnace at different levels, and supplying the charge mixture as required, as set forth.
4. The process of producing low carbon ferro alloys, which consists in providing a charge containing ferro-silicon, an oxidized compound of a metal reducible by silicon and alloyable with iron, and a basic flux, establishing an electric arc within the charge, surrounding the zone of reduction and protecting the electrodes from the oxidizing effect of the atmosphere by a considerable body of the charge, tapping the resulting slag and ferro alloy from the furnace at different levels, and supplying the charge mixture as required, as set forth.
5. The process of producing low carbon ferro alloys, which consists in providing a charge containing ferro-silicon, and a compound of a metal reducible by silicon and alloyable with iron, establishing an electric arc within the charge, surrounding the zone of reduction and protecting the electrodes from the oxidizing effect of the atmosphere by a considerable body of the charge, maintaining between the electrodes the minimum potential difference requisite to effect reduction, thereby stibstantially prventing loss of electric current by leakage through the charge, separately tapping the resulting slag and ferro alloy from the furnace, and supplying the charge mixture as required, as set forth. 6. The process of producing low carbon ferro alloys, which consists in providing a charge containing ferro-silicon, an oxidized compound of a metal reducible by sillicon and alloyable with Iron, and a basic flux, establishing an electric arc within the charge, surrounding the zone of reduction and protecting the electrodes from the oxidizing effect of the atmosphere by a considerable body of the charge, maintalning between the electrodes the minimum potential difference requisite to effect reduction, thereby substantially preventing loss of electric current by leakage through the charge, separately tapping the resulting slag and ferro alloy from the furnace, and supplying the charge mixture as required, as set forth.

The process of producing low carbon ferro chromium, which consists in providing a charge containing ferro-silicon,
and a compound of chromium, establishing an electric arc within the charge, surrounding the zone of reduction and protecting the electrodes from the oxidizing effect of the atmosphere by a considerable body of the charge, tapping the resulting slag and ferro alloy from the furnace, and supplying the charge mixture as required, as set forth.
8. The proctss of producing low carbon ferro-chromium, which consists in providing a charge containing ferru-silicoy. an oxidized compound of chromium, and a basic flux, establishing an electric arc within the charge, surrounding the zone of reduction and protecting the electrodes from the oxidizing effect of the atmosphere by a considerable body of the charge, tapping the resulting slag and ferro alloy from the furnace, and supplying the oharge mixture as required, as set forth.
9. The process of producing low carbon ferro-chromium. which consists in providing a charge containing ferro-silicon. and a compound of chromium, establishing an electric arc within the charge, surrounding the zone of reduction and protecting the electrodes from the oxidizing effect of the atmosphere by a considerable body of the charge, tapping the resulting slag and ferro alloy from the furnace at different levels, and supplying the charge mixture as required. as set forth.
10. The process of producing low carbon ferro-chromium. which consists in providing a charge containing ferro-sillican, an oxidized compound of chromium, and a basic flux, establishing an clectric are within the charge, surrounding the zone of reduction and protecting the electrodes from the oxidizing effect of the atmosphere by a considerable body of the charge. tapping the resulting slag and ferro alloy from the furnace at different levels, and supplying the charge mixture as required, as set forth.
11. The process of producing low carbon ferro-chromium, which consists in providing a charge containing ferro-silicon, and a compound of chromium; establishing an electric arc within the charge, surrounding the zone of reduction and protecting the clectrodes from the oxidizing effect of the atmosphere by a considerable body of the charge. maintainfig between the electrodes the minimum potential difference requisite to effect reduction. thereby substantially preventing loss of electric current by leakage through the charge, separately tapping the resulting slag and ferro alloy from the furnace, and supplying the charge mixture as required, as set forth.
12. The process of producing low carbon ferro-chromium, which consists in providing a charge containing ferro-silicon, an oxidized compound of chromium, and a basic flux, establishing an electric arc within the charge, surrounding the zone of reduction and protecting the electrodes from the oxidizing effect of the atmosphere by a considerable body of the oharge, maintaining between the electrodes the mindmum potential difference requisite to effect reduction, thereby substantially preventing loss of electric current by leakage through the charge, separately tapping the resulting slag and ferro alloy from the furnace, and supplying the charge mixture as required, as set forth.

\section*{No. 102,790. Explosive. Explosif}

Berthold Gustav Reichke, Hamburg, Germany, 25th December, 1906; 6 years. Filed 12th September, 1906. Receipt No. 139,455.
Claim.-1. In the manufacture of ammonium nitrate explosives as claimed in my application for patent No. 125,378, the substitution of fennel by other suitable specimen of the family of umbelliferous plants with or without an addition of woodmeal.
2. The use in combination with ammonium nitrate sefety exphosives, of the pulverized seeds of umbelliferous plants other than fennel, substantially as hereinbefore described with reference to the examples stated.
3. A safety explosive producing a minimum of deleterious explosion gases and composed of the matorials or their chemical equivalents in substantially the proportions of the foregoing examples.

\section*{No. 102,791. Stopper for Poison Bottles. \\ Bouchon pour bouteilles renfermant du poison.}

Louis N. Ritten, Charles City, Iowa, U.S.A., 25 th December, 1906; 6 years. Filed 19th September, 1906. Receipt No. 139,626.
Claim.-1. A stopper for poison bottles having a guard placed diametrically across the stopper and projecting beyond the oppasite sides of the stopper, and spurs struck downwardly from the guard and engaging opposite sldes of the stopper.
2. The combination with a stopper or a guard baving a flat body portion and longitudinally split adjacent each end. one of said split members at each end being pointed at its
extreme end and adapted to extend outwardly beyond the stopper and in the plane of the body portion of the guard,

and the other member being bent downwardly and inwardly forming a spur adapted to engage the sides of the cork, the said spurs being offset with respect to each other.

No. 102,792. Garment Hanger.
Crochet pour vêtcments.


George S. Roberts, Oak Park, Illinois, U.S.A., 25th December, 1906; 6 years. Filed 31st October, 1906. Receipt No. 140,775.
Claim.-1. In a garment hanger, in combination with a rigid transverse bar and means for supporting it, two shoulder rockers pivoted each intermediate its ends at the two ends respectively of the transverse bar, each rocker having both ends free, for rocking over the pivot.
2. In a garment hanger, in combination with a rigid transverse bar and means extending upwardly from its middle point for suspending it, two shoulder rockers pivoted each intermediate its ends at the two ends of the transverse bar, each rocker having both ends free, for rocking over the givort.
3. In a garment hanger, in combination with a rigid transverse bar and means for supporting it, two shoulder rockers pivoted each intermediate its ends to the two ends respectively of the transverse bar, each rocker having both ends free, for rocking over the pivot, and means for limiting the downward movement of the outer ends of the rockers.
4. In a garment hanger, in combination with a coat suppont a horizontally extended eye or loop depending from such coat support having sloping upper sides and a straight. bar having its upper edge convex in cross section lodged In the eye engaged with the end thereof for a trousers hanger.
5. In a garment hanger, in combination with a rigid transverse bar \(A\). the shoulder rockers \(B\). \(B\), pivoted thereto, means for supporting the transverse bar consisting of the hook C, made of an Integral piece of wire or rod inserted through the crossbar and having below the latter the long horizontal loop offset from the lower side of the bar at the outer portions of such loop to form shoulder supports for a vest, and having the end of the wire engaged with the bar A.
6. In a garment hanger in combination with a coat support comprising a rigid transverse bar, a vest and trousers support carried by such bar below the same consisting of a wire loop or eye attached to the bar at two points and offset below the bar from said points outward to the two ends respectively, and a relatively wide bar lodged in the eye on the lower bar of the latter and engaged with the ends of the eye.

No. 102,793. Garment Fastener.
Support pour vêtements.


Daniel J. Schaeffer, Allendale, Pennsylvania, U.S.A., 25th December, 1906; 6 years. Filed 31st October, 1906. Receipt No. 140,777.
Claim.-1. A garment support, comprising two members having concavo-convex substantially sphere-shaped surfaces abutting on their convex sides, one of said members being formed with a slot extending to the center of the convex surface thereof, the other of said members carrying a pin projecting from the convex surface thereof and adapted to enter said slot in the other member.
2. In a garment support the combination of two members each having concavo-convex substantially sphere-shaped surfaces abutting on their convex sides, one member being formed with a slot having an enlarged outer end, the other of said members carrying on the convex side of its central portion a headed pin adapted to enter said slot.
3. In a garment support the combination of two members each having a concavo-convex substantially sphere-shaped surface, the convex side of the surface on one member abutting with the convex side of the surface of the other momber, one member being formed with a curved slot, the other of said members carrying on the convex side of its contral portion a headed pin adapted to enter said plot.

No. 102,794. Electro-Magnetic Traction Device and Brale.
Plan de traction électro-magnésique et frein.


Charles Allson Wells, Chicago, Illinois, U.S.A., 25th December. 1906; 6 years. Filed 31st July, 1905. Receipt No. 127,316.
Claim.-1. The combination with bearing wheels, of an electro-magnetic traction increasing device including a magnetizable member supported in proximity to the rails and provided with a shoe which forms one of the poles of the magnet, sald shoe normally supported out of direct contact with and movable toward and from said rails, and a wheel brake mechanism connected with and actuated by said shoe when the latter is attracted to the rails.
2. The combination with traction wheels, of an electromagnetic traction increasing mechanism including a suspended helically wound magnetizable member and a shoe carried thereby proximate to but normally out of direct contact with the rails, and forming one of the poles of the magnet, said shoe adapted to be moved into contact with the rail and to have a movement thereon relative thereto, and a wheel brake mechanism connected with and actuated by the movement of the shoe relative to the rall.
3. The combination with traction wheels and a wheel brake mechanism, of an electro-magnetic traction increasing mechanism including a suspended hellcally wound magnetizable member provided with a magnetizable shoe normally proximate to but out of direct contact with the rail, and forming one of the poles of the magnet, said wheel brake mechanism connected to said shoe and said shoe capable of a movement relative to the rail when moved into contact therewith, whereby the wheel brakes may be applied substantially simultaneously with the energizing of the magnet to increase the traction between the bearing wheels and ralls.
4. The combination with traction wheels and a wheel brake mechanism, of a means for increasing the traction between the wheels and rails and including a suspended magnetizable nember and a helix surrounding the same and magnetizing it and the wheels, a shoe carried by the said member and normally suspended proximate to but out of direct contact with the rils and forming one of the poles of the magnet, said shoe adapted when magnetized to be attracted to the rails and to have a limited movement relative thereto, and means connecting the shoe with the wheel brake mechanism whereby the wheel brakes are applied by the movement of the magnetized shoe on and relative to the rail.
5. The combination with traction wheels and wheel brake shoes, of electro-magnetic traction increasing devices including a suspended magnetizable member and a helix surrounding the same and magnetizing it and the wheels, a magnetizable shoe on the member and forming one of the poles of the magnet and normally proximate to but out of direct contact with the rails, and capable of being attracted to the latter, said shoe having a limited movement relative to the rails when attracted thereto, and connections between the shoe and the wheel brake shoes whereby the wheel brakes are set substantially simultaneously with the energizing of the magnet to increase adhesion between the wheels and rails.
6. The combination with bearing wheels and electromagnetic means for increasing the adhesion between the same and the rails, of a wheel brake mechanism including a magnetizable shoe forming a pole of the electro-mognet and movable toward and from the ralls, said shoe, when attracted to the rails having a limited movement on the latter to actuate the wheel brake mechanism.

No. 102,795. Lacing. Lacets.

\title{
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} furnaces, consisting in drawing off the steel in a single continuous stream to one ladle or receptacle, cutting off the supply to said ladle, and directing this same continuously flowing stream into another ladle or receptacle, in line with said first ladle without changing the direction of fiow of said steel.
4. The method of tapping steel from an open hearth or like furnace, consisting in drawing off the steel in a contínuous stream from a single tap hole into two or more ladles or receptacles, and filling sald ladtes in succession.
5. The method of tapping steel from open hearth or like furnaces, consisting in drawing off the molten steel in a continuous stream from a single tap hole into two or more ladles or recentacles.

No. 102,797. Open Hearth Firnace.
Fournaise d foyer ouvert.


John Albert Drain, Pittsburg, Pennsylvania, U.S.A., 20th December, 1906; 6 years. Filed 22nd August, 1906. Receipt No. 138,928.
Claim.-1. In an open-hearth or like furnace, a pouring spout formed of two or more sections, one ar more of said sections being adapted to swing out of the way of the succeeding section to permit the metal to flow from sald succeeding section.
2. In an open hearth or like furnace, a eectional pouring spout formed of two or more sections, one or more of said sections being hinged in turn to the succeeding section, and means for swinging said hinged sections out of the way of the succeeding section to permit the metal to fiow from said succeeding section.
3. In an open hearth or like furnace, a pouring apout comprising two or more sections, the outer section movablo with relation to the inner one, and means for tilting or swinging the outer section whereby the metal contained therein is caused to flow from its inner end

Frank Weston Whitcher, Boston, Massachusetts, U.S.A., 25th December, 1906; 6 years. Filed 29th October, 1906. Receipt No. 140,705.
Claim.-1. A composition or stiffened tip for lacings provided with an external encircling metallic reinforcing band.
2. A composition or stiffened tip for lacings provided with external encircling metallic reinforcing bands, one of which is located at the base or inner end of said stiffened tip.

\section*{No. 102,796. Method of Tapping Steel. Methode pour couler l'acier.}

John Albert Drain, Pittsburg, Pennsylvania, U.S.A., 25th December, 1906; 6 years. Filed 22nd August, 1906. Receipt No. 138,927 .
Claim.-1. The method of tapping steel from open hearth or like furnaces, consisting in drawing off the steel in a single stream and directing it into one ladle or receptacle at one point, and then shortening said stream to direct the metal to another ladle or receptacle nearer said furnace.
ous stream into a ladle or receptacle, cutting off the supply to said ladle and directing the same in a continuously flowing stream into another ladle or receptacle, without changing the direction of flow of said steel.
3. The method of tapping steel from open hearth or like
2. The method of tapping steel from open hearth or like furnaces, consisting in drawing off steel in a single continu-


No. 102,798. Fnrnace Charging Mechanism.
Machine d charger la fournaise.


David Baker, Philadelphia, Pennsylvania, U.S.A., 25th December, 1906; 6 years. Filed 5th November, 1906. Receipt No. 140,950.
Claim.-1. In a furnace charging mechanism, the combination with a receiving chamber communicating with the interior of the furnace, of a distributing bell adapted to close the lower end of said chamber and constructed to accumulate the stock delivered to the chamber to one side of the same when the bell is in closed position, means for opening the distributing bell to discharge the contents of the chamber, and means for shifting the position of the bell to vary the point of discharge.
2. In a furnace charging mechanism, the combination with a vertical receiving cylinder, of a vertically movable distributing bell adapted to close the lower end of the cylinder, said bell being constructed with relation to the cylinder to form a receiving cavity within the cylinder extending but partly around the same, means for feeding the charging material into the top of the cylinder, means for lowering the bell to discharge the contents of the cylinder, and means for changing the position of the bell around a vertical axis.
3. In a furnace charging mechanism, the combination of a main hopper, its closure, a receiving cylinder rising therefrom, a vertically movable distributing bell closing the lower end of the receiving cylinder, means carried by the bell for accumulating the stock entering the cylinder to one side, means for lowering the bell to discharge the contents of the cylinder, and means for shifting the position of the bell between the successive discharges of the material.
4. In a furnace charging mechanism, the combination with a receiving cylinder communicating with the interior of the furnace, of a vertically movable distributing bell adapted when in raised position to close the communication of the cylinder with the furnace, means carried by the bell for accumulating the stock to one side when the bell is closed, means for lowering the bell to discharge the contents of the cylinder, means for raising the bell to close the cylinder, and means controlled by the rising movement of the bell for shifting the same around a vertical axis.
5. In a furnace charging mechanism the combination with a receiving cylinder, of a distributing bell adapted to close the lower end of the same, a vertical rotary stem to which the bell is fixed, means for raising and lowering the stem, and means controlled by the vertical movement of the stem for rotating it.
0. In combination with a receiving cylinder, a distributing bell for closing the same, a vertical rotary stem to which the bell is fixed, means for moving the stem vertically, a spiral rib on the stem, a rotary member affixed against vertical movement and formed with an opening to receive the stem and having a groove to recelve the spiral rib, and means for preventing the rotation of said member in one direction only.
i. In a furnace charging mechanism the combination with a receiving cylinder, of a distributing bell closing the same. a rotary vertically movable stem fixed to the bell, a spiral rib on said stem, a horizontal ratchet wheel formed with \(a_{n}\) opening to receive the stem and with a groove to receive the spiral rib, a pawl engaging the ratchet wheel and means for moving the stem vertically.
8. In a furnace charging mechism the combination with a receiving cylinder, of a distributing bell closing the lower end of the same, said bell having a portion only of its distributing surface exposed to the fall of the material fed into the cylinder, and means for shifting the position of into bell to adjust the exposed portion of the same to different points around the cylinder.
Y. In a furnace charging mechanism, and in combination with a receiving cylinder, a distributing bell therefor, an upright wall rising from its distributing surface, and means for directing the stock to one side of said wall.
10. In a furnace charging mechanism and in combination with a receiving cylinder, a relatively movable distributing bell for closing the same, a shield carried by the bell and acting to direct the stock fed to the chamber to one side, and means for shifting the position of the bell with reference to the chamber to vary the point of discharge of the stock.
11. In a furnace charging mechanism and in combination with a receiving cylinder, a distributing bell closing the same, an upright wall carried by the bell and extending across the cylinder, and an inclined shield extending upward and outward from the upper end of the wall, and having its edge curved to conform to the curvature of the cyninde:
12. A distributer for blast or similar furnaces consisting of a chute a distributing plate diagonally disposed in the chute, means for raising and lowering the distributing plate, and means for imparting a partial revolution thereto.

1i. In a distributer for blast or similar furnaces the combination of a discharging hopper, means for controlling the discharge from the hopper, a chute leading thereto, a discharging plate diagonally disposed in the cnute, a shaft for raising and lowering the discharging plate, and means for imparting a partial revolution to the shaft.
14. A distributer for blast or similar furnaces, consisting of a lower discharging hopper, a conical bell adapted when in raised position to close the mouth of the discharging hopper, a shaft by which the bell is supported, a chute opening into the lower or discharging hopper, a distributing piate diagonally disposed in the chute, a tubular shaft surrounding the first-mentioned shaft, to which the distributing plate is secured, means for raising and lowering the tudular shaft, means for imparting a partial revolution thereto, and means for raising and lowering the shaft supporting the lower bell.
15. A distributer for blast or similar furnaces, consisting of a discharging hopper having converging side walls, a bell adapted when raised to close the mouth of the discharging hopper, a chute opening into the discharging hopper, a bell adapted when raised to close the mouth of the chute, a distributing plate secured to the bell and extending diagonally across the chute, a tubular shaft to which the last-mentioned bell and distributing plate are secured, means for raising and lowering the tubular shaft, means for imparting a partial revolution thereto, and a second shaft passing through the tubular shaft and connected with the discharging bell and adapted to be raised and lowered.
10. In combination with a furnace, a main hopper and bell, a recelving hopper above the main hopper, a vertically movable closure controlling the discharge of the materials from the receiving hopper, a distributing plate situated in the recelving hopper and adapted to direct the materials entering the same to one side, and means for turning the distributing plate around horizontally to vary the direction of the flow of the materials.
17. In a furnace charging mechanism the combination of a receiving chute, a distributing plate therein, a closure for the chute movable vertically relatively to the same, and means controlled by the vertical movement of the closure for shifting the position of the plate around a vertical axis.
18. A distributer for blast or similar furnaces consisting of a chute, a distributing plate diagonally disposed in the chute, a bell movable vertically and adapted to control the discharge of the materials from the chute, and suitable connections between the bell and plate formed to impart a partial revolution to the plate as the bell is moved vertically.
19. In combination with the main hopper and bell, a receiving chute, a vertically movable distributing bell controlling the discharge of the materials from the receiving chute, and means dependent upon the movement of sail distributing bell for imparting a turning movement to the plate.
26. The combination of a receiving chute, a distributing plate therein, a closure for the chute movable vertically to open and closed positions, a distributing plate diagonally disposed in the chute, a source of power for operating the closure, and means controlled by said source of power for moving the plate around a vertical axis to vary the position of the same in the chute.

No. 102,799. Furnace for Smelting, Etc.
Fournaise pour la fonte, etc.


Alfred Smallwood, London, England, 25th December, 1906; 6 years. Filed 17th September, 1906. Receipt No. 139,573.
Claim.-1. In smelting. crucible, heating, annealing and like furnaces and in kilns for burning and glazing pottery and for other like purposes in which a grate, a combustion chamber and heat distributing chambers are combined, the improvements characterized by the arrangement of the horizontal heat distributing chambers, in combination with means for damping off or regulating the supply of heat to any of the working chambers, substantially as and for the purposes set forth.
2. In furnaces of the type set forth in claim 1, the improvement characterized by the combination with an annealing chamber and a horizontal heat distributing chamber, of means whereby the supply of heat to any part of the anncaling chamber can be regulated, substantially as and for the purpose herein set forth.

No. 102,800. Electric Furnace. Fournaise álertifique.


Frederick Titcomb Snyder, Oak Park, Illinois, U.S.A., 25th December, 1906; 6 years. Filed 25th August, 1906. Receipt No. 138,971.
Claim.-1. An electric furnace constructed with a preheating chamber for materials to be smelted, a smelting chamber having a feed opening to receive materials from said preheating chamber, a condensing and refining chamber, receiving gaseous products from said smelting chamber and discharging uncondensed gases into said preheating chamber, said chambers being all enclosed by the outer walls of the furnace to conserve the heat from the smelting chamber.
2. An electric furnace comprising a smelting chamber and a condensing chamber adjacent thereto and enclosed within the same outer walls, whereby the heat from the smelting is communicated to the metal condensed in said condensing chamber.
3. An electric furnace having a horizontal partition therein forming a smelting chamber in the lower portion and a preheating chamber in the upper portion, receiving heat through said partition from said smelting chamber, said partition having a feed opening therein through which preheated materials from the upper chamber may be introduced into the lower or smelting chamber.
4. An electric furnace constructed with a smelting chamber and a combined condensing and refining chamber in the lower port on thezeof, and a preheating chamb:r in the upper portion, the floor of ths preheating chamber forming the roof of the smelting chamber and having a feed opening therethrough, and means for normally closing said feed opening
against the passage of gas, passages being provided to convey the gaseous products of smelting from the smelting chamber to the condensing chamber and thence to the preheating chamber, a flue being provided for the final escape of the gases from said preheating chamber.
5. The combination with a smelting furnace having a feed opening in its roof, of a cover supported at a distance above said opening and overlapping the same, whereby materials upon the roof when pushed toward the feed opening reach up to said cover and form a seal to prevent the escape of gas.
6. A smelting furnace having a horizontally extending partition dividing the furnace into a smelting chamber in the lower portion and a preheating chamber in the upper portion thereof, said partition having a feed opening therein by which materials may be introduced into the smelting chamber, and flues adapted to conduct the gases from said smelting chamber through said preheating chamber.
7. The combination with an electric smelting furnace, of a combined condensing and refining chamber adjacent to said furnace. a connection from said furnace to said chamber, opening being provided in said condensing and refining chamber, one near the bottom and another at a distance above the bottom to withdraw the heavier and lighter metals respectively from said chamber.
8. The combination with an electric smelting furnace, of a transverse partition dividing the furnace, a smelting chamber being formed on one side of said partition, the upper part of the chamber on the other side of said partition constituting a condensing chamber and the lower portion thereof a refining chamber, said several chambers being enclosed within the same outer walls of the furnace, and receiving heat from the smelting chamber, a passage being provided from the smelting chamber to the condensing chamber, and a flue for uncondensed gases leading out of said condensing chamber.
9. An electric furnace having a smelting chamber comprisIng a transverse passage containing molten resistance maLerial, and metal receptacles at the ends of said transverse passage communicating with said transverse resistance passago and also communicating with the exterior of the furnace on the sides thereof, in combination with conductors dipping into an arm of each of said metal receptacles, leaving the other arms thereof free to permit the metal to be laddled out.
10. An electric furnace having a smelting chamber which in plan is \(H\)-shaped, the two arms of the \(H\) communicating with the exterior of the furnace and containing liquid metal, and the cross passage containing resistance material, in combination with elcetrodes dripping into the metal at the ralls of satid cross passage.
11. An electric furnace having a smelting chamber comprising a transverse passage containing resistance material, and a metal receptacle at each end of said transverse passage, cach metal receptacle communicating with wells exterior to the furnace on both sides thereof by passages under the side falls thereof, in combination with electrodes dipping into the exterior wells, one at each end of said transverse passage and upon opposite sides respectively of the furnace.
12. The combination with a closed smelting furnace, of a refining chamber having openings communicating with exterior wells, one of said openings being near the bottom and another at a distance above the botcom, through which the heavier and lighter metals may be respectively withdrawn without admitling air in said refining chamber.
13. The combination with an electric smelting furnace, of a condenser, and a collecting chamber below said condenser, said chamber being closed to the ingress of air and having an opening near the bottom thereof communicating with a well external to said chamber, so that the metal may be withdrawn from sald chamber without the admission of air.
14. The combination with a furnace having electrical means for developing heat internally therein, of an auxiliary fuel burner adapted to direct its flames through an opening in the wall of the furnace, and means for closing the burner opening and shutting off the fuel burner during the electrical operation of the furnace.
15. The combination with an electric furnace having molten resistance material and means for passing current therethrough to heat said furnace, of an auxiliary fuel burner in said furnace in position to initially heat said resistance material to a temperature which will permit the passage of a large volume of current therethrough.
16. An electric furnace comprising a smelting chamber and a combined condensing and refining chamber, both of said chambers being closed to the air, a passage being provided for conveying gaseaus products of reduction from the smelting chamber to the refining chamber, and an opening being also provided for separately withdrawing metals o different specific gravity from said refining chamber.

No. 102,801. Burial Appliance.
Accessoir pour sépulture.


Jacob W. Shull, Springehurch, Penneylvania, U.S.A., 25th December, 1906; 6 years. Filed 3rd December, 1906. Receipt No. 141,757.
Claim.-1. A burial appliance comprising a casket receptacle, a box and means carried thereon foldable within the said box and extensible from the sides and ends of the box to form a lining for the walls of the grave.
2. An attachment for burial boxes, consisting of a frame adapted to be hinged to the upper edge of the box to fold therein, said frame having a covering and adapted to be swung up over the wall of the grave to form a lining therefor.
3. An attachment for burial boxes, which comprises a frame adapted to be hinged to the box to fold therein and to be swung up against the side of the grave, said frame having extensible end portions, and a fabric covering for the said frame.
4. An attachment for burial boxes, which comprises a flexible frame hinged to the box to fold therein and to swing up against the wall of the grave, said frame having extensible end portions, means for drawing the ends inwardly, a fabric loasely mounted on the frame for the purposes described.
5. In combination with the box \(B\), the side and end frames formed of a flextble material hinged at their lower end to the inner side of the upper edges of the box, said frames having extensible end sections, spring devices for drawing the end sections normally inward and a flexible body wholly covering the said frames, and having sufficient fullness to permit of drawing out the end portions of the said end and side members for the purposes specified.

\section*{150. 102,802. Burial Vanlt. Voute mortuaire.}

William Parry, Crown Point, Indiana, U.S.A., 25th Decem-
ber, 1906; 6 years. Filed 5th December, 1906. Receipt No. 141,830.
Claim.-1. A burial vault consisting of a coffer dam or curb pontion whose sides and ends are integrally constructed of cement, but with open top and bottom, the walls of the same being made perpendicular and of uniform thickness and having along the inner side of its upper edge a continuous recess and a detachable cover fitting this recess and adapted to be hermetically sealed therein.
2. A burial vault consisting of a coffer dam or curb porthon whose sides and ends are integrally constructed of cement, but with onen top ond bottom, the walls of the same being made perpendiculor and of uniform thicknees 12-30
and having along the inner slde of its upper edge a continuous recess, a detachable cover fitting the recess, pillow

blocks arranged within the bottom of the inclosure and a platiform mounted on the pillow blocks.

No. 102,803. Support for Glaxing.
Support pour vitrage.


John Petz and Herbert Malott, assignee of a half interest, both of Detroit, Michigan, U.S.A., 25th December, 1906; 6 years. Filed 23rd November, 1906. Receipt No. 141,452.
Claim.-In a sash bar the combination of a wooden post having converging sides, a flat iron bar inserted therein from a point adjacent to the intersection of the planes of the surfaces of said sides and in a plane making substantially equal angles with said planes, said post being provided with grooves upon its sides for receiving the edges of the glass, a securing rail grooved to fit against said converging surfaces and adapted to cover the exposed portion of said bar and fit against the glass in said grooves, and securing means extending through said rail and through said converging surfaces at approximately right angles to said surfaces.

No. 102,804. Flectrical Medicinal Appliance. Articles médicaux électriques.


John Franklin Richardson and John Campbell Wardell, assignee of a half interest, both of Montreal, Quebec, Canada. 25th December, 1906; 6 years. Filed 5th December, 1905. Recelpt No. 130,699.
Claim.-A system for the electrical distribution and control in body appliances for medical purposes, comprising a battery, an induction coil having primary and secondary
winding and a vibrating reed, a switch formed of a lever pivotally mounted on a plate having a contact secured thereto co-acting with the lower end of said lever and a plurality of contacts secured thereto co-acting with the upper end of said lever respectively, wiring connecting a battery terminal to a contact co-acting with the reed of said induction coil. wirlng connecting a batttry terminal with the lowermost contact on said switch plate, wiring connecting said plurality of upper contacts on said switch plate respectively to a corresponding number of sections of said secondary windings respectively, body contacts in sets, wiring connecting one set of said body contacts with said sucondary windings, and wiring connecting the other set of body contacts with said lever and forming with the two sets of body contacts the induction coil, the wiring thereof, and the body, a circuit connected with the battery circuit and adapted to transmit through said body a faradic current, as and for the purpose specified.

No. 102,805. Firearm. Arme ì fel.


William Wilson Smith and Harry Hill, assignee of a half interest, both of Trenton, New Jersey, U.S.A., 25th December, 1906; 6 years. Filed 26th February, 1906. Receipt No. \(133,296\).
Claim.-1. A gun barrel and a plurality of muzzle sections adapted for gas-tight screw connection with the main barrel, said muzzle sections being of varied lengths and of equal or unequal bore, and devices to prevent the rotation of the sections when in operative relation to the main barrel.
2. In firearms the combination with two main barrels, of extension interchangeable muzzle sections, and means for connecting the said sections in a gas-tight manner, the said muzzle sections being adapted to be of varied lengths and of equal or unequal bore.
3. In firearms, a barrel constructed in a main section and interchangeable muzzle sections, and means for connecting the sections of the barrel in a gas-tight manner, and locking devices co-operating with the connecting means.
4. In firearms, a barrel consisting of a main section and interchangeable muzzle sections, the muzzle sections being adapted to enter the main section in a gas-tight manner, and locking devices for the sections of the barrel, as described.
5. In firearms, a barrel comprising a main section having the end thereof internally enlarged and provided with a shoulder at the junction of the enlarged portion with the main portion, interchangeable muzzle sections having a reduced portion for entering all enlarged portions of the main section and provided with a shoulder at the base of the reduced portion, the main section of the interchangeable muzzle sections each being provided with a groove near the adjacent ends thereof, said grooves registering when the muzzle section is in position, and a catch arranged within the groove for securing the parts together.
0. In firearms, a barrel comprising a main section having the end thereof internally enlarged end portion with the main portion, interchangeable muzzle sections having a reduced portion for entering the enlarged portion of the main section and provided with a shoulder at the base of the reduced portion, and a catch for securing the parts together.
7. In firearms, a barrel comprising the main section and interchangeable muzzle sections, the main section and the muzzle sections each provided with a groove at their adjacent ends, the grooves of the main section and the muzzle sections intermeshing when said muzzle sections are in position, a catch pivoted within the groove of the main section, its free end being adapted to engage the groove of
the muzzle sections, and a spring latch on the muzzle sections for engaging the end of the catch.
8. In firearms, a barrel comprising a main section and interchangeable muzzle sections, the muzzle sections being threaded into the main section, and a spring actuated catch on the main section for engaging the muzzle sections when they are in position.

No. 102,806. Tapping Jacket. Tube pour coulée.

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The International Nickel Company, New York Oity, New York, U.S.A., assignee of Peter Stoddart, Copper Clifr, Ontario, Canada, 25th December. 1906; 6 years. Filed 21st September, 1906. Receipt No. 139,666.
Claim.-A case tapping jacket having a cooling pipe cast around the tap hole, and through which water is circulated. substantially as set forth.

\section*{上0. 102,807. Folding Paper Box. \\ Boite pliante en papier.}


Kilgour Brothers, assignee of Frederick G. Alexander, all of Toronto, Ontario, Canada, 25th December, 1906; 6 years. Filed 24th September, 1906. Receipt No, 139,755.
Claim.-1. A paper box provided with a bottom, sides and ends hinged on the bottom, corner infolds hinged on the ends of the sides and flaps hinged on the upper edges of the ends, a hole being formed in each end, and slits being cut in each linfold and flap extending to one edge thereof, and each whell the box is set up coincident at one part of its length with the hole, in combination with a tape passed through the hole and adapted to be drawn into the slits, substantially as described.
2. A paper box provided with a bottom, sides hinged on the bottom, corner infolds hinged on the ends of the sides and each slit downwardly a short distance from its upper edge, ends hinged on the bottom each having a hole therein, end flaps hinged on the ends and each slit upwardly a short distance from its lower edge, in combination with a tape passed through the hole, and adapted to be drawn into the slits, the latter being so placed and proportioned that a portion of each slit coincides with its adjacent hole, substantially as described.
3. A blank for a paper box formed of an integral piece of slock cut to form the bottom \(A\), the sides \(B\), the corner infolds \(C\), each having a slit \(D\) cut in its outer side, and the ends \(E\) each having a hole \(F\) formed therein, substantially as deeoribed.
4. A blank for a paper box formed of an integral plece of stock cut to form the bottom \(A\), the sides \(B\), the corner infolds \(C\), each having a slit \(D\) cut in its outer side, the ends \(E\) each having a hole \(F\) formed therein, and end flaps \(O\), eaoh having a slit \(H\) cut in its outer edge, substantially as described.
5. A blank for a paper box formed of an integral plece of stock cut to form the bottom \(A\), the sides \(B\), the corner infolds \(C\), each having a slit \(D\) cut in its outer side and one at each end having a slot \(K\) cut therein, a projection \(L\) formed on the other infold at each end, and the ends \(E\), each having a hole \(F\) formed therein, substantially as described.

No. 102,808. Etarting Device for Vapour Converters.
Apparcil pour la mise en train des convertisseurs a vapeur.


The Cooper Hewitt Electric Company, New York City, New York, assignee of Percy Holbrook Thomas, Montclair, New Jersey, both in the U.S.A., 25th December, 1906; 6 years. Filed 24th April, 1906. Receipt No. 135,217.
Claim.-1. In a system of electrical distribution, in which vapour electric apparatus having a main negative electrode and a supplemental el ctrode is utilized to supply energy against the counter electro motive force, the method of starting the vapour device into operation, which conslsts in passing current form the counter electro motive force through the main negative electrode causing it to act momentarily as a positive electrode to the supplemental electrode as a negative and subsequently connecting the main negative electrode with the supplemental electrode.
2. In a system of electrical distribution in which vapour electric apparatus having a main negative electrode and a supplemental electrode is utilized to supply energy against the counter electro motive force, the method of starting the vapour device into operation, whioh consists in utilizing the counter electro motive force to start into operation as a negative electrode and electrode other than the negative electrode and thereafter joining these electrodes.
3. In a system of electrical distribution in which vapour clectric apparatus having a main negative electrode and a supplemental electrode is utilized to supply energy against the counter electro motive force, the method of starting the vapour device into operation, which consists in causing the counter electro motive force to pass current through the container, utilizing another electrode than the main negative electrode temporarily acting as a negative electrode, substituting current from a main position electrode for the current from the counter electro motive force and connecting the temporary negative electrode with the main negalive electrode.
4. In a system of electrical distribution in which vapour electric apparatus having a main negative electrode and a supplemental electrode is utilized to supply energy against the counter electro motive force, the method of starting the vapour device into operation, which consists in utilizing the counter electro motive force to overcome the negative electrode resistance of the supplemental electrode, and subsequently transferring the negative electrode spot from the supplemental electrode to the main operating negative electrode.
5. In a system of electrical distribution in which vapour electric apparatus having a main negative electrode and a supplemental electrode is utilized to supply energy against the counter electro motive force, the method of starting the vapour device into operation, which consists in joining mechanically the main negative electrode with the supplemental electrode, passing current through the joined elec-
trodes from the counter electro motive force, separating the electrodes and thereby causing a breaking down of the negative electrode resistance of the supplemental negative electrode, subsequently joining the electrodes a second time, causing a division of current between the two electrodes, again separating the electrodes and thereby causing a breaking down of tho negative electrode of the main electrode, and cutting out of action the supplemental electrode.
6. The combination of an alternating current source, a work ciroult containing counter electro motive force, a vapour converter adapted to pass current through the work circuit, means for joining the main negative electrode with the supplemental electrode to primarily pass current from the supplemental electrode through the container, means for breaking down the negative electrode resistance and separating the electrodes so that the alternating current operates upon the supplemental electrode as a negative electrode, means for transferring the operating current from the supplemental negative electrode to the main negative electrode by means of metallically connecting the two electrodes within the chamber.
7. In a vapour converter having a plurality of positive electrodes, a main negative electrode and a supplemental negative electrode, means for starting the device with the supplemental electrode as a negative electrode, and means for transferring the current from the supplemental electrode to the main electrode as a negative electrode.
8. In a vapour converter having a plurality of positive electrodes and a main and a supplemental negative electrode, means for successively passing current to the lastnamed electrodes as negative electrodes.
9. In a vapour converter, a plurality of positive electrodes, a main and a supplemental negative electrode, in combination with means for utilizing the supplemental electrode as a negative electrode during the starting process, and means for utilizing the main negative electrode as a negative during the operating process.
10. In a vapour converter, a plurality of positive electrodes, a main and a supplemental negative electrode, in combination with means for utilizing the supplemental electrode as a negative electrode during the starting process, means for utilizing the main negative electrode as a negative, during the operating process, and means for cutting out the supplemental negative electrode.
11. In a vapour device of the tilting type having a plurality of positive electrodes and main and supplemental negative electrodes of conducting liquid, where in the device is started into operation by the rupture of a stream or layer of conducting liquid adapted to connect the main negative electrode and the supplemental electrode, means for causing a plurality of breaks during a single tilting of the device.
12. In a vapour device of the tiliting type having a plurality of positive electrodes and main and supplemental negative electrodes of conducting liquid, wherein the device is started into operation by the rupture of a stream or layer of conducting liquid adapted to connect the main negative electrode and the supplemental electrodes, means for causing a plurality of breaks during a single tilting of the device, and means for preventing the extingulshment of the device on the re-establishment of the metallic circuit through the device.
13. The combination with an exhausted container, a plurality of positive electrodes therein, main and supplemental negative electrodes of vapourizable material therein, connections between the electrodes and a source of alternating current, means for connecting the main negative eleotrode and the supplemental electrode, means for tilting the container, and means for causing a plurality of breaks in the liquid conductor during a single tilting operation.
14. The combination with an exhausted container, a plurality of positive electrodes therein, main and supplemental electrodes of vapourizable material therein, connections between the electrodes and a source of alternating current, means for connecting the main negative electrode and the supplemental electrode, means for tilting the container, means for causing a plurality of breaks in the liquid conductor during a single tilting operation, and means for preventing the extingulshment of the device on the re-establishment of the circuit through the container.
15. The combination with an exhausted container, a plurality of positive electrodes therein, main and supplemental negative electrodes of vapourizable material therein, connection between the electrodes and a source of alternating current, means for connecting the main negative electrode and the supplemental electrode, means for tilting the container, means for_causing a plurality of breaks in the Iiquid conduotar during a single tilting operation, and means for preventing the extinguishment of the device on the re-establishment of the circuit through the container, such means consisting of a cut-out in the circuit between the source of alternating current and one of the positive electrodes.
16. In a vapour converter adapted to be tilted more than once for accomplishing the starting operation, the method of obtaining successive tiltings, which consists in connecting a tilting coil in shunt between the main negative electrode and a supplemental electrodes so that the short circuiting of these two electrodes within the container withdraws current from the coil, and automatically cutting out the tilting coil after work current starts in the main negative electrode.
17. In a system of electrical distribution in which vapour electric apparatus is utilized to supply energy derived from an alternating current source against a counter electro motive force, such as a storage battery, the method of preventing the discharge of the battery upon the failure of the alternating current supply, which consists in opening the work circuit automatically when the alternating current supply ceases.
18. In a vapour converter adapted to be started by successive connections and interruptions of a circuit between the main negative electrode and a supplemental negative electrode therein, the method of securing repeated connections and interruptions, which consists in causing the tilting of the converter to be abruptly stopped, whereby undulation of the conducting liquid connecting the said electrodes is brought about.
19. In a system of electrical distribution in which vapour electric apparatus having a main negative electrode and a supplemental electrode is utilized to supply energy against the counter electro motive force, the method of removing current from the supplemental negative electrode after the starting of the current through the main negative electrode, which consists in placing the supplemental electrode in shunt to the work circuit and removing from the shunt circuit all inductance.

\section*{No. 102,809. Manufacture of Ferro-Molybdenum.} Fabrication de ferro-molybdène

The Ferro Alloys Syndicate, assignee of Henry \(W\) C Annable, both of London, England, 25th December, 1906; 6 years. Filed 30th October, 1906. Receipt No. 140,761. Claim.-The manufacture of ferro-molybdenum by preparing a solution containing molybdate of an alkali, precipitating this by means of a salt of iron, and obtaining molybdate of íron and reducing this to ferro-molybdenum, substantially as hereinbefore described.

\section*{No. 102,810. Production of Molybdenum, Etc. Préparation de molybdène, etc.}

The Electro-Metallurgical Company, Chicago, assignee of P. M. Becket, Niagara Falls, New York, 25 th December, 1906; 6 years. Filed 15th November, 1906. Receipt No. 141,233.
Claim.-1. The process of reducing molybdenum, which consists in smelting a mixture of molybdenum sulphide and a resulphurizing agent, as set forth.
2. The process of reducing molybdenum, which consists in smelting a mixture containing molybdenum sulphid and a plurality of elements capable of uniting with sulphur, as set forth.
3. The process of reducing molybdenum, which consists in smelting a mixture containing molybdenum sulphide, an alkali or alkaline earth metal compound and carbon, as set forth.
4. The process of reducing molybdenum which consists in smelting a mixture containing molybdenum sulphide, an alkali or alkaline earth metal compound and carbon, as set forth.
5. The process of reducing molybdenum, which consists in smelting a mixture of molybdenum sulphide, an oxygen compound of a metal having a relatively high affinity for sulphur and carbon, as set forth.
0. The process of reducing molybdenum, which consists in smelting a mixture of molybdenum sulphide, a calcium compound and carbon, as set forth
7. The process of reducing molybdenum, which consists in smelting a mixture of molybdenum sulphice, calcium oxide and carbon, as set forth.
8. The process of producing molybdenum alloys, which consists in smelting a mixture of molybdenum sulphide, a desulphurizing agent and source of the alloying metal, as set forth.
9. The process of producing molybdenum alloys, which consists in smelting a mixture containing molybdenum sulphide, a plurality of elements capable of uniting with sulphide, and a source of the alloying metal, as set forth.
10. The process of producing molybdenum alloys which cansists in smelting a mixture containing molybdenum sulphide, an alkali or alkaline earth metal, carbon and a source of the alloying metal, as set forth.
11. The process of producing molybdenum alloys, which consists in smelting a mixture of molybdenum sulphide, an oxygen compound of a metal having a relatively high affinity for sulphur, carbon and a source of the alloying metal, as set forth.
12. The process of producing molybdenum alloys, whish consists in smelting a mixture of molybdenum sulphide, calcium oxide, carbon and a source of the alloying metal, an set forth.

No. 102,811. Circuit Breaker. Interrupteur de circuit.


Sears B. Condit, Jr., assignee of Leonard Lord Elden, both of Boston, Massachusetts, U.S.A., 25th December, 1906; 6 years. Filed 4th April, 1901. Receipt No. 86,330.
Claim.-1. An electric switch comprising separable contacts, closing mechanism therefor, including an operating handlo automatically losing closing control of said contacts when the latter are moved to circuit closing position.
2. A switch for electric currents, comprising separable contacts to open and close the circuit, and closing mechanism therefor, including means causing the operator to loso closing control of said contacts every time they are fully closed.
3. An electric switch comprising a contact carrying membeı, means for operating said member, a toggle normally connecting said means and said member, and electro-responsive means for breaking said toggle independently of the movement of said operating means.
4. An electric switch comprising a contact carrying member, an operating handle for actuating said member, a toggle connected with said member and having detachable connection with said handle, and electro-responsive means for breaking said toggle.
5. An electric switch comprising a contact carrying mem ber, a toggle for operating said member, a lever intermittingly engaging and operating said toggle to close the switch, and electro-responsive means for breaking said toggle independently of the movement of said lever.
6. In an electric switch, automatic magnetic tripping means therefor, and an operating handle for closing the switch, having means normally maintaining inoperative relation between said handle and switch when the latter is closed.
7. An electric switch comprising a contact carrying member, manually operable means for actuating said member. electro-responsive means for automatically opening said switch, and independent mechanical tripping means for said actuating means for preventing the maintenance of the switch in circuit closing relation during the continuance of predetermined current conditions.
8. In an electric switch, the combination of separable contacts, a contact carrying member movable in one direction. an actuating member therefor movable in a different direction, an operating handle, means for disengagably connect ing the two, and a current actuated device responsive to predetermined electrical conditions in the circuit operating independently of the movement of the handle to release said member and permit the switch to open during the setting of the switch or afterward.
9. In an electric switch, the combination of separable contacts, a movable contact carrying member, hand operated actuating means therefor, a stationary contact member, a bracket and depending post rigidly supporting the latter said movable contact carrying member being mounted to move up and down on said post.
10. In an electric switch, the combination of separable contacts, a movable contact carrying member, hand operated actuating means therefor, a stationary contact member, a bracket and depending post rigidly supporting the
latter, eaid movable contact carrying momber being mounted to move up and down on said post, and binding posts leading from said depending stationary contact member and connecting with the contacts thereof, for corresponding series of circuit wires.
11. A circuit breaker, having separable co-oparative contacts, and means for separating them, said means including a longitudinally movable rod, an operating lever for moving said rod lengthwise in one direction to close a circult, and quick acting mechanism for moving the rod lengthwise in an opposite direction to break the clrcuit, said mechanism including a lever capable of swinging freely outward in one direction to permit the opening movement of said rod and moving past a dead center in an opposite dinection to hold the rod locked in closed position, and means for lifting said lever past sald dead center to permit the quick opening of the breaker.
12. A circuit breaker, having separable co-operative contacts, and means for separating them, said means including a longitudinally movable rod, an operating lever for moving said rod lengthwiee in one direction to close a circuit, and quick acting mechanism for moving the rod in an apposit. direction to break the circuit, said mechanism including means tending to forcibly move the rod quickly toward opew position, a lever capable of springing freely outward in one direction, said lever moving past a dead center in an opposite direction to hold the rod locked in closed position, and automatic means for lifting said lever past said dead center to permit the quick opening of the breaker.

\section*{No. 102,812. Apparatus for Building Submerged Concrete Worles.}

Apparcil pour la construction de travaux submergés en eiment.
Frederick Joseph Gilman and William Darling, assignee of a half interest, both of Montreal, Quebec, Canada, 25tn December, 1906; 6 years. Filed 12th July, 1901. Receipt No. 88,841 .
Claim.-1. In an apparatus of the character described, a plurality of floats, a bridge the extremities of which are connected rigidly to said floats, a plurality of sheaves disposed in opposite rows eupported by said bridge, cables passing over said sheaves, and means for lowering said cables at substantially the same speed.
2. In an apparatus of the character described, a plurality of floats, a bridge connecting said floats, a plurality of sheaves supported by said bridge and supported in opposite rows, cables passing over said sheaves, and means for lowering and raising said cables substantially the same speed.
3. In an apparatus of the character described, a plurality of floats, a bridge connecting said floats, a plurality of

sheaves disposed in opposite rows supported by said bridge said sheaves being arranged in serles, hoisting cables passing over other of said sheaves, and winding drums on and off of which said cables may be led at substantially the same speed.
4. In an apparatus of the character described, a float. a rigid extension supported thereby, a plurality of sheaves disposed in opposite rows supported by said extension, said sheaves being arranged in series, hoisting cables passing over one series and releasing cables passing over the other series of said sheaves, and hoisting drums to which said cables extend, said drums being arranged to feed said cables at substantially the same speed.
5. In apparatus of the class described, in combination a pair of oppositely disposed hulls, a bridge the extremities whereof are rigidly attached to said hulls, said bridge constituting a beam, a plurality of sheaves carried upon said beam and disposed in opposite rows, cables passing over said sheaves, lifting hooks carried repedtively by said cables, and means for taking up said cables at substantially the same rate.
6. In apparatus of the class desoribed, in combination a pair of oppositely disposed hulls, a bridge the extremities whereof are rigidly attached to said hulls said bridge constituting a beam, a plurality of sheaves carried upon said beam and disposed in opposite rows, a plurality of cables passing over said sheaves, lifting hooks respectively carried by said cables, a drum upon which said cables wind, whereby said cables may be taken in at substantially the same rate.

\section*{TRADE-MARKS}

\section*{Registered during the month of December, 1906, at the Department of AgricultareCopyright and Trade-Mark Branch.}
11480. TOGO PURE FOOD COMPANY, Montreal, Que. Ginger Ale, Cream Soda and other Aerated Waters. Words: "Governor Brand." 1st December, 1906.
11481. JAMES RICHARDSON GALBRAITH, Winnipeg, Man. Ladies' Belts and Fancy Neckwear. Letters and word : "A.B.C. Belts." 3rd December, 1906.
11482. MARECHAL, RUCHON \& COMPANY, LIMITED, Londres, Paris, et Saint-Claude, (Jura, France.) Pipes et tous autres articles pour Fumeurs. Initiales: "G.B.D." inscrites dans un ovale. 4 decembre 1906.
11483. KINAHAN \& COMPANY, LIMITED, Carlisle Building, Dublin, Ireland, Guildford Street, York Road, Lambeth. London, England. and 16 Bothwell Street, Glasgow, Scotland. Whisky, Word: "Glenisle" with facsimile signature: "Kinahan \& Co." across same. 4th December, 1906.
11484. KINAHAN \& COMPANY, LIMITED, Carlisle Building, Dublin, Ireland. Guildford Street, York Road, Lambeth, London, England. 16 Bothwell Street, Glasgow. Scotland. Whiskey. Word : "Lochisle" with facsimile signature: "Kinahan \& Co." across same. 4th December, 1906.
11485. FABRIQUE DE BOITES LA CENTRALE, (THE CENTRAL WATCH CASE COMPANY,) Bienne, Canton of Berne, Switzerland, Watch Cases. Words: "Central Watch Case Co." In panel. 4th December, 1906.
11486. THE FARMERS' CANNING COMPANY, LIMITED, Bloomfield, Ont. Canned Fruits, Vegetables and Meats. Representation of a Farmer with hoe in hand and farm buildings in the distance. 5th December, 1906.
11487. ADOLPH FRANKAU \& COMPANY, LIMITED Montreal Que. Tobacco Pipes. Letters: "B B B' enclosed in a square placed at an angle of 45 degrees to the horizon. 5th December, 1906.
11488. HUGH CECIL DUCKWORTH, 66 Victoria Strect, Westminster, London, England. Cigarettes. Word: "Zorastah." 6th December, 1906.
11489. DRYSALTERS, LIMITED, Montreal, Que. Soap. Word: "Palmolive." 6th December, 1906.
11490. MANCHESTER, ROBERTSON, ALLISON, LIMITED, St. John, New Brunswick. Serge, known as a "Close-Cut" Serge for Men's wear. Words: "Viking Serge." 6th December, 1906.
11491. THE HORTON MANUFACTURING COMPANY, Bristol, Connecticut, U.S.A. Steel Fishing Rods. Word: "Bristol." 6th December, 1906.
11492. EAGLE PENCIL COMPANY, New York. N.Y.. U.S.A. Penholders. Word : "Crown." 6th December, 1906.
11493. EAGLE PENCIL COMPANY. New York., N.Y.. U.S.A. Lead Pencils. Word : "Orloff." 6th December, 1906.
11494. EAGLE PENCIL COMPANY, New York, N.Y., U.S.A. Lead Pencils. Word : "Scholastic." 6th December, 1906.
11495. EAGLE PENCIL COMPANY, New York. N.Y., U.S.A. Lead Pencils. Word : "Perfection." 6th December, 1906.
11496. EAGLE PENCIL COMPANY, New York, N.Y., U.S.A. Lead Pencils. Words : " Rob Roy." 6th December, 1906
11497. EAGLE PENCIL COMPANY, New York, N.Y., U.S.A. Lead Pencils. Word : "Manifold." 6th December, 1906.
11498. EAGLE PENCIL COMPANY, New York, N.Y., U.S.A. Lead Pencils. Word : "Eagle" and the representation of an eagle. 6th December, 1906.
11499. EAGLE PENCIL COMPANY, New York, N.Y., U.S.A. Lead Pencils. Word : "Crown " and the representation of a Crown. 6th December, 1906.
11500. EAGLE PENCIL COMPANY, New York, N.Y., U.S.A. Lead Pencils. Word : " Sun " and conventional representation of the rising sun. 6th December, 1906
11501. EAGLE PENCIL COMPANY, New York, N.Y., U.S.A. Lead Pencils. Word : "Progress." 6th December, 1906.
11502. EAGLE PENCIL COMPANY. New York, N.Y., U.S.A. Lead Pencils. Word : "Mercantile." 6th December, 1906.
11503. FAGLE PENCIL COMPANY, New York, N.Y., U.S.A. Lead Pencils. Word : "Express" and conventional representation of a train of railway cars. 7th December, 1906.
11504. EAGLE PENCIL COMPANY, New York, N.Y., U.S.A. Lead Pencils. Word : "Studio." 7th December, 1906.
11505. EAGLE PENCIL COMPANY, New York, N.Y., U.S.A. Lead Pencils. Word : "Copygraph." 7th December, 1906.
11506. EAGLE PENCIL COMPANY, New York, N.Y., U.S.A. Fountain Pens. Word : " Flash." 7th December, 1906.
11507. EAGLE PENCIL COMPANY, New York, N.Y., U.S.A. Lead Pencils. Word : "Diagraph." 7th Deecmber. 1906.
11508. THE ROBERT GREIG COMPANY, LIMITED, Toronto, Ont. Cereals, Flour, Baking Powder, Coffee, Spices, Mustard, Cream Tartar, Prepared Cocoanut, Cake Icings, etc. Word : "Orient." 10th December, 1906.
11509. THEODORE J. VOGELGESANG, Buffalo, New York, U.S.A. Fever Remedies, Representation of an Angel descending upon a number of children, with the words : "I am coming, don't give up. 10th December, 1906.
11510. E. W. B. SNIDER, St. Jacobs, County of Waterloo, Ont. Flour. Circular label with words : "Diamond Pure" and the representation of a diamond decorated with ears of Wheat. 10th December, 1906.
11511. LADIES' WEAR, LIMITED. Toronto, Ont. Ladies' Blouses and wearing apparel. Word : "Ladiwear.". 10th December, 1906.
11512. BRITISH-AMERICAN TOBACCO COMPANY, LIMITED, Cecll Chambers, 86 Strand. London, England. Tobacco. Label re "Bishop Blaze," representation of a man wearing episcopal robes, etc. 10th December, 1906.
11513. WALTER DAVID INGLIS WRIGHT, Trading as WRIGHT, SONS \& COMPANY, London, Ont. Furs and Head Wear. Representation of a Buffalo and name: "Wilton \& Co., Manufacturers, London." 11th December, 1906.
11514. FRIEDMAN BROS., Montreal, Que. Clothing. Word : "Modern." monogram of initials: "F.B." and word : "Regd." on diamond shaped block, from top of which project two goose quills. 11th December, 1906.
11515. THE COOK-FITZGERALD COMPANY, LIMITED, London, Ont. Boots, Shoes and Stockings. Word : " Liberty." 11th December, 1906.
11516. THE CONNELL ANTHRACITE MINING COMPANY, LIMITED, Toronto, Ont. Coal. Words: "Use Connell's Coal" printed on a representation of a bag of coal. 11 th December, 1906.
11517. RADCLIFFE \& COMPANY, New York, N.Y., U.S.A. Score Pads for Bridge Whist. Word : "Rad-Bridge." 11th December, 1906.
11518. HAMILTON \& HAMILTON, Jr., Providence, Rhode Island, U.S.A. Jewellery and solid and plated precious metal ware. Representation of a Star and the initials: "H. \& H." 12th December, 1906.
11519. JENNINGS MANUFACTURING COMPANY, also trading as JENNINGS PERFUMERY COMPANY, Grand Rapids, Michigan, U.S.A. Perfumes and other Tollet Preparations. Words: " Dorothy Vernon." 12th December, 1906.
11520. DRYSALTERS, LIMITED, Montreal, Que. Soap and Perfumes Words : "The Sphinx" and pictorial representation in oval enclosed by garter bearing words: " Drysalters Limited." 12th December, 1906.
11521. G. T. FULFORD COMPANY, LIMITED, Toronto, Ont. Medicated Preparation for Infants and Children. Words: "Baby's Own Tablets." 12th December, 1906.
11522. ANNA FREDERIKA THOMPSON, 1a Frognal Parade, Hampstead, London, England. Perfumery, Preparations for the teeth and hair and Perfumed Soap. Word : "Taroma." 18th December, 1906.
11523. THE R. FORBES COMPANY, LINMTED, Hespelor, Ont. Knitted Eindwear. Word : "Debutante." 18th December, 1906.
11524. AMERICAN WOOD PRESERVING COMPANY, Ohicaso, niliois, U.s. A. Wood Preservativee. Word: "Antiseptine." 18th December, 1906.
11525. BATTLE CREEK TOASTED CORN FLAKE COMPANY, LIMITED, Battle Creek, Michigan, U.S.A. Prepared Coreal Breakfast Foods. Words : '" Korn-Krisp." 14th Docember, 1906.
11526. JOHN BISHOP HALL, Philadelphia, Pennoglvania, U.B.A. Hair Curlers. Word : "Marcel." 15th December, 1906.
11527. JOHN BISHOP HALL, Philadelphia, Pennsylvania, U.B.A. Fialr Curlers Word: "Magic." 15th December, 1906.
11528. JOHN BISHOP HALL, Philadelphia, Pennsylvania, U.S.A. Halr Curlers. Representation of a single bar having wound thereon a strand of hair. 15th December, 1906.
11529. JOHN BISHOP HALL, Philadelphia, Pennsylvania, U.8.A. Bair Curlers. Representation of an angular agure having wound thereon a strand of human halr. 15th December, 1906.
11530. JOHN BISHOP HALL, Philadelphia, Pennsylvania, U.B.A. Hair Curlers. Representation of an angular figure havins wound thereon a strand of human hair. 15th December, 1906.
11531. MCALPINE TOBACCO COMPANY, Toronto, Ont. Cut Tobecoo. Words : "Old squire " and representation elderly sentleman smoking. 17th December, 1906.
11532. DOROTHY DODD SHOE COMPANY, Boston, Massachusetts, U.B.A. Boots and Shoes. Words and representation: "Gold Medal." 18th Decomber, 1906.
11533. THEODORE J. VOGELGESANG, Buffalo, Now Tork, U.s.A. Lininments. Representation of a squirrel In a sitting posture. 19th December, 1906.
11534. BISHOP BROTHERS, Niagara, Ont. Canned Fruits, Vegetables, Jams, Jellies, Preserves and Catsup. Words: "Union Jack Brand" and representation of flac and Maple Leavea. 20th December, 1906.
11535. ROBERT JAMES LOVELL, Toronto, Ont. Manufactured Stationery. Words : "Lovell's Guaranteed Quality" enclosed in an ornamental border of triangular shape. 21st December. 1506.
11536. JOHN McKAY, Kingston, Ont. Manufactured Furs. Words: "MoKay Furs from Trapper to Wearer " and representation of an Indian's head in a circle. 21st December, 1906.
11537. ERNEST FREDERICK BLY, Toronto, Ont. Men's Furnishings, Including Boots and Shoes. Word : "Thoro" and representation of three heraldic dagsers above, and a conventional ribbon below. 21st December, 1908.
11638. THOMAS ARTHUR MORRISON, Montreal, Que. Bullding Materials : Stone, Gravel, Brick, etc. Word : "Tamco." 28nd December, 1906.
11539. HENRY SOLOMON WELLCOME, TRAding as BURROUGHS, WELLCOME \& COMPANY. Snow Hill Buildings, Holborn Viaduct, London, England. A Medicine for human and veterinary use. Word : "Ernutin." 22nd December, 1906.
11540. THE CODVILLE, GEORGESON COMPANY, LIMITED, WInnipeg, Man. Tea, Coffee, Spices, Cream of Tartar, Jelly Powdera, etc., etc. Word : "Reliance." 24th December, 1906.
11541. COLGATE \& COMPANY, New York, N.Y., U.S.A. Tollet Preparations. Word : "Coleo." 24th December, 1906.
11542. CARON BROS., Montreal, Que. Jewellery and Silverware, plated or otherwise. Letter: "C" partially surrounding the Igure : " 3." 26th December, 1806.
11543. THE SAUNDERSON MANUFACTURING COMPANY, LIMITED. Sydney, Nova Scotia. Tarred Felts, Ready Roofng, Sheathinge, ney, Nova Scotia. Tarred Felts, Ready Roonng, Sheathiags. seal, etc. 26th December, 1906.
11544. CANADA SPICE AND GROCERY COMPANY, LIMITED, London, Ont. Coffee. Words: "Arablan Queen" and representation of a woman's head, etc. 26th December, 1906.
11545. LOLIS M. PARK, Minneapolis, Minnesota, U.S.A. Spring Water. Word: "Hlawatha" and representation of a nude fomalo figure standing with uplifted arms in the spray of a waterfall. 26th December, 1906.
11546. THE CODVILLE, GEORGESON COMPANY, LIMITED, Winnipeg. Man. Flavouring Extracts, Cake Icings, Baking Soda, Jelly Powders, etc., etc. Word : " Magnet " and representation of a horseshoe magnet. 27th December, 1906.
11547. THE UNITED STATES PLAYING CARD COMPANY, East Norwood, Cincinnati, Ohio, U.S.A. Playing Cards. Word: "Jumbo Indexes." 28th December, 1906.
11548. HENRY DARLING, Vancouver, British Columbia. Liquid Compound for cleaning and polishing furniture. Word: "Kleno." 28th December, 1906.
11549. NEW ENGLAND CONFECTIONERY COMPANY. Boston, Massachusetts, U.S.A. Confectionery, Candies, etc. Words : " Necco Sweets," in circle. 31st December, 1906.
11550. SCARFE \& COMPANY, Brantford. Ont. Varnish, Japan and Stain. Word : " Brantine." 31st December, 1906.

\section*{INDUSTRIAL DESIGNS}

Registered during, the month of December, 1906. at the Department of AgricultureCopyright and Trade-Mark Branch.
2493. THE OCEAN BLEND TEA COMPANY, LIMITED, Toronto, Ont. Ornamentation for Tinware re Ship and Circle with line. 1st December, 1906.
2494. THE TISDALE IRON STABLE FITTINGS COMPANY, LIMITED, Toronto, Ont. Support or Hanger for Harness, being a vertical bar provided with a plurality of brackets, etc. 3rd December, 1906.
2495. HARRY MAUGHAN, Toronto, Ont. Pictorial Post Card having a view aperture through which may be exhibited the views printed on a revoluble disc. 3rd December, 1906.
2496. RICHARD HEMSLEY, Montreal, Que. Belt Buckle, Brooch or similar article, re two circular bands, etc. 3rd December, 1906.
2497. RICHARD HEMSLEY, Montreal, Que. Belt Buckle, Brooch or similar article, re two heart-shaped bands, etc. 3rd December, 1906.
2498. RICHARD HEMSLEY, Montreal, Que. Belt Buckle, Brooch or similar article, re two oval-shaped bands, etc. 3rd December, 1906.
2499. JAMES MORRISON, Toronto, Ont. Screw and Tablet "Hot" or "Cold" for use on Fuller Bibbs, Basin Cocks, etc. 10th December, 1906.
2500. JAMES HENRY McKECHNIE, Granby, Que. Cup or Dish having projecting from one side of it the neck and head of an Ox, forming a handle therefor. 10th December, 1906.
2501. RICHARD HEMSLEY, Montreal, Que. Medal, Charm or Spoon Top, re figure of a Curler within a circle resting on two crossed brooms, etc. 19th December, 1906.
2502. RICHARD HEMSLEY, Montreal, Que. Match Box, Stamp Box, Card Case or similar article, one side decorated with a wreath of maple leaves surrounding a shield surmounted by a crown, and the other a beaver on a log, branches of maple leaves, and tablet for a name. 19th December, 1906.

\section*{COPYRIGHTS}

Entered during the month of December, 1906, at the Department of AgricultureCopyright and Trade-Mark Branch.
17846. HUMBER BAY. (Photo.) Preston L. Tait, Toronto, Ont., 1st December, 1906.
17847. LITTLE ONE, GOOD-BYE. (Song.) Words by E. P. Moran. Music by Silvio Hein. Maurice Shapiro, New York, N.Y., U.B.A. 1st December, 1906.
17848. I HAVE WAITED FOR A LONG, LONG WHILEE. (Song.) Words by Bartley Costello. Music by Silvio Hein. Maurice Shapiro. New York, N.Y., U.S.A., 1st December, 1906.
17849. GIVING AT CHRISTMAS. Sermon by Rev. Frank De Witt Talmage, Los Angeles, California, U.S.A., 2nd December. 1906. (Book.) Frederic Diver, Toronto, Ont., 3rd December, 1906.
17850. MINGAN INDIANS. (Photo.) Kate M. Wilson. Mingan. Que., 3rd December, 1906.
17851. MANUEL DES CONGREGANISTES CONTENANT LES OFFICES FRRANCAIS-LATIN. Congrégation de la Ste.-Vierge, Paroisse de St. Jean-Baptiste de Québec, Que.. 3 décembre 1906.
17852. CHEMISTRY FOR SCHOOLS. By G. K. Mills. B.A. W. J. Gage \& Company, Limited, Toronto. Ont., 4th December, 1906.
17853. A HYMN OF EMPIRE AND OTHER POEMS. By Frederick GeorgiScott. (Book.) Frederick George Scott, Quebec, Que., 5th December, 1906.
17854. MORNING STAR. (March Two-Step.) By Nell Moret. Jerome H. Remick \& Company, Detroit, Michigan, U.S.A., Eth December, 1906.
17855. IN WASHINGTON. (Song.) Words by Vincent Bryan. Musle by Gertrude Hoffman. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 5th December, 1906.
17856. HOPE. Pictorial Supplement to the CHRISTMAS GLOBE. Globe Printing Company, Toronto, Ont., 6th December, 1906.
17857. SABBATH MORNING. Pictorial Supplement to the CERISTMAS GLOBE. Globe Printing Company, Toronto, Ont., 6th December, 1906.
17858. A CRITICAL MOMENT. Pictorial Supplement to the CHRISTMAS GLOBE. Globe Printing Company, Toronto, Ont., 6th December, 1906.
17859. GENERAL BROCK, FORT GEORGE, NIAGARA, 1812. Pictorial Supplement to the CHRISTMAS GLOBE. Globe Printing Company, Toronto, Ont., 6th December, 1906.
17860. MURMURING BREEZES. From CHANSON ESPAGNOLES. by Adolf Jensen. Transcribed for Platios, by R. Niemann. Whaley, Royce \& Company, Limited, Toronto. Ont., 6th December, 1906.
17861. PROOF OF LOSS TO THE RICHMOND AND DRUMMOND FIRE INSURANCE COMPANY, OF RICHMOND QUEBEC. (Form.) The Richmond and Drummond Fire Insurance Company Richmond, Que., 6th December, 1906.
17862. ND'ER-DO-WEEL. (Habenichts.) (Song.) Binglish Version by Thekla Adam. Music by Heury J. Latutz. Op. 13. No. 1 Henry J. Lautz, Toronto, Ont., 7th December, 1906.
17863. FORMS OF MINUTES AND BY-LAWS RELATIVE TO THE FORMATION OF JOINT STOCK COMPANIES. By Henry J. Elliott. (Book.) Charles Frederick Dawson, Montreal. Que., 7th December, 1906.
17864. THE CORNFLOWER AND OTHER POEMS. By Jean Blewett. (Book.) Jean Blewett, Toronto. Ont., 7th December, 1906.
17865. CANADA. (God and Our Land.) Words by W. A. Fraser. Music by Albert Ham. Whaley, Royce \& Company. Limited, Toronto. Ont., 7th December, 1906.
17866. BAIN'S CATALOGUE OF HEIRS-AT-LAW. (Book.) John Phillips. Montreal, Que.. 7ih December, 1906.
17867. SONGS AND SONNETS. By Helena Coleman. (Book.) Helena Coleman, Toronto, Ont., 10th December, 1906.
17868. LA CHASSE GALERIE. (Dessin.) Henri Julien, Montréal, Qué, 10 décembre 1906.
17869. GREAT LENGTH OF DAYS. Sermon by Rev. Frank De Witt Talmage, Los Angeles, California, U.S.A.. 9th December, 1906. (Book.) F. Diver, Toronto, Ont., 10th December, 1906.
17870. ALMOST PERSUADED. Transcription for Plano. Arranged by \(W\). H. Hodgins. W. H. Hodgins, Toronto. Ont., 10th December 1906.
17871. HARMSWORTH SELFF-EDUCATOR MAGAZINE. 6th December, 1906 . No. 26. The Amalgamated Press. Limited. London, England. 11th December, 1906.
17872. OBSERVATORY. (March and Two-Step.) By Harry J. Lincoln. Vandersioot Music Publishing Company. Williamsport, Pennsylvania, U.S.A., 11th December, 1906.

1i873. DREAM ON, DEAR HEART. (Serenade.) Words bv William H. Gardner. Music by A. W. Lansing. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 12th December, 1906.
17874. ON SUCH A NIGHT AS THIS. (Song.) Words by William H. Gardner. Music by A. W. Lansing. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 12th December, 1906.
17875. CATHEDRAL CHIMES. (Waltzes.) By C. A. Grimm. Jerome \(H\). Remick \& Company, Detroit, Michigan, U.S.A., 12th December, 1906.
17876. NOTMAN'S PHOTOGRAPHIC SELECTIONS, VOLUME V. (Views.) Wm. Notman \& Son, Montreal, Que., 12th December, 1906.
17877. GUIDE AND GUARD ME FOREVERMORE. (Sacred Song.) Words and Music by C. R. Harrison. A. Cox \& Company, Toronto, Ont., 12th December, 1906.
17878. MOONLIGHT REVELS. (For Piano.) By Levi Morrison. A. Cox \& Company, Toronto, Ont., 12th December, 1906.
17879. THE HISTORY OF THE COUNTY OF BRUCE AND OF THE MINOR MUNICIPALITIES THEREIN. (With Illustrations.) By Norman Robertson. Norman Robertson, Walkerton, Ont. 13th December, 1906.
17880. BANKHEAD AND SURFACE WORKS. I. R. \& C. CO. COAL MINE INVERNESS. CAPE BRETON, CANADA. (Photo.) D. Nor-thall-Laurie, Ladbroke, Gardens, W., London, England, 13th December, 1906.
17881. DRIVING A LEVEL, I. R. \& C. CO. COAL MINE, INVERNESS, CAPE BRETON, CANADA. (Photo.) D. Northall-Laurie, Ladbroke Gardens, W., London, England, 13th December, 1906.
17882. CANADIAN SCENIC VIEWS AND GUIDE BOOK. The Canada Age cy Company, Limited, London, Ont., 13th December, 1906.
17883. ARCHBISHOP O'BRIEN, MAN AND CHURCHMAN. By Katherine Hughes. Katherine Hughes, Edmonton, Alberta, 13th December, 1906.
17884. HALDIMAND, LINCOLN, WELLAND AND WENTWORTH COUNTIES DIRECTORY. 1906-7. Union Publishing Company of Ingersoll, Ingersoll, Ont., 14th December, 1906.
17885. MATRIMONY. (Song.) Words and Music by Wm. McKenna. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 14th December, 1906.
17886. SINCE HIRAM WENT TO YALE. Words by Harry Williams. Music by Egbert Van Alstyne. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 14th December, 1906.
17887. TELL ME. Words by Vincent Bryan. Music by Albert Gumble. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 14th December, 1906.
17888. ELEANORE. Caprice. (For Piano.) By Arthur Wellesley. Whaley, Royce \& Company, Limited, Toronto, Ont., 14th December, 1906.
17889. WHAT'S THE USE OF LOVING IF YOU CAN'T LOVE ALL THE TIME. Words by Jos. Mittenthal. Music by Harry Armstrong. Whaley, Royce \& Company. Limited, Toronto, Ont., 14th December, 1906.
17890. THE LILY AND THE ROSE. (A New Flower Song.) For Piano. By H. E. Engelman. Revised and Fingered by Frank Squire Welsman. Whaley, Royce \& Company, Limited Toronto, Ont., 14th December, 1906.
\begin{tabular}{|c|c|}
\hline 17891. & AIDENEE. (Caprice.) By Arthur Wellesley. Whaley, Royce \& Company, Limited, Toronto, Ont., 14th December, 1906. \\
\hline 17892. & PANORAMA FROM HILL TOP, DIGBY, NOVA SCOTIA. (Photo NO. 18.) Ralph N. Harris, Bear River, Nova Scotia, 15th December, 1906. \\
\hline 17893. & PANORAMA OF BEAR RIVER, NOVA SCOTIA. (Photo No. 16.) Ralph N. Harris, Bear River, Nova Scotia, 15th December, 1906. \\
\hline 17894. & IDGBY, NOVA SCOTIA. (Photo No 17.) Ralph N. Harris, Bear River, Nova Scotia, 15th December, 1906. \\
\hline 17805. & bEAR RIVER, NOVA SCOTIA. (Photo No. 15.) Ralph N. Harris. Bear River, Nova Scotia, 15th Deccmber, 1906. \\
\hline 17896 & BEAR RIVER, NOVA SCOTIA. (Photo No. 13.) Ralph N Harris, Bear River, Nova Scotia, 15th December, 1906. \\
\hline 1789 & BEAR RIVER, NOVA SCOTIA. (Photo No. 12.) Ralph N. Harris. Brar River, Nova Scotia, 15th Decrmber, 1306. \\
\hline 1783 & DIGBY, NOVA SCOTIA. (Photo No. 14.) Ralph \(N\) Hartis. Bpar River, Nova Scotia, 15th December, 1906. \\
\hline \(178!\) & THE CANADIAN MUNICIPAL JOURNAL, NOVEMBER, 1906. The Canadian Municipal Journal Company, Limited. Montreal, Que., 15th December, 1906. \\
\hline 17SNO. & BOYI'S SYLLABIC SHORTHAND INSTRUCTOR. (Book.) William Thomas Moon, Montreal, Que., 15th December, 1906. \\
\hline 17901. & YARMOUTH IN MINIATURE, NUMBER 1. (Views.) John Murray Lawion, Yarmouth, Nova Scotia. 17th December, 1906. \\
\hline 17:402. & YARMOUTH IN MINIATURE, NUMBER 2. (Views.) John Murra: Lawson, Yarmouth, Nova Scotia, 17th December, 1906. \\
\hline 17903. & TWO SONGS. No 1, AUF NIMMERWEIDERSEHEN. (A Goodbye.) Words by A. Stieler. No. 2, SINCE WE PARTED. Words by Owen Meredith. Music by Albert Ham. Albert Ham. Toronto, Ont., 17th December, 1906. \\
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\end{tabular}
17304. AMONG THE IMMORTALS: SONGS AND SONNETS FROM THE BEBREW. By R. Walter Wright. R. Walter Wright, Palmerston, Ont., 17th December, 1906.
17905. THE HEART OF CHRISTIANITY. By Rev. T. S. Lingcott, D.D. F.R.S.C. (Book.) T. S. Linscott, Brantiord, Ont., 18th December, 1906.
17906. INSURAN(:F PIANS OF BINCARTH, FRANKLIN, KENTON. NEW• DALE AND RUSSELL. PROVINCE OF MANITOBA. Charles Edward Goad, Montreal, Que., 18th December, 1906.
17807. INSURANCE PLANS OF BALGONIE, MOOSOMIN, CARNDUFF, ROULEAU, HALBRITE, SWIFT CURRENT, LANGENBURGH. WAPELLA, MILESTONE, YELLOWGRABS, MOOSEJAW AND WOLSELEY, PROVINCE OF SASKATCHEWAN. Charles Edward Goad, Montreal, Que., 18th December, 1906.
17908. INSURANCE PLANS OF BANFF. BIAIRMORE. COLEMAN, CLARES HOLM, DIDSBURY, FRANK, GLDICHEN, HIGH RIVER, LACOMBE, LEAVINGS, LEDUC, MEDICINE HAT, NANTON, OKOTOKS, OLDS, STAVELEY AND BTRATHCONA, PROVINCE OF ALBERTA. Charles Ddward Goad. Montreal, Que., 18th December, 1906.
17909. INSURANCE PLANS OF BAIE ST. PAUL, BIC, CEDAR HALL, CHAMBORD, CHATEAU RICHER, CHICOUTIMI, FRASERVILLE OR RIVIERE DU LOUP, HEBERTVILLE, ISLE VERTE. JONQUIERE, LAKE EDWARD, LANGE GARDIBN, LES EBOULEMENTS, MATANE, MONTMAGNY, MURRAY BAY AND POINTE AU PIC, RIMOUSKI, ROBERVAL, ST. AIME, ST. ALPHONSE OR BAGOTVILLE, ST. CHARLES DE BELLECHASSE. STE. FLAAVIE INCLUDING STE. FLAVIE VILLAGE AND PRICE VILLAGE. ST. HENRI DE BELLECHASSE, ST. IRENEE LES BAINS. ST. JEROME (Lake ST. JOHN) AND TADOUSAC. PROVINCE OF:QUEBFC. Charles Edward Gond. Montreal. Que.. 18th December, 1806. by Alexander Fraser.
17910. SONGS AND MISCELLANEOUS POEMS. By John Imrie. With an Introduction by G. Mercer Adam, and Biographical Sketch by Alexander Fraser. The Imric Printing Company. Limited. Toronto. Ont.. 19th lecember. 1906.
17911. THE TOWN AT THE BND OF THE LINE. (Song.) Words by Arthur J. Lamb. Music by John W. Bratton. Maurice Shapiro. New York, N.Y., U.S.A., 19th December, 1906.
17912. PAWNEE. (Song.) Words by James O'Dea. Music by Silvio Hein. Maurice Shapiro, New York, N.Y., U.S.A., 19th December, 1906.
17913. TWO LITTLE BOYS IN BLUE. (Song.) Words by Ed. Madden. Music by Dolly Jardon. Maurice Shapiro, New York, N.Y., U.S.A., 19th December, 1906.
17914. NATIONAL PATROL. (For Piano.) By Edwin F. Kendall. Maurice Shapiro, New York, N.Y., U.S.A., 19th December, 1906.
17915. SINCE YOU CALLED ME DEARIE. (Song.) Words by W. R. Williams. Music by Hampton Durand. Will Rossiter, Chicago, Illinois, U.S.A., 19th December, 1906.
17916. OFFICAL TELEPHONE DIRECTORY, DISTRICT OF LETHBRIDGE AND SOUTHERN ALBERTA, DECEMBER, 1906. The Bell Telephone Company of Canada, Limited, Montreal, Que., 19th December, 1906.
17917. THE TOSSEFOLAH GIRLS. (Song.) Lyric by Arthur Gillespie. Music by Frederic Chapin. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 20th December, 1906.
17918. LEGISLATIVE BUILDING, QUEEN'S PARK, TORONTO. (Photo.) W. T. Freeland, Toronto, Ont., 20th December, 1906.
17919. TORONTO UNIVERSITY CAMPUS AND CONVOCATION HALL. (Photo.) Wm. T. Freeland, Toronto, Ont., 20th December, 1906.
17920. LORD, FOR TO-MORROW AND ITS NEEDS. GOD OF OUR FATHERS, KNOWN OF IOLD, VIA VERA. THE LORD IS MY SHEPHERD. (Pamphiet of Hymns.) Music by Jas. Edmund Jones. Jas. Edmund Jones, Toronto, Ont., 20th December, 1906.
17921. MITCHELL'S SELF-TESTING SAFETY CODE. Revised EditloL Charles J. Mitchell, Toronto, Ont., 20th December, 1906.
17922. THE RETAIL MERCHANTS RECORD (Book.) The Home Bank of Canada, Toronto, Ont., 20th December, 1906.
17923. SIMPLIFIED HEATING. (Book.) Adam Taylor, Toronto, Ont., 20th December, 1906.
17924. STINGY MOON. (Song.) Words by Will Heelan. Music by H. B. Blanke. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 20th December, 1906.
17925. WHEN YOU KISS THE GIRL YOU LOVE. (Song.) Words by Harry Williams. Music by Egbert Van Alstyne. Jerome \(H\). Remick \& Company, New York, N.Y., U.S.A., 20th December, 1906.
17926. OWATONNA. (Song.) Words by Harry Williams. Music by Egbert Van Alstyne. Jerome H. Remick \& Company, JJew York, N.Y., U.S.A., 20th December, 1906.
17927. MILLER'S CANADIAN FARMERS' ALMANAC FOR 1907. Robert Miller, Montreal, Que., 21st Devember, 1906.
17928. LAND OF THE MAPLE. (Pictorial post card.) Alfred H. Cooper, Toronto, Ont., 21st December, 1906.
17929. IN HADES. By Dr. D. Lowrey. (Book.) David Lowrey, Toronto, Ont.,'21st December, 1906.
17930. EMPIRE CLUB SPEECHES. (Third Year of Issue.) Illustrated. Edited by J. Castell Hopkins, F.S.S. The Empire Club of Canada, Toronto, Ont., 21st December, 1906.
17931. ISOTHERMAL MAP OF NORTH AMERICA SHOWING SUMMER AND WINTER ISOTHERMS FOCUSSING IN VICTORIA, BRITISH COLOMBIA. Arthur \(\mathbf{W}\). McCurdy, Victoria. West, British Columbia, 22nd December, 1906.
17982. VICTORIA, BRITISH COLUMBIA. (Map.) Arthur W. McCurdy, Victoria, West, British Columbla, 22nd December, 1906.
17933. BELCHER'S FARMERS' ALMANAC FOR THE MARITIME PROVINCES, 1907. McAlpine Publishing Company, Limited, Halifax, Nova Scotia, 22nd December, 1906.
17934. THE PLEDGE OF THE GOLDEN BREW. (Song for Bass.) Words by Jean C. Havez. Music by E. V. Cupero. Lew Dockstader, New York, N.Y., U.S.A., 24th December, 1908.
17935. THERE ISN'T ANYTHING THAT CAN'T BE CURED. (Song.) Words bv Vincent Bryan. Music by Harry Bulger. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 24th Decensber, 1906.
17936. OFFICIAL TELEPHONE DIRECTORY, DISTRICT OF CALGARY AND NORTHERN ALBERTA, DECEMBER. 1906. The Bell Telephone Company of Canada, Limited, Montreal, Que., 24th December, 1906.
17937. HOMFS HEALTHFUL AND BEAUTIFUL. (Book.) The Alabastine Company, Paris, Limited, Paris, Ont., 24th December, 1206.
17938. IDA VALSE. (For Piano.) By Louls Payette. The Canadian American Music Company, Limited, Toronto, Ont., 24th December, 1906.
17939. HARMSWORTH SELF-EDUCATOR MAGAZINE, 87th DECEMBER, 1906. Nc. 27. The Amalgamated Press, Limited. London, England, 24th Dccember, 1906.
17940. THE MORTON-BROWNE COMPANY CATALOGUE ' STYLE.' (Book.) John J. Gibbons. Toronto. Ont., 24th December, 1946
17941. THE MANITOBA REPORT8. Volume XV. Edited by George Patterson. Reporter : W. A. Taylor. The Law Soclety of Manitoba, Winnipeg. Man., 24th December, 1906.
1794.. LALMANACH DU PEUPIEE POUR 1907. (Livre.) Librairie Bcauchemin, limitée, Montréal, Que., 24 décembre 1906.
17943. CL,ASS RECORD, 1907. (Card system.) The Church Record Sabbath School Publications, Toronto, Ont., 24th December, 1906.
17944. THE MAN WHO COMES CHRISTMAS DAY. By James Lawlor. Pablished in 'The News,' Toronto, Ont. (Temporary Copyright). James Lawlor, Toronto, Ont, 24th December, 1906.
17945. CLARKE'S ECLECTIC SHORTHAND, 20th CENTURY METHODS. (Book.) Joseph C. Clarke, Toronto, Ont., 24th December, 1906.
17946. 1!w: STILL MORE SUGGESTIONS. (Chart.) The canada Westinghouse Company, Limited, Montreal, Que., 2ith December, 1906.
17947. MR. WOOLEY IAMENTS TH BUSTIN UP IV A FONI ROMANGE IN THE CASE OF HIS FRIEND, COUNT BONEY. By F. P. Dunne. (Temporary Copyright.) Canada Newspaper Syndicate, Limited, Montreal, Que., 24th December. 1906.
17948. MR. DOOLEFY ON DIVORCE. By F. P. Dunne. (Temporary Copyright.) Canada Newspaper Syndicate, Limited, Montreal, Que., 24th December, 1906.
17949. ON THE ROAD, DECEMBER, 1906. (Publication.) Austin Addison Briggs, Toronto, Ont., 24 th December, 1906.
17950. OFFICIAL TELEPHONE DIRECTORY, TORONTO AND SUBURBS, DECEMBER. 1906. The Bell Telephone Company of Canada, Limited, Montrcal, Que., 26th December, 1906.
17951. THE ENGINEERING JOURNAL OF CANADA. DECEMBER. 1906. Arch'd. W. Smith \& Partners, Limited. Toronto. Ont.. 26th Necember. 1906.
17952. THE HARDWARE MONTHLY OF CANADA, DECEMBER. 1906. Arch'd. W. Smith \& Partners. Limited. Toronto, Ont.. 26th December, 1906.
17953. DIRECTIONS FOR REMODELLING AND REPAIRING CASHMERE AND COTTON SOCKS AND STOCKINGS. (Booklet.) Lucla Elizabeth Tate, Toronto, Ont., 26th December, 1906.
17954. CANADIAN ALMANAC FOR 1907. The Copp. Clark Company, Limited. Toronto. Ont., 26th December, 1906.
17955. CANADA. By E. Bain. (Poem.) Ebenezer Bain, Montreal, Que., 26th December, 1906.
17956. COURS IDE DROIT CIVIL DE LA PROVINCE DE QUEBEC. PAF I'Honorable F. Langelier. Tome Deuxieme. Wilfrid John Wilson \(k\) Theophiln Latleur. Montreal. Que. 27 decrmbre 1906.
17957. THE KINGDOM OF GOD AND LIFE THEREIN. By the late Rev. W. R. Forster. Book.l Riv. T. G. A. Wright, Walkertoll. Ont., 27th December, 1906.
17958. A COMPENDIUM OF THE CHRISTIAN RELIGION. By Rev. T. M. Talbot. B.A., B.D. (Third Edition.) Thomas Mason Talbot, Napinka. Manitoba, 28th December, 1906.
17959. SKETCH MAP SHOWING LOCATION OF MINES IN COLEMAN TOWNSHIP. Ussher, Playfair \& Martens, Toronto, Ont.. 28th December, 1906.

1796io. La cause de baptiste. Comédie en un Acte. Par Regis Roy. J. E. Relair. Montréal, Que., 28 décembre 1906.
17961. NOCTURNE. (For Piano.) By Erik Meyer-Helmund. Op. 28. No. 1. Whaley, Royce \& Company, Limited, Toronto, Ont., 29th December, 1906.
17962. BORDER BALLAD. (Song.) Words by Sir Walter Scott. Music by John Adamson. Whaley, Royce \& Company, Limited. Toronto, Ont., 29th December, 1906.
17963. L'ALMANACH DU MONDE QUI CHANTE, 1907. J. E. Belair, Montréal, Qué., 29 décembre 1906.
17964. NO WEDDING BELLS FOR ME. (Song.) Words by E. P. Moran and Will A. Heelan. Music by Seymour Furth. Maurice Shapiro, New York, N.Y., U.S.A., 29th December, 1906.
17965. I'M IN LOVE WITH THE SLIDE TROMBONE. Words by Arthur J. Lamb. Music by Seymour Furth. Maurice Shapiro, New York, N.Y., U.S.A., 29th December, 1906.
17966. TABLE OF CONTENTS IN FEET BOARD MEASURE SAW LOGS. Complled and Enlarged by William Peter Grant. (Book.) William Peter Grant, Three Rivers, Que., 29th December, 1906.
17967. OH ! HOW I LOVE MY TEACHER. (Song.) Words by Harry Williams. Music by Egbert Van Alstyne. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 31st December, 1906.
17968. PICHE KINDERGARTEN MUSIC METHOD. (For use in Public Schools.). (Book.) Florence Piche Foster, Wiarton, Ont., 31st December, 1906.
17969. NATURE HAS HER LAWS. Sermon by Rev. Frank De Witt Talmage, Los Angeles, California, U.S.A., 30th necember, 1906. (Book.) F. Diver, Toronto, Ont., 31st Decemuer, 1906.
17970. CUTTIN' UP. Slow Drag. (For Piano.) By Chas. G. Haskell. Jerome H. Remick \& Company, New York, N.Y., U.S.A., 31st December, 1906.
17971. I'VE GOT A VACANT ROOM FOR YOU. Words by Harry Williame. Music by Egbert Van Alstyne. Jerome H. Remick \& Company, New York, N.Y., U.S.A.. 31st December, 1906.

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